

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 13987 - L2 Version 1  
Chandra X-Ray Center

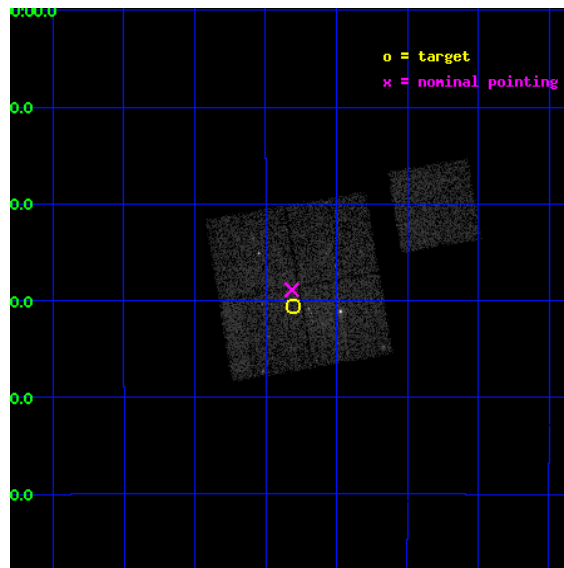
L2 Processing Date : Feb 6 2012

## Contents

<b>1</b>	<b>Front</b>	<b>2</b>
<b>2</b>	<b>OBI</b>	<b>3</b>
2.1	OBI . . . . .	3
2.1.1	Images . . . . .	3
2.1.2	Bias . . . . .	3
2.1.3	Parameters . . . . .	4
2.1.4	Events . . . . .	4
2.2	Compared Parameters . . . . .	5
2.3	Aspect . . . . .	6
2.4	Star Slots . . . . .	9
2.4.1	Slot 3 . . . . .	9
2.4.2	Slot 4 . . . . .	10
2.4.3	Slot 5 . . . . .	11
2.4.4	Slot 6 . . . . .	12
2.4.5	Slot 7 . . . . .	13
2.5	FID Slots . . . . .	14
2.5.1	Slot 0 . . . . .	14
2.5.2	Slot 1 . . . . .	15
2.5.3	Slot 2 . . . . .	16
<b>A</b>	<b>Summary</b>	<b>17</b>
A.1	Status . . . . .	17
A.2	Comments . . . . .	17

# 1 Front

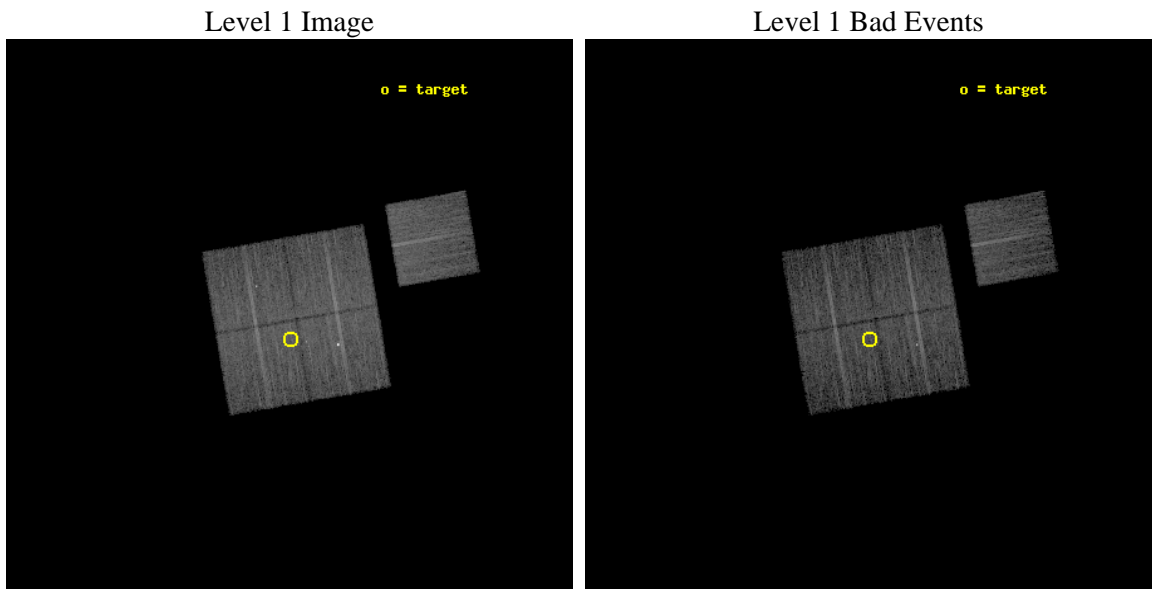
seq_num	801167	Sequence number
obs_id	13987	Observation id
title	The X-ray Scaling Relations of Low-Mass Galaxy Clusters	Proposal t
observer	Dr Ben Maughan	Principal investigator
object	cl1501-0830	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	225.32625	Observer's specified target RA [deg]
dec_targ	-8.509167	Observer's specified target Dec [deg]
ra_nom	225.32867562911	Nominal RA [deg]
dec_nom	-8.4815013471187	Nominal Dec [deg]
roll_nom	80.209061355205	Nominal Roll [deg]
revision	1	Processing version of data
ontime	10071.859107196	Sum of GTIs [s]
livetime	9940.262853166	Livetime [s]
ontime0	10075.000077486	Sum of GTIs [s]
ontime1	10071.859107196	Sum of GTIs [s]
ontime2	10075.000077486	Sum of GTIs [s]
ontime3	10071.859107077	Sum of GTIs [s]
ontime6	10075.000077486	Sum of GTIs [s]
l2events	41626	Number of level 2 events



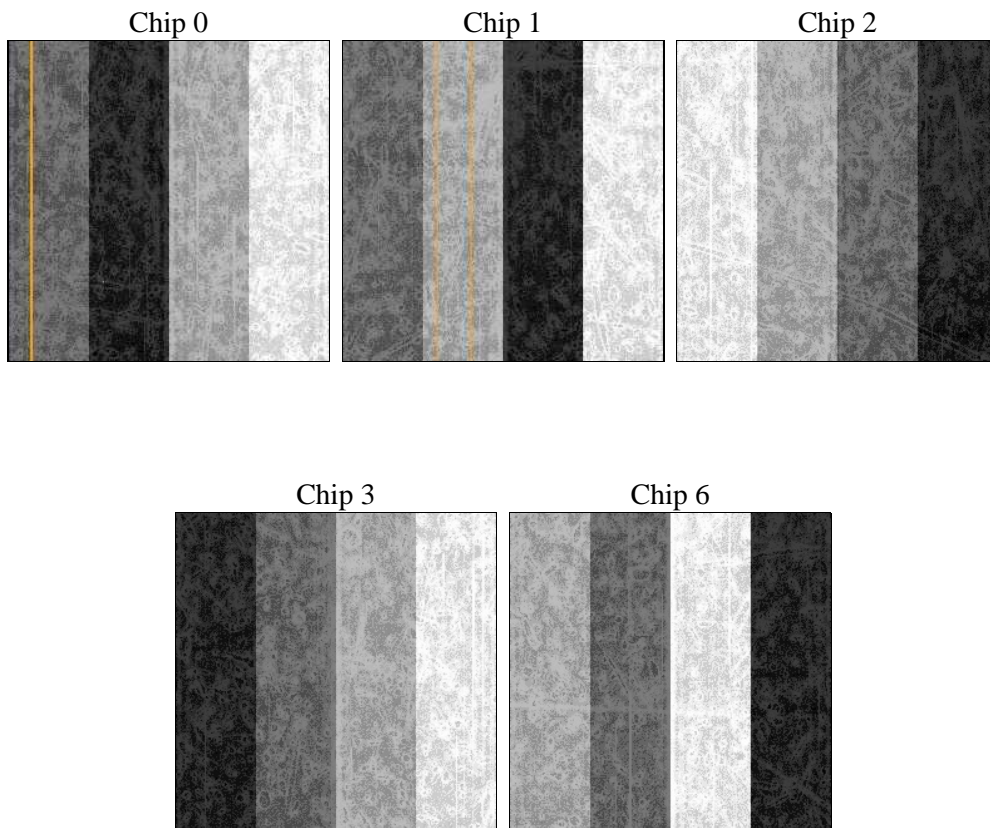
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	10071.859107196	Sum of GTIs [s]
caldbver	4.4.7	&#160	ontime0	10075.000077486	Sum of GTIs [s]
date	2012-02-06T12:25:52	Date and time of file creation	ontime1	10071.859107196	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	10075.000077486	Sum of GTIs [s]
			ontime3	10071.859107077	Sum of GTIs [s]
			ontime6	10075.000077486	Sum of GTIs [s]
			l1events	313336	Number of level 1 events

### 2.1.4 Events

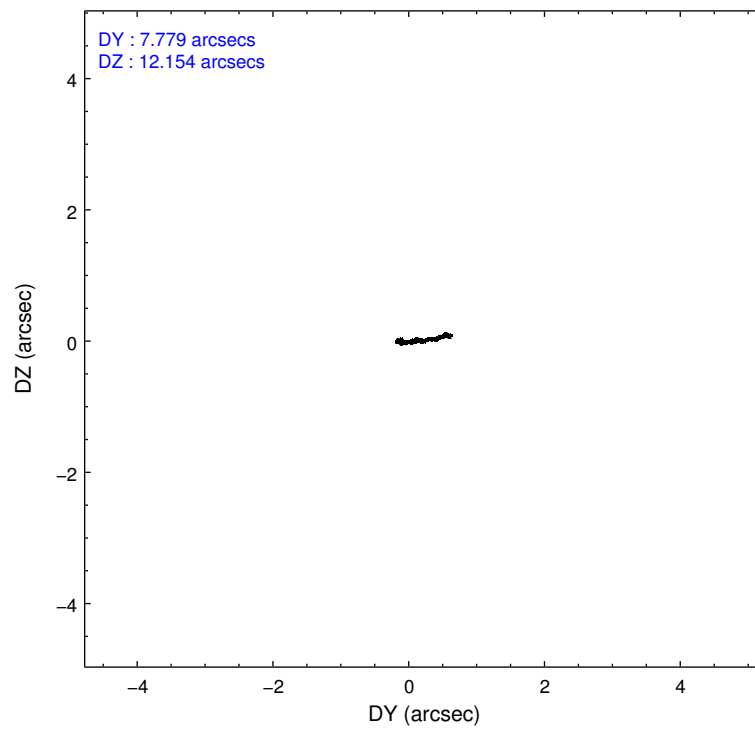
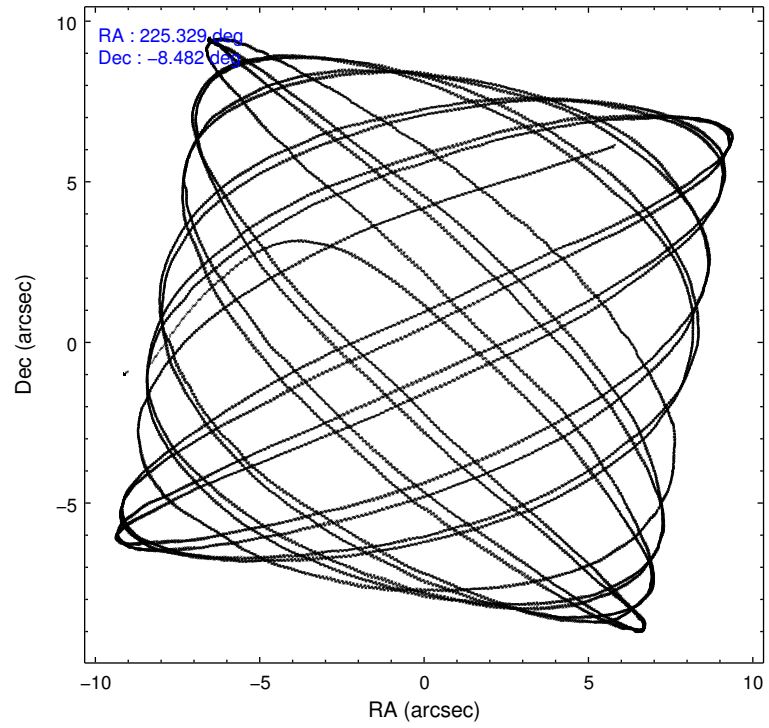
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	58655	58727	62276	71439	62239
rejected events	50312	49872	54859	55595	55060
rejected %	85%	84%	88%	77%	88%

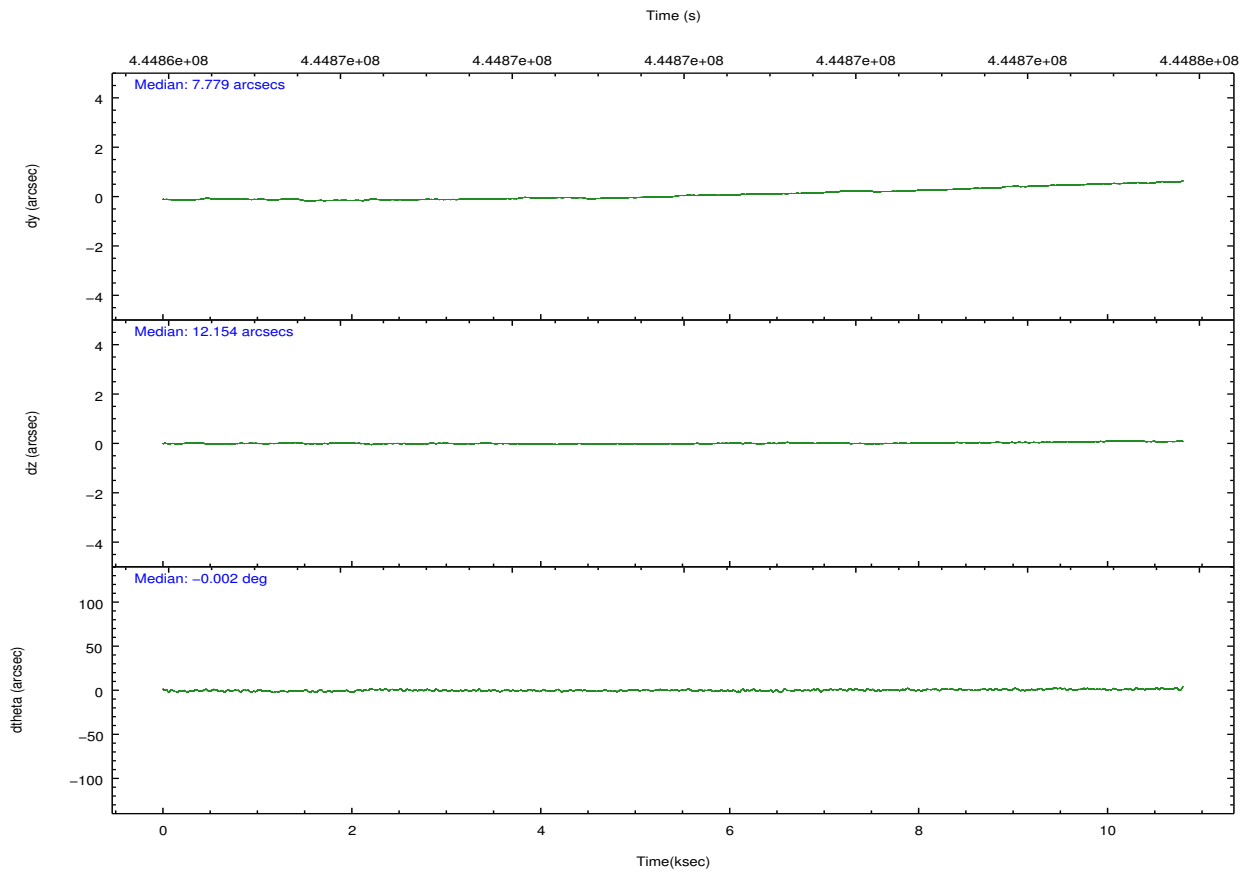
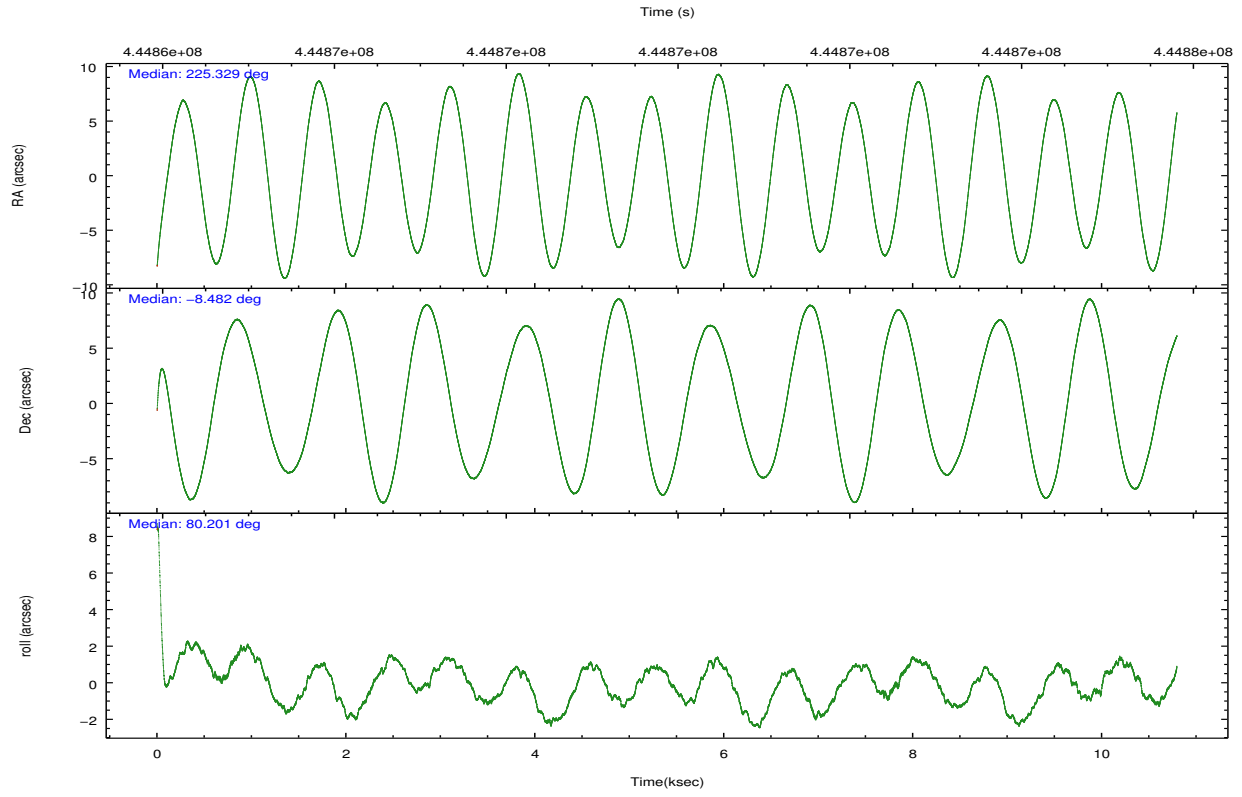
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	3405	3543	2885	9535	2516
	5%	6%	4%	13%	4%
grade 1 events	27	26	45	531	38
	0%	0%	0%	0%	0%
grade 2 events	1905	1963	1773	2491	1598
	3%	3%	2%	3%	2%
grade 3 events	819	822	709	1105	775
	1%	1%	1%	1%	1%
grade 4 events	726	857	716	1052	723
	1%	1%	1%	1%	1%
grade 5 events	2641	2847	2558	3282	2911
	4%	4%	4%	4%	4%
grade 6 events	1488	1670	1337	1668	1569
	2%	2%	2%	2%	2%
grade 7 events	47644	46999	52253	51775	52109
	81%	80%	83%	72%	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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	225.338399	225.32867562911	Subarray requested	NONE	NONE
[deg] Pointing Dec	-8.507224	-8.481501347118673	Alternating exposures requested	N	N
[deg] Pointing Roll	80.001792	80.20906135520519	[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	-237.742463	-237.751140600212			
[mm] SIM translation stage offset	4.15	4.158687597282352			
[s] Observation start time (MET)	444865278.184000	444863137.68474			
Observation start date	2012-02-05T21:40:12	2012-02-05T21:05:37			
[s] Observation end time (MET)	444875278.184000	444875913.79792			
Observation end date	2012-02-06T00:26:52	2012-02-06T00:38:33			
Read mode	TIMED	TIMED			

## 2.3 Aspect





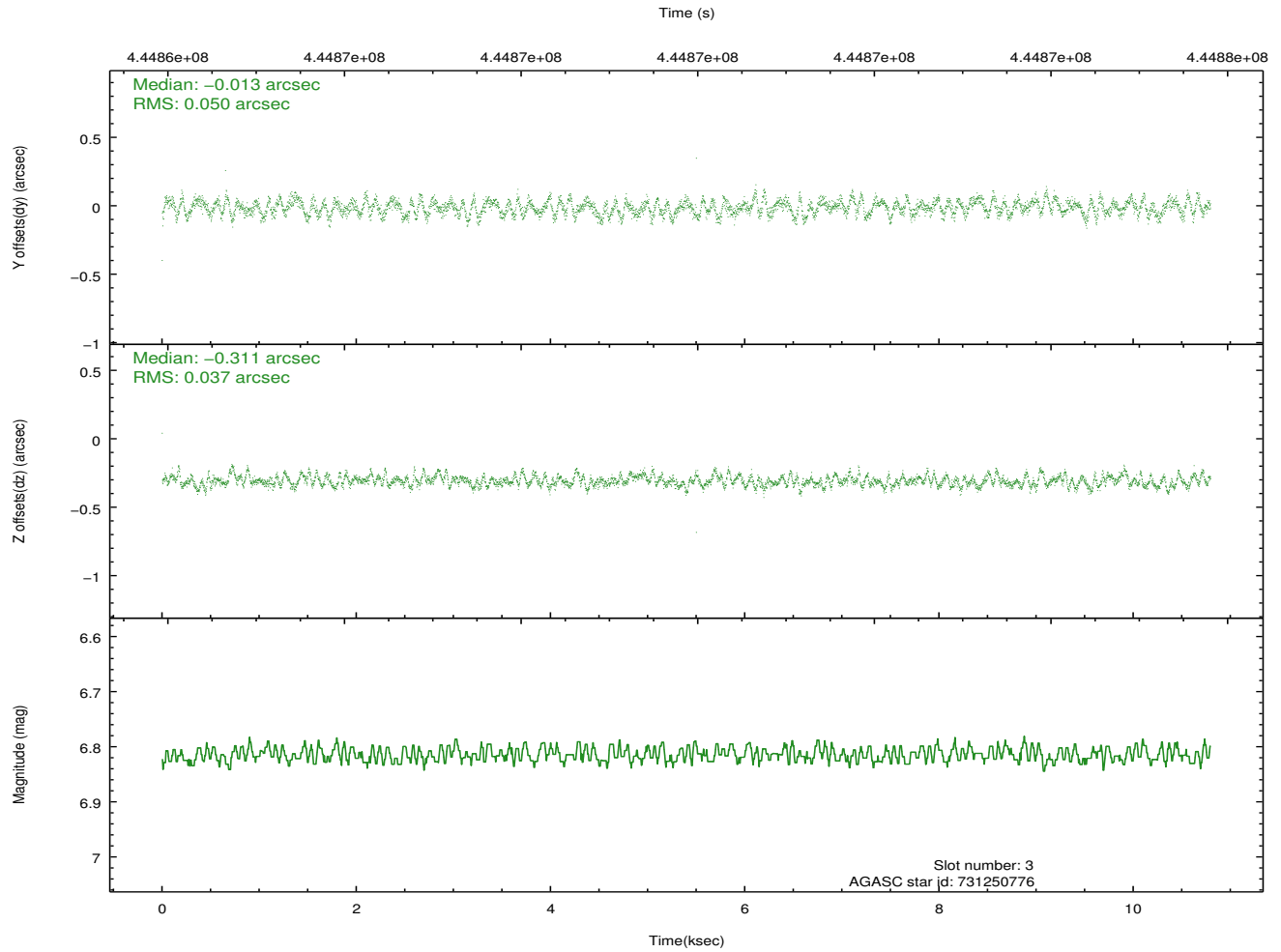
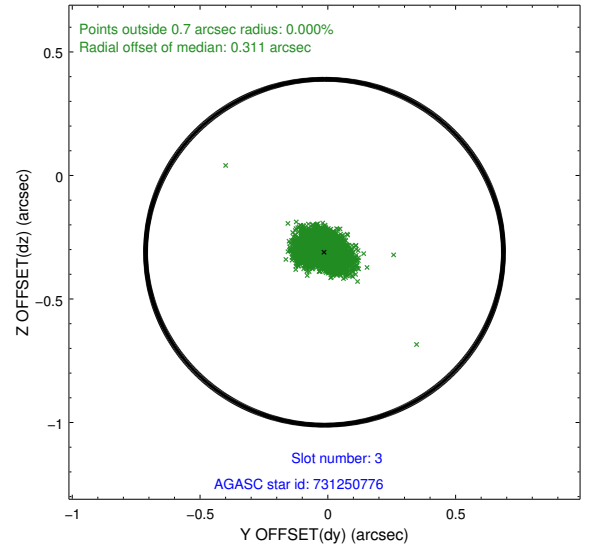
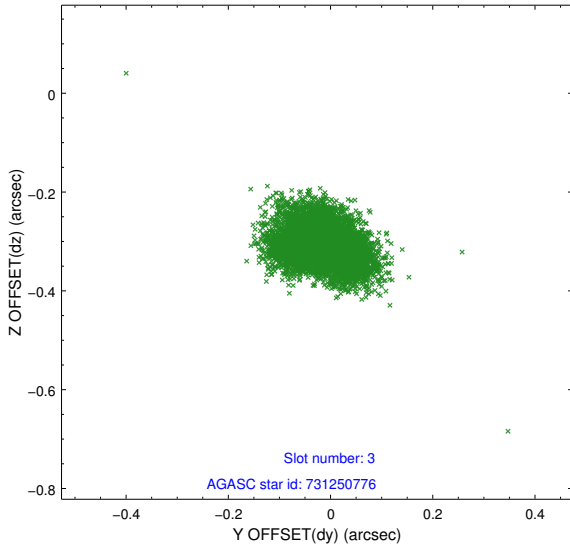
### Slot Statistics

slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-2	6.97	2634	-0.089	-0.073	0.010	0.019	0.000000	0.000000	-762.19	-757.14
1	FID	ACIS-I-4	7.01	2634	0.125	-0.018	0.012	0.020	0.000000	0.000000	2151.90	1148.87
2	FID	ACIS-I-6	7.03	2634	-0.136	0.155	0.010	0.017	0.000000	0.000000	398.26	1792.32
3	GUIDE	731250776	6.82	5267	-0.013	-0.311	0.067	0.106	224.646077	-8.717453	-1175.41	2294.67
4	GUIDE	731256568	9.45	5260	-0.012	0.041	0.105	0.170	224.664206	-8.733742	-1222.12	2221.31
5	GUIDE	731256192	7.39	5267	0.145	-0.125	0.055	0.096	224.699830	-9.050855	-2323.92	1896.48
6	GUIDE	731255336	9.09	5263	0.117	0.097	0.092	0.153	224.729429	-9.067042	-2362.82	1782.46
7	GUIDE	731381816	6.84	5266	-0.230	0.294	0.078	0.137	226.116783	-8.046923	2110.62	-2443.69

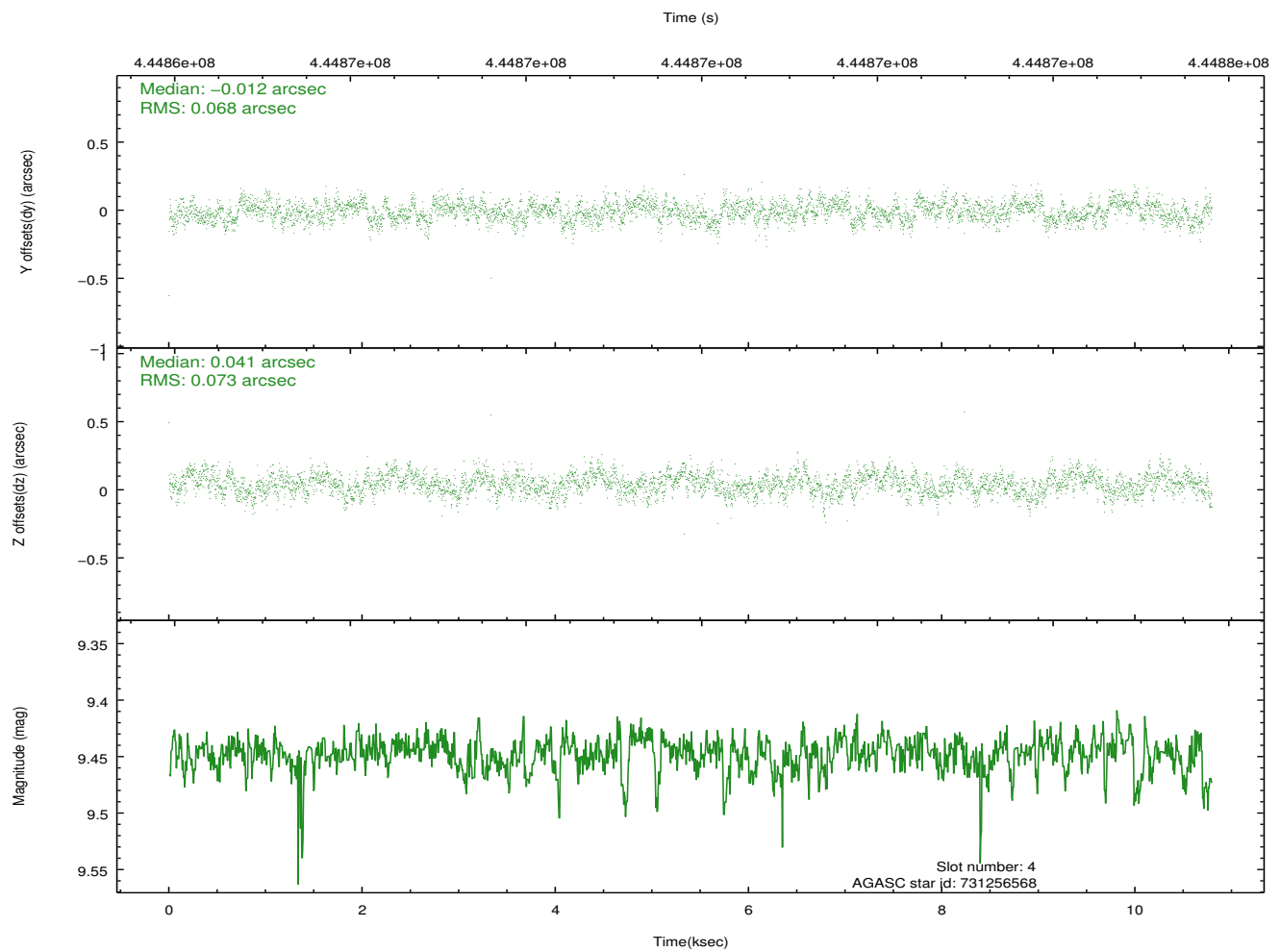
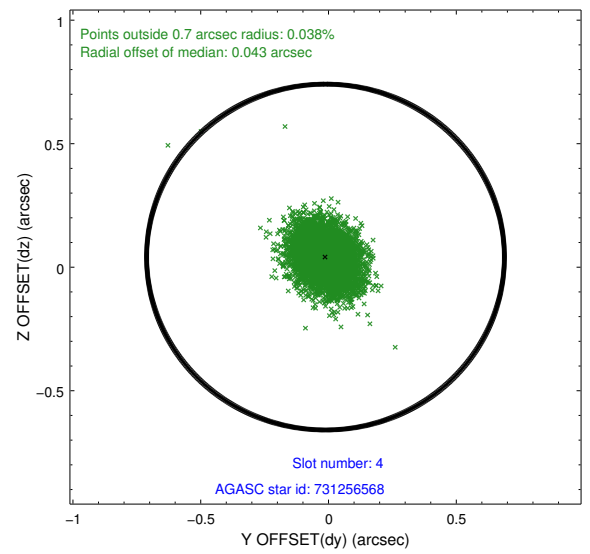
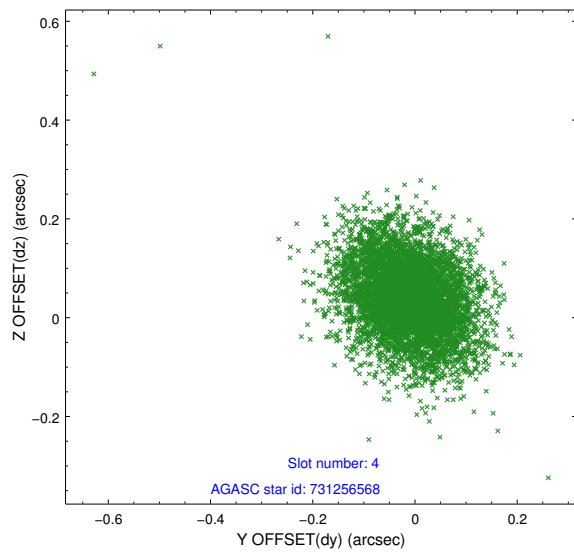
∞

## 2.4 Star Slots

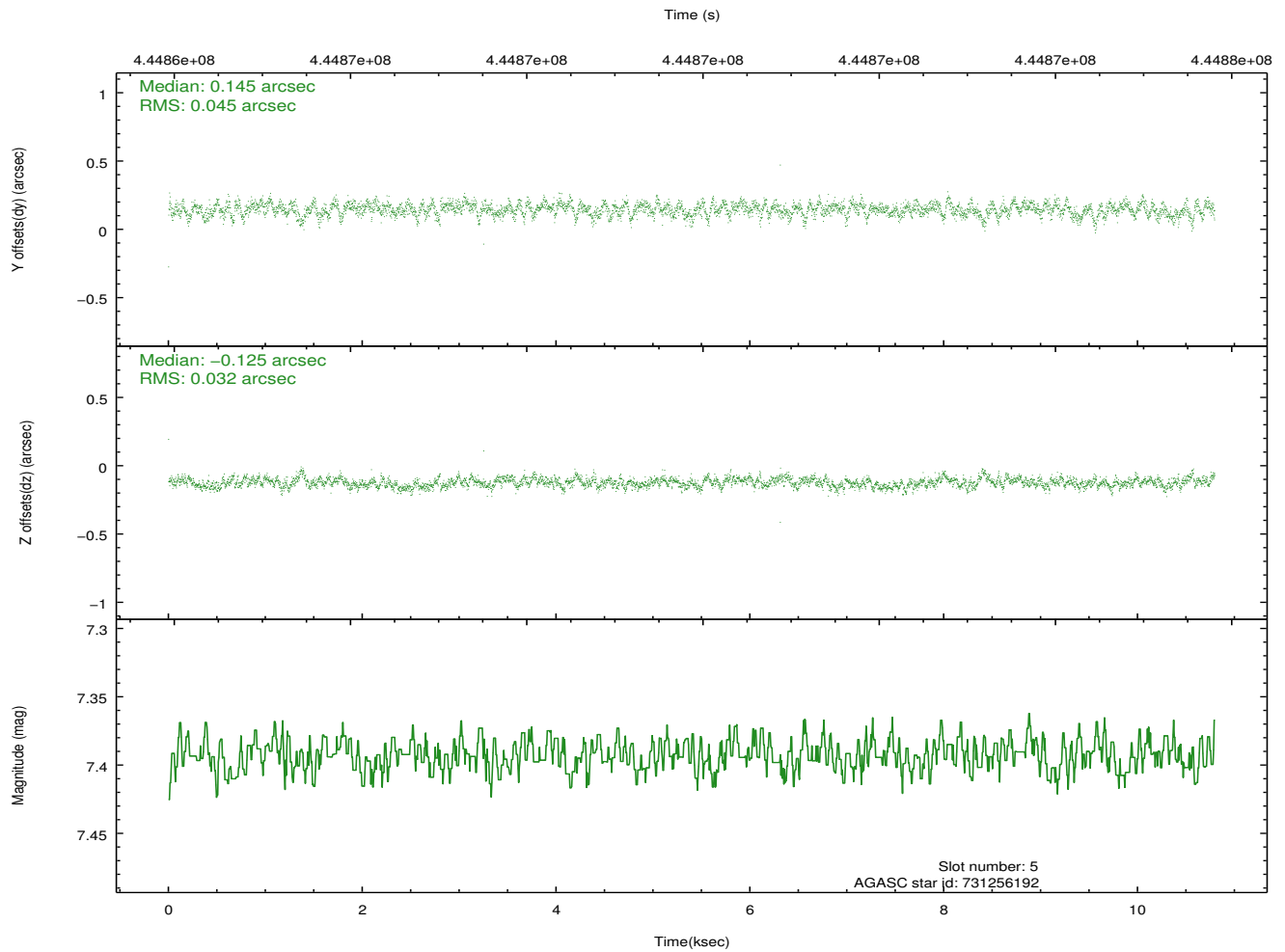
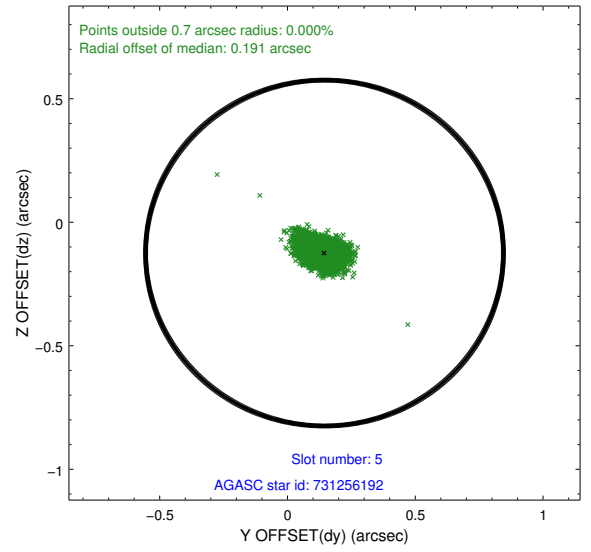
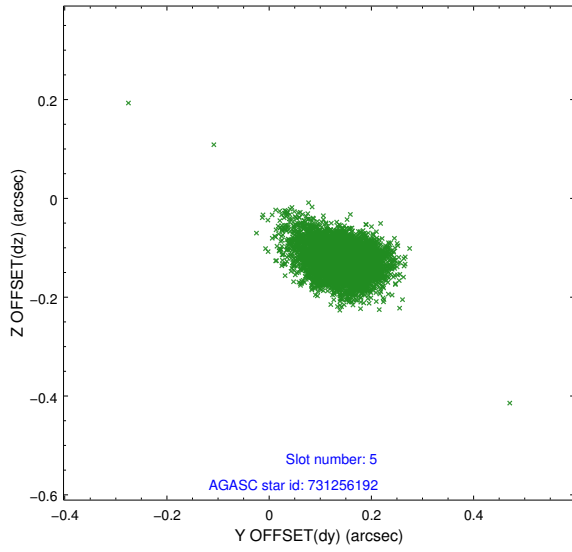
### 2.4.1 Slot 3



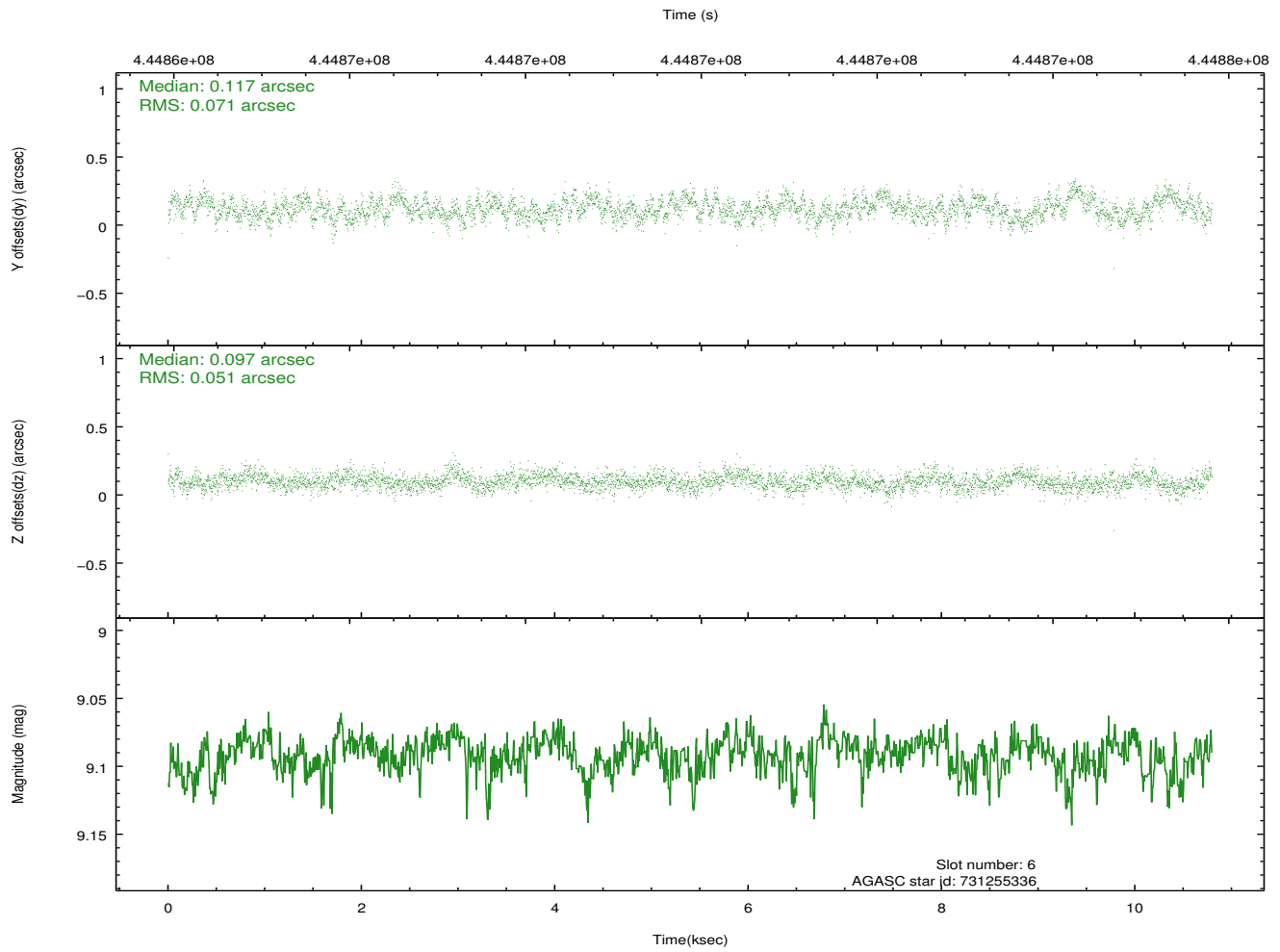
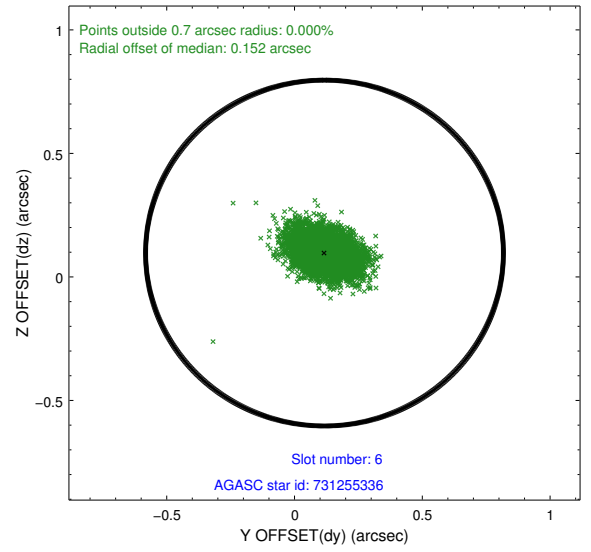
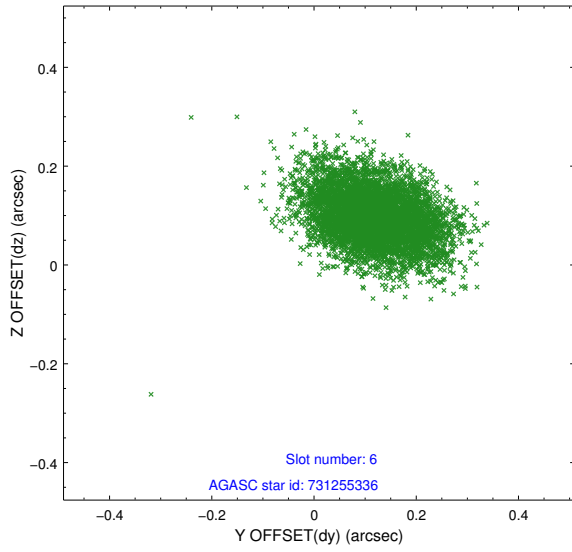
## 2.4.2 Slot 4



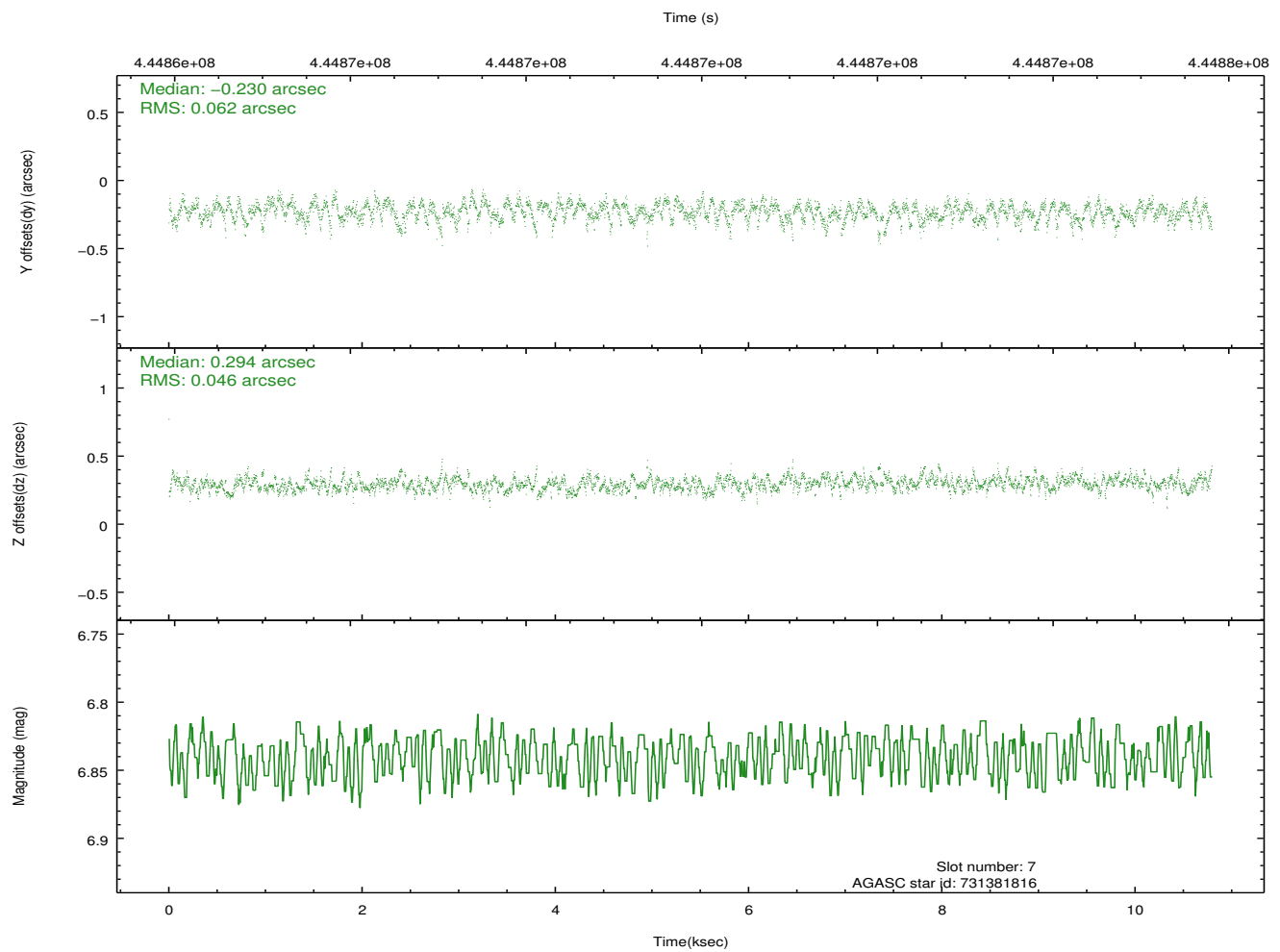
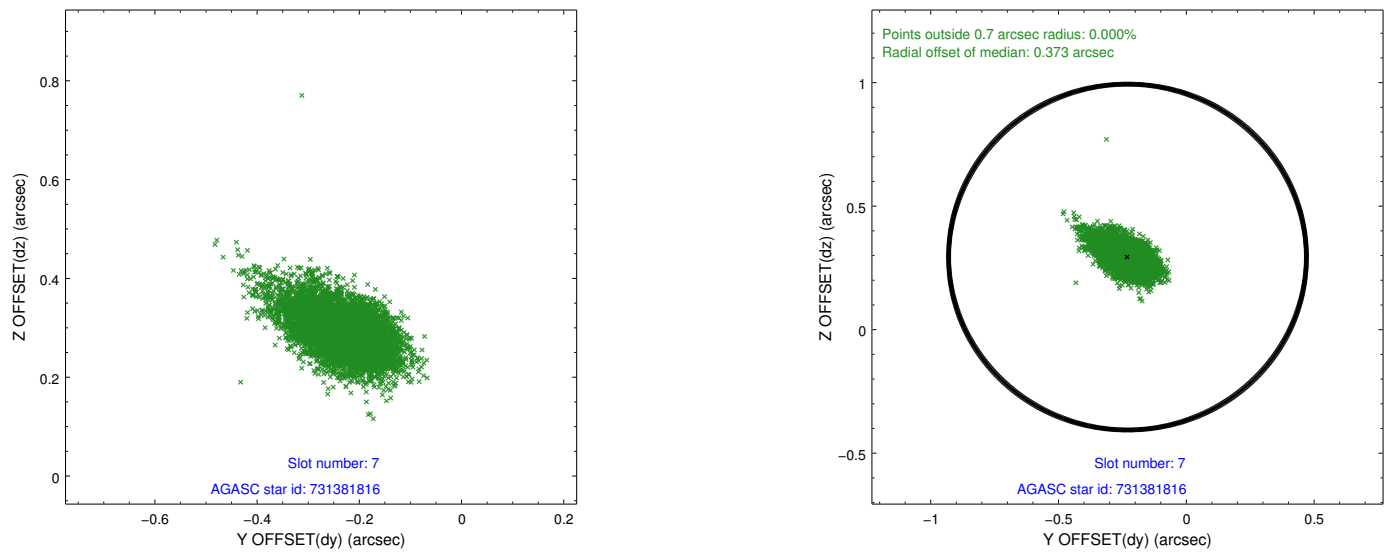
### 2.4.3 Slot 5



### 2.4.4 Slot 6

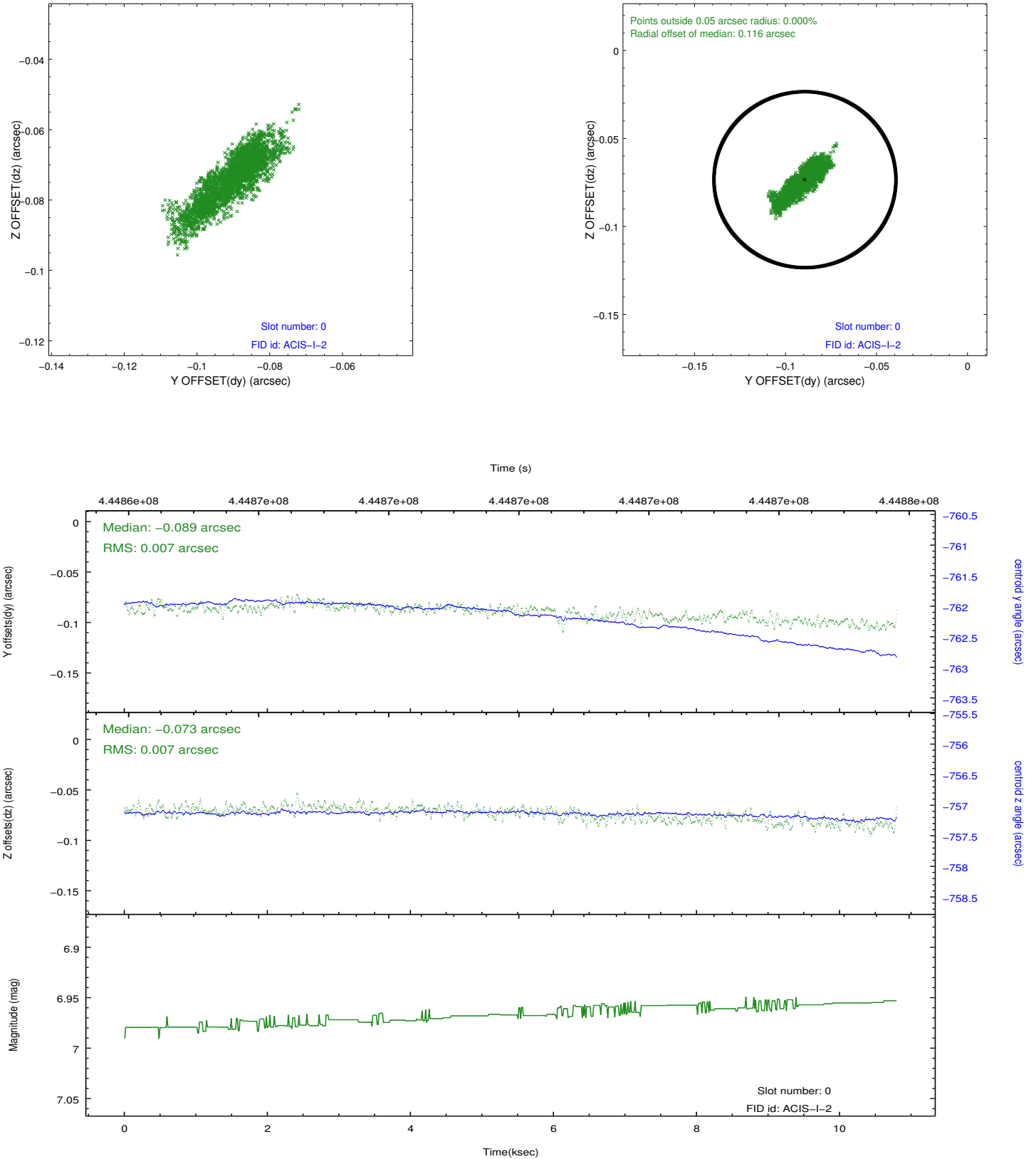


## 2.4.5 Slot 7

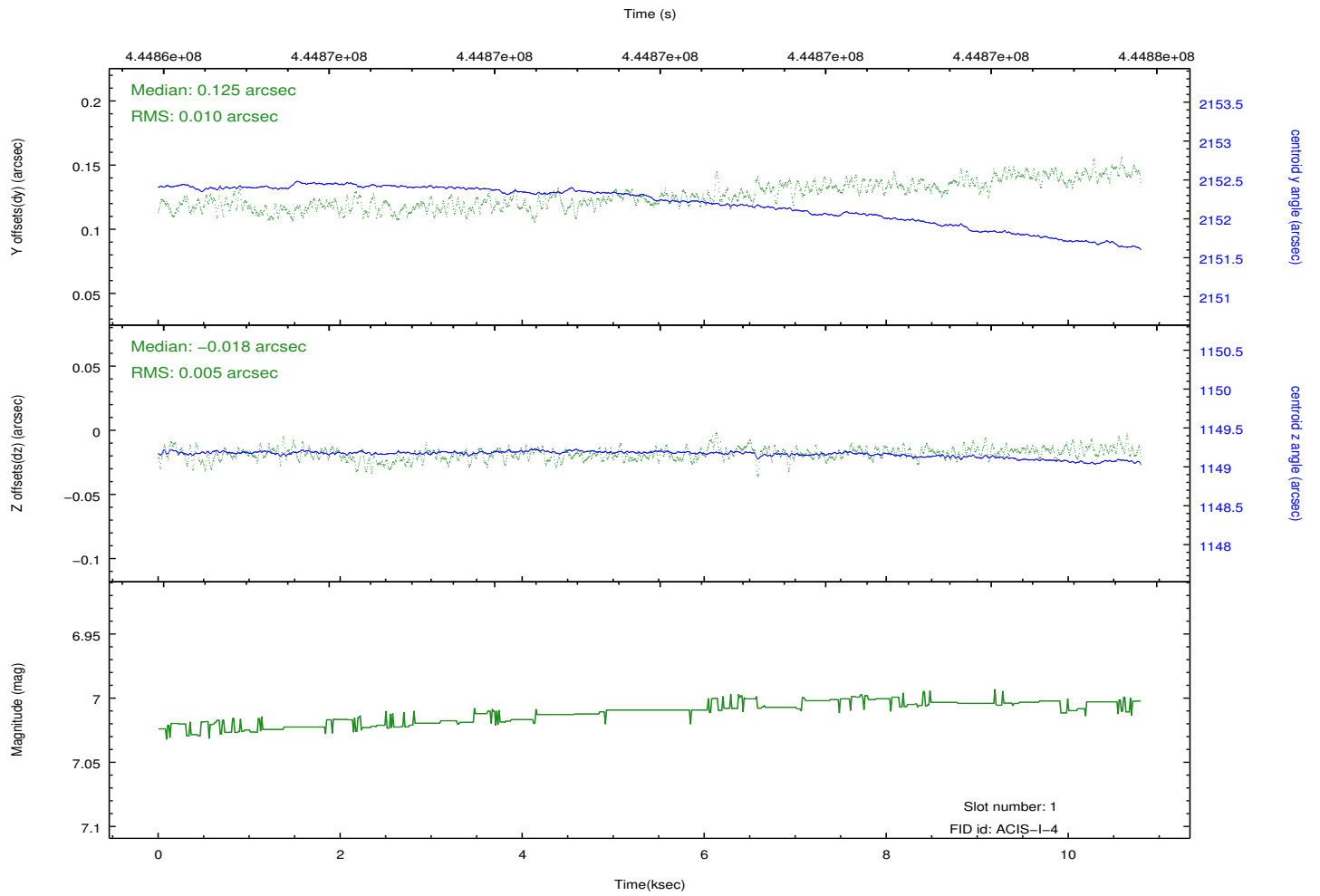
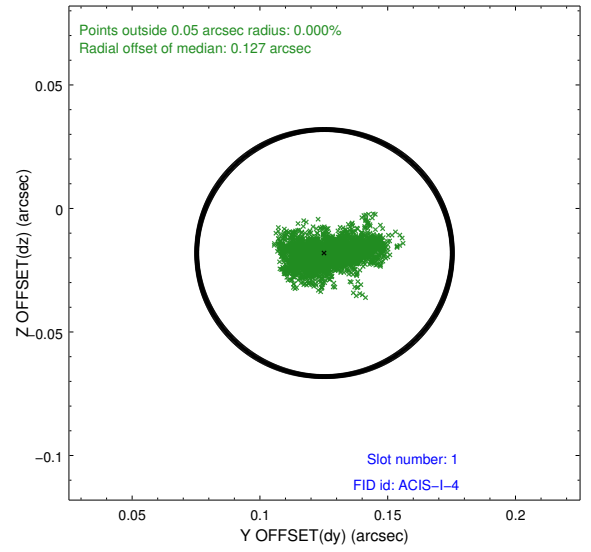
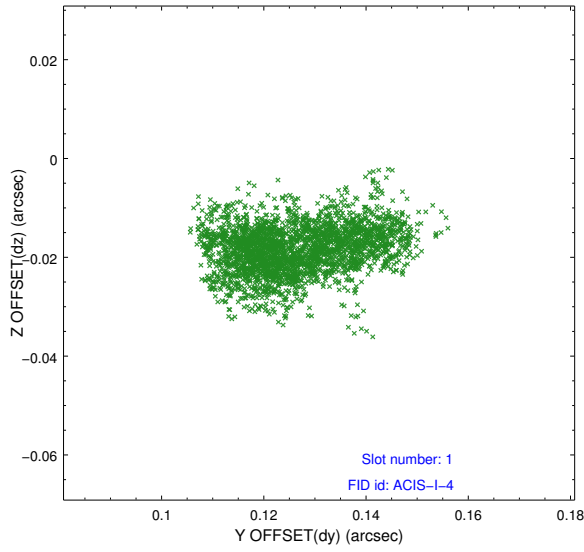


## 2.5 FID Slots

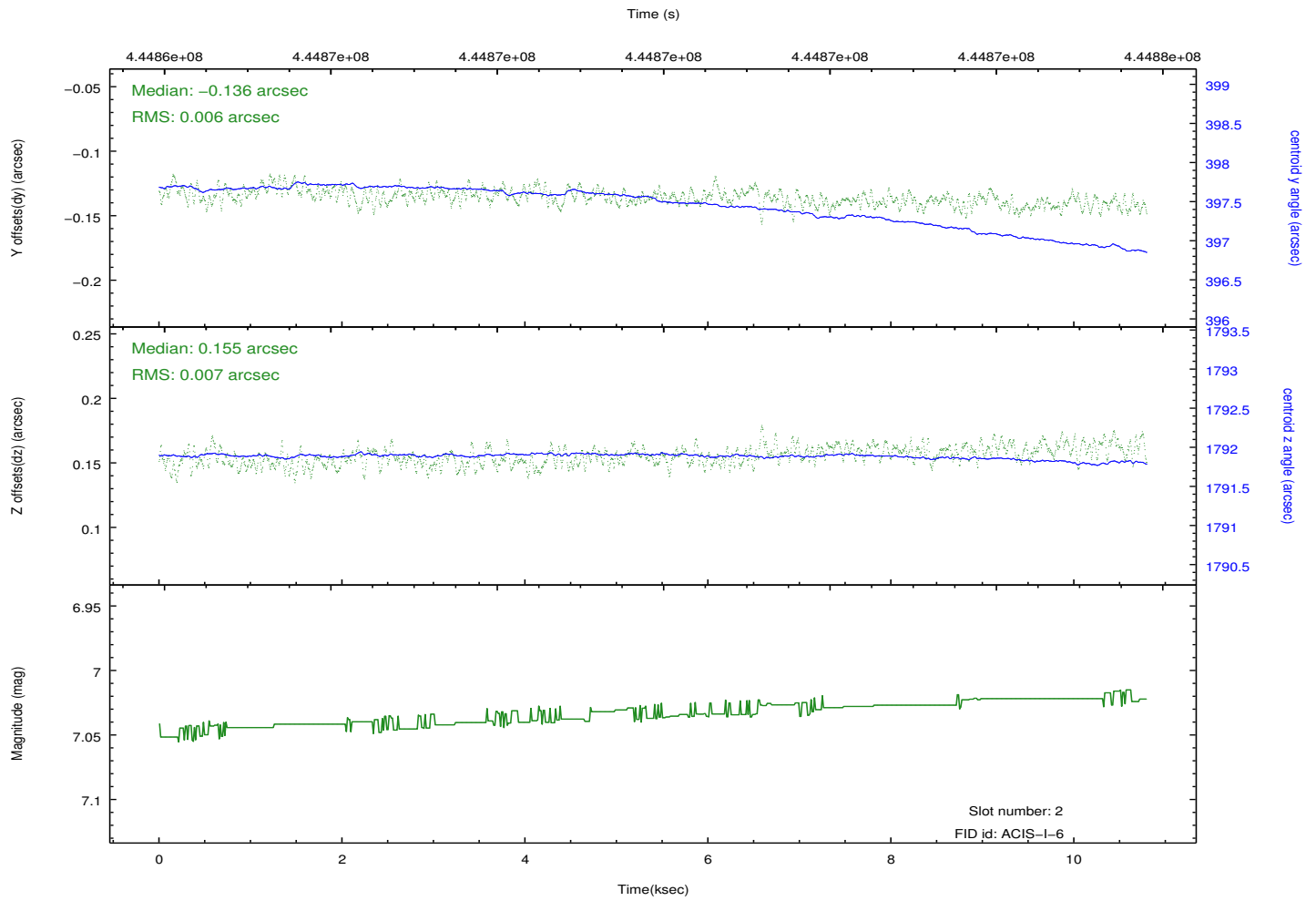
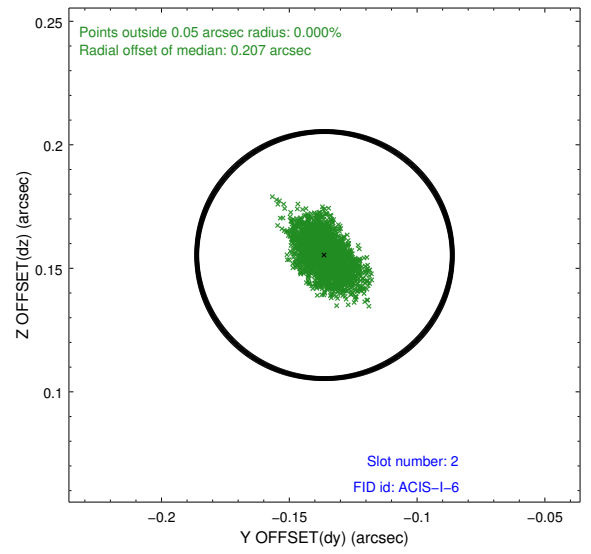
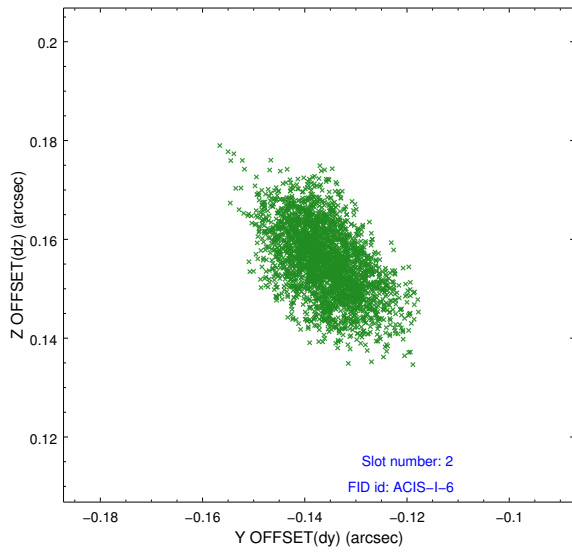
### 2.5.1 Slot 0



## 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)	2012.02.06
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.071859107196

## A.2 Comments

The data for this observation have been processed using the 'EDSER' sub-pixel event-repositioning algorithm of Li et al. (2004, ApJ, 610, 1204). Small-scale features should become sharper for sources near the aim point. The improvement will be less noticeable for off-axis sources where the size of the point-spread function is comparable to or larger than the size of an ACIS pixel. To take full advantage of the improvement, images should be binned on spatial scales smaller than the size of an ACIS pixel. Note that, at present, the point-spread function has not been calibrated for data to which the EDSEr algorithm has been applied. If dither was disabled for the observation, then the algorithm can introduce artificial aliasing effects on spatial scales smaller than a pixel. If you would prefer to use no sub-pixel adjustment or to apply a coordinate randomization, then use `acis_process_events` to reprocess the data with the parameter `pix_adj=NONE` or `RANDOMIZE`, respectively.