

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 13597 - L2 Version 3  
Chandra X-Ray Center

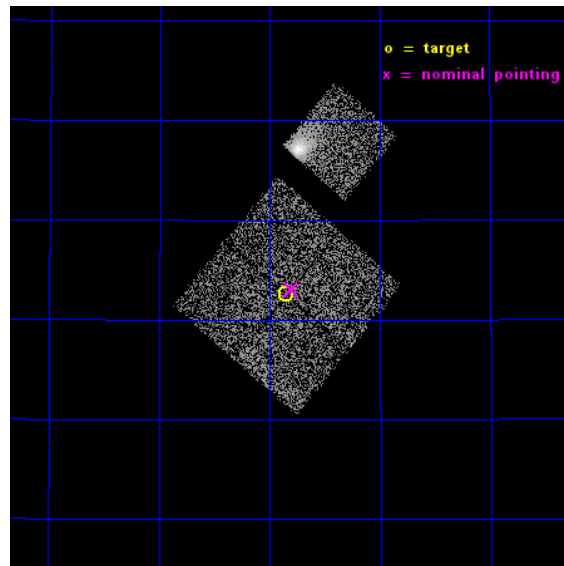
L2 Processing Date : Nov 29 2014

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# 1 Front

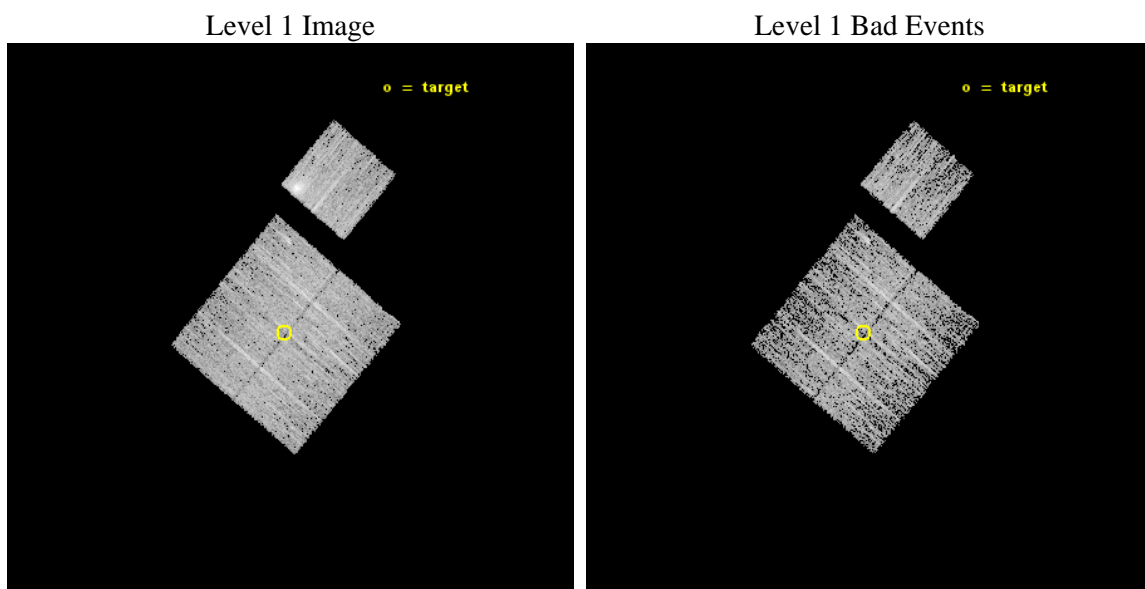
seq_num	801158	Sequence number
obs_id	13597	Observation id
title	To The Outer Limits of Clusters with Chandra and Suzaku	Proposal t
observer	Dr. Eric Miller	Principal investigator
object	A1068	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	160.21295	Observer's specified target RA [deg]
dec_targ	39.711243	Observer's specified target Dec [deg]
ra_nom	160.20116477128	Nominal RA [deg]
dec_nom	39.717786343072	Nominal Dec [deg]
roll_nom	40.306561065014	Nominal Roll [deg]
revision	3	Processing version of data
ontime	4777.0413160324	Sum of GTIs [s]
livetime	4714.6257544318	Livetime [s]
ontime0	4777.0002760291	Sum of GTIs [s]
ontime1	4777.0413160324	Sum of GTIs [s]
ontime2	4777.0823560357	Sum of GTIs [s]
ontime3	4777.1000367403	Sum of GTIs [s]
ontime6	4776.9592360258	Sum of GTIs [s]
l2events	16378	Number of level 2 events



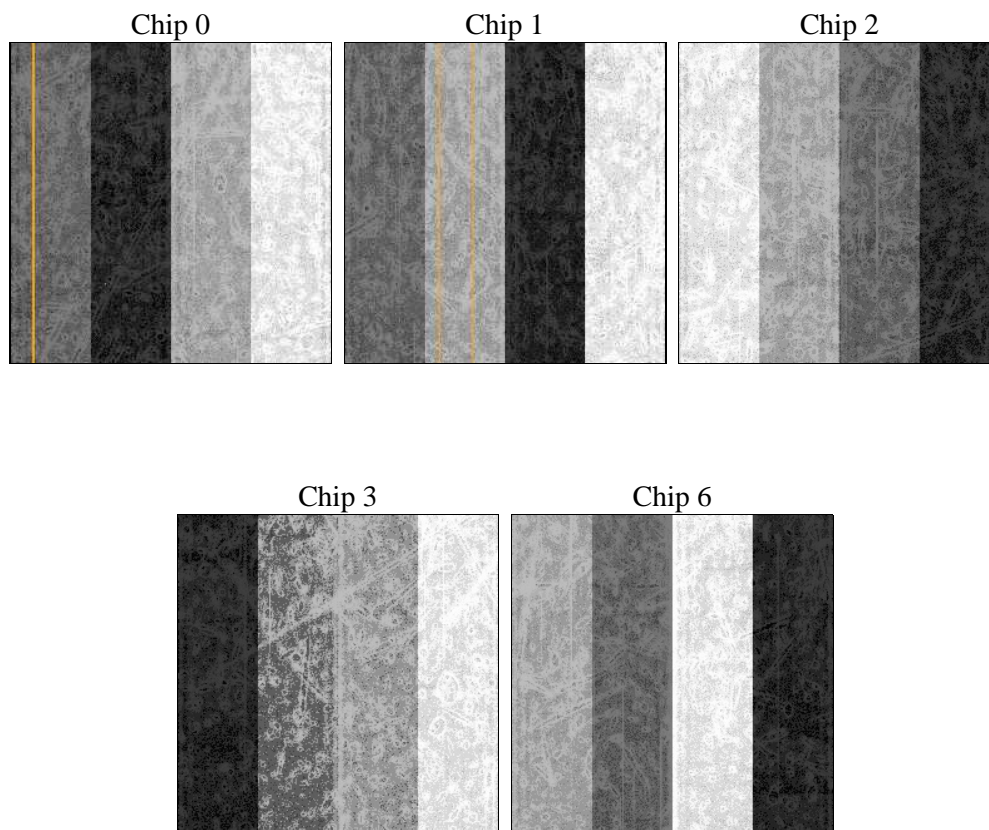
## 2 OBI

### 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	4777.0413160324	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime0	4777.0002760291	Sum of GTIs [s]
date	2014-11-28T12:02:39	Date and time of file creation	ontime1	4777.0413160324	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	4777.0823560357	Sum of GTIs [s]
			ontime3	4777.1000367403	Sum of GTIs [s]
			ontime6	4776.9592360258	Sum of GTIs [s]
			l1events	131141	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	22357	25249	27474	25817	30244
rejected events	19435	21942	24365	22847	23556
rejected %	86%	86%	88%	88%	77%

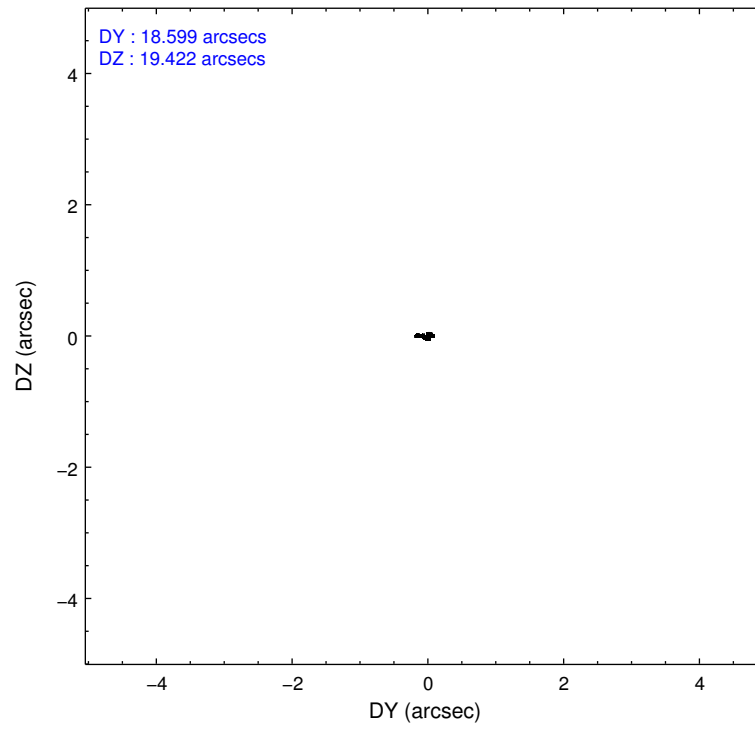
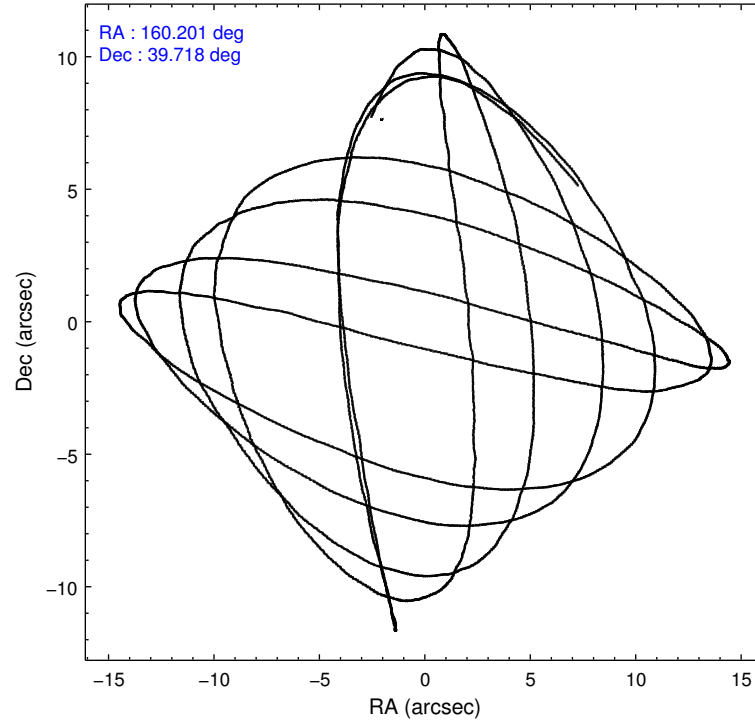
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	936	1098	1056	1072	4001
	4%	4%	3%	4%	13%
grade 1 events	8	21	17	22	25
	0%	0%	0%	0%	0%
grade 2 events	741	786	796	617	1069
	3%	3%	2%	2%	3%
grade 3 events	313	341	304	311	434
	1%	1%	1%	1%	1%
grade 4 events	319	350	334	310	398
	1%	1%	1%	1%	1%
grade 5 events	1116	1272	1126	1340	1316
	4%	5%	4%	5%	4%
grade 6 events	619	734	623	662	788
	2%	2%	2%	2%	2%
grade 7 events	18305	20647	23218	21483	22213
	81%	81%	84%	83%	73%

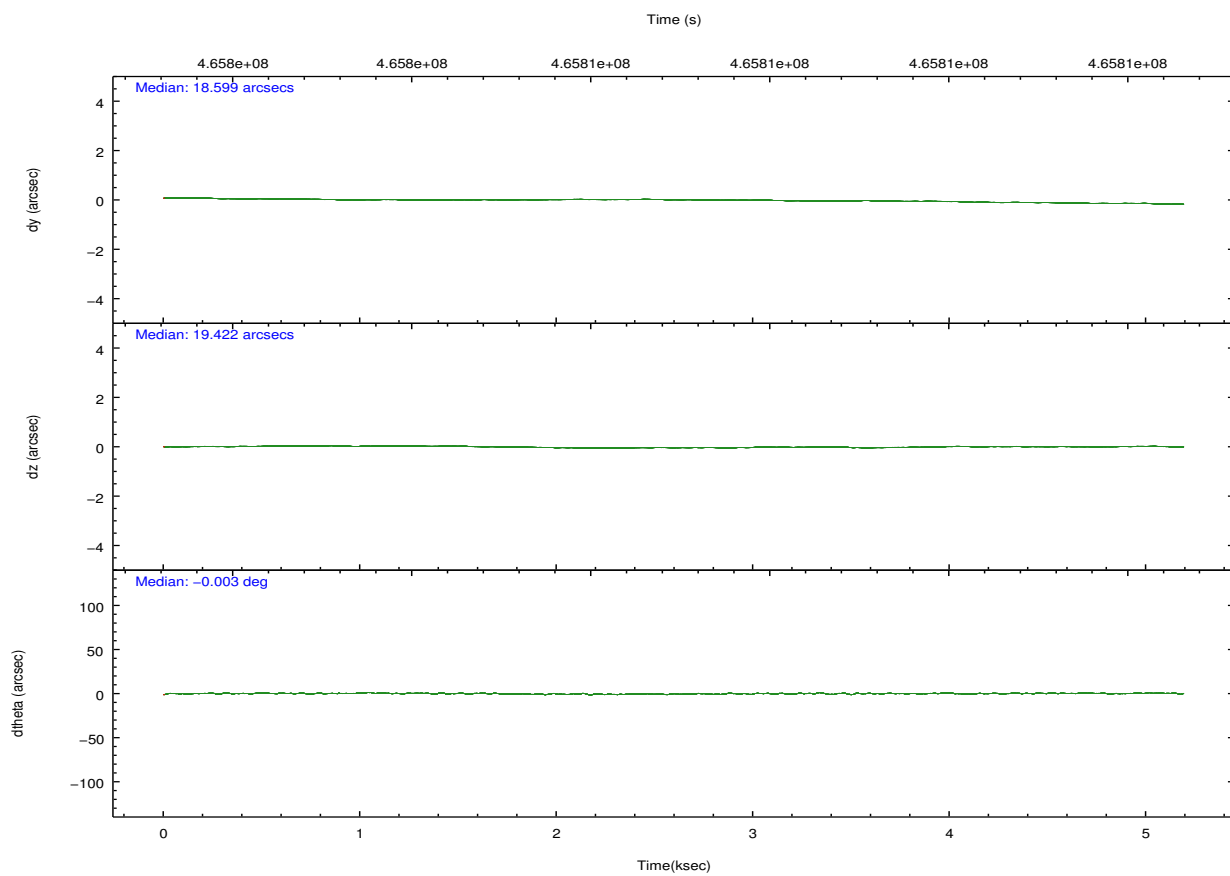
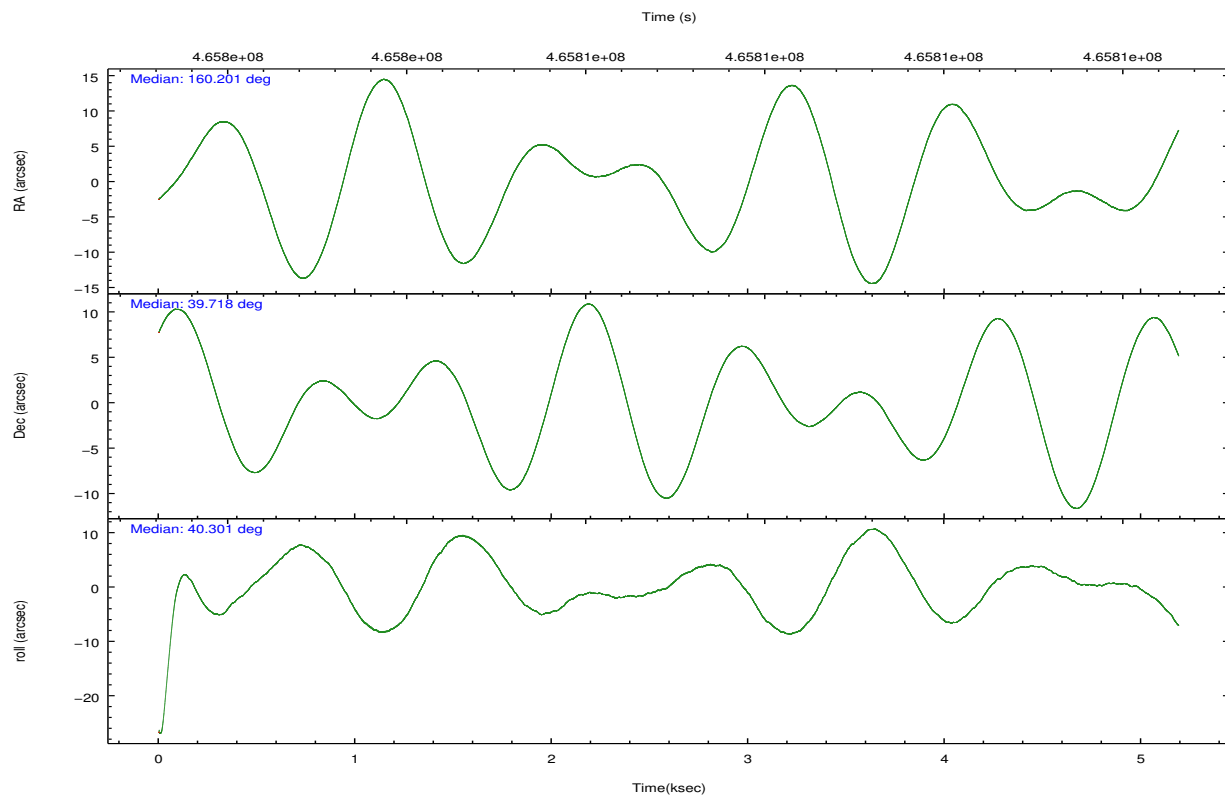


## 2.2 Compared Parameters

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	160.189254	160.2011647712781	CCD I2 on	Y	Y
[deg] Pointing Dec	39.691748	39.7177863430718	CCD I3 on	Y	Y
[deg] Pointing Roll	40.105570	40.30656106501424	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)	465804066.184000	465803690.45859	CCD S5 on	N	N
Observation start date	2012-10-05T05:59:59	2012-10-05T05:54:50	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	465809066.184000	465809464.2839	On-chip summing requested	N	N
Observation end date	2012-10-05T07:23:19	2012-10-05T07:31:04	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



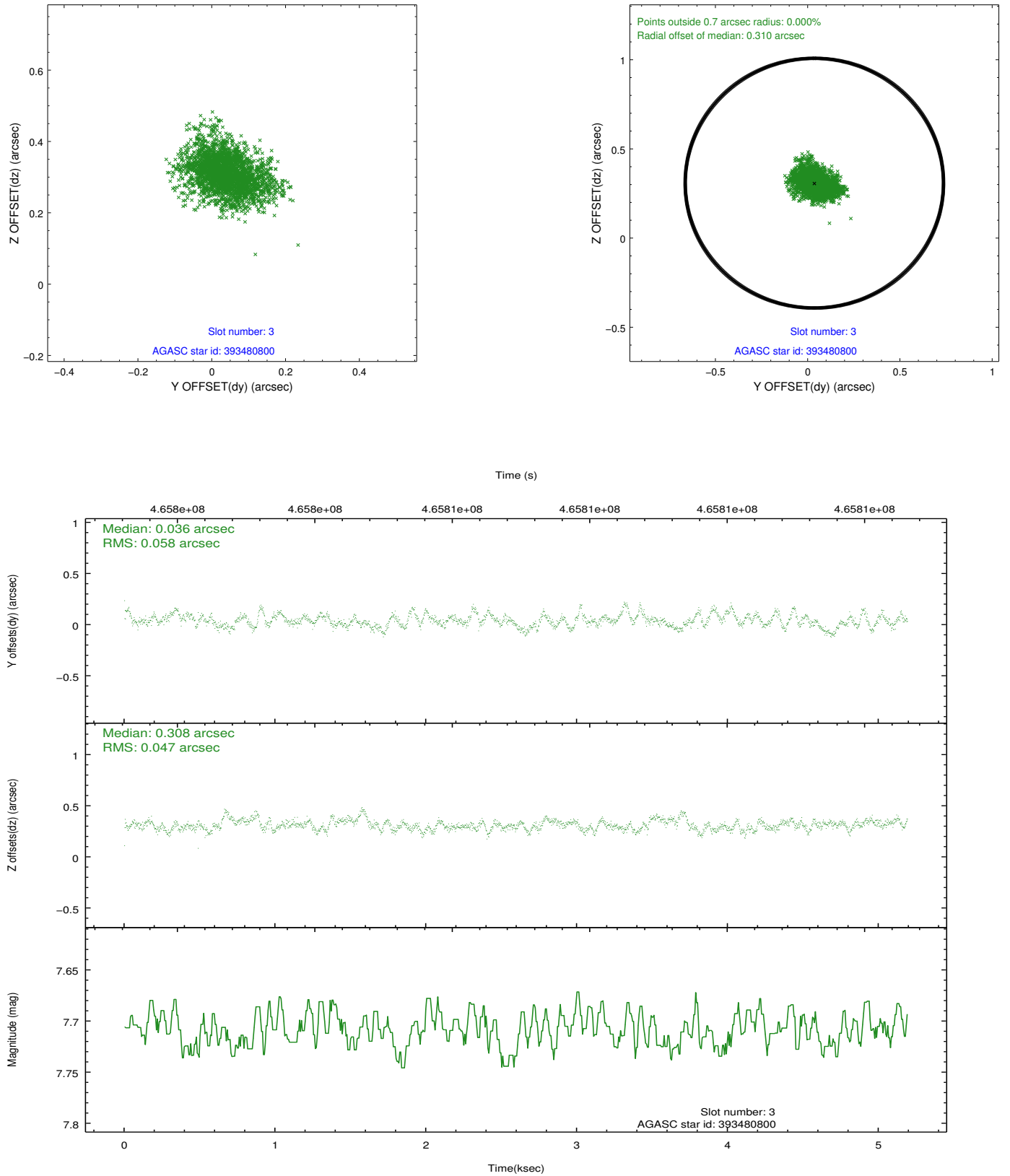


### Slot Statistics

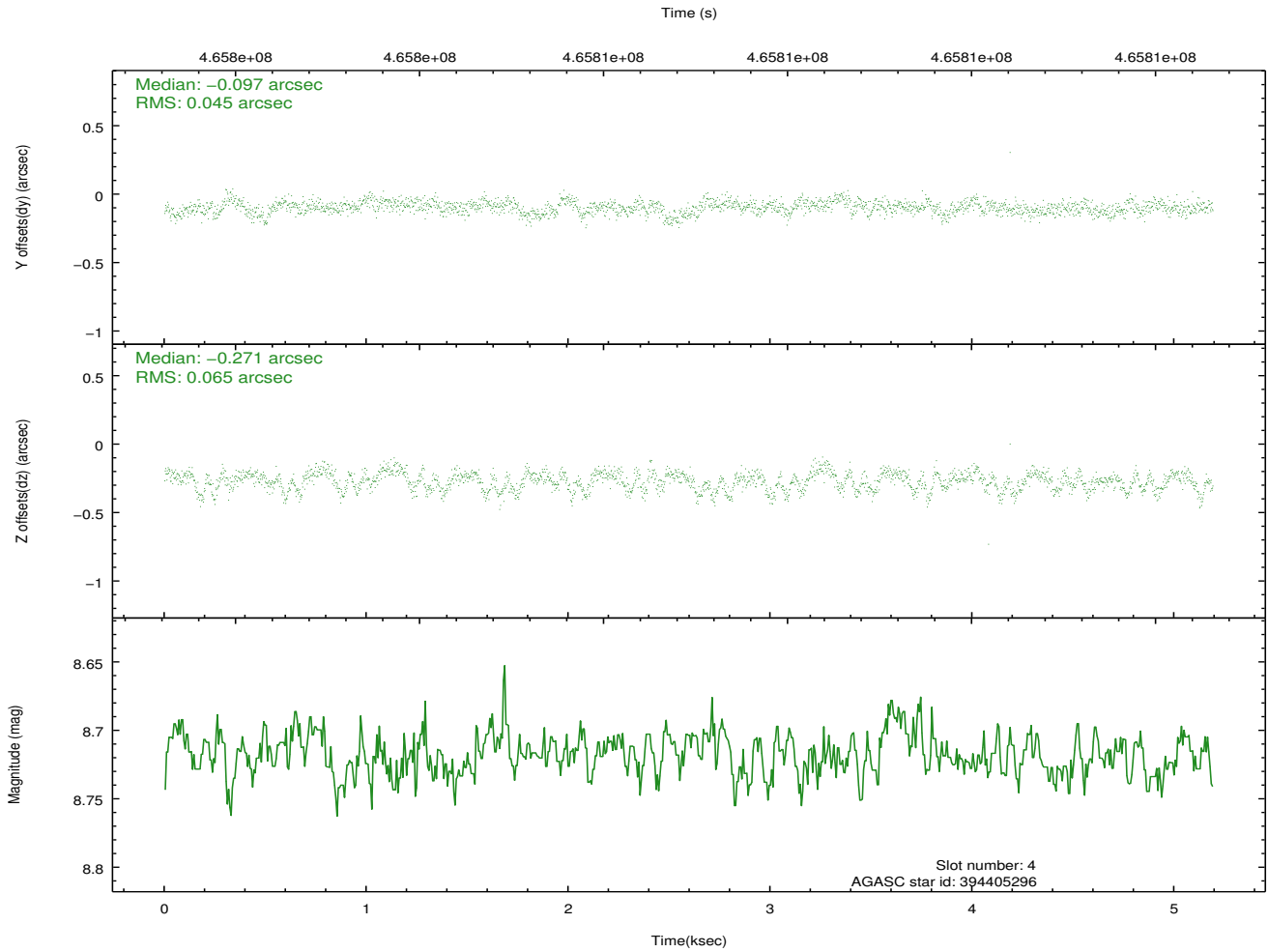
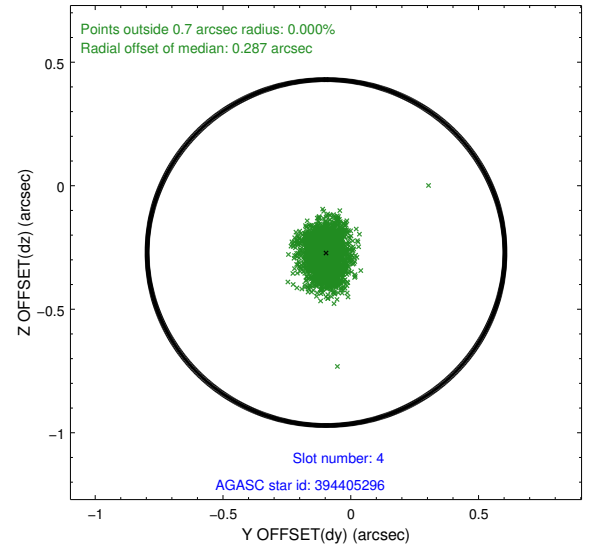
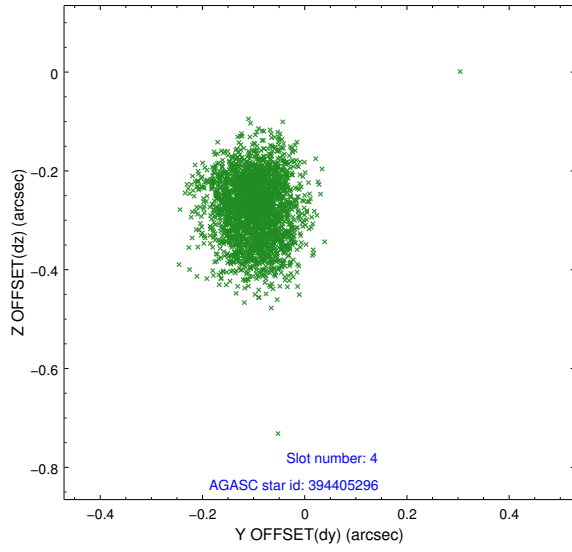
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.03	1267	0.021	0.040	0.006	0.011	0.000000	0.000000	920.82	-843.07
1	FID		ACIS-I-5	7.03	1267	-0.234	0.028	0.006	0.011	0.000000	0.000000	-1826.94	1053.76
2	FID		ACIS-I-6	7.04	1267	0.122	0.002	0.006	0.010	0.000000	0.000000	385.15	1699.60
3	GUIDE	used	393480800	7.71	2532	0.036	0.308	0.078	0.133	159.955558	39.404672	-1162.12	-371.39
4	GUIDE	used	394405296	8.72	2532	-0.097	-0.271	0.083	0.136	160.050441	40.278361	1068.37	1860.28
5	GUIDE	used	394408776	9.29	2527	-0.022	-0.234	0.107	0.169	160.059246	40.119309	715.92	1408.62
6	GUIDE	used	394413544	9.51	2525	0.084	0.195	0.135	0.225	161.290337	39.576792	2081.29	-2269.88
7	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00

## 2.4 Star Slots

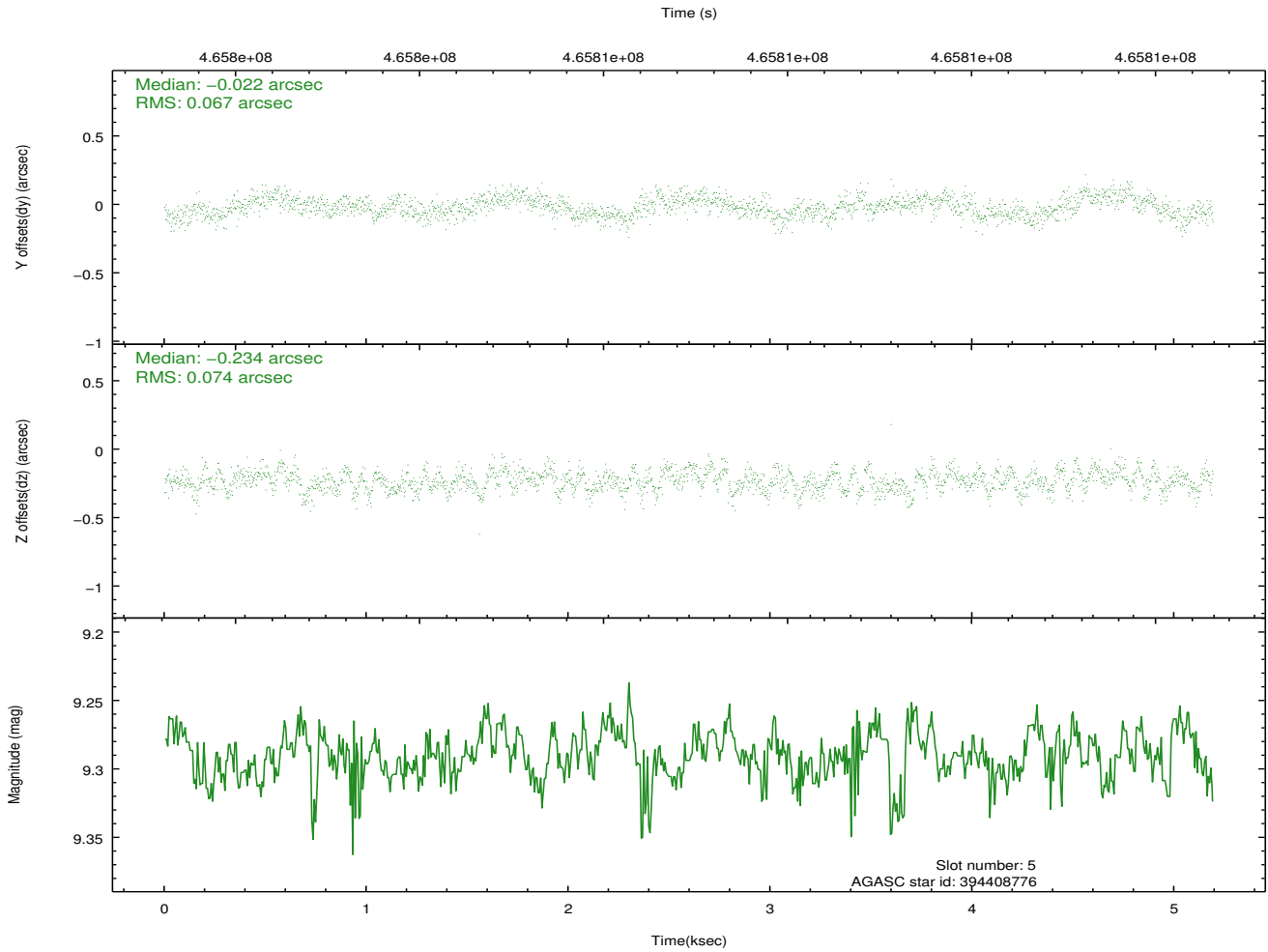
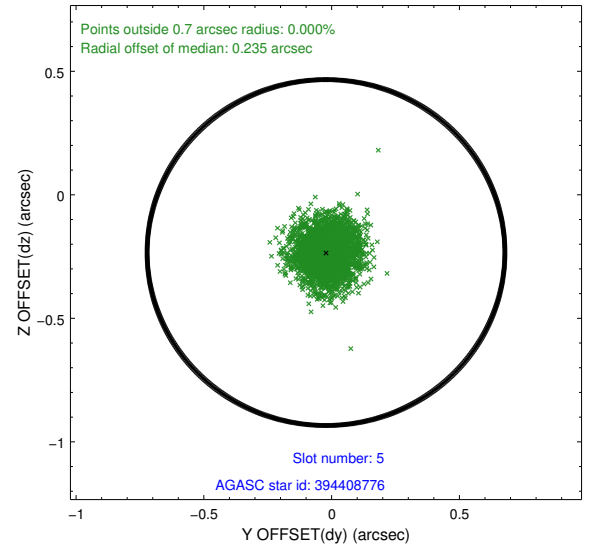
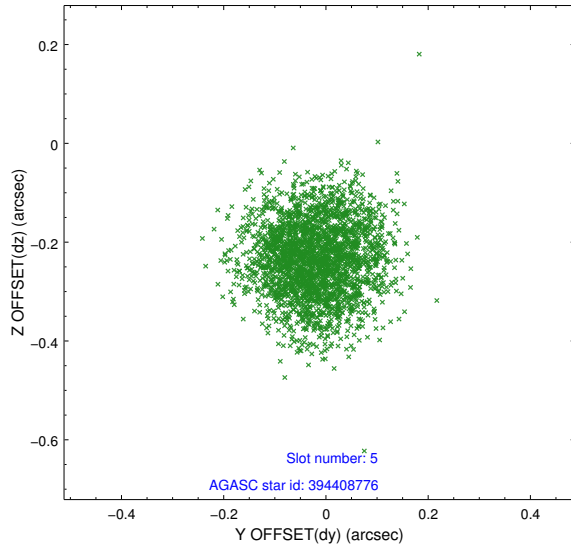
### 2.4.1 Slot 3



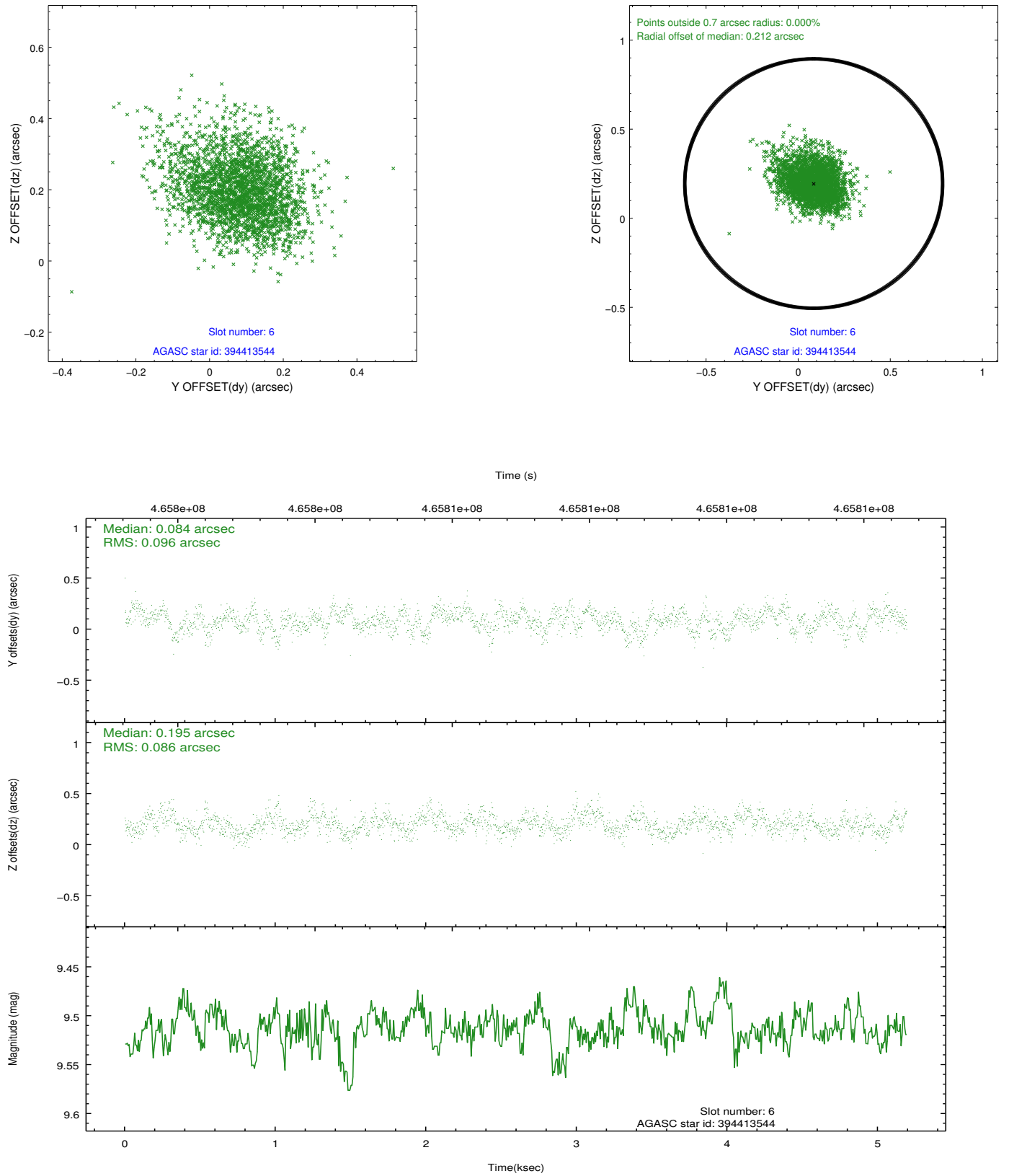
## 2.4.2 Slot 4



### 2.4.3 Slot 5



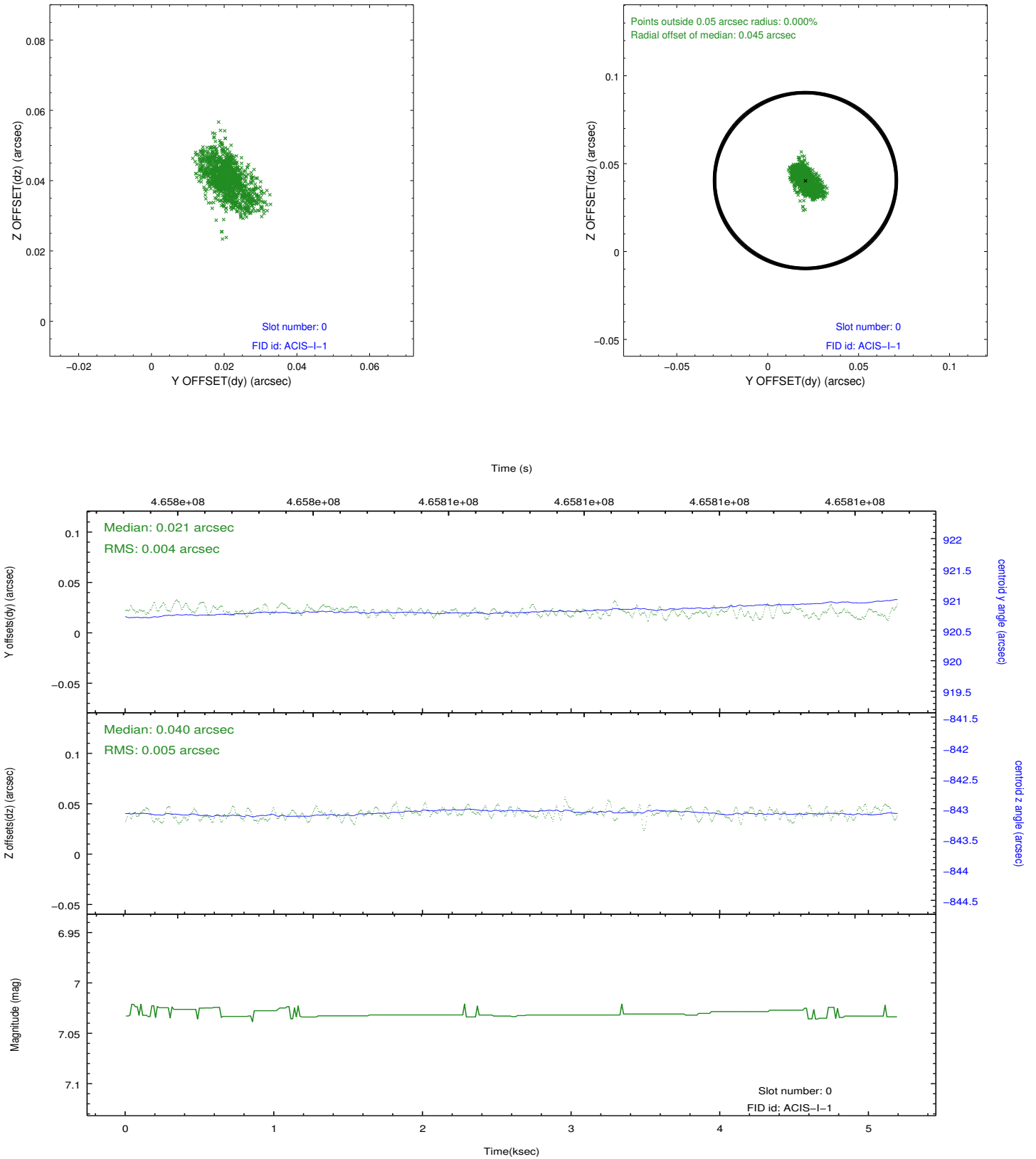
## 2.4.4 Slot 6



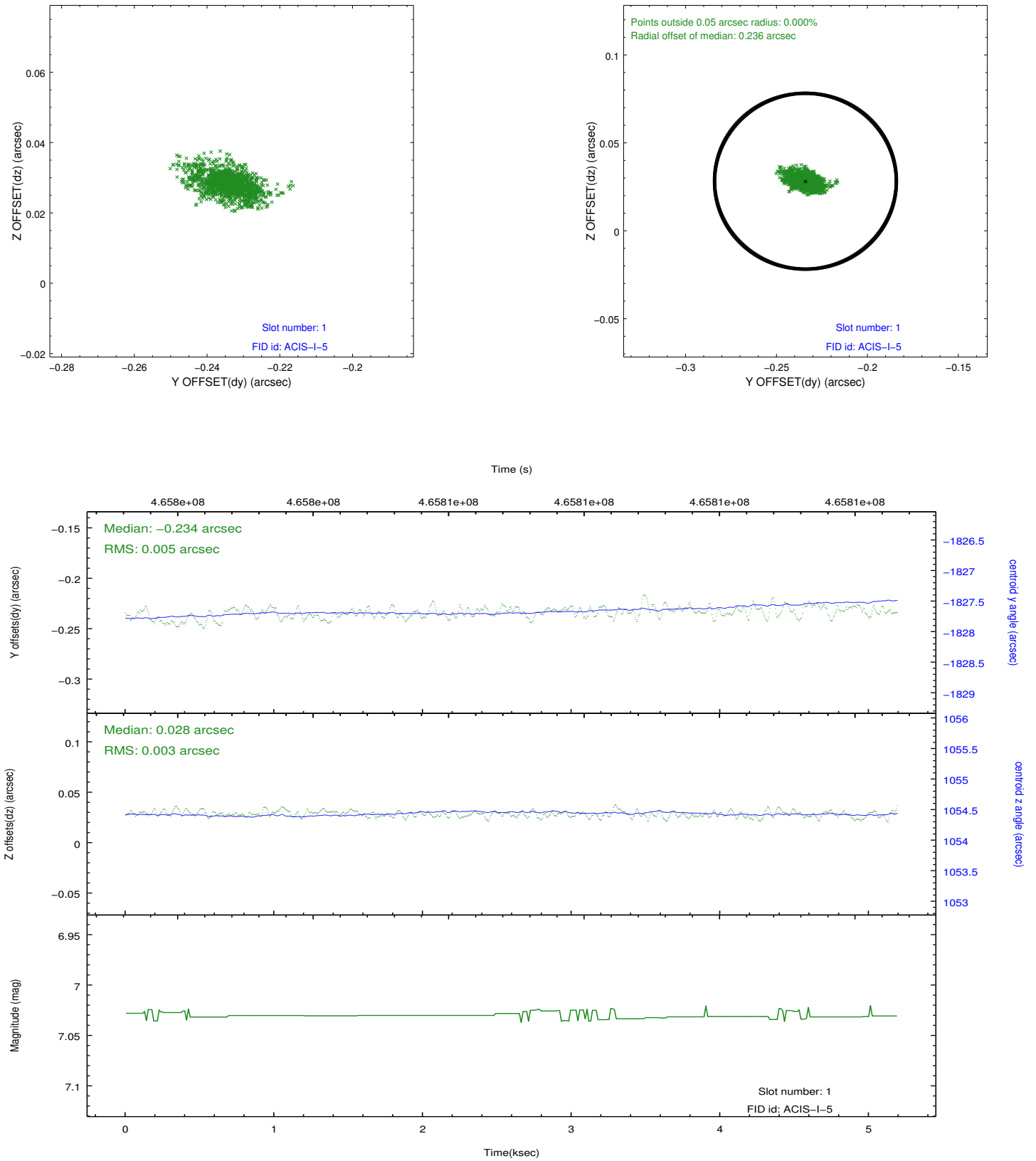


## 2.5 FID Slots

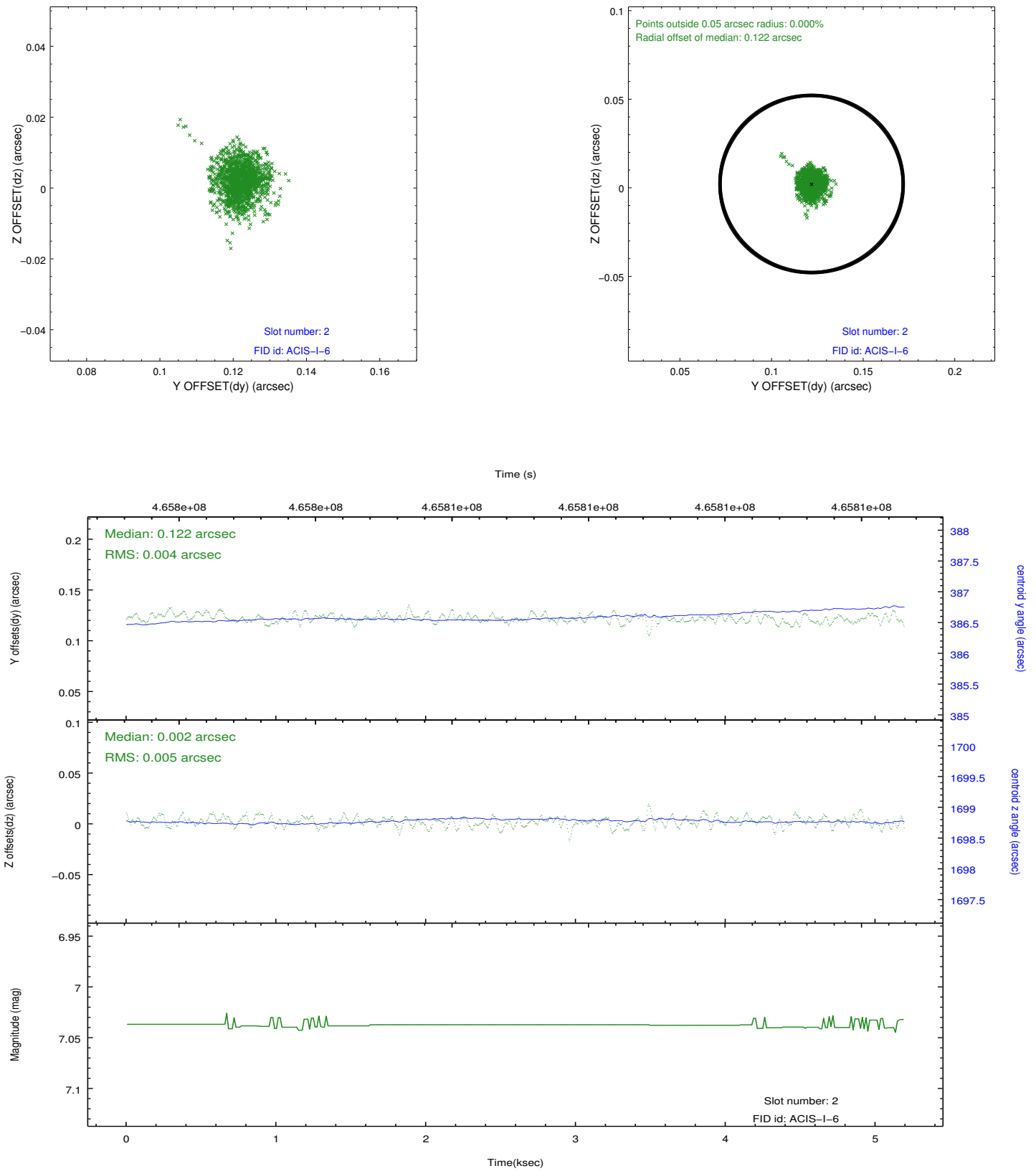
### 2.5.1 Slot 0



## 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	4.7770413160324

## 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. The guide star in slot 7 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.