

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 3277 - L2 Version 4  
Chandra X-Ray Center

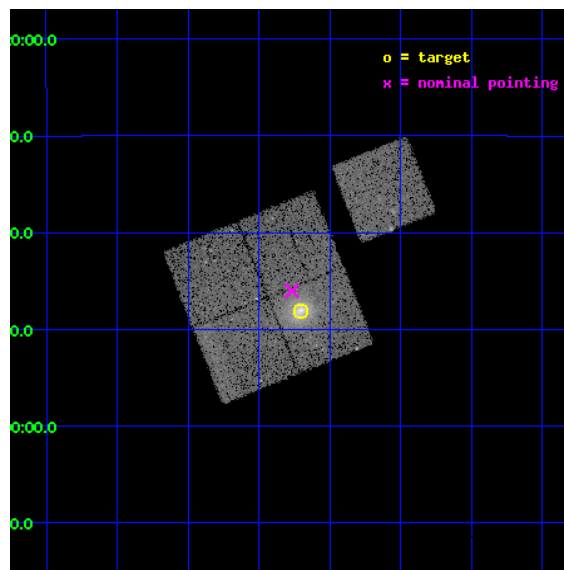
L2 Processing Date : Oct 19 2012

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# 1 Front

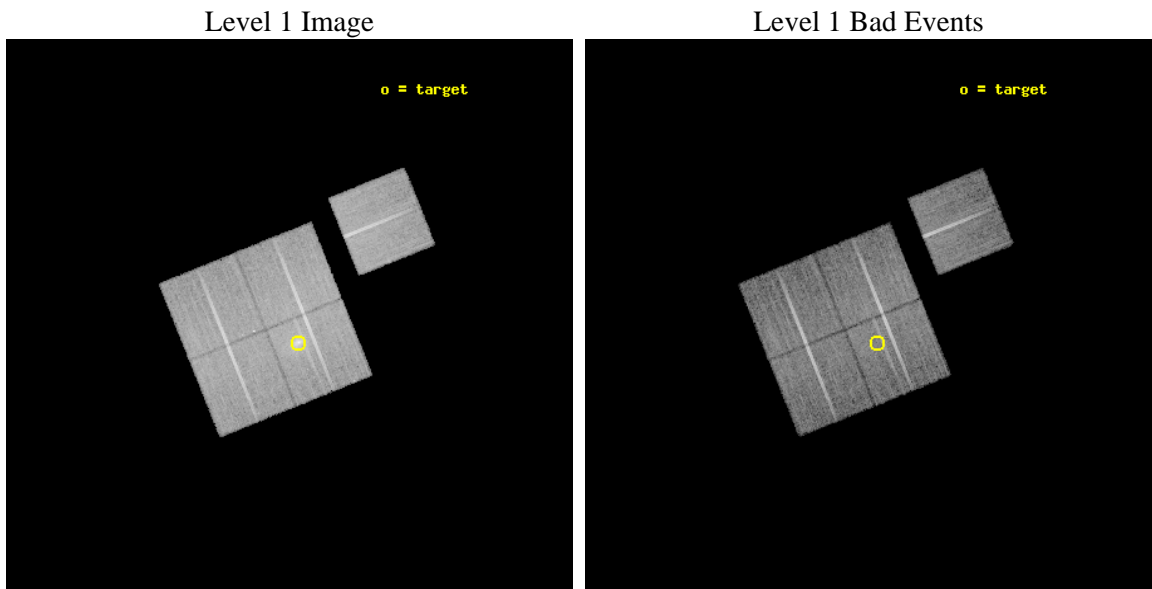
seq_num	800277	Sequence number
obs_id	3277	Observation id
title	MACS: THE X-RAY PROPERTIES OF THE MOST MASSIVE GALAXY CLUSTERS AT Z>0.3	Proposal title
observer	Dr. Harald Ebeling	Principal investigator
object	MACSJ1206.2-0847	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	181.550833	Observer's specified target RA [deg]
dec_targ	-8.801111	Observer's specified target Dec [deg]
ra_nom	181.56684941428	Nominal RA [deg]
dec_nom	-8.7669807995822	Nominal Dec [deg]
roll_nom	68.072948130072	Nominal Roll [deg]
revision	4	Processing version of data
ontime	23766.396748513	Sum of GTIs [s]
livetime	23455.871278427	Livetime [s]
ontime0	23769.414618641	Sum of GTIs [s]
ontime1	23766.314668506	Sum of GTIs [s]
ontime2	23766.355728447	Sum of GTIs [s]
ontime3	23766.396748513	Sum of GTIs [s]
ontime6	23769.373578638	Sum of GTIs [s]
l2events	65517	Number of level 2 events



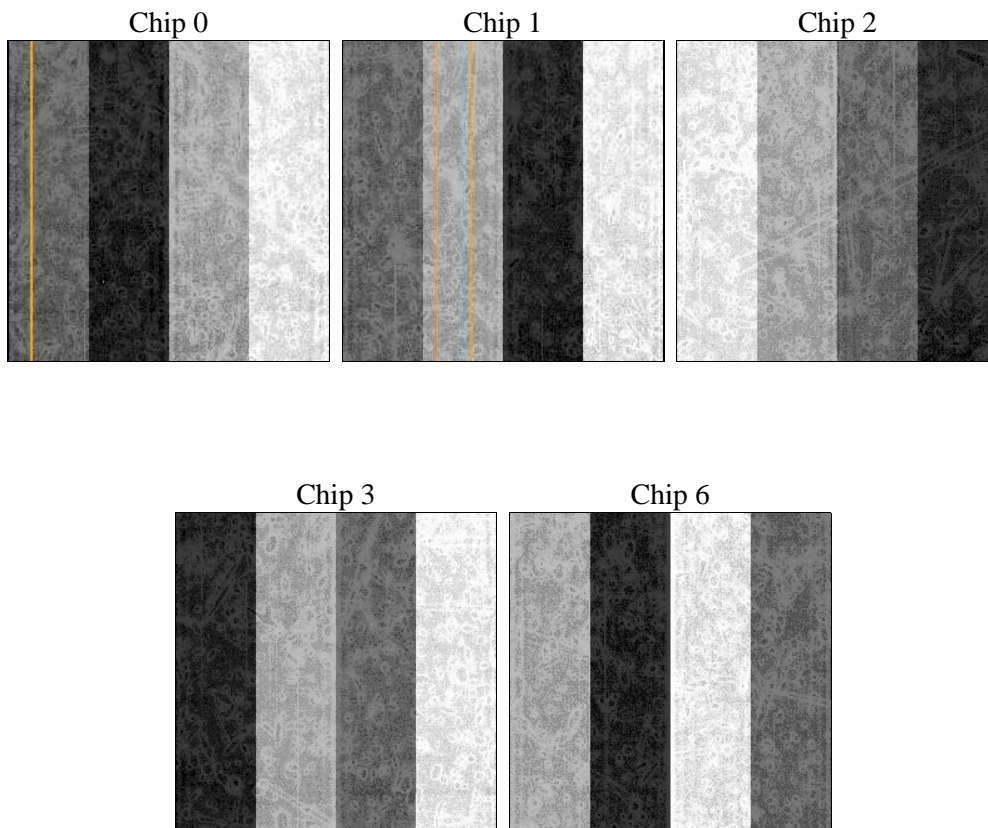
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	24000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	23766.396748513	Sum of GTIs [s]
caldbver	4.5.2	&#160	ontime0	23769.414618641	Sum of GTIs [s]
date	2012-10-19T16:38:20	Date and time of file creation	ontime1	23766.314668506	Sum of GTIs [s]
revision	4	Processing version of data	ontime2	23766.355728447	Sum of GTIs [s]
			ontime3	23766.396748513	Sum of GTIs [s]
			ontime6	23769.373578638	Sum of GTIs [s]
			l1events	610719	Number of level 1 events

### 2.1.4 Events

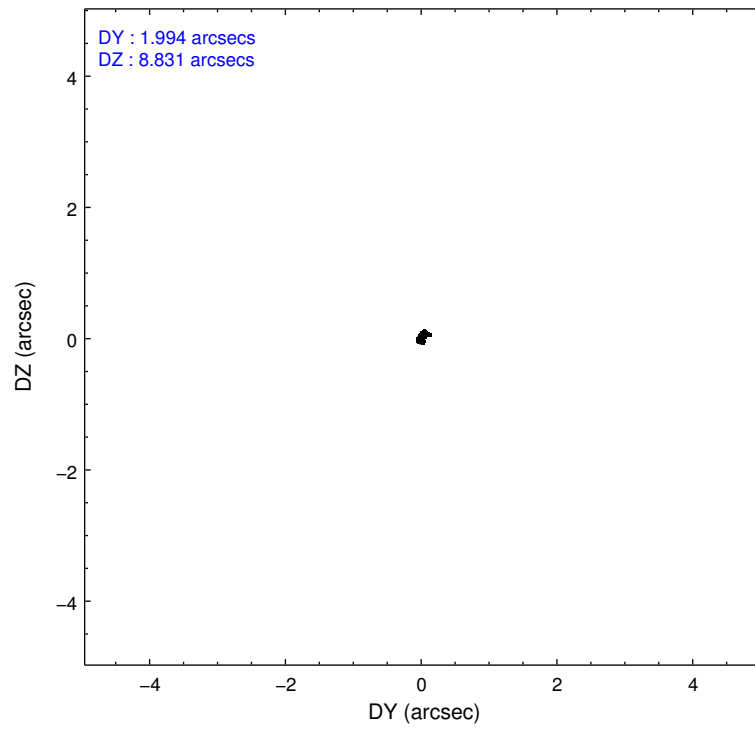
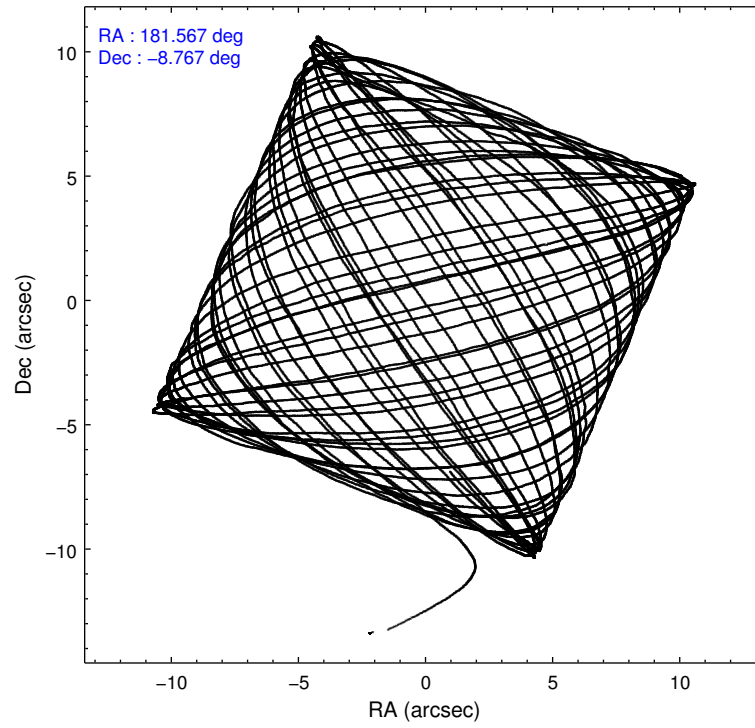
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	112876	112844	126834	135423	122742
rejected events	99963	98835	114546	110618	109732
rejected %	88%	87%	90%	81%	89%

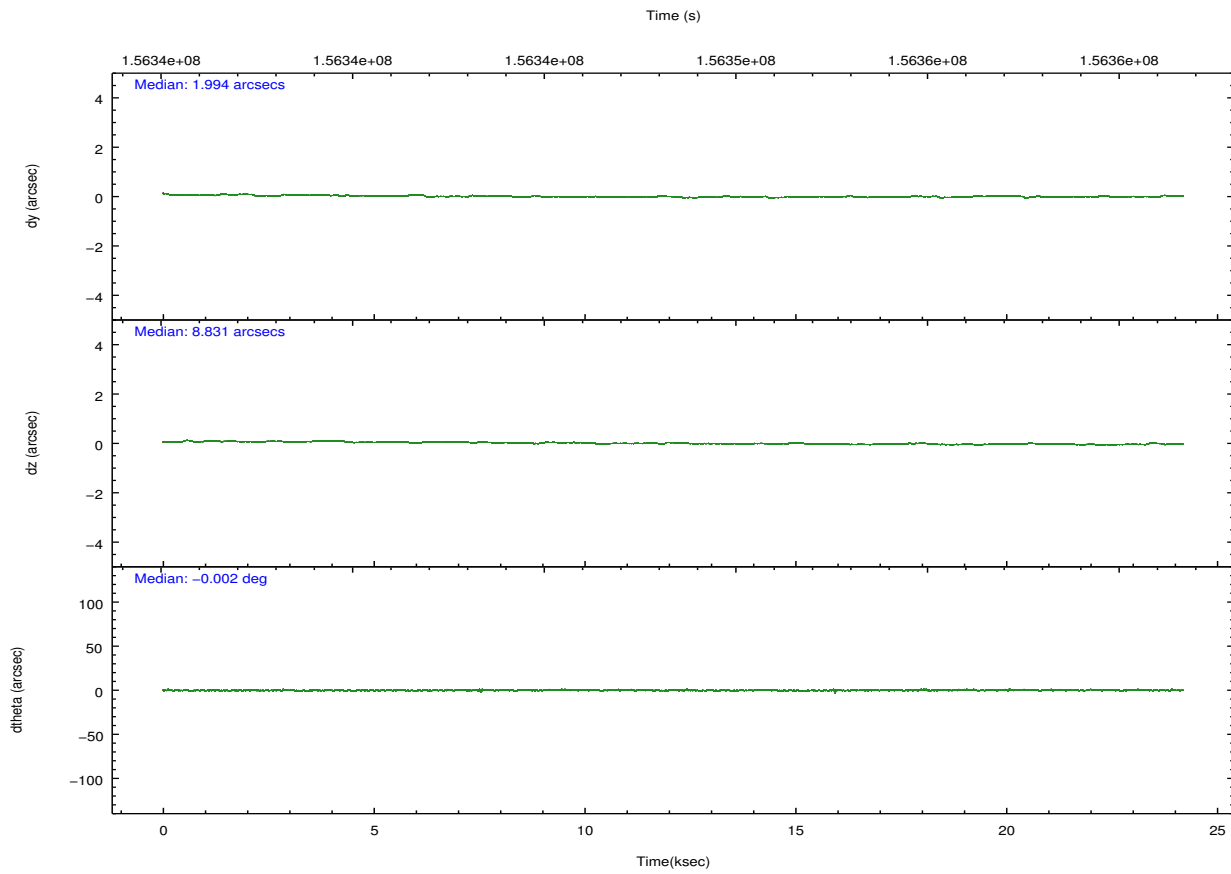
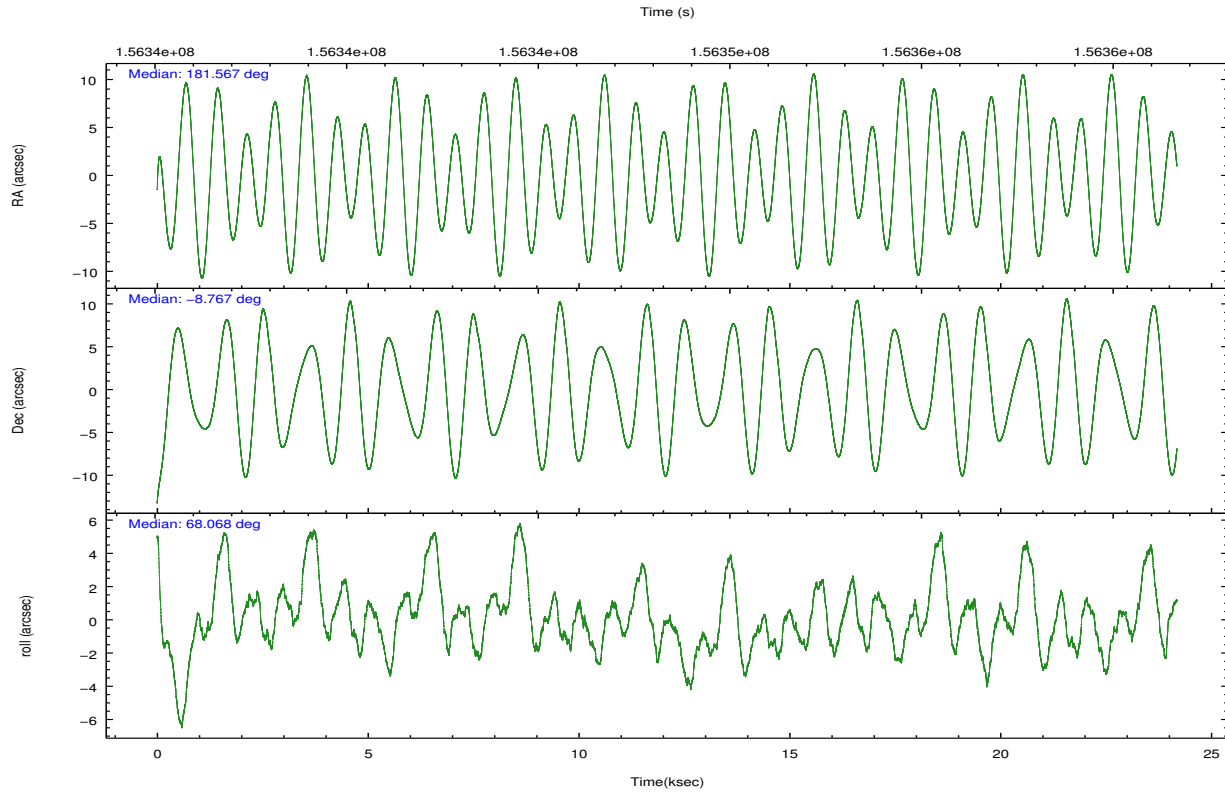
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	4938	5339	4733	15174	4809
	4%	4%	3%	11%	3%
grade 1 events	61	58	63	115	46
	0%	0%	0%	0%	0%
grade 2 events	2924	2920	2740	3681	2698
	2%	2%	2%	2%	2%
grade 3 events	1523	1537	1314	1670	1411
	1%	1%	1%	1%	1%
grade 4 events	1323	1538	1351	1742	1429
	1%	1%	1%	1%	1%
grade 5 events	4170	4367	3829	4662	4654
	3%	3%	3%	3%	3%
grade 6 events	2207	2675	2154	2538	2664
	1%	2%	1%	1%	2%
grade 7 events	95730	94410	110650	105841	105031
	84%	83%	87%	78%	85%

## 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	181.570855	181.5668494142835	Subarray requested	NONE	NONE
[deg] Pointing Dec	-8.794052	-8.766980799582237	Alternating exposures requested	N	N
[deg] Pointing Roll	67.864876	68.07294813007232	[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	-227.742463	-227.734108438797			
[mm] SIM translation stage offset	-5.85	-5.858344564132665			
[s] Observation start time (MET)	156336451.184000	156335790.67004			
Observation start date	2002-12-15T10:46:27	2002-12-15T10:36:30			
[s] Observation end time (MET)	156360451.184000	156361239.8836			
Observation end date	2002-12-15T17:26:27	2002-12-15T17:40:39			
Read mode	TIMED	TIMED			

## 2.3 Aspect



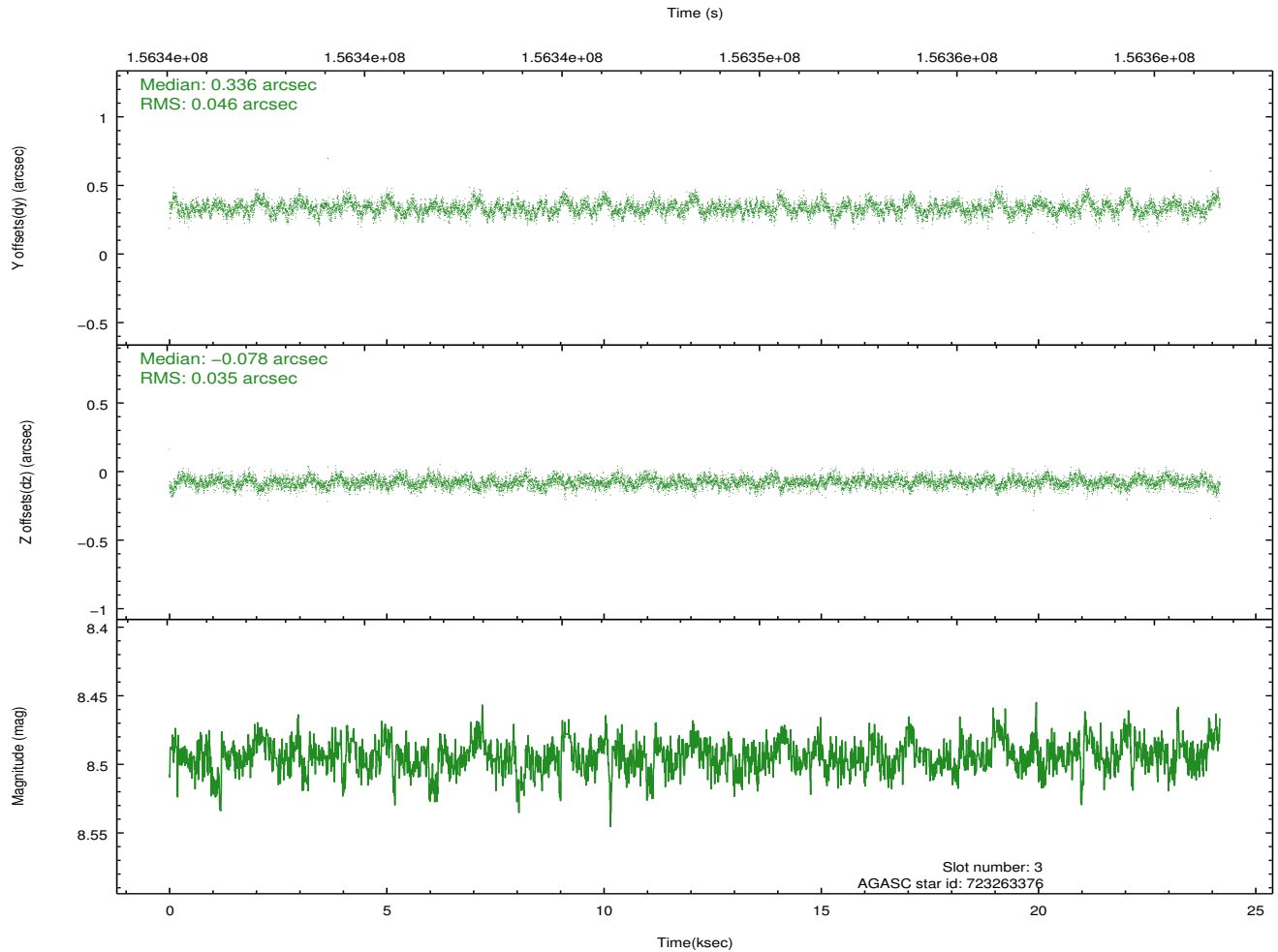
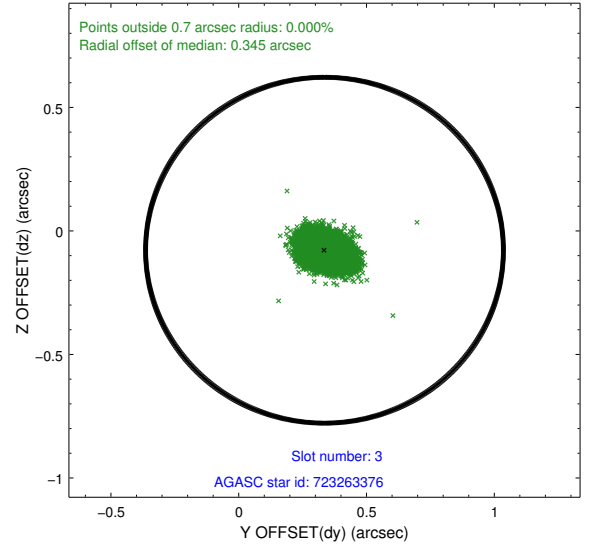
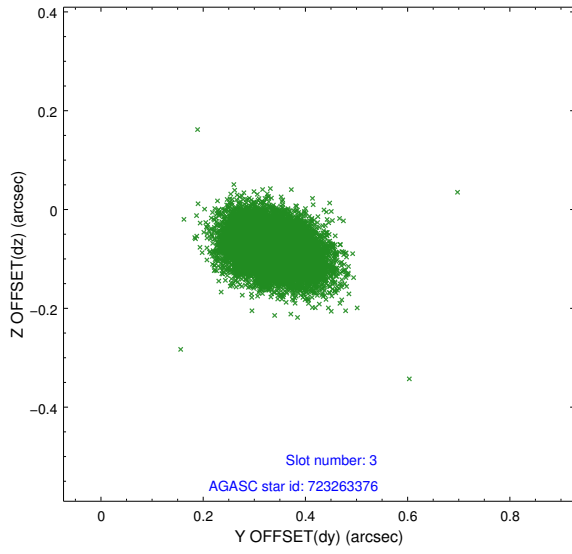


### Slot Statistics

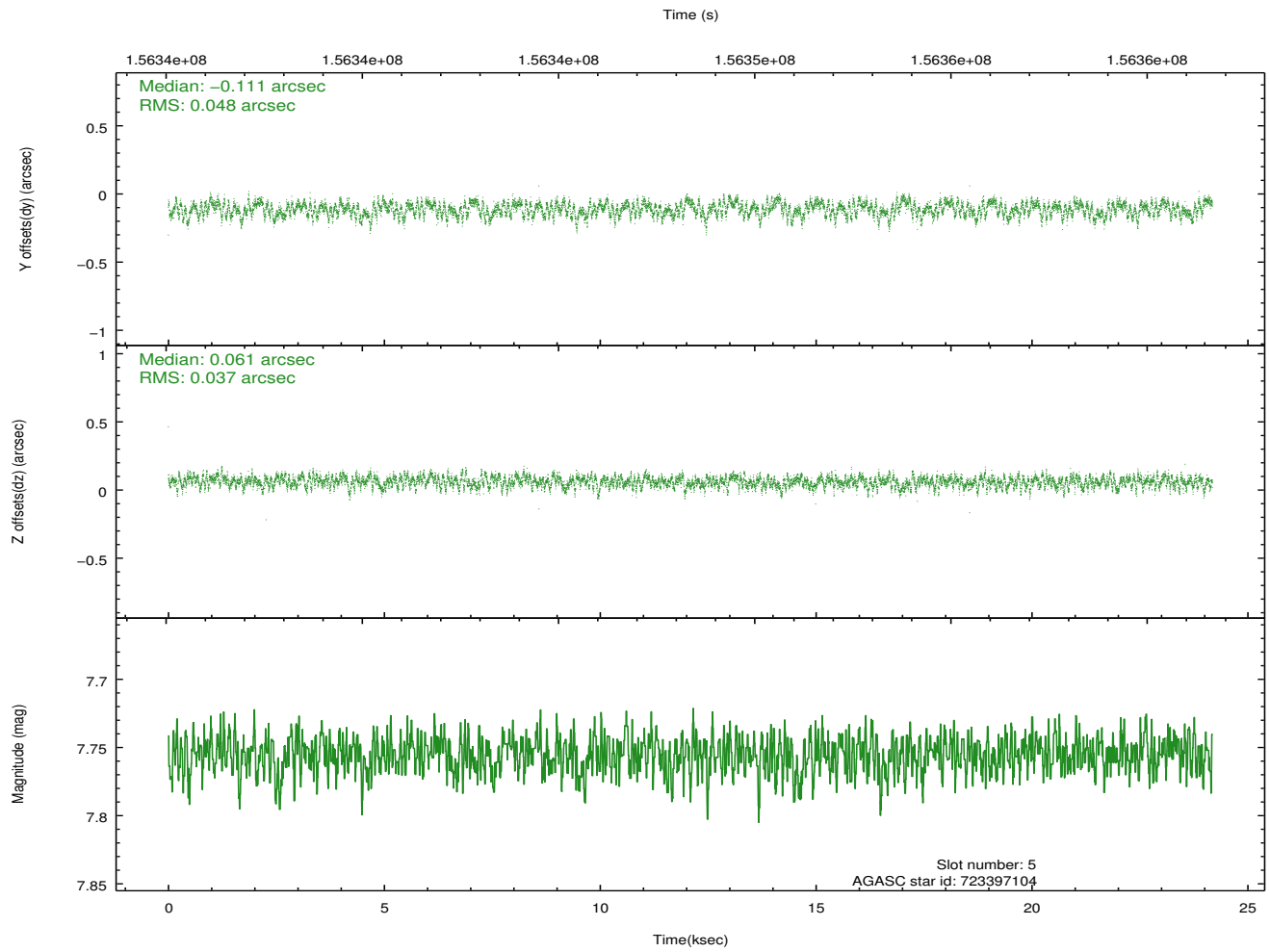
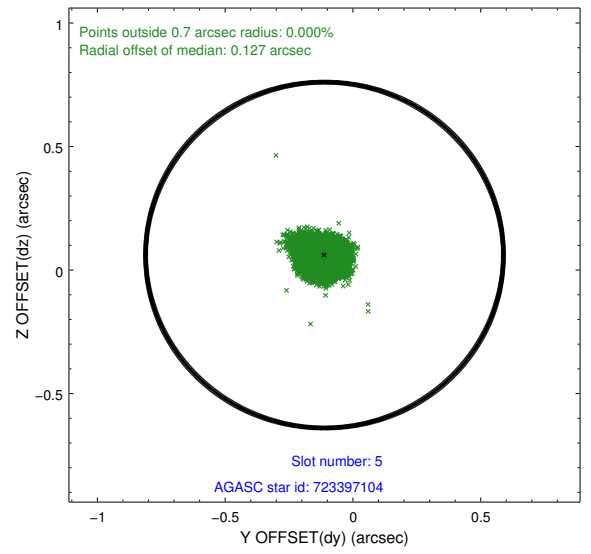
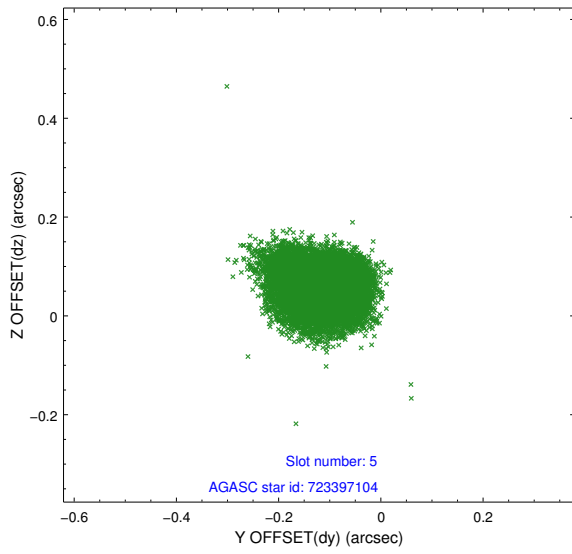
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.24	5897	0.029	-0.005	0.006	0.012	0.000000	0.000000	937.73	-952.53
1	FID	ACIS-I-5	7.23	5897	-0.130	0.056	0.006	0.011	0.000000	0.000000	-1810.45	944.95
2	FID	ACIS-I-6	7.25	5896	0.010	0.019	0.007	0.012	0.000000	0.000000	403.13	1589.55
3	GUIDE	723263376	8.49	11795	0.336	-0.078	0.061	0.103	181.274677	-9.308585	-2111.40	275.76
4	OMITTED		0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
5	GUIDE	723397104	7.76	11796	-0.111	0.061	0.064	0.103	181.946290	-8.486028	1530.83	-820.74
6	GUIDE	723264944	8.72	11795	-0.045	-0.187	0.081	0.130	181.255643	-8.527713	465.80	1399.61
7	GUIDE	723389008	9.33	11792	-0.184	0.208	0.097	0.161	182.414005	-8.559734	1910.36	-2463.99

## 2.4 Star Slots

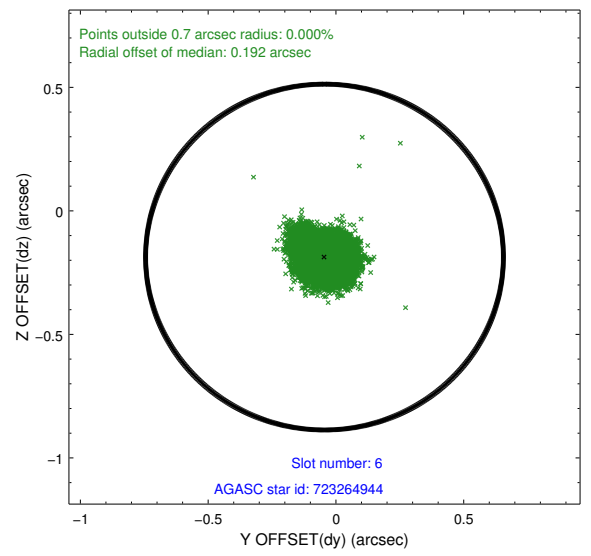
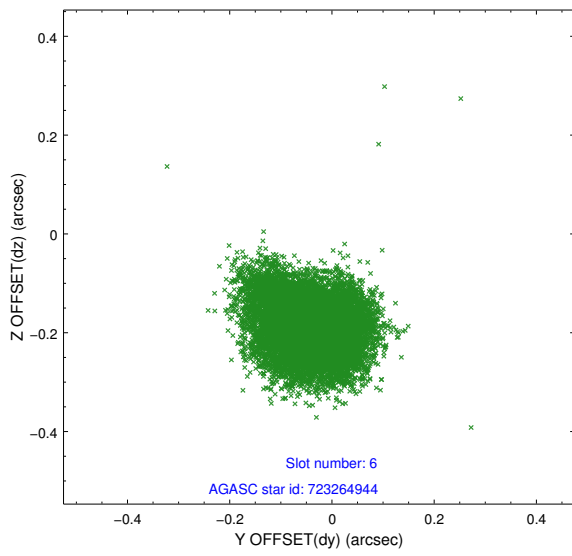
### 2.4.1 Slot 3



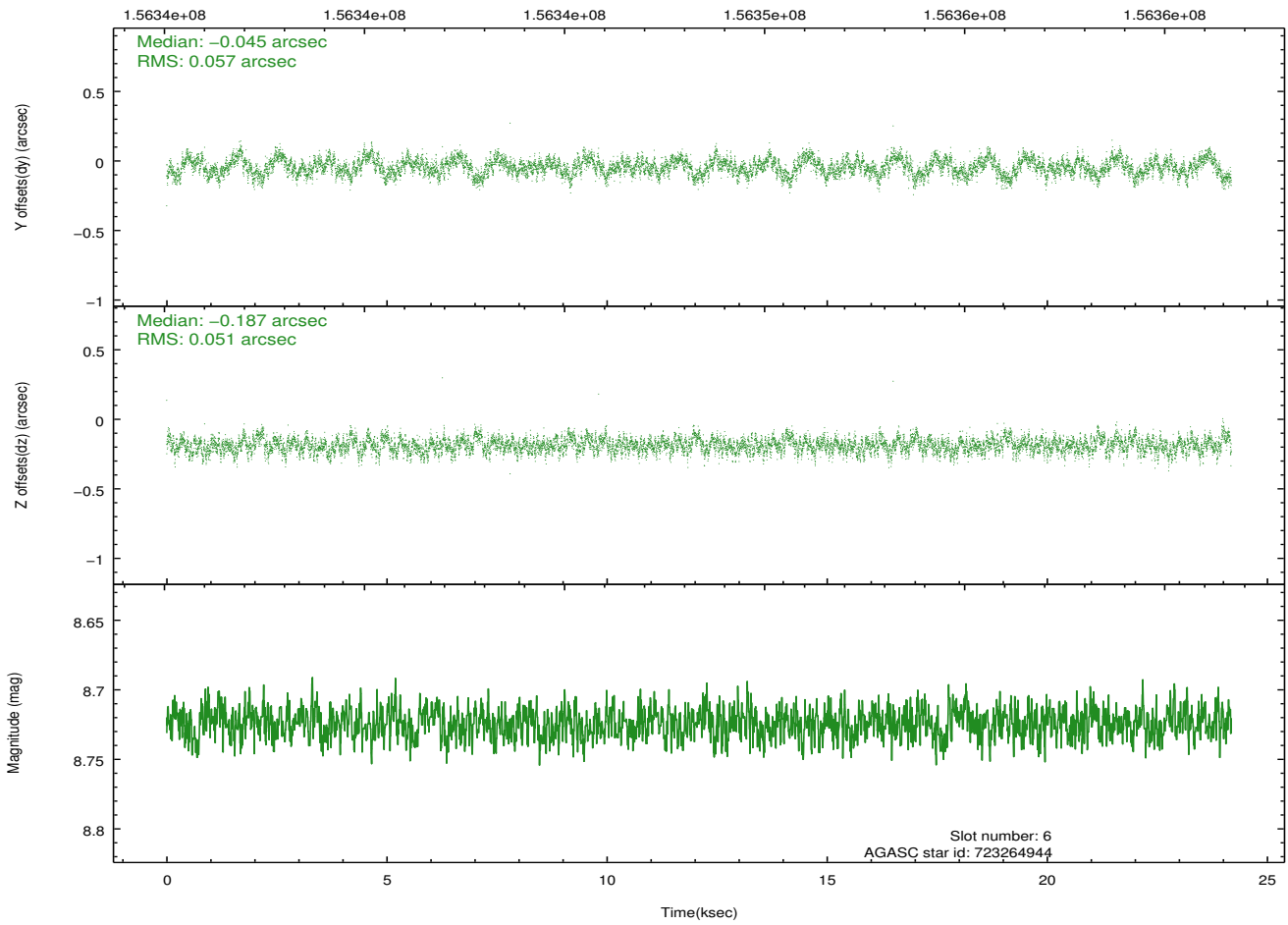
## 2.4.2 Slot 5



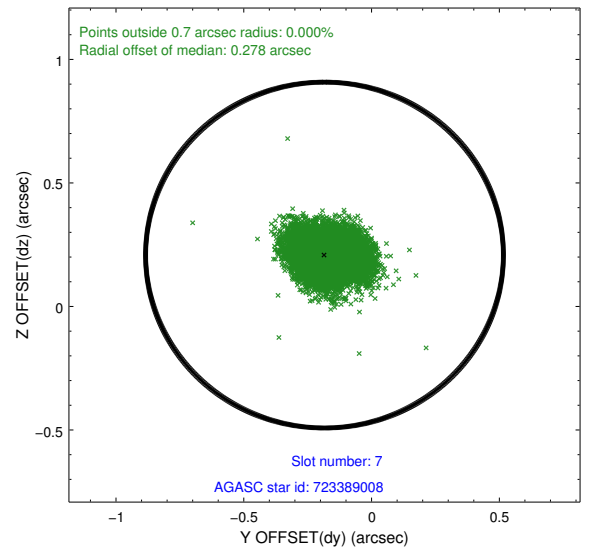
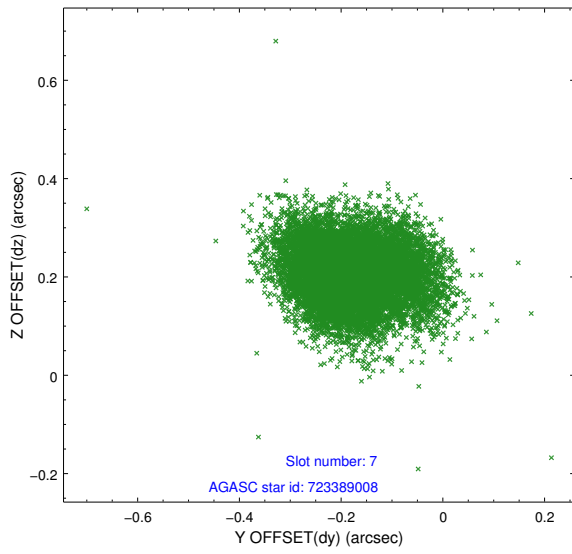
### 2.4.3 Slot 6



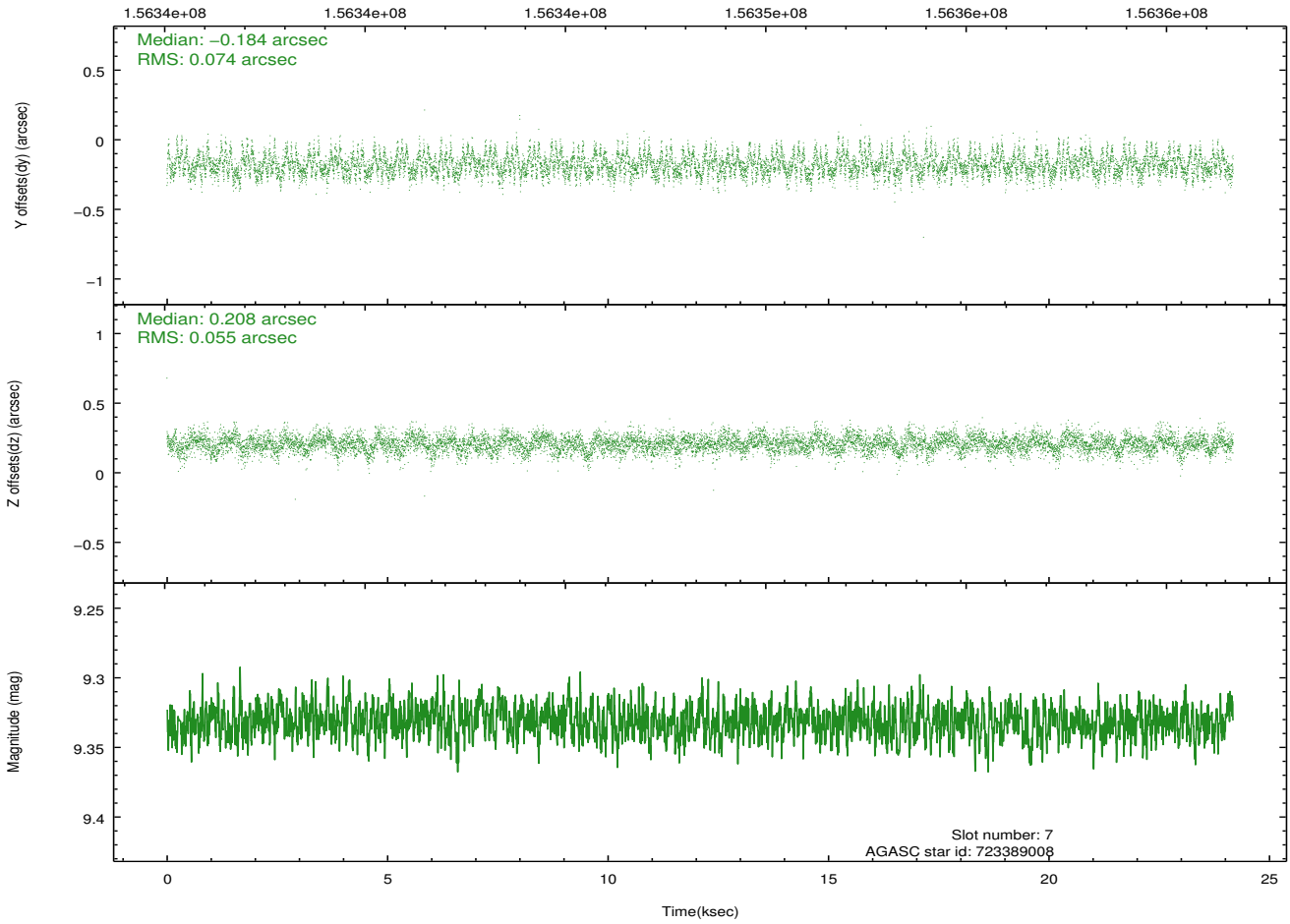
Time (s)



### 2.4.4 Slot 7

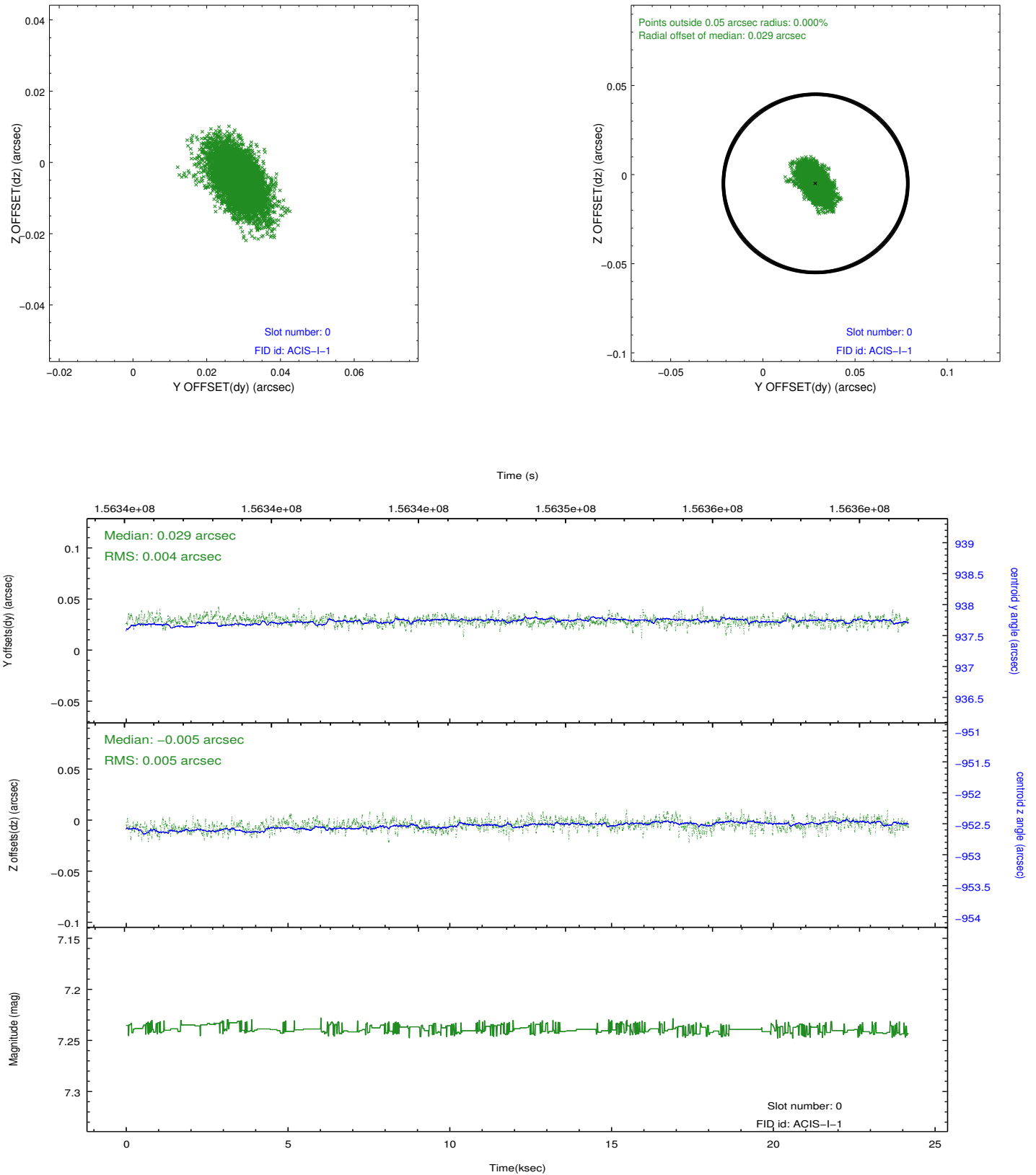


Time (s)

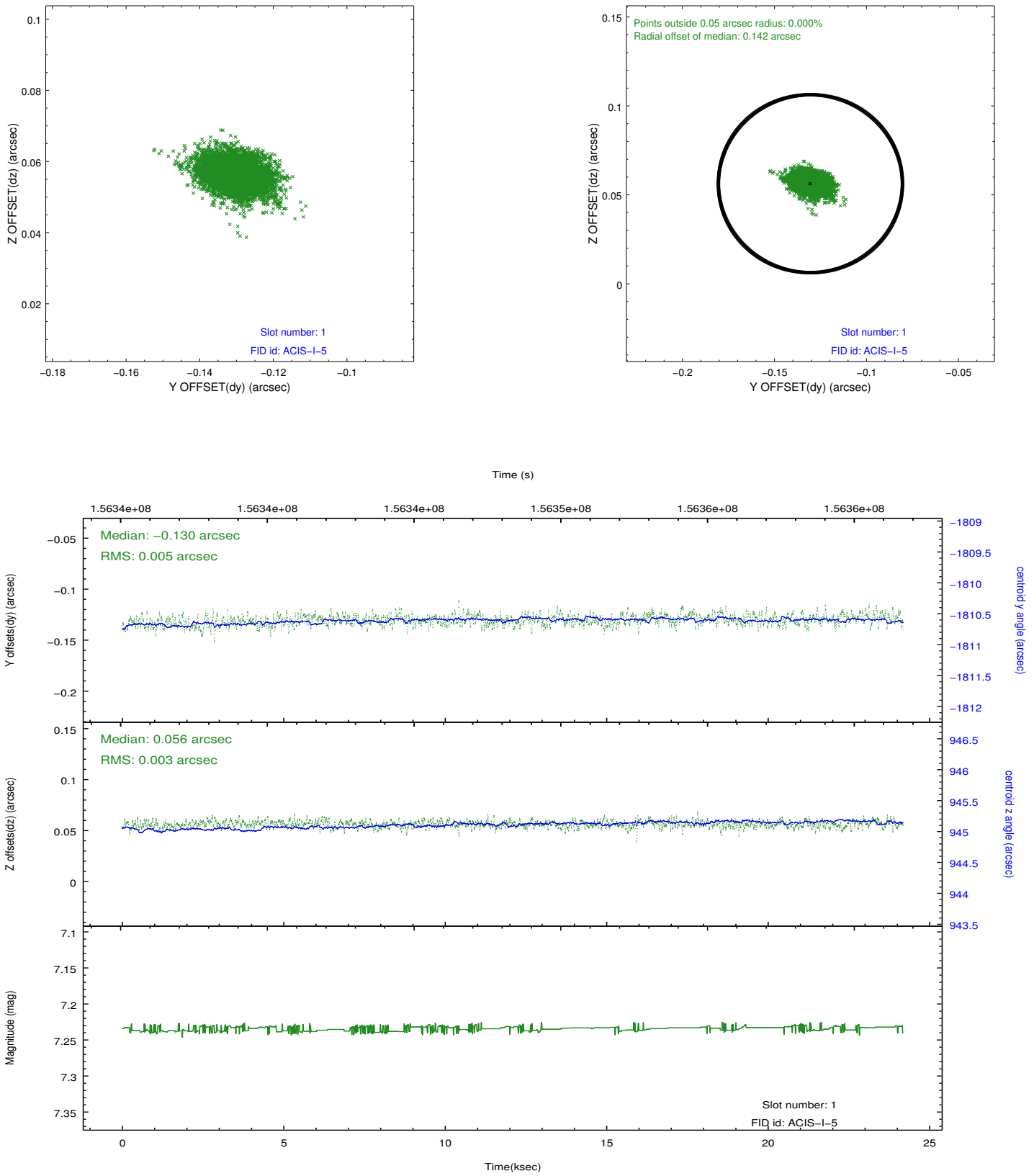


## 2.5 FID Slots

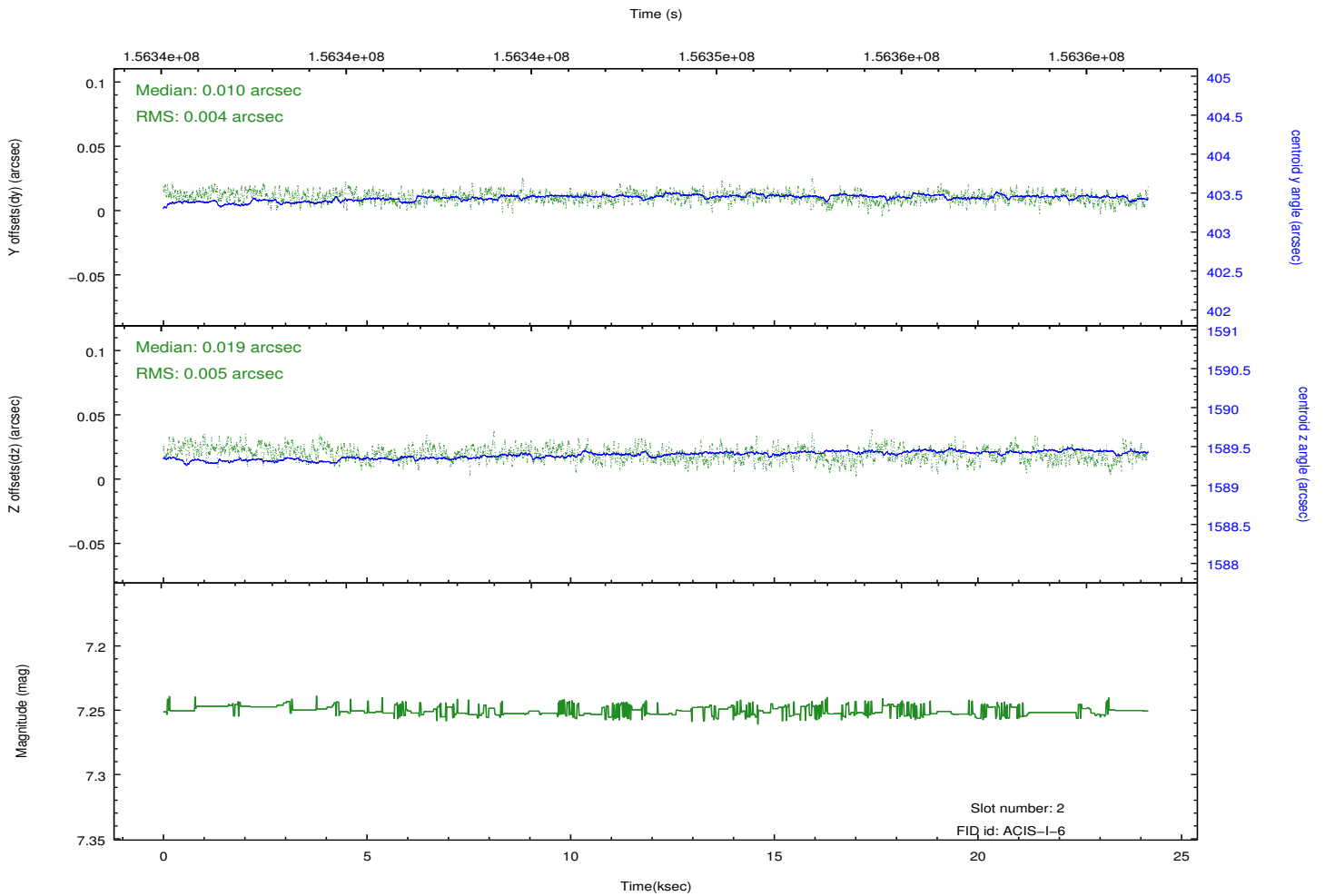
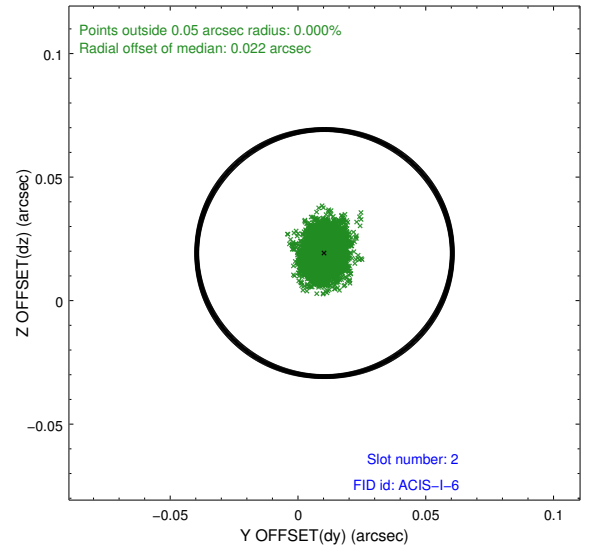
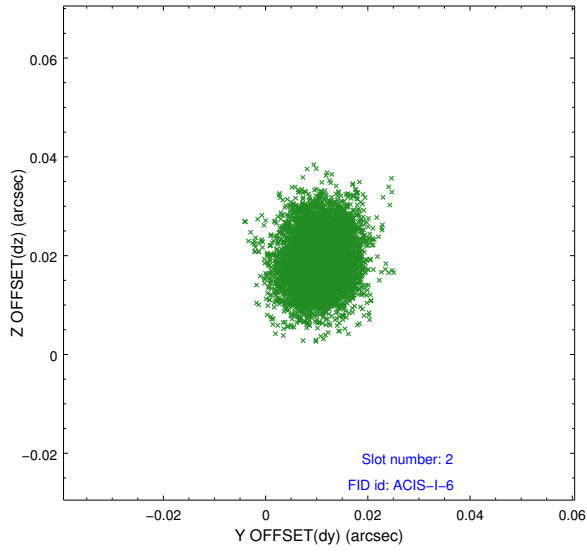
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.10.31
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	23.767

## 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 guide star from the solution.