

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 13023 - L2 Version 2  
Chandra X-Ray Center

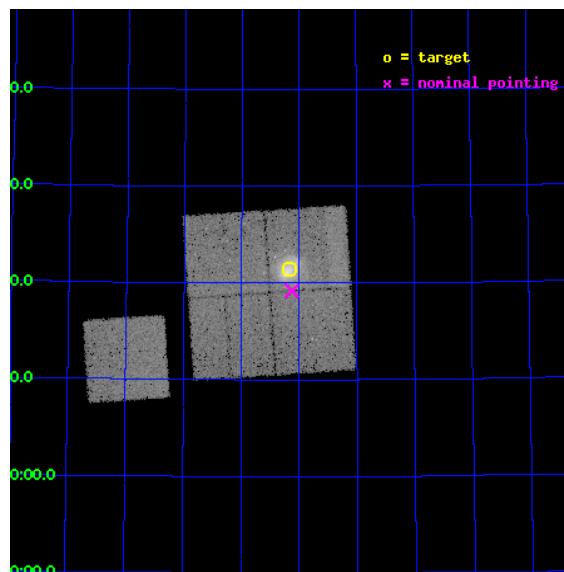
L2 Processing Date : Jul 1 2012

## 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

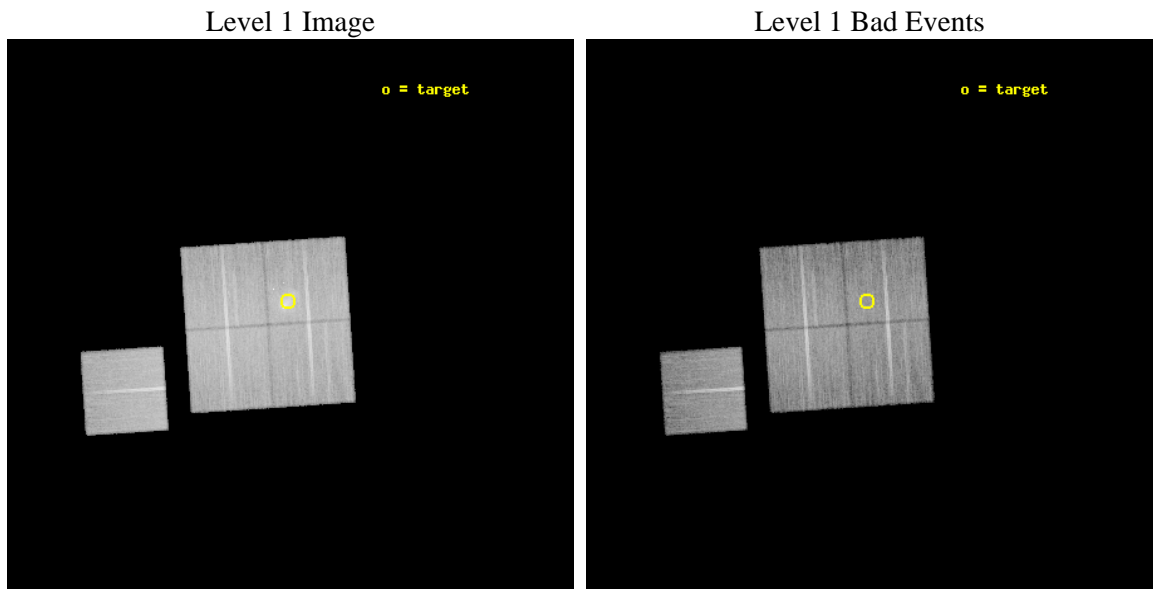
seq_num	801053	Sequence number
obs_id	13023	Observation id
title	Revealing the ICM transport processes with the bow shock, upstream shock and turbulent wake in Abell 2146	Proposal title
observer	Dr Helen Russell	Principal investigator
object	Abell 2146	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	239.04239	Observer's specified target RA [deg]
dec_targ	66.357434	Observer's specified target Dec [deg]
ra_nom	239.03153233957	Nominal RA [deg]
dec_nom	66.319913560671	Nominal Dec [deg]
roll_nom	266.2186346868	Nominal Roll [deg]
revision	2	Processing version of data
ontime	28047.606617391	Sum of GTIs [s]
livetime	27681.143988587	Livetime [s]
ontime0	28050.706547737	Sum of GTIs [s]
ontime1	28047.606617391	Sum of GTIs [s]
ontime2	28044.506667137	Sum of GTIs [s]
ontime3	28050.829667747	Sum of GTIs [s]
ontime6	28050.665507734	Sum of GTIs [s]
l2events	115472	Number of level 2 events



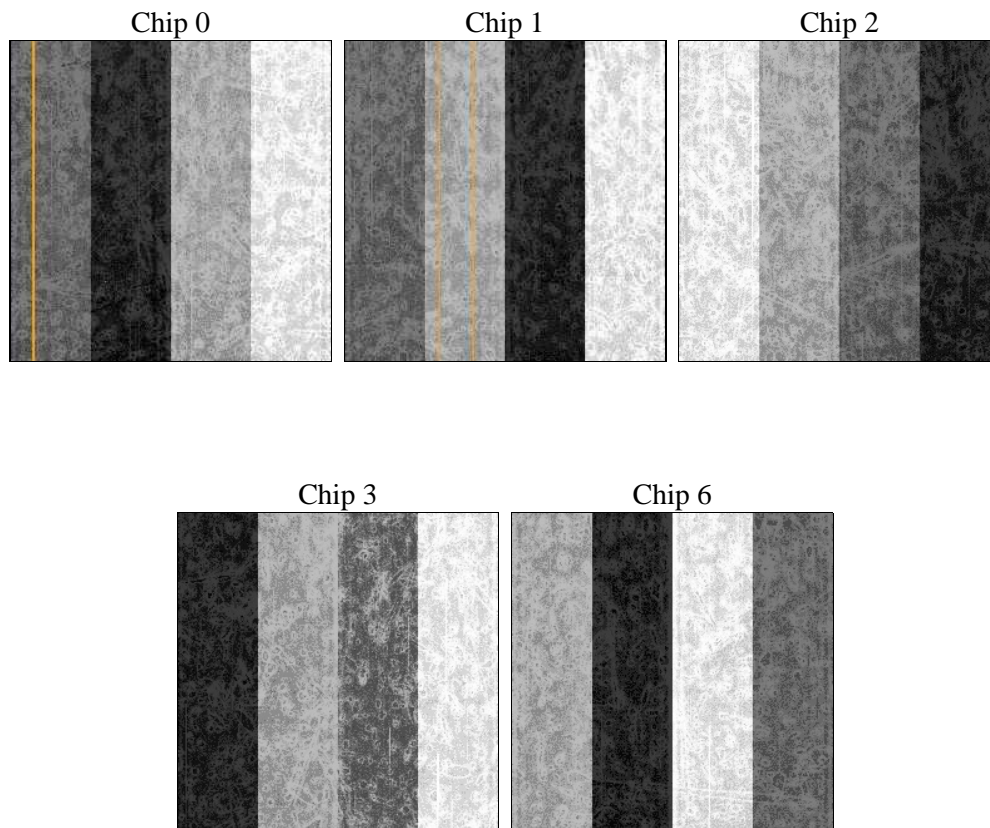
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	28000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	28047.606617391	Sum of GTIs [s]
caldbver	4.5.0	&#160	ontime0	28050.706547737	Sum of GTIs [s]
date	2012-07-01T18:11:15	Date and time of file creation	ontime1	28047.606617391	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	28044.506667137	Sum of GTIs [s]
			ontime3	28050.829667747	Sum of GTIs [s]
			ontime6	28050.665507734	Sum of GTIs [s]
			l1events	1056511	Number of level 1 events

### 2.1.4 Events

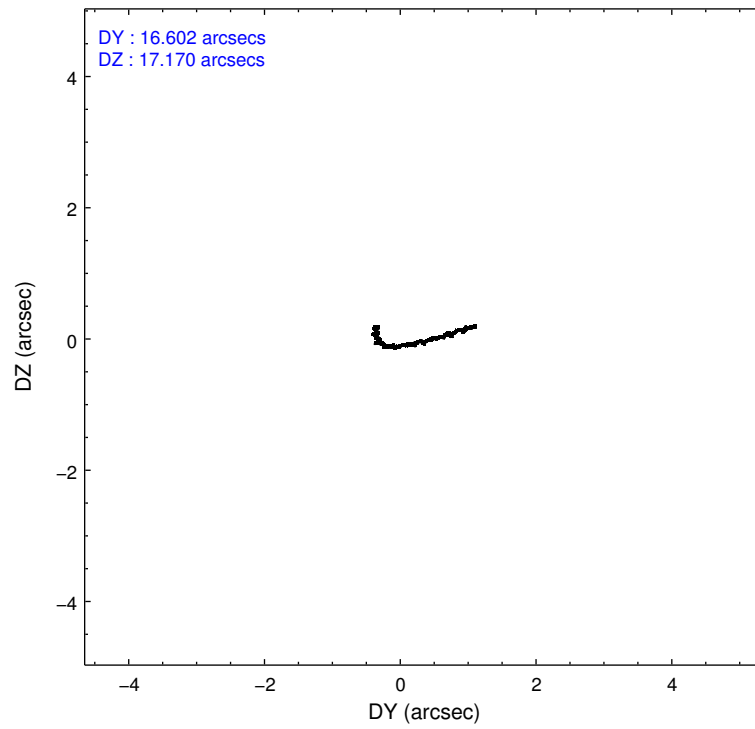
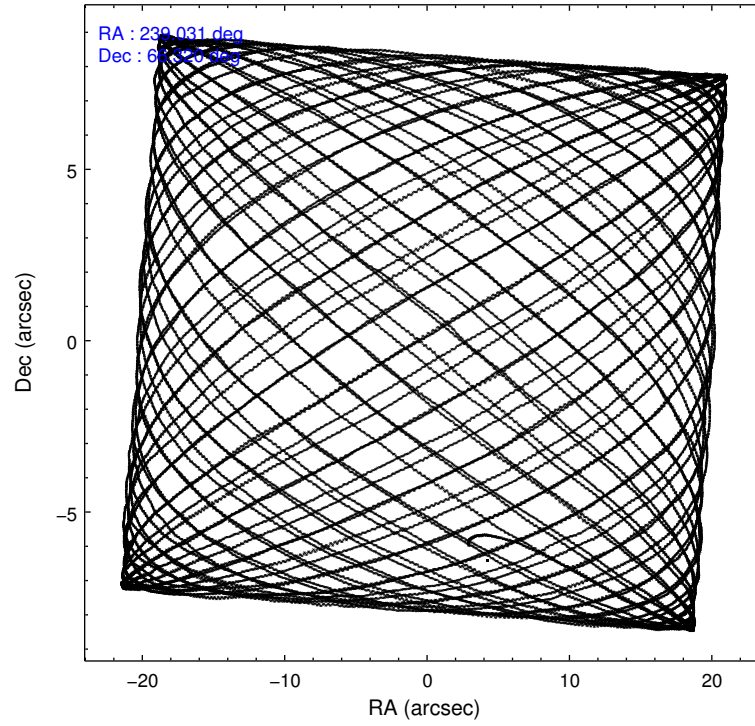
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	197752	218307	221813	208172	210467
rejected events	173881	173589	198888	186205	186924
rejected %	87%	79%	89%	89%	88%

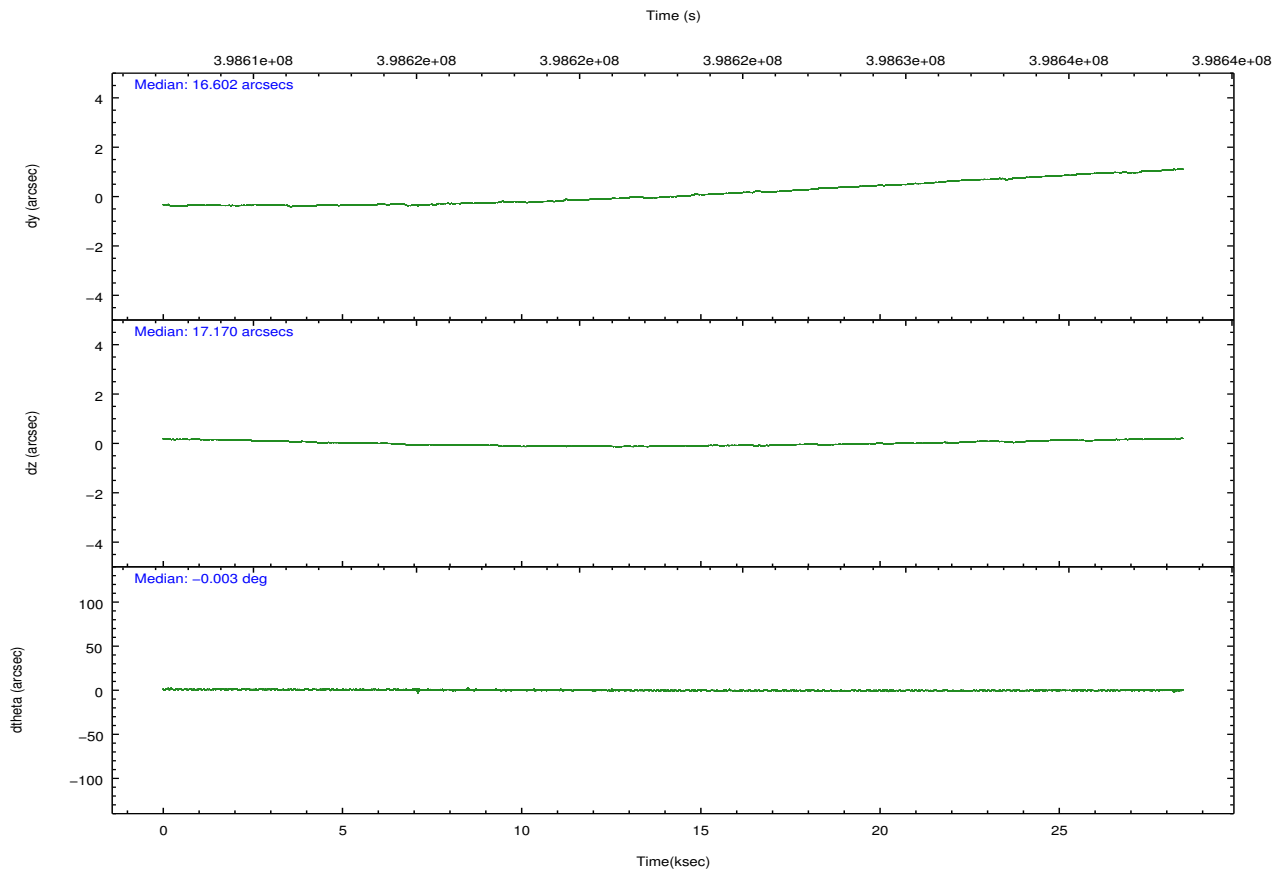
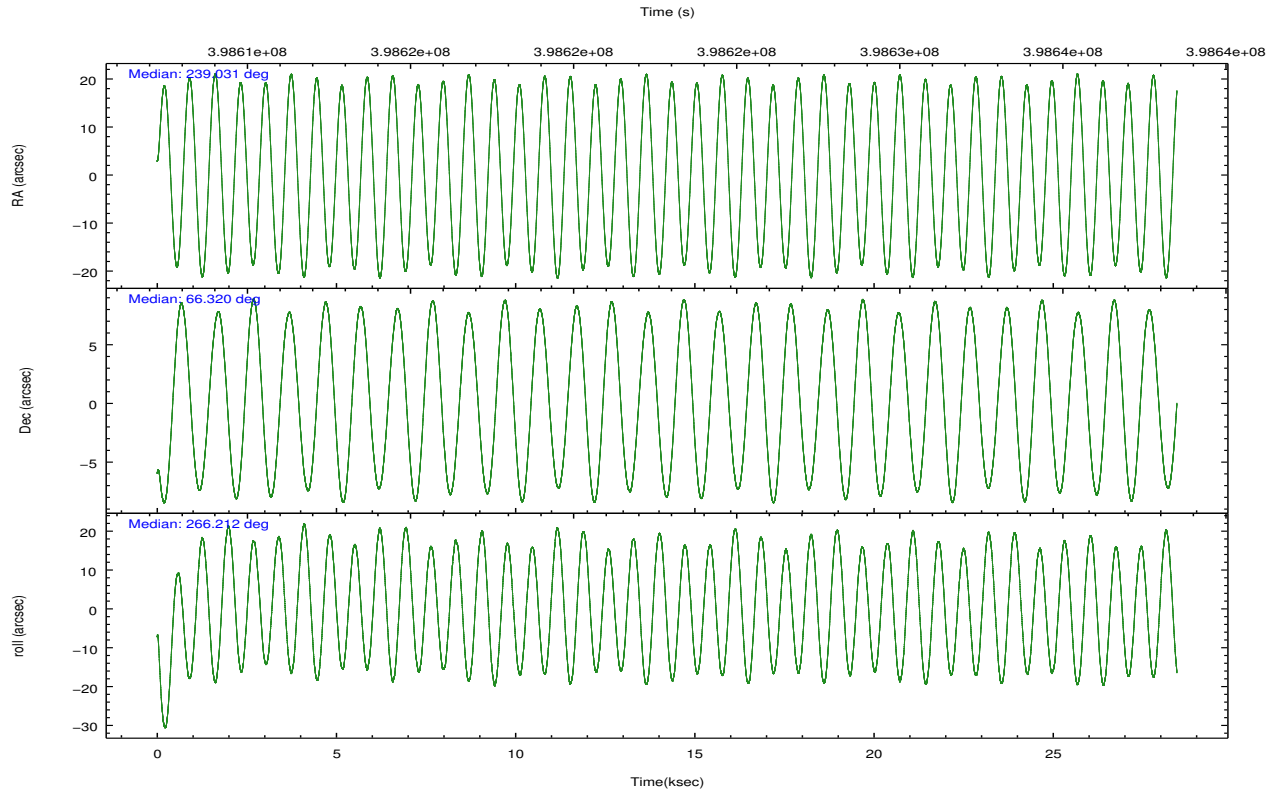
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	8499	24349	8311	7982	8319
	4%	11%	3%	3%	3%
grade 1 events	123	174	160	155	92
	0%	0%	0%	0%	0%
grade 2 events	5847	8098	5630	4939	5171
	2%	3%	2%	2%	2%
grade 3 events	2543	3247	2307	2346	2508
	1%	1%	1%	1%	1%
grade 4 events	2388	3205	2533	2274	2469
	1%	1%	1%	1%	1%
grade 5 events	8367	9191	7834	9541	9323
	4%	4%	3%	4%	4%
grade 6 events	4604	5820	4148	4428	5079
	2%	2%	1%	2%	2%
grade 7 events	165381	164223	190890	176507	177506
	83%	75%	86%	84%	84%

## 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	239.001019	239.0315323395714	CCD I2 on	Y	Y
[deg] Pointing Dec	66.344557	66.31991356067068	CCD I3 on	Y	Y
[deg] Pointing Roll	266.037893	266.2186346868036	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	-242.592463	-242.5987405016197	CCD S3 on	N	N
[mm] SIM translation stage offset	9	9.006287498690028	CCD S4 on	N	N
[s] Observation start time (MET)	398609090.184000	398608027.48734	CCD S5 on	N	N
Observation start date	2010-08-19T12:43:44	2010-08-19T12:27:07	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	398637090.184000	398637637.68886	On-chip summing requested	N	N
Observation end date	2010-08-19T20:30:24	2010-08-19T20:40:37	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



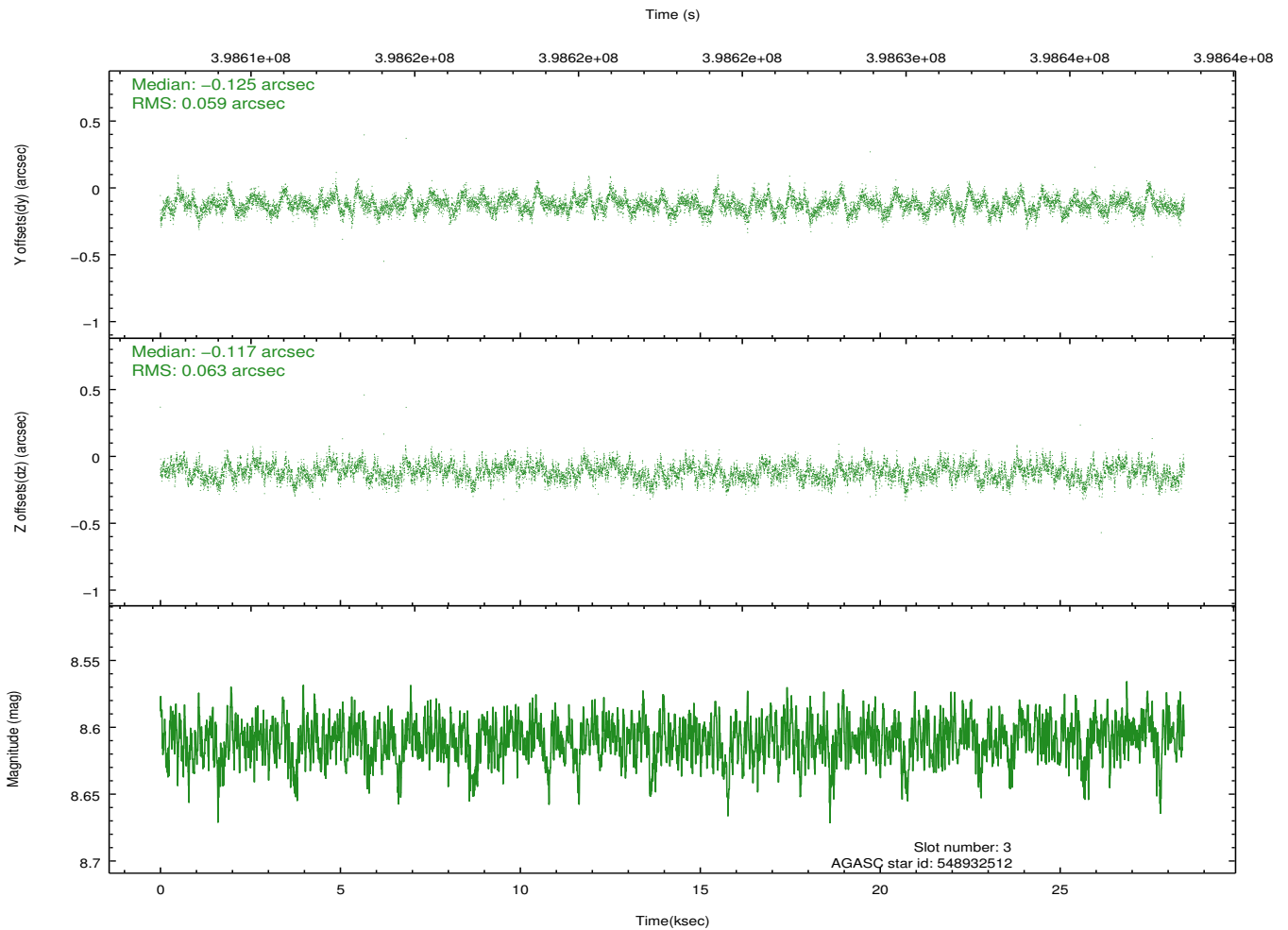
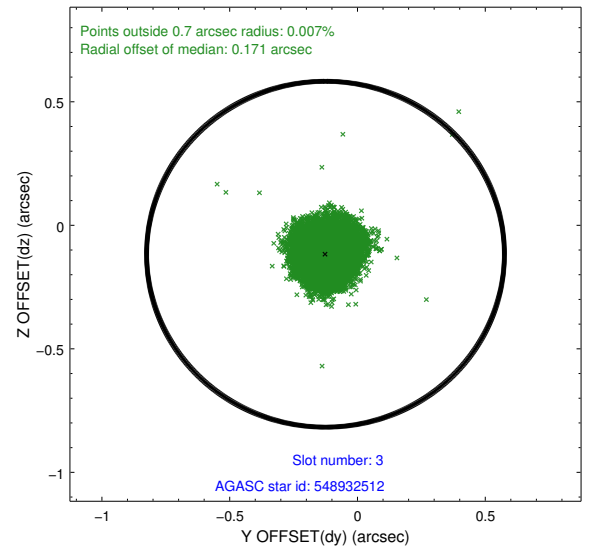
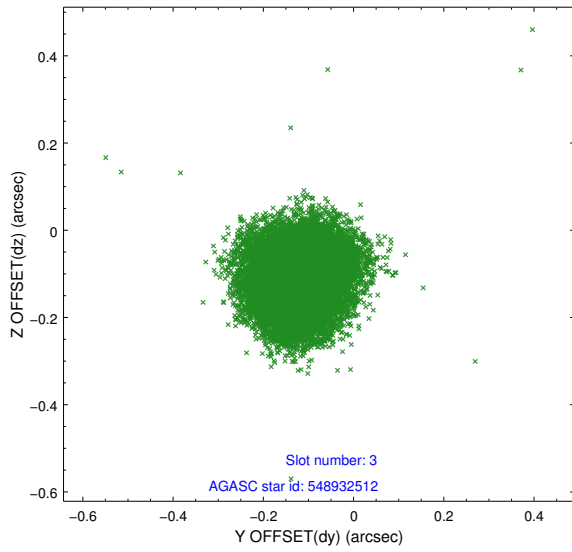


### Slot Statistics

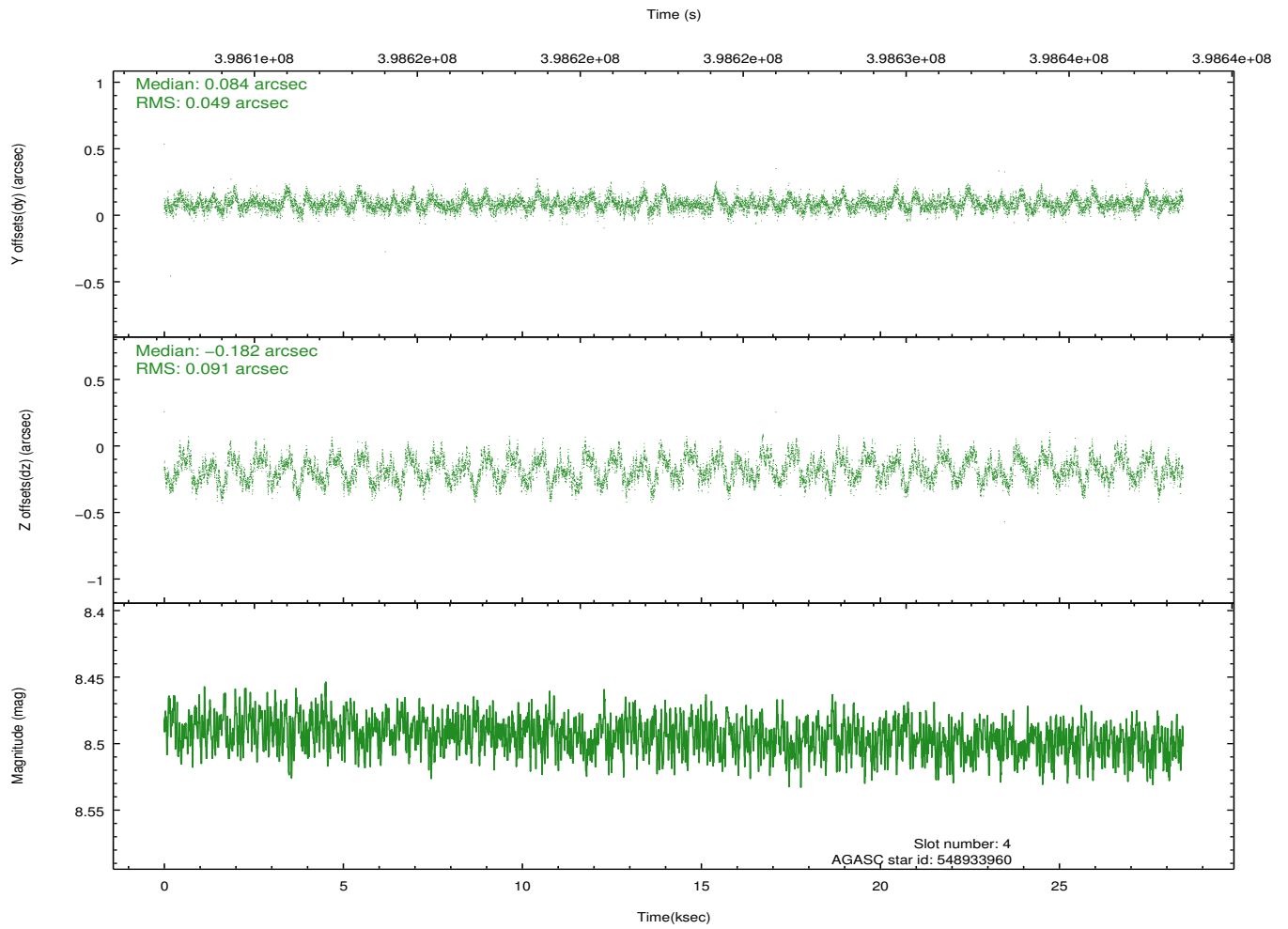
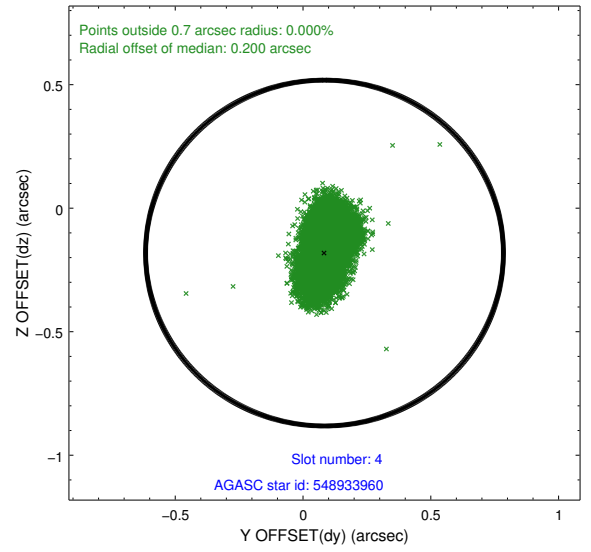
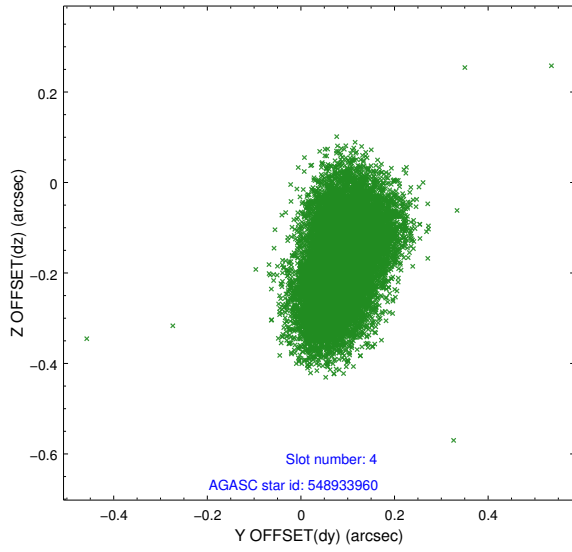
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.05	6937	-0.031	0.066	0.012	0.026	0.000000	0.000000	922.81	-655.64
1	FID	ACIS-I-5	7.00	6939	-0.113	0.011	0.010	0.019	0.000000	0.000000	-1825.37	1241.71
2	FID	ACIS-I-6	6.99	6940	0.052	-0.007	0.008	0.014	0.000000	0.000000	388.29	1886.34
3	GUIDE	548932512	8.61	13877	-0.125	-0.117	0.094	0.145	239.727627	66.054972	960.25	1131.05
4	GUIDE	548933960	8.49	13871	0.084	-0.182	0.109	0.179	237.671184	66.428675	-188.82	-1931.92
5	GUIDE	548937184	9.90	13801	0.190	0.197	0.165	0.285	238.771821	66.565432	-770.72	-382.13
6	GUIDE	548939872	10.31	13851	-0.065	0.249	0.292	0.421	238.964867	66.978384	-2272.67	-208.20
7	GUIDE	549849072	9.21	13867	-0.083	-0.166	0.124	0.187	240.420863	66.802816	-1807.94	1892.71

## 2.4 Star Slots

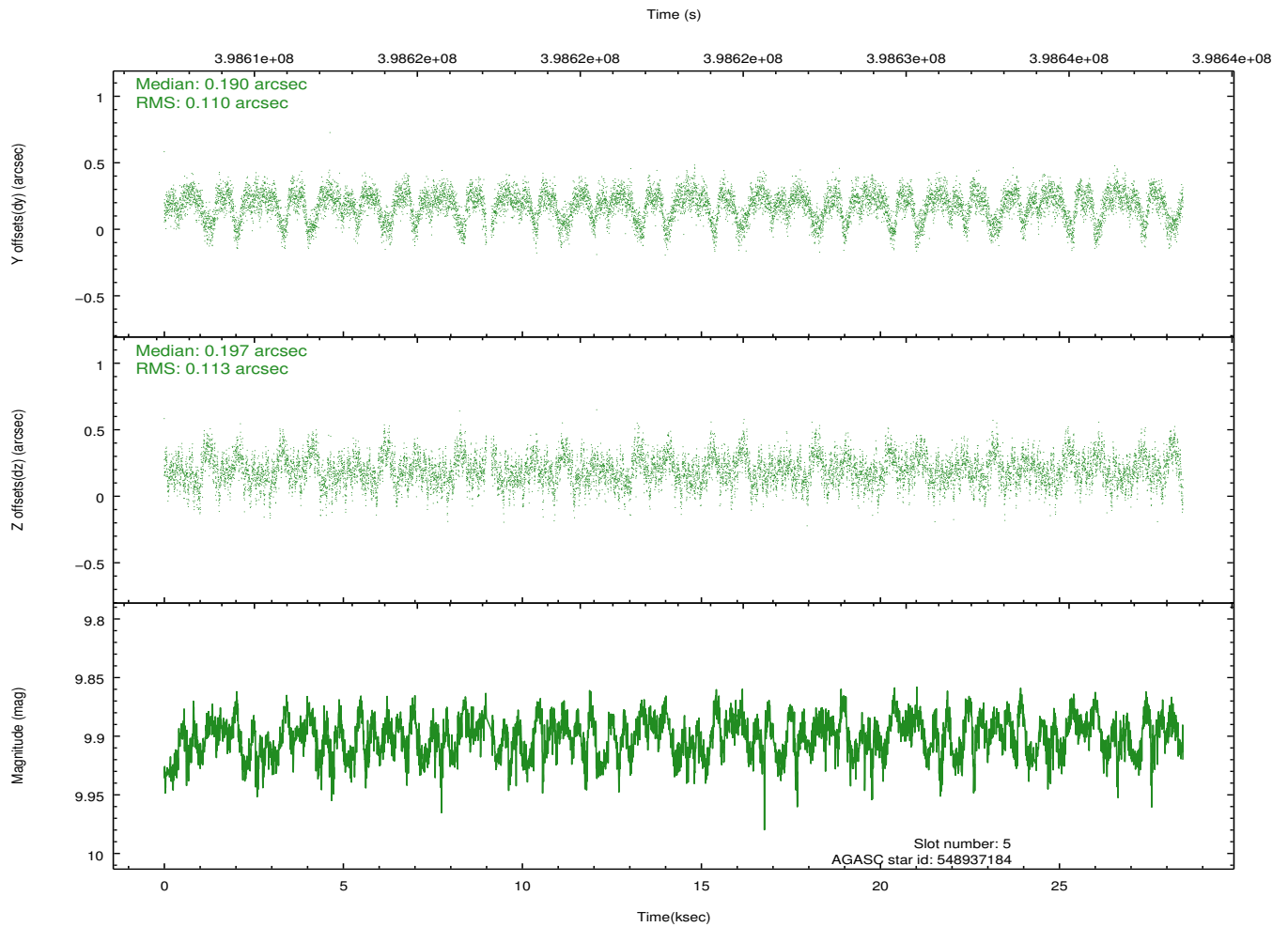
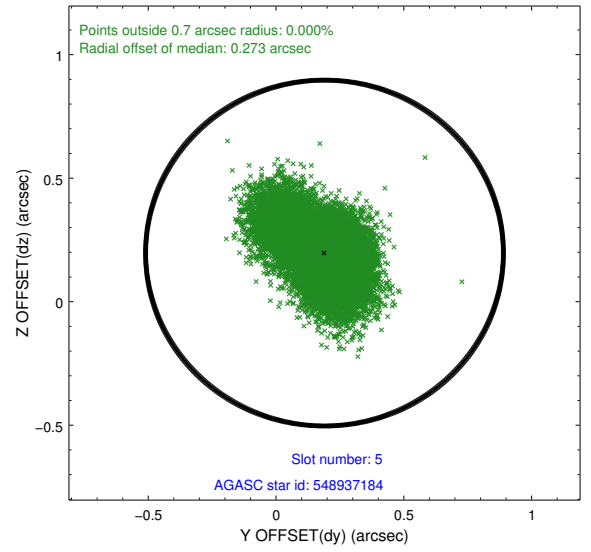
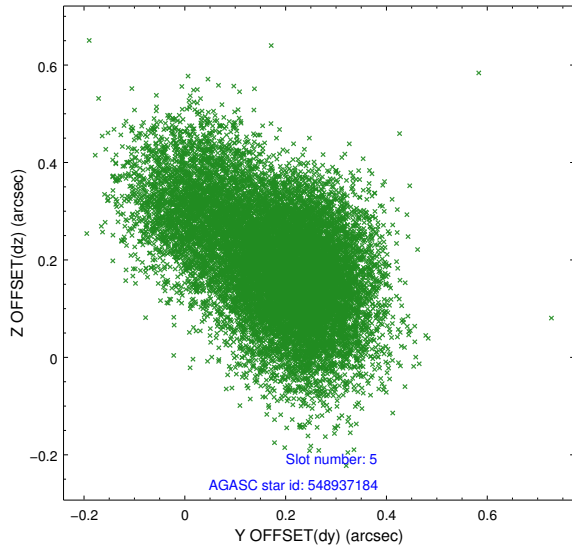
### 2.4.1 Slot 3



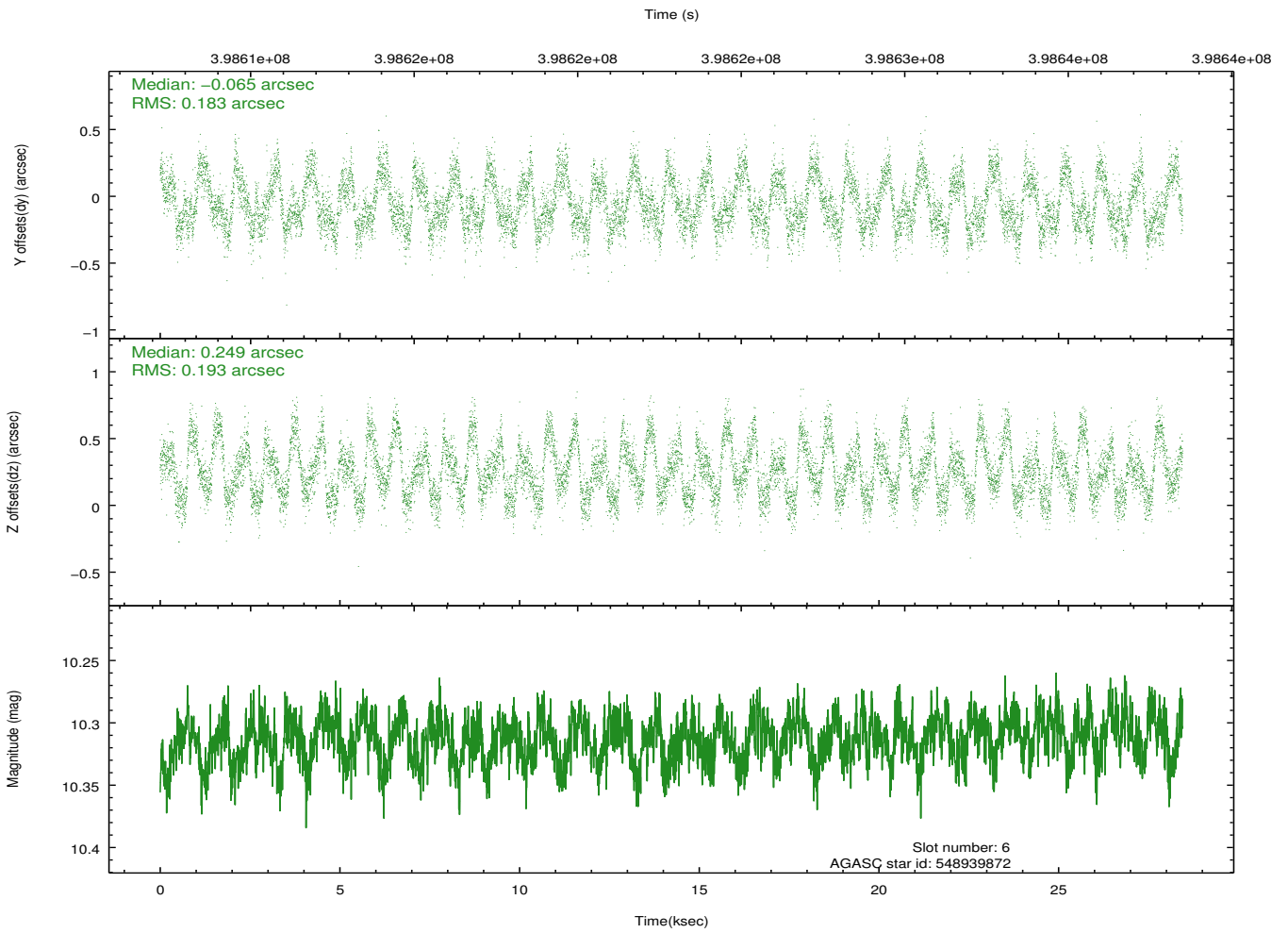
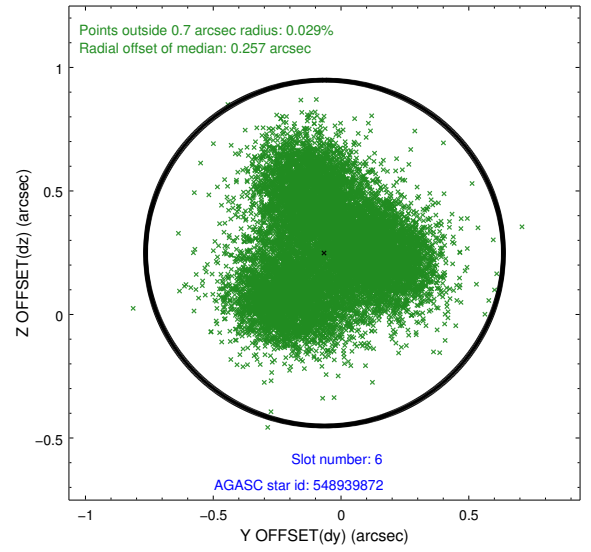
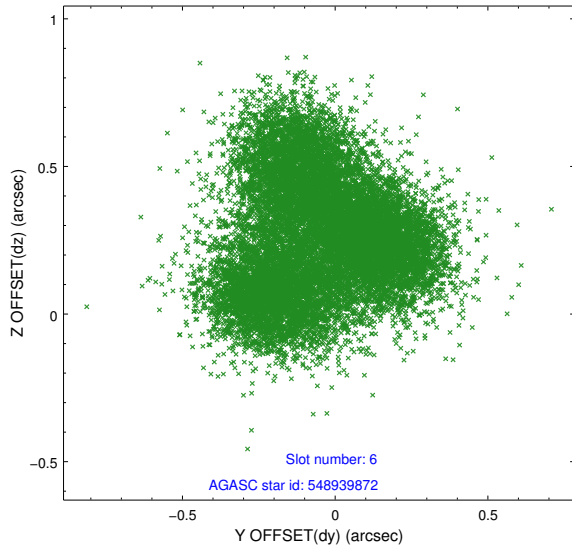
### 2.4.2 Slot 4



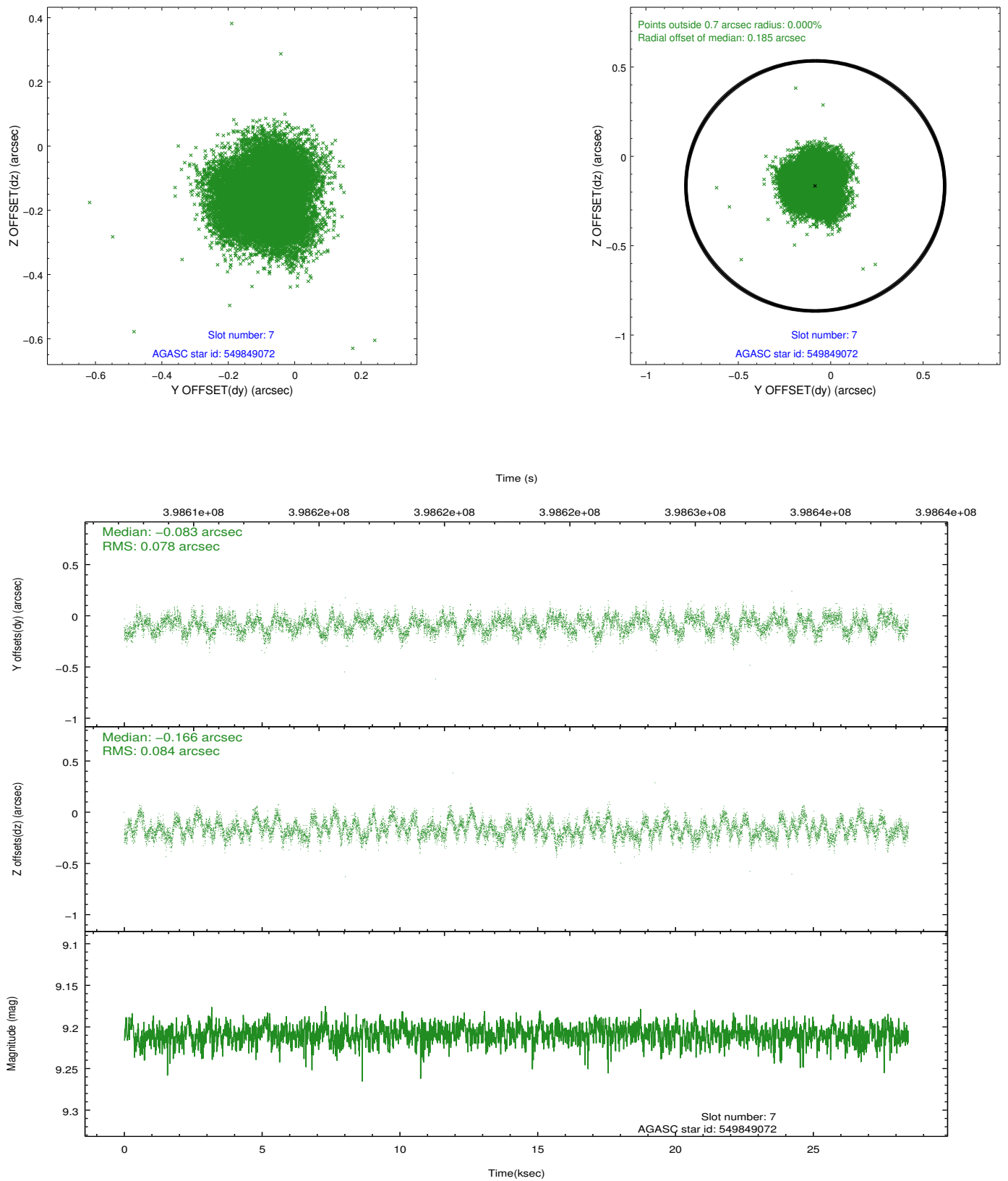
### 2.4.3 Slot 5



## 2.4.4 Slot 6

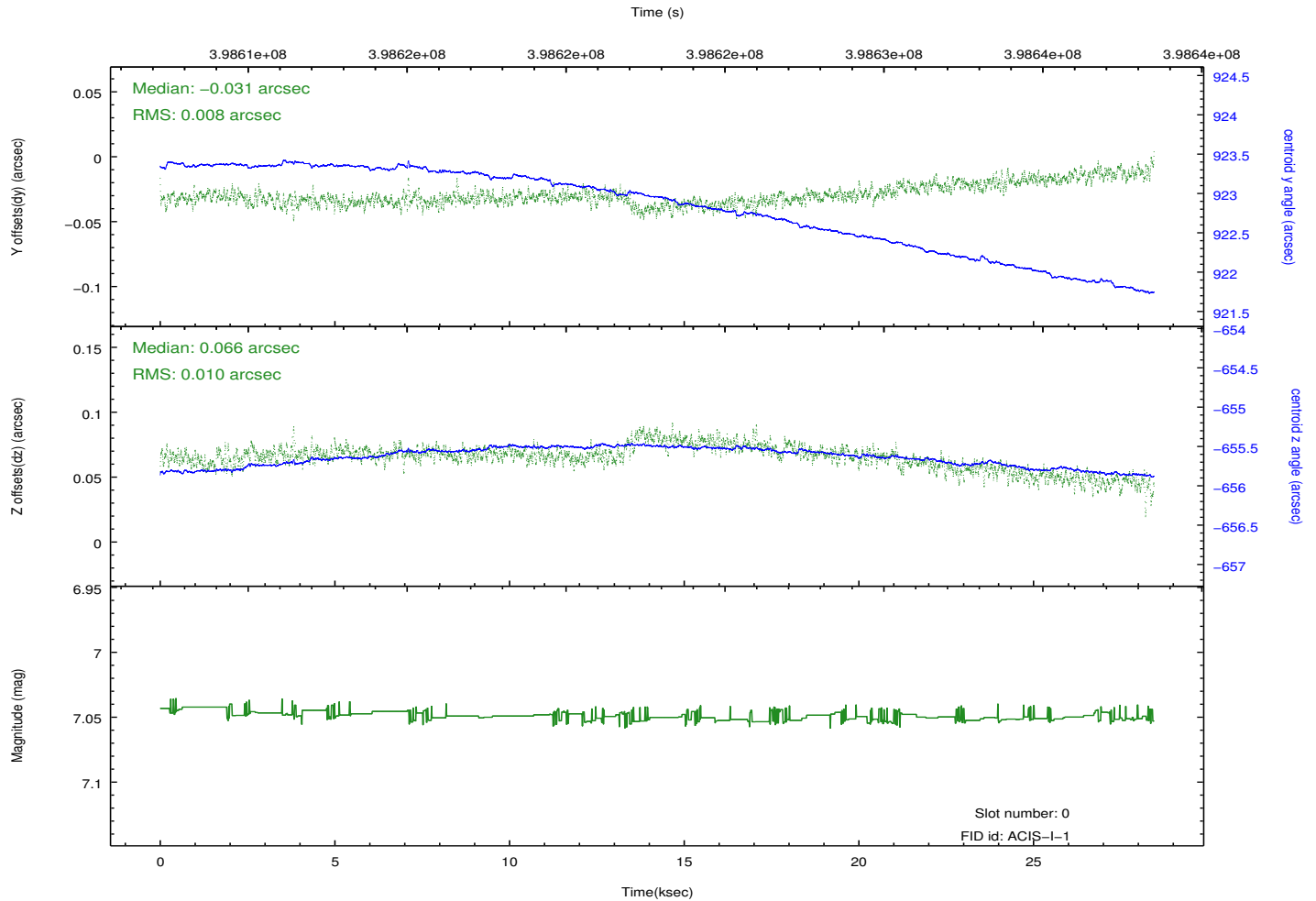
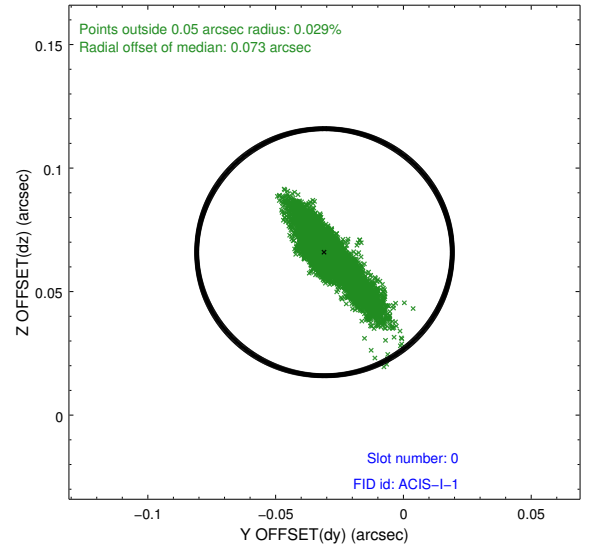
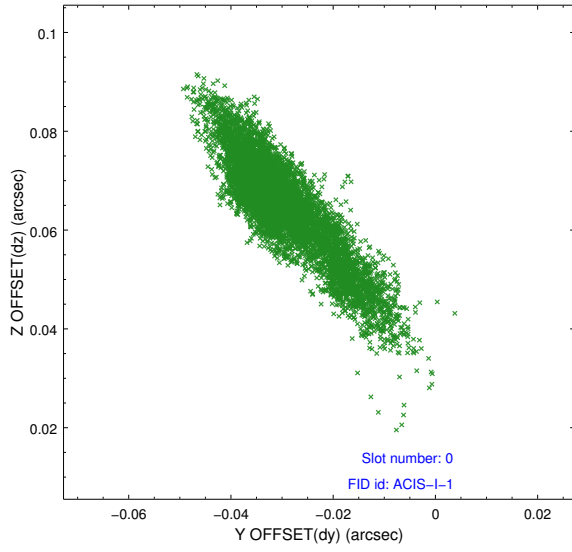


## 2.4.5 Slot 7

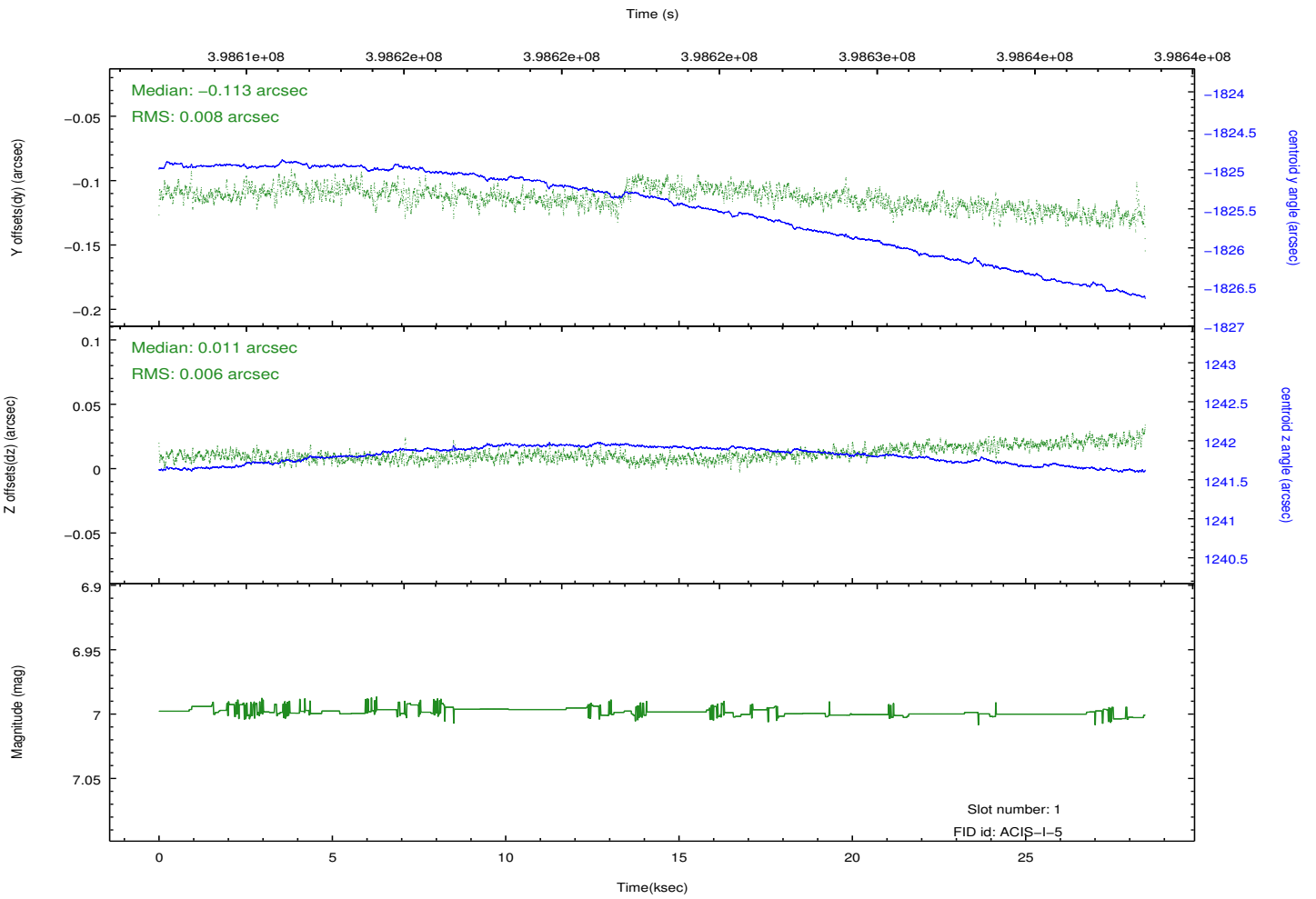
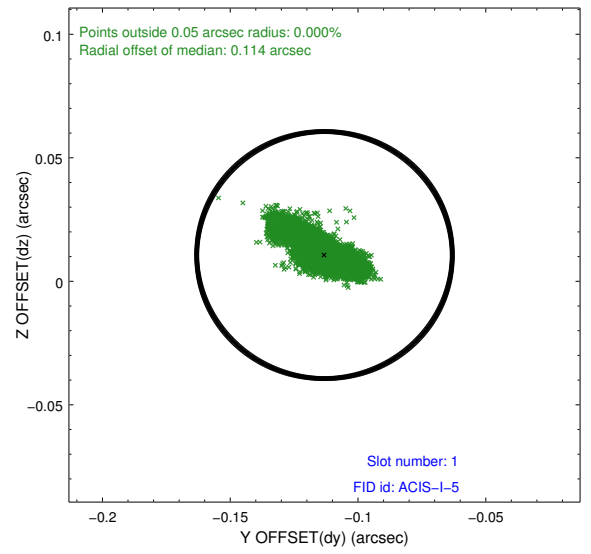
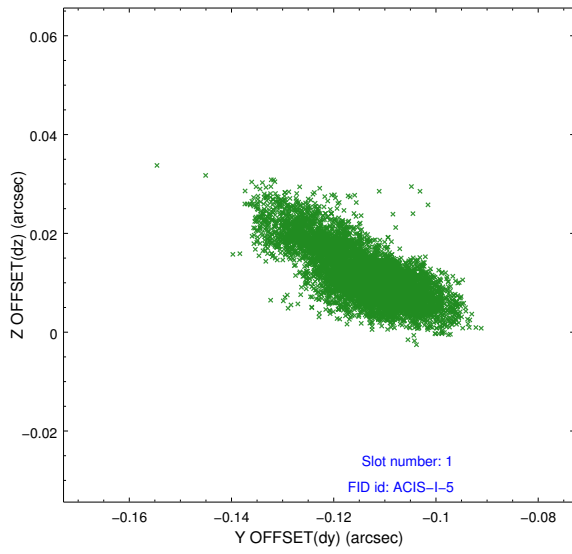


## 2.5 FID Slots

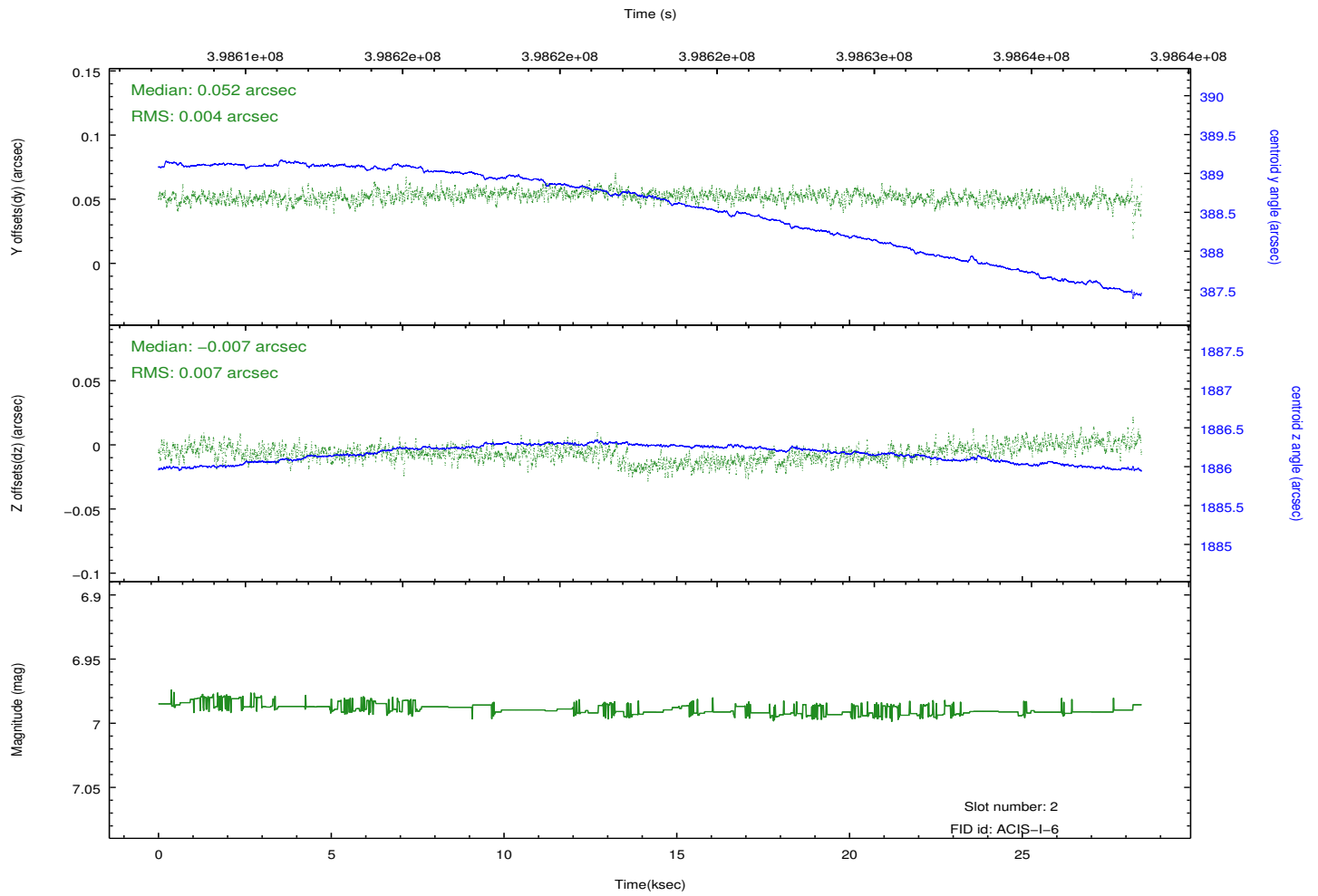
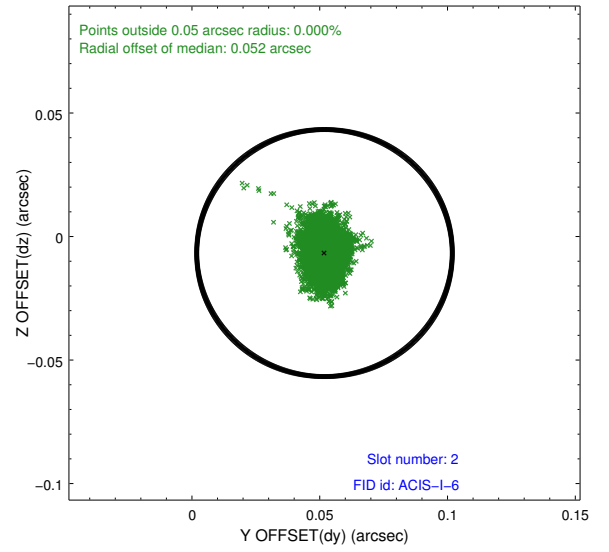
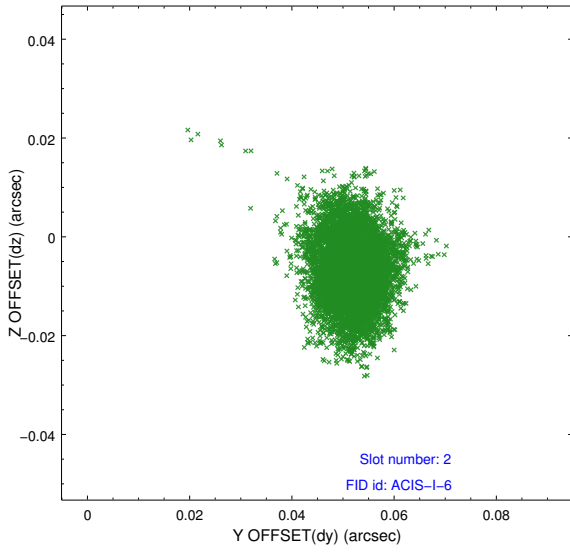
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



## A Summary

### A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2012.07.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	28.047606618822

### A.2 Comments