

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 13218 - L2 Version 2  
Chandra X-Ray Center

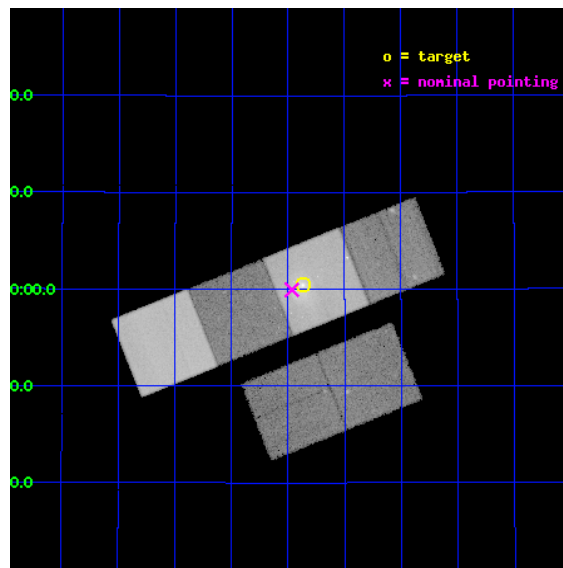
L2 Processing Date : Feb 3 2012

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# 1 Front

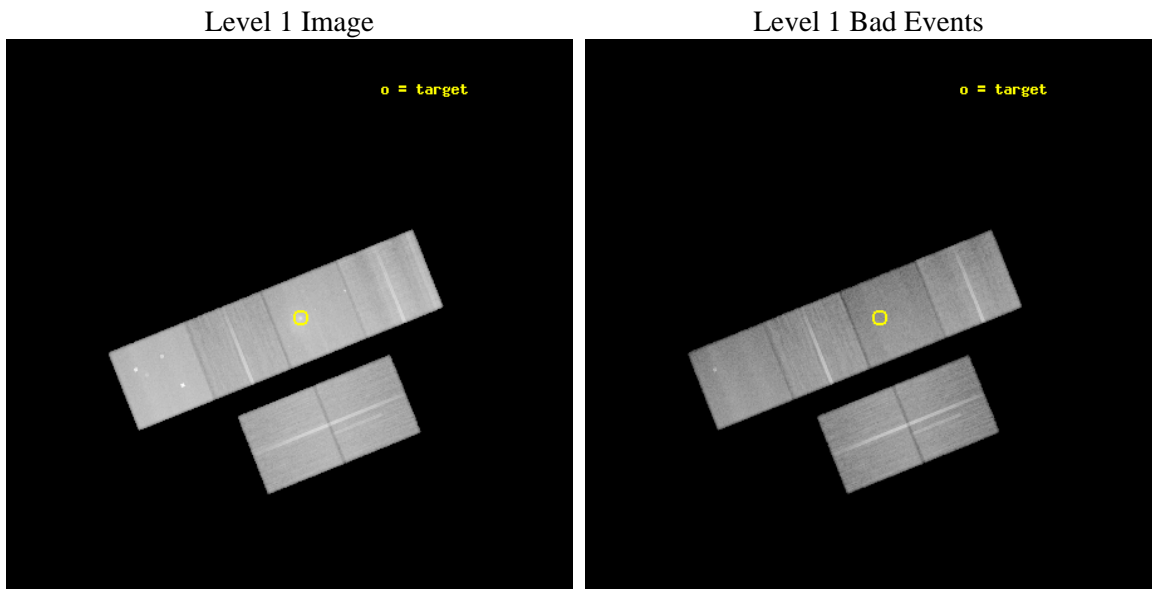
seq_num	801018	Sequence number
obs_id	13218	Observation id
title	A Deep Chandra Observation of the Hot Cluster around 3C 438	Propos
observer	Dr. Ralph Kraft	Principal investigator
object	3C 438 cluster	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	328.967917	Observer's specified target RA [deg]
dec_targ	38.008333	Observer's specified target Dec [deg]
ra_nom	328.9916117948	Nominal RA [deg]
dec_nom	37.999054446882	Nominal Dec [deg]
roll_nom	338.14203208011	Nominal Roll [deg]
revision	2	Processing version of data
ontime	48050.065195918	Sum of GTIs [s]
livetime	47441.626338132	Livetime [s]
ontime2	48050.106235921	Sum of GTIs [s]
ontime3	48043.46010536	Sum of GTIs [s]
ontime5	48050.024155915	Sum of GTIs [s]
ontime6	48046.742145538	Sum of GTIs [s]
ontime7	48050.065195918	Sum of GTIs [s]
ontime8	48049.901035905	Sum of GTIs [s]
l2events	605027	Number of level 2 events



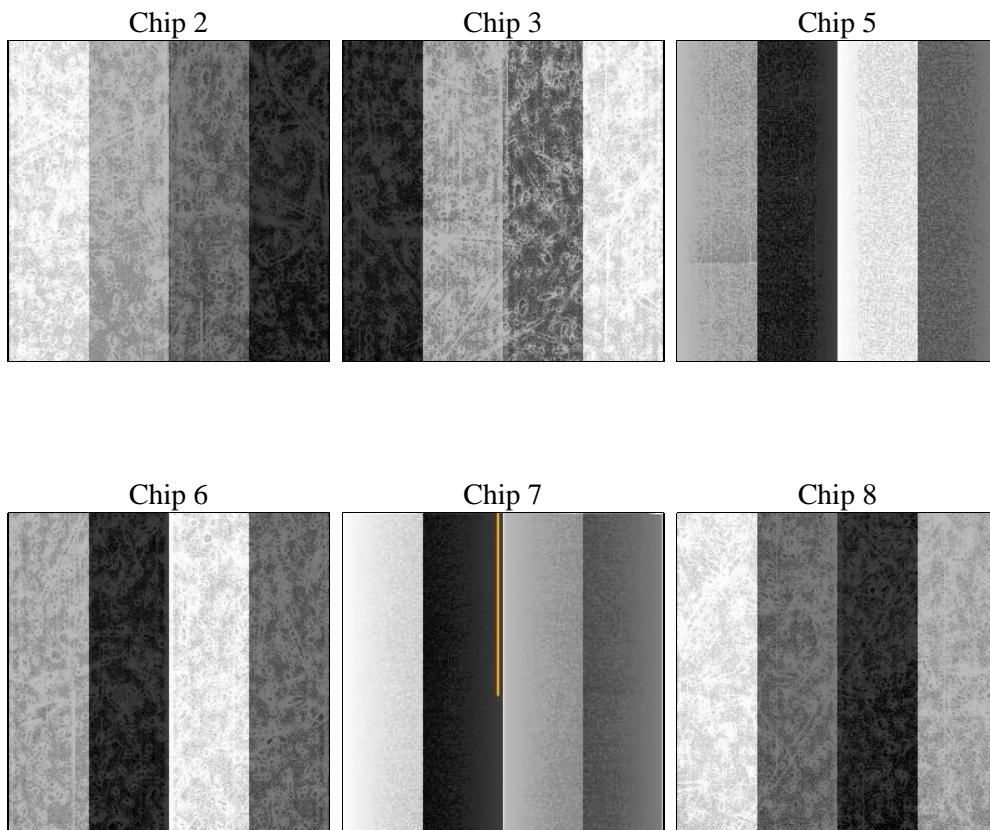
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	48000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	48050.065195918	Sum of GTIs [s]
caldbver	4.4.7	&#160	ontime2	48050.106235921	Sum of GTIs [s]
date	2012-02-03T01:02:01	Date and time of file creation	ontime3	48043.46010536	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	48050.024155915	Sum of GTIs [s]
			ontime6	48046.742145538	Sum of GTIs [s]
			ontime7	48050.065195918	Sum of GTIs [s]
			ontime8	48049.901035905	Sum of GTIs [s]
			l1events	2486225	Number of level 1 events

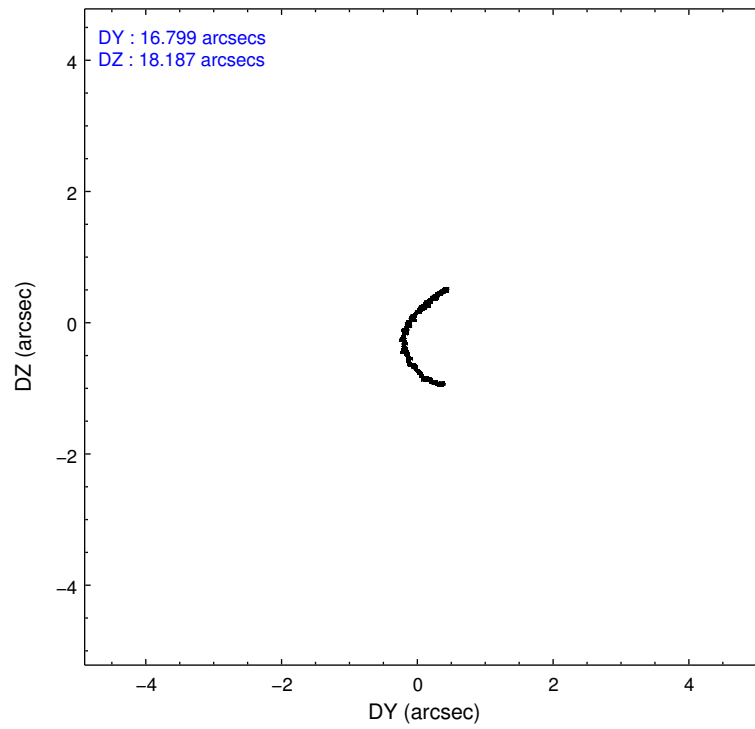
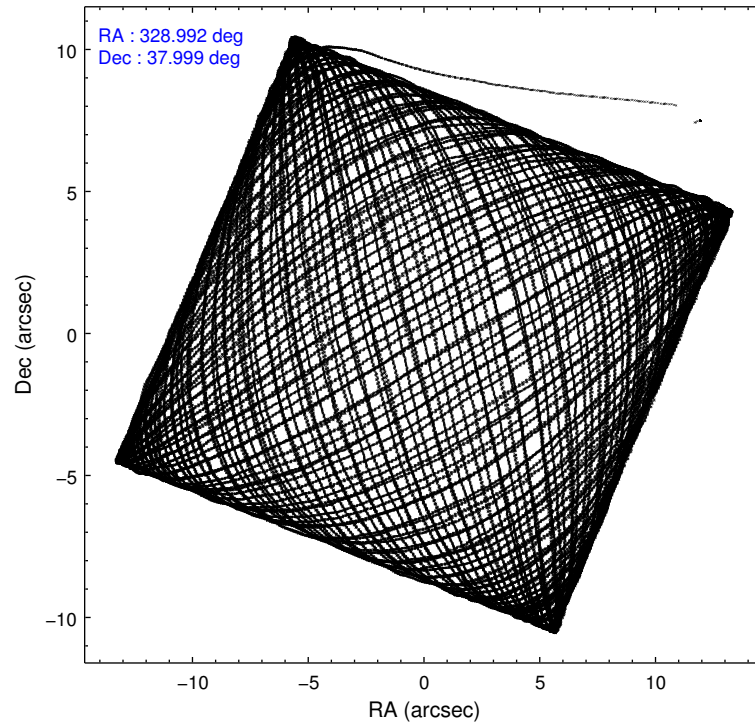
### 2.1.4 Events

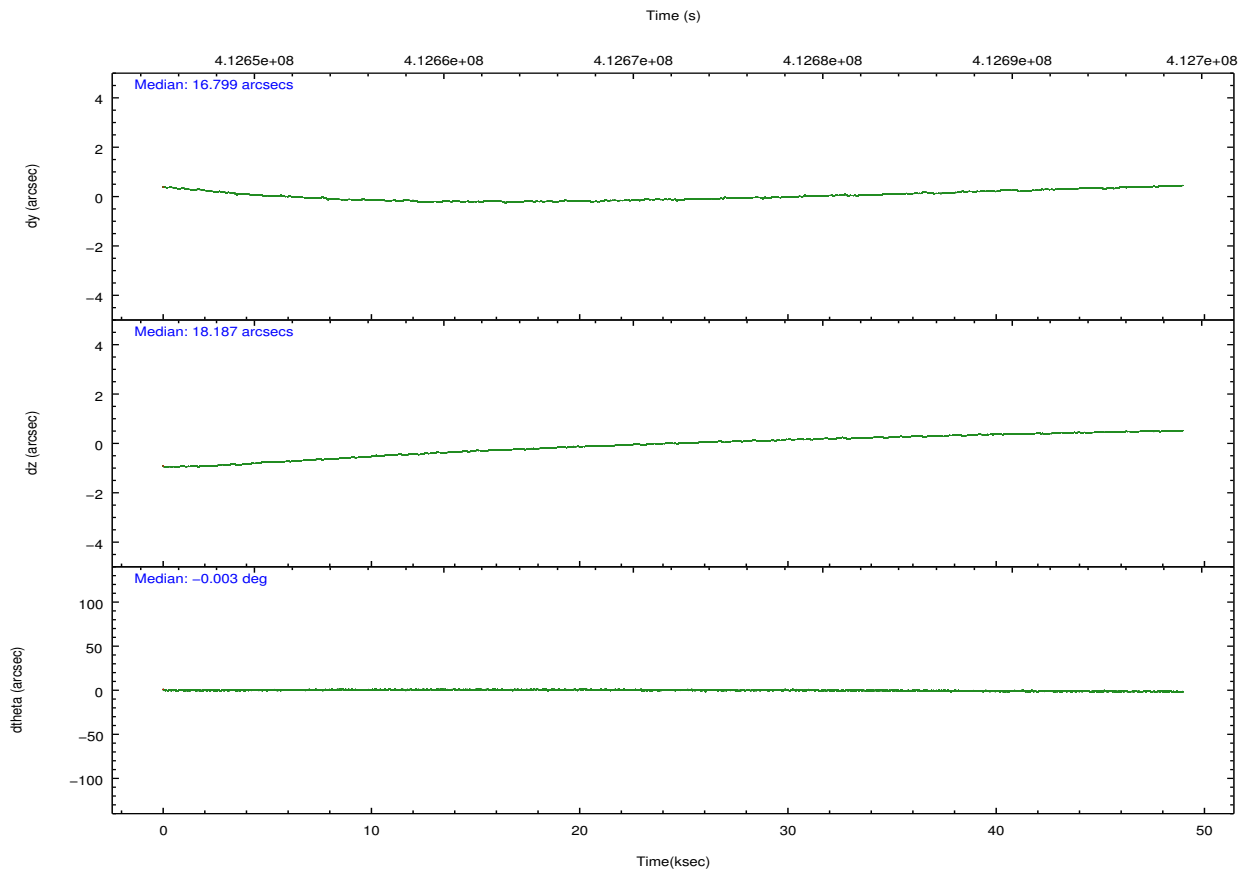
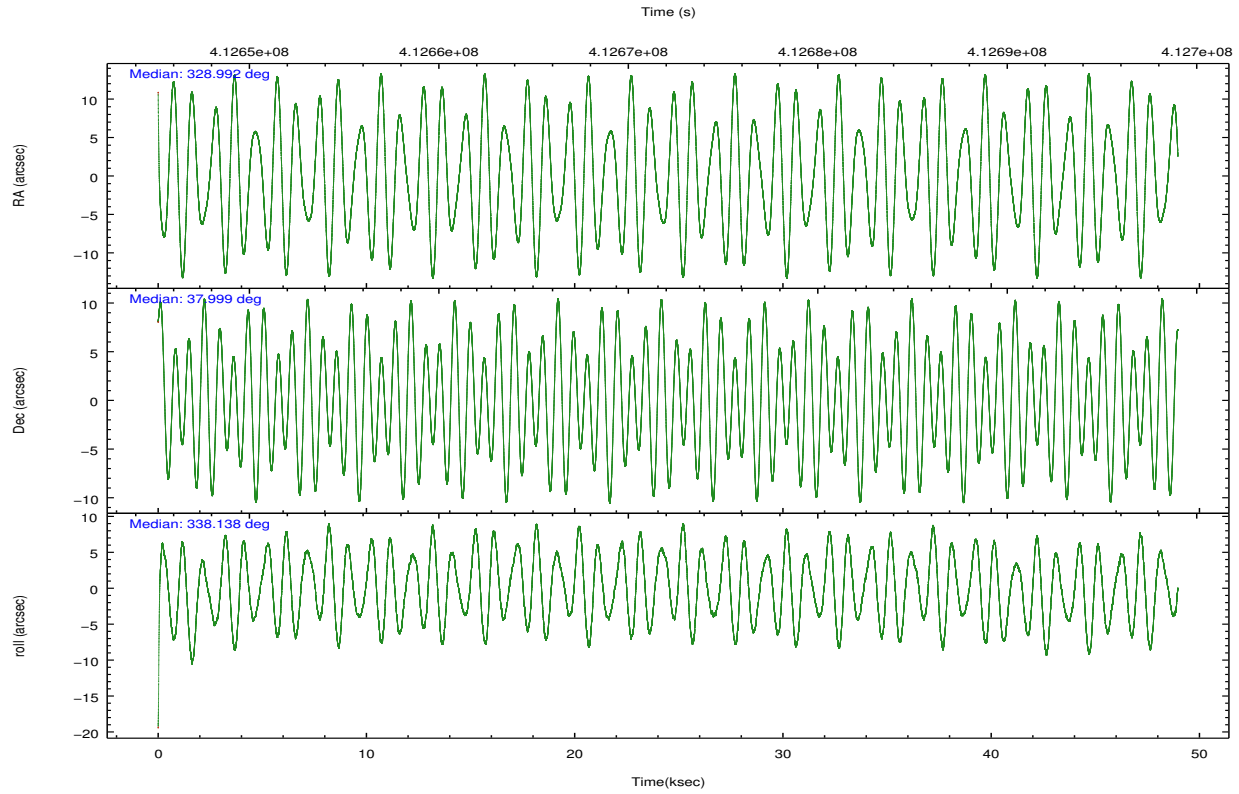
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	360299	332083	532387	349977	462860	448619	grade 0 events	13110	12474	25595	14137	26483	37138
rejected events	322611	296864	268205	310173	235245	326765		3%	3%	4%	4%	5%	8%
rejected %	89%	89%	50%	88%	50%	72%	grade 1 events	201	209	866	177	585	349
								0%	0%	0%	0%	0%	0%
							grade 2 events	9502	7812	80311	8945	48636	27915
								2%	2%	15%	2%	10%	6%
							grade 3 events	3765	3882	10487	4115	21185	12957
								1%	1%	1%	1%	4%	2%
							grade 4 events	3912	3869	9664	3932	21185	11942
								1%	1%	1%	1%	4%	2%
							grade 5 events	13999	15799	41570	15839	45178	22915
								3%	4%	7%	4%	9%	5%
							grade 6 events	7405	7186	138148	8676	110135	31910
								2%	2%	25%	2%	23%	7%
							grade 7 events	308405	280852	225746	294156	189473	303493
								85%	84%	42%	84%	40%	67%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	ACIS-235678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	328.957333	328.9916117947967	CCD I2 on	O1	Y
[deg] Pointing Dec	37.994805	37.99905444688208	CCD I3 on	O2	Y
[deg] Pointing Roll	338.006506	338.1420320801076	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	Y	Y
[s] Observation start time (MET)	412648582.184000	412646287.27261	CCD S5 on	N	N
Observation start date	2011-01-29T00:35:16	2011-01-28T23:58:07	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	412696582.184000	412697527.02526	On-chip summing requested	N	N
Observation end date	2011-01-29T13:55:16	2011-01-29T14:12:07	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



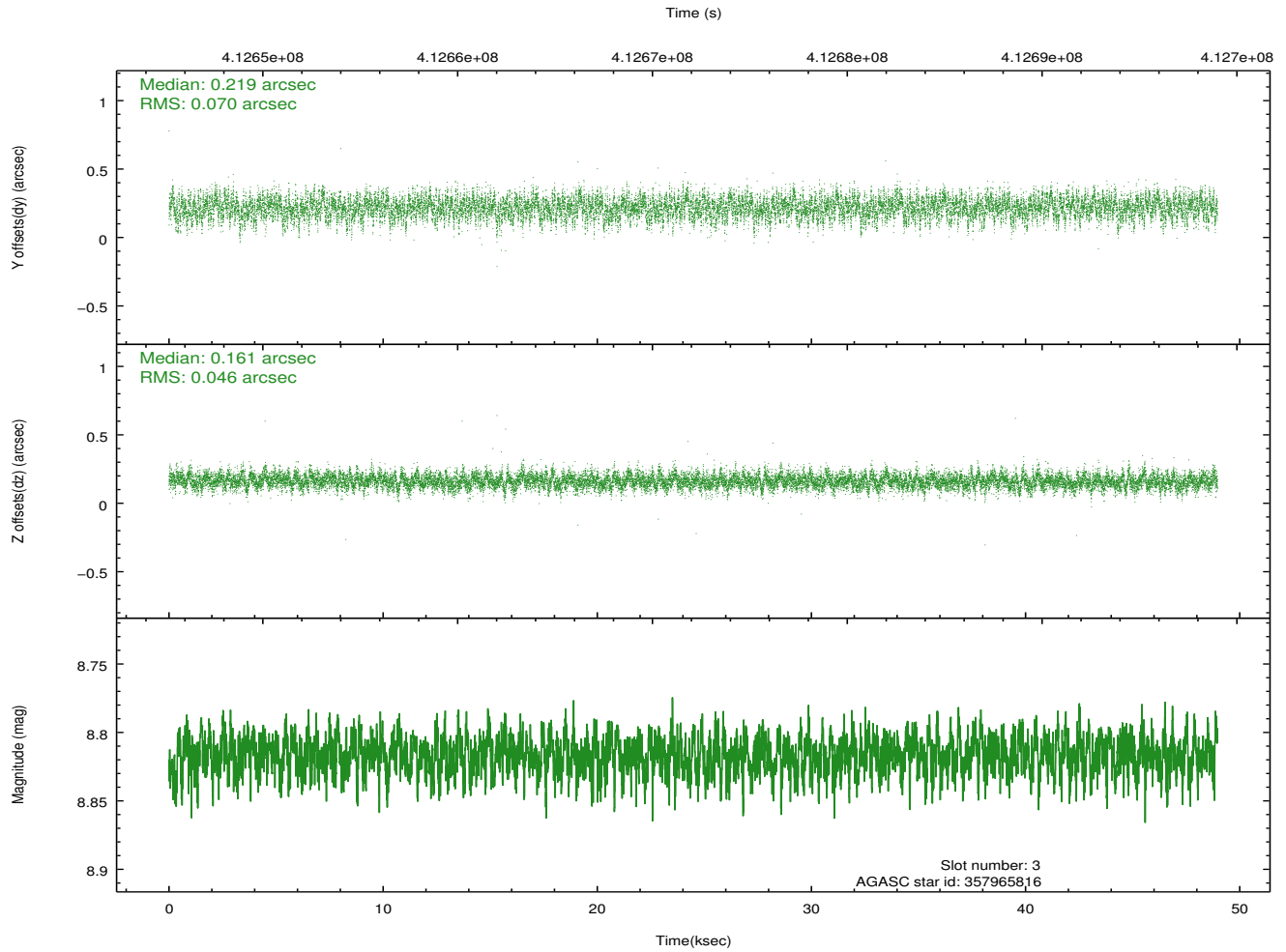
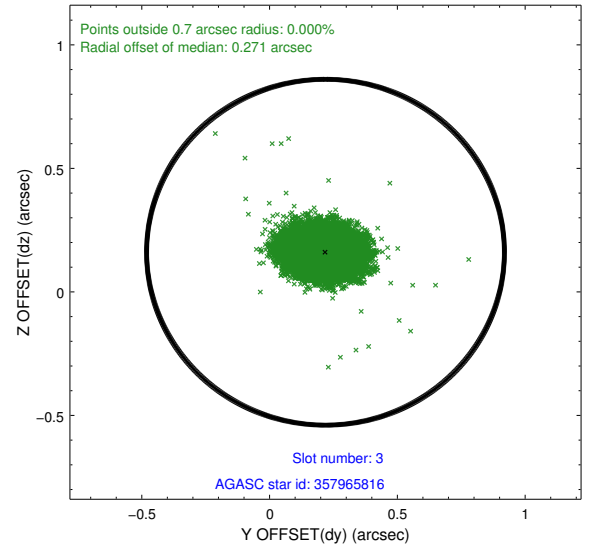
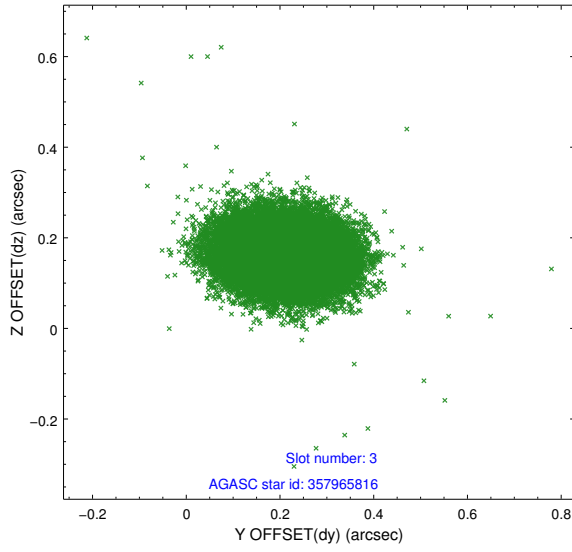


### Slot Statistics

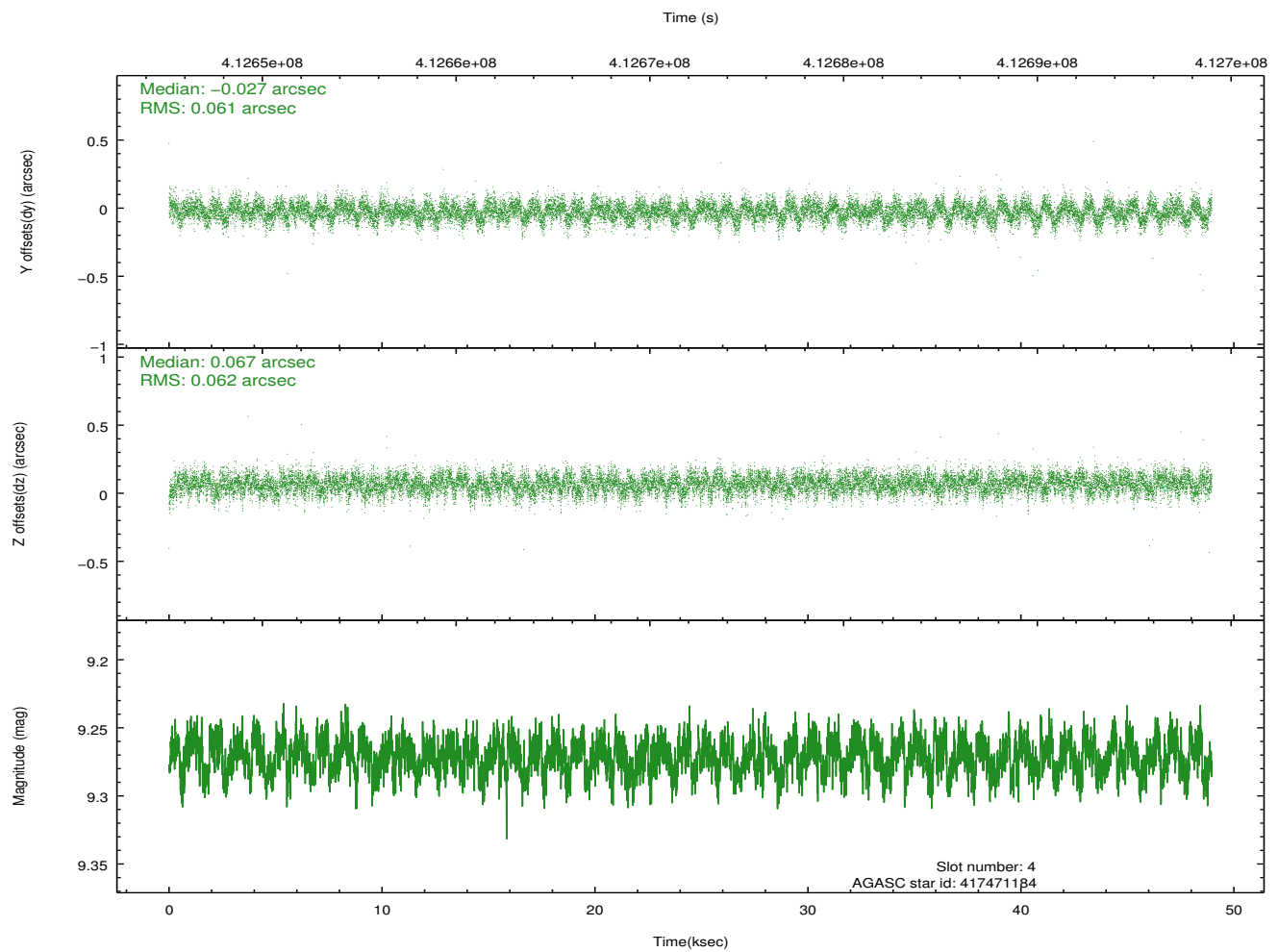
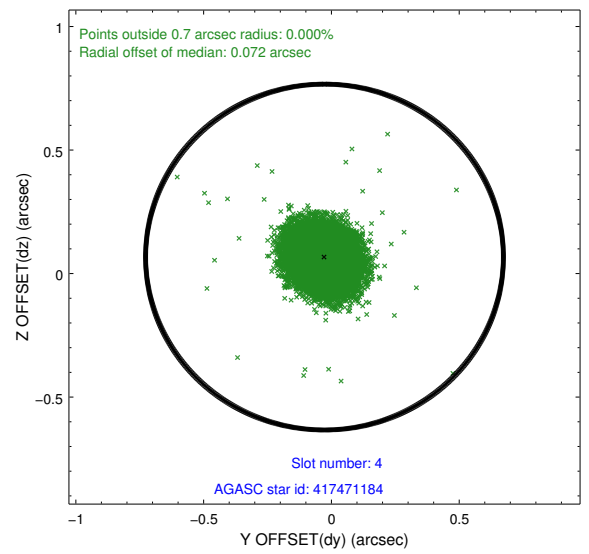
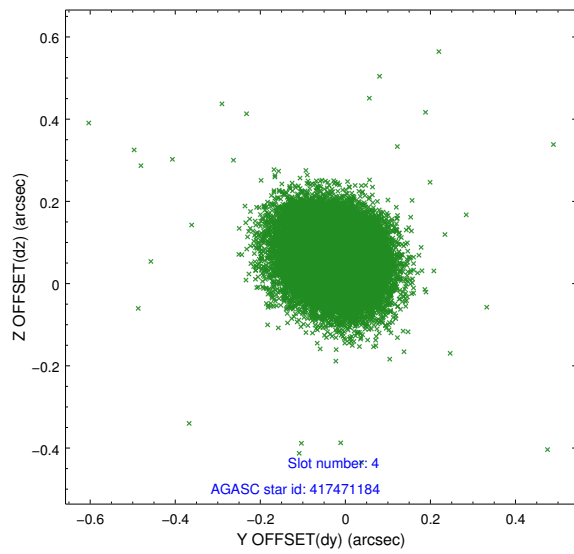
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.86	11942	-0.056	-0.021	0.008	0.017	0.000000	0.000000	-769.94	-1739.57
1	FID	ACIS-S-4	6.95	11944	0.128	0.033	0.008	0.013	0.000000	0.000000	2143.56	168.92
2	FID	ACIS-S-5	6.98	11944	-0.104	-0.003	0.008	0.014	0.000000	0.000000	-1822.82	162.62
3	GUIDE	357965816	8.82	23865	0.219	0.161	0.087	0.146	329.438402	37.306671	2204.30	-1777.47
4	GUIDE	417471184	9.27	23836	-0.027	0.067	0.091	0.148	328.681732	38.235742	-1045.91	514.68
5	GUIDE	417481728	9.28	23784	-0.116	0.080	0.093	0.153	329.269677	37.617592	1333.95	-923.91
6	GUIDE	417482240	8.85	23870	0.022	-0.320	0.077	0.128	329.724568	37.923263	2113.54	585.39
7	GUIDE	417483888	8.69	23869	-0.092	0.014	0.075	0.123	328.245105	38.343423	-2337.26	417.66

## 2.4 Star Slots

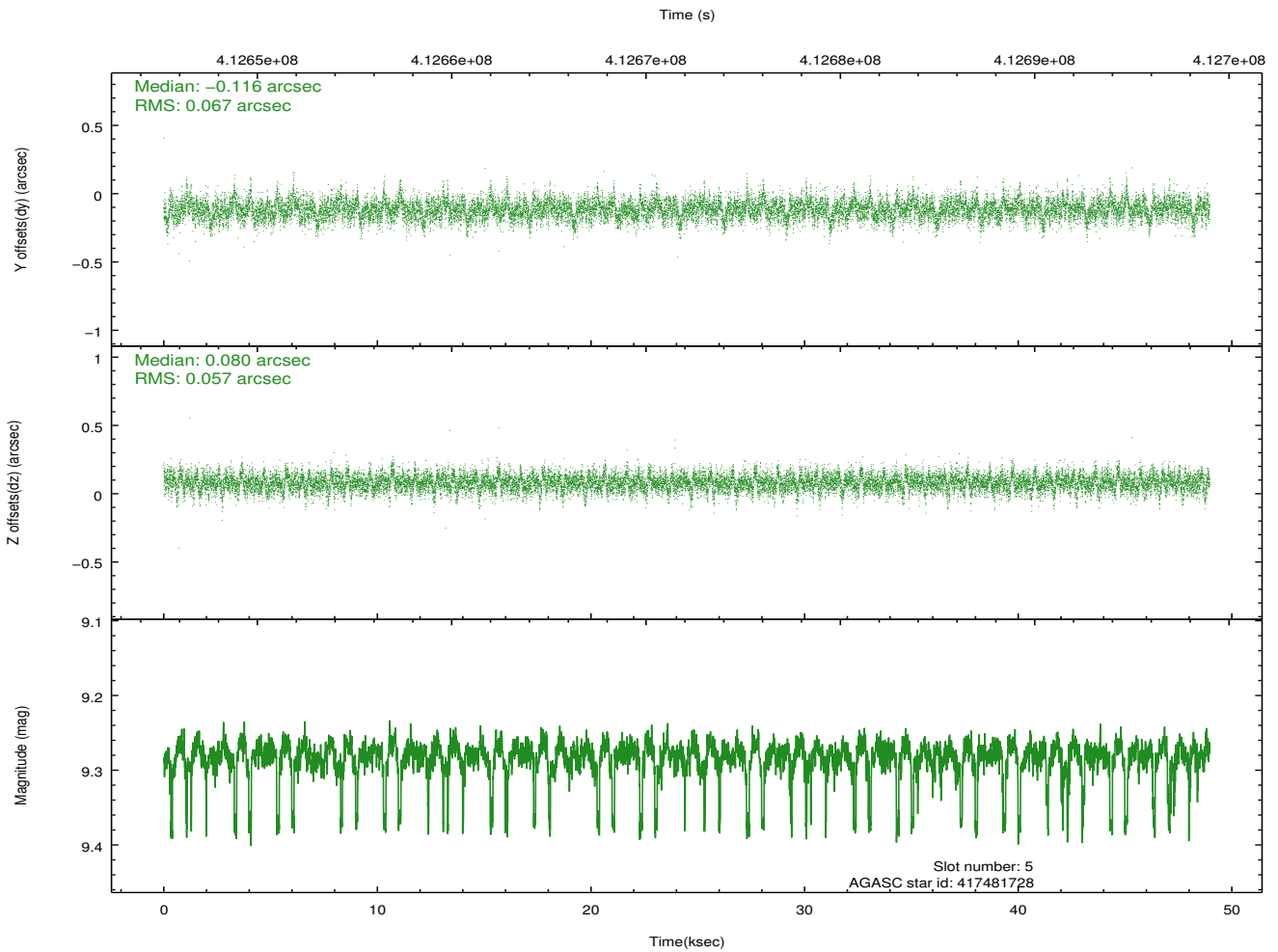
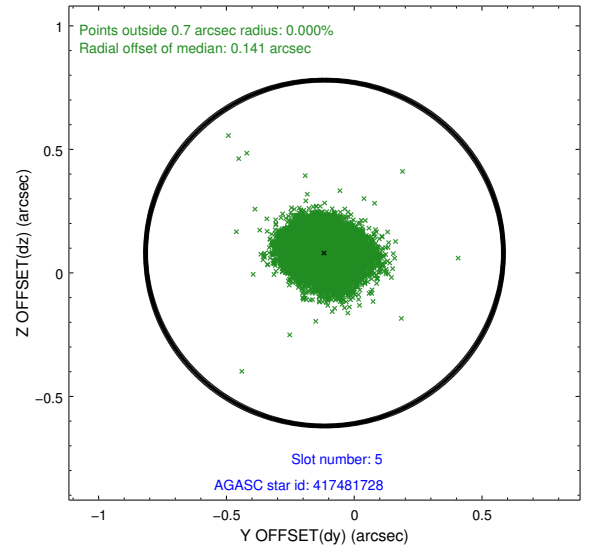
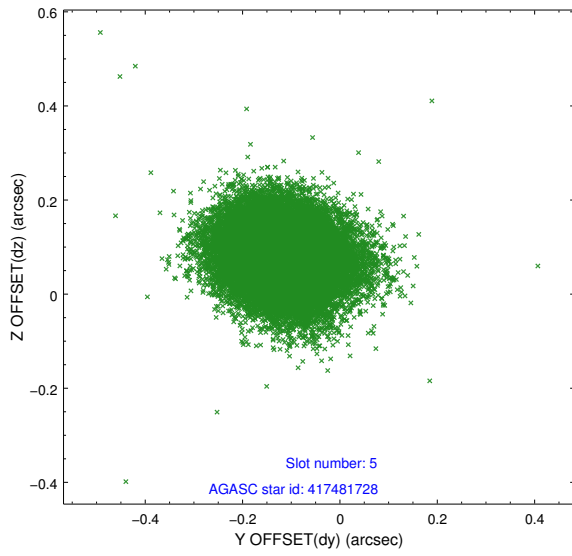
### 2.4.1 Slot 3



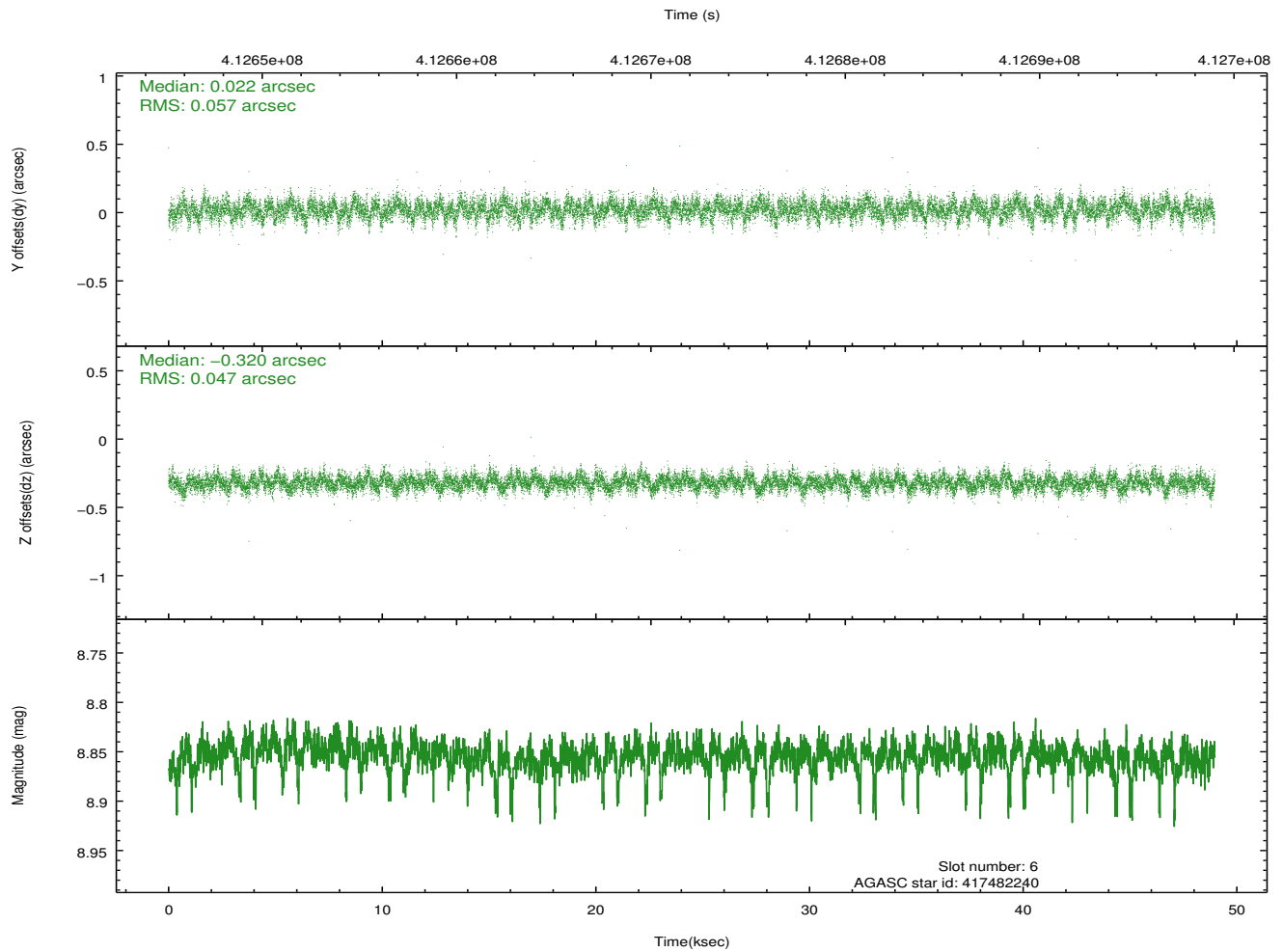
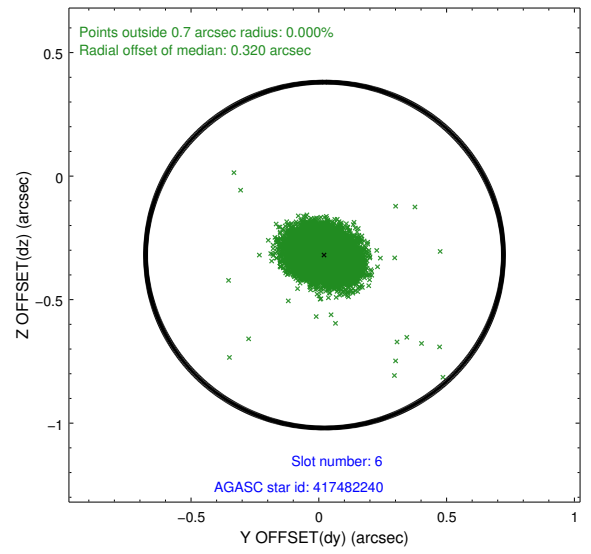
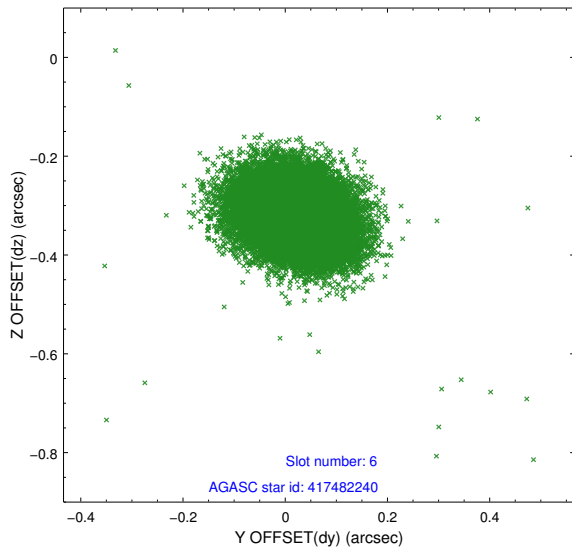
## 2.4.2 Slot 4



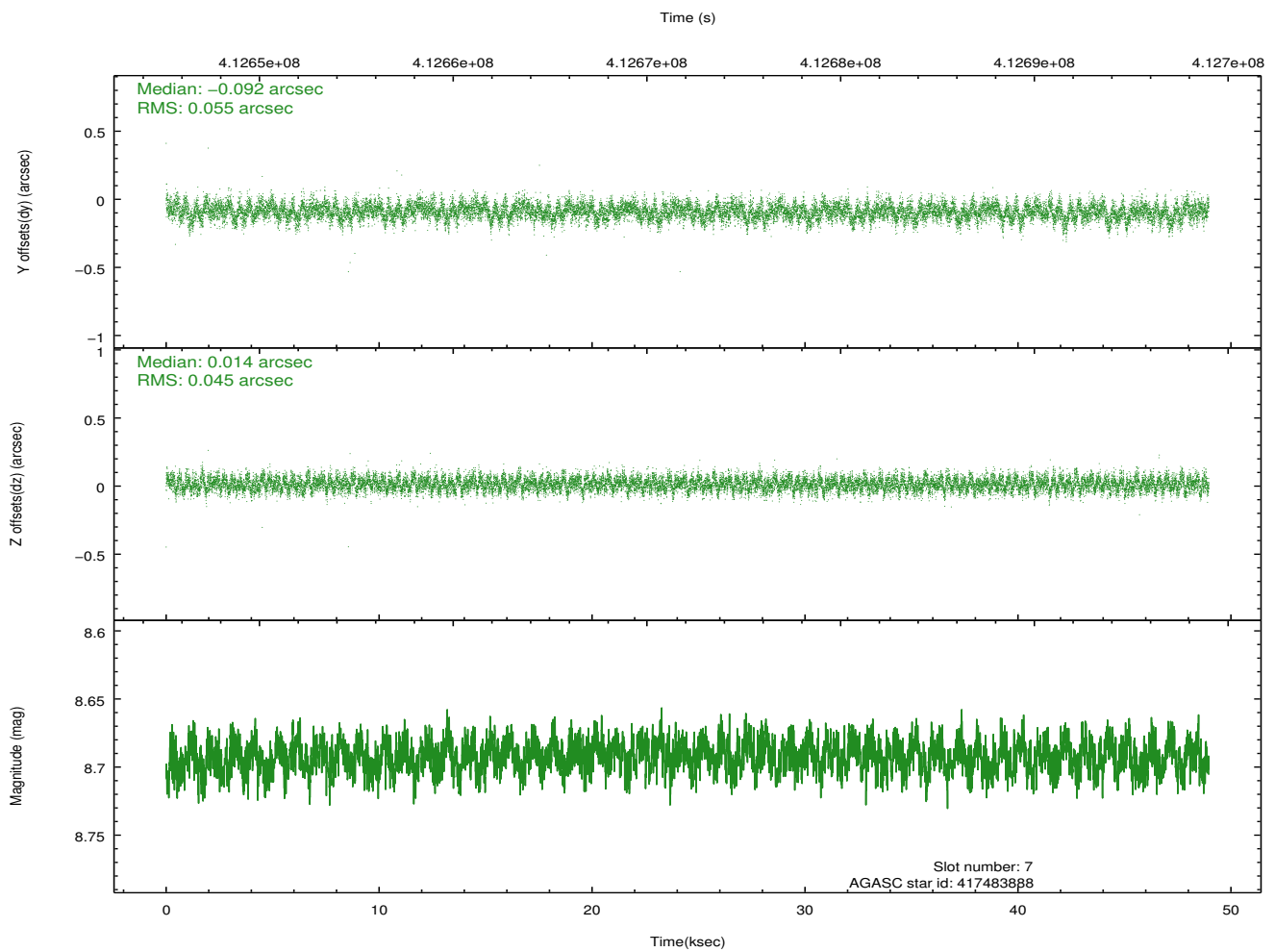
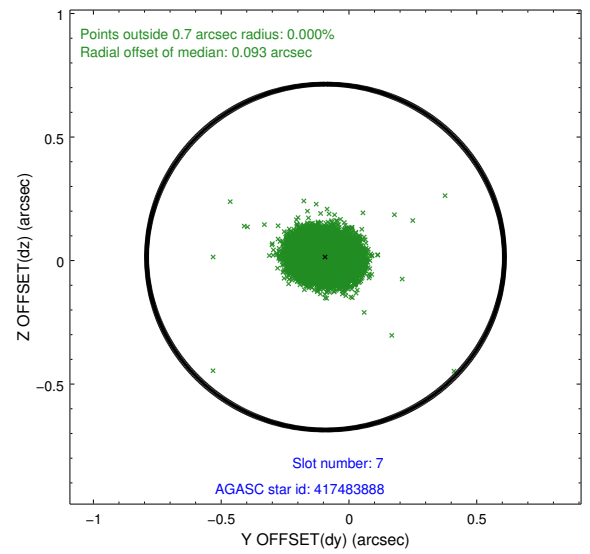
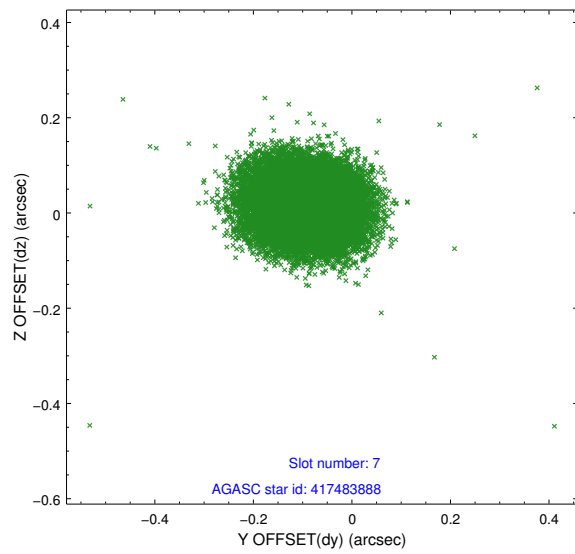
### 2.4.3 Slot 5



### 2.4.4 Slot 6

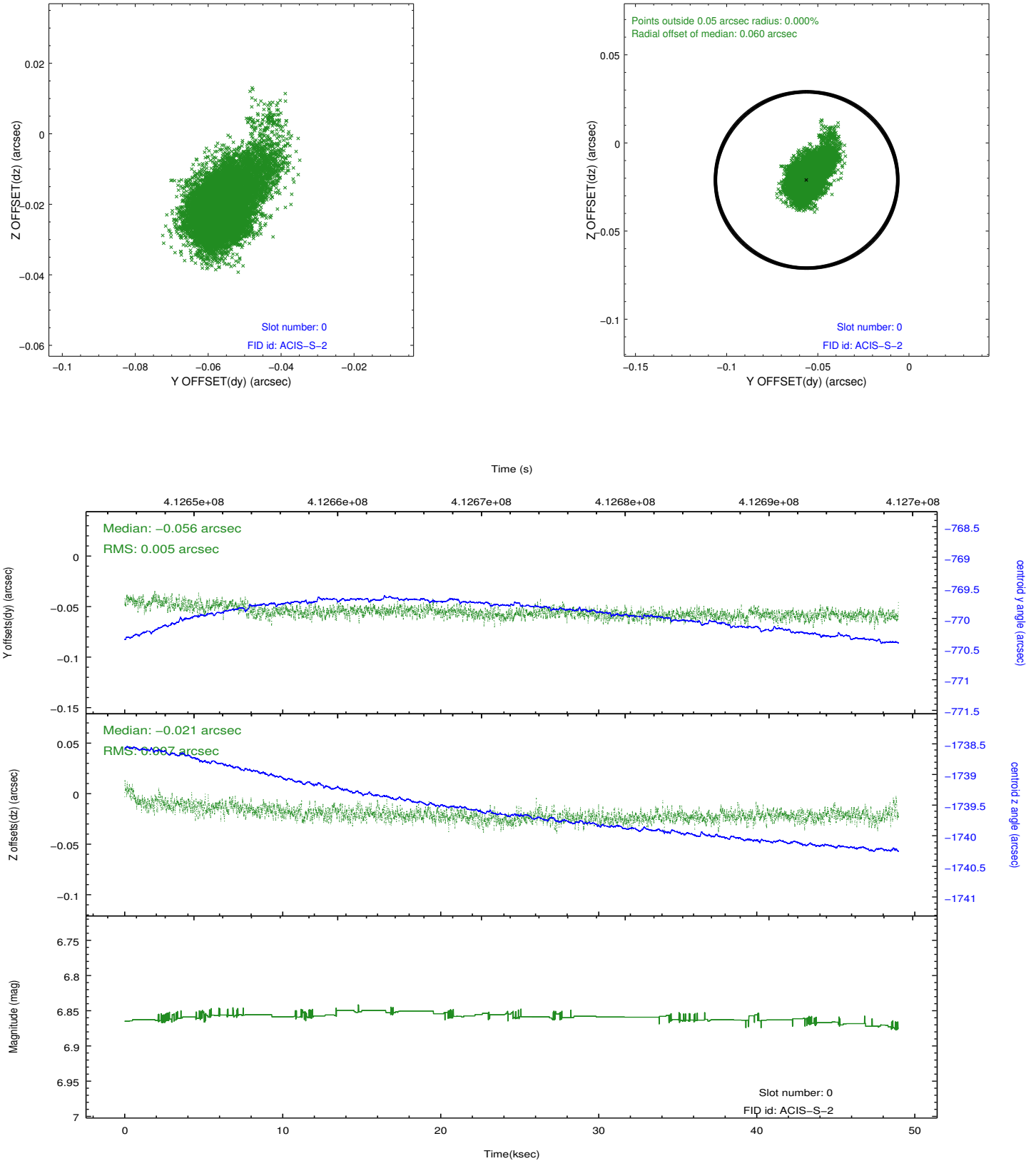


## 2.4.5 Slot 7

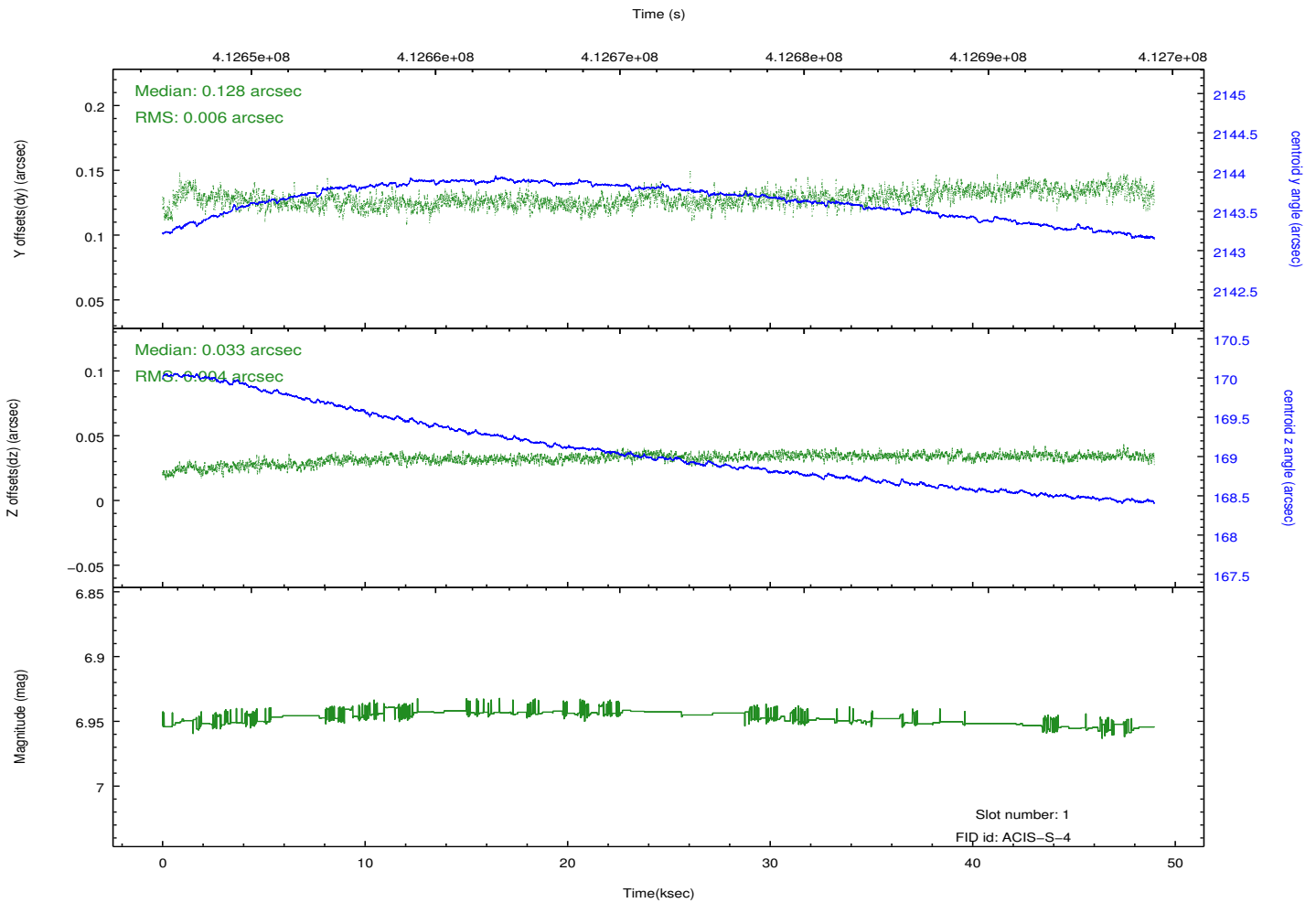
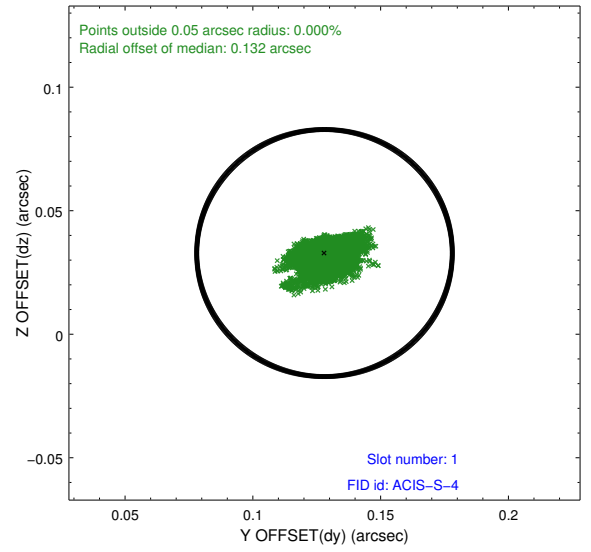
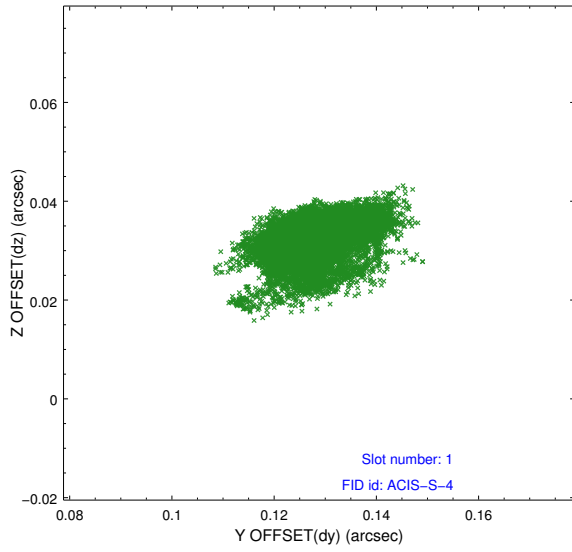


## 2.5 FID Slots

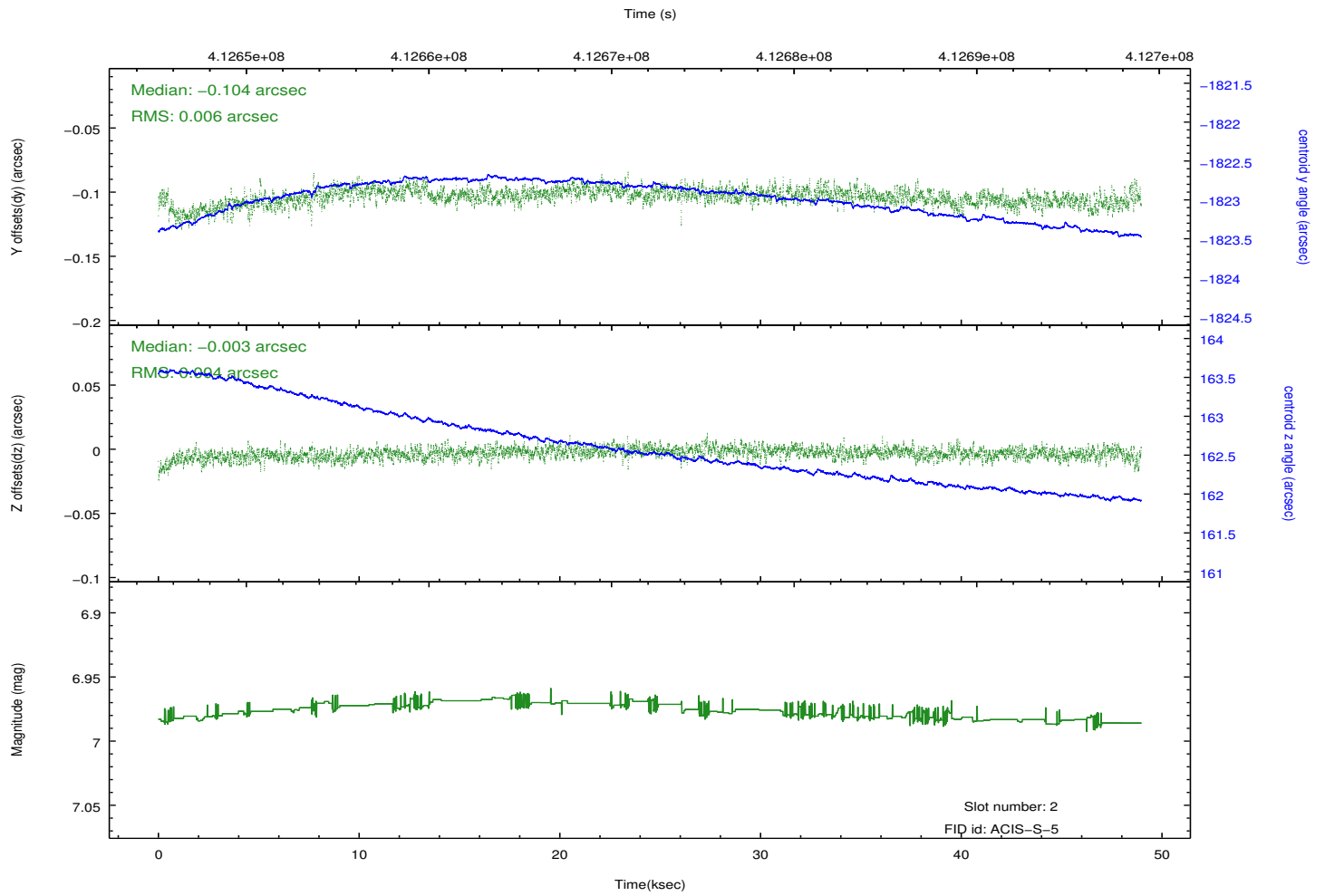
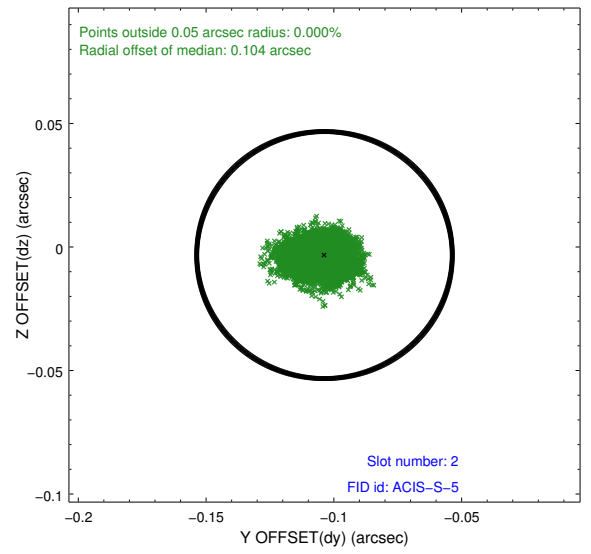
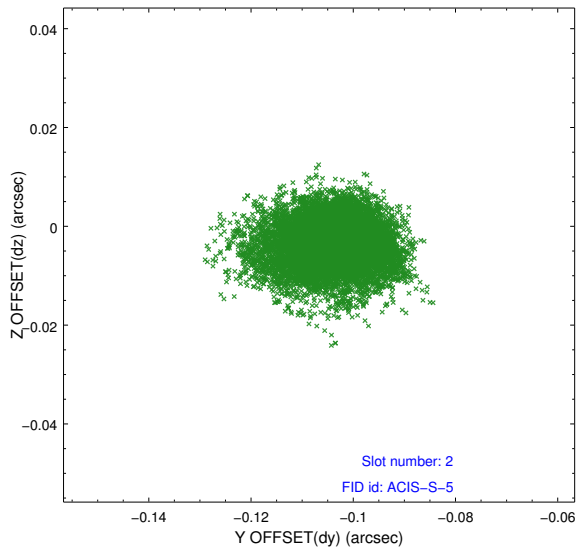
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.02.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	48.050065200686

## 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.