

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 11549 - L2 Version 2  
Chandra X-Ray Center

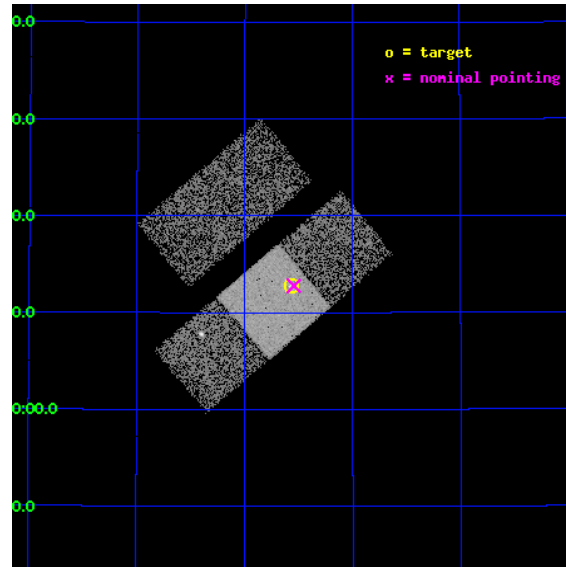
L2 Processing Date : Feb 2 2012

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# 1 Front

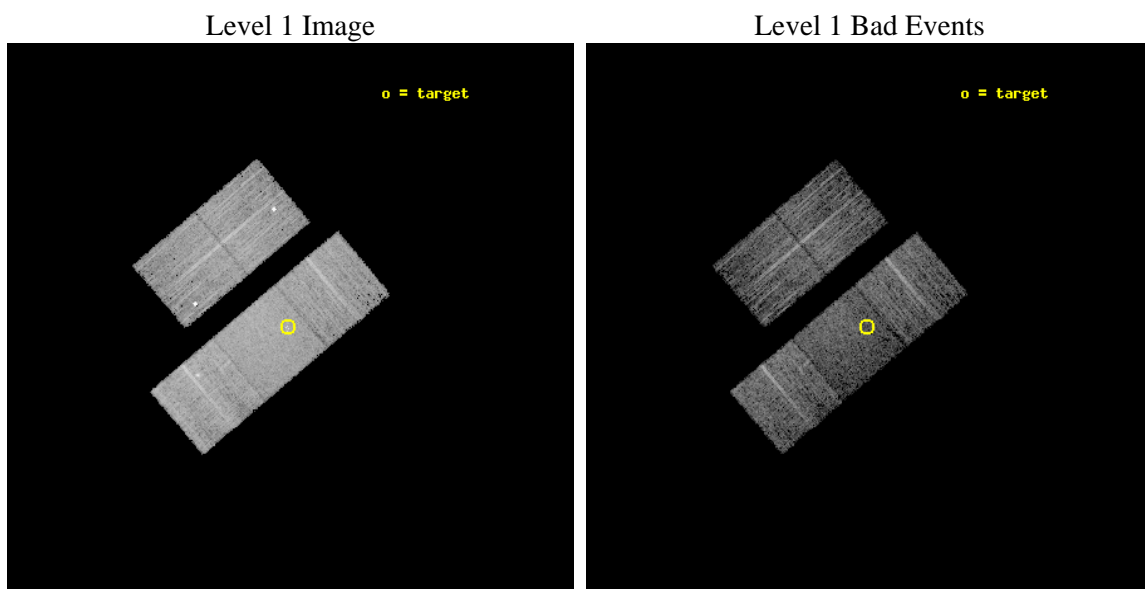
seq_num	702135	Sequence number
obs_id	11549	Observation id
title	The Size of Quasar Non-Thermal/X-ray Emission Regions	Proposal tit
observer	Dr. Christopher Kochanek	Principal investigator
object	SDSS1004+4112	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	151.1425	Observer's specified target RA [deg]
dec_targ	41.212222	Observer's specified target Dec [deg]
ra_nom	151.13600192914	Nominal RA [deg]
dec_nom	41.212944901864	Nominal Dec [deg]
roll_nom	139.70453166885	Nominal Roll [deg]
revision	2	Processing version of data
ontime	6037.8235403299	Sum of GTIs [s]
livetime	5958.9349307945	Livetime [s]
ontime2	6037.6593803167	Sum of GTIs [s]
ontime3	6037.7414603233	Sum of GTIs [s]
ontime6	6037.7825003266	Sum of GTIs [s]
ontime7	6037.8235403299	Sum of GTIs [s]
ontime8	6034.5593599677	Sum of GTIs [s]
l2events	41277	Number of level 2 events



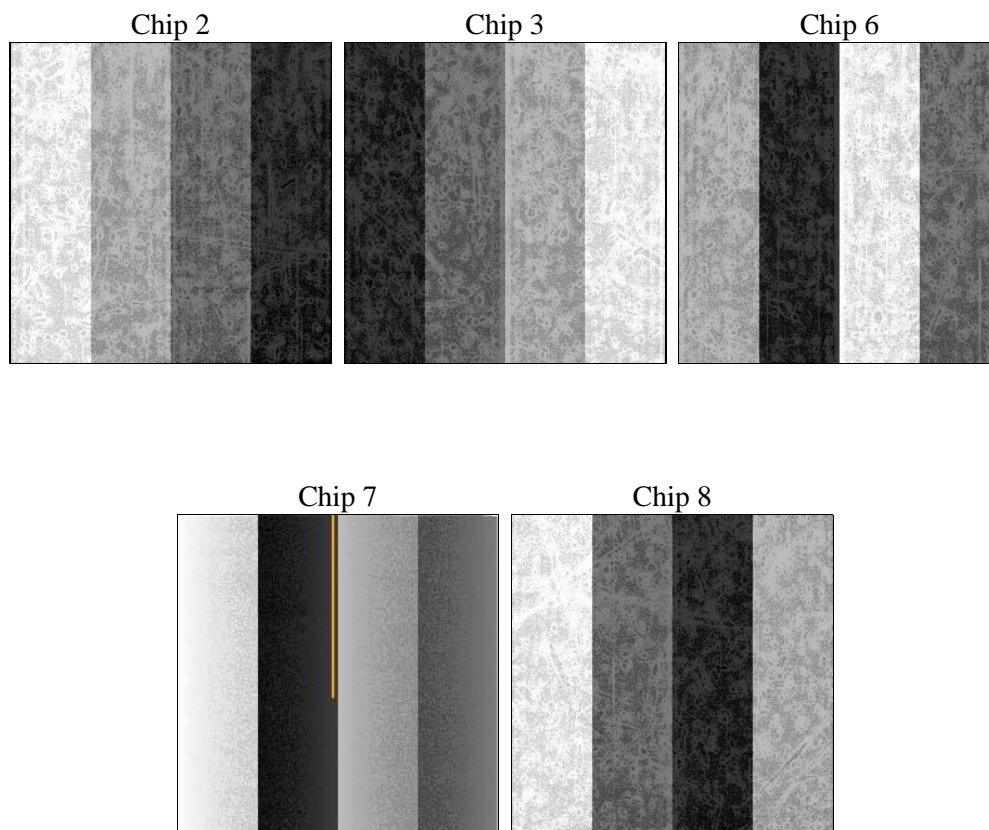
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	6000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	6037.8235403299	Sum of GTIs [s]
caldsver	4.4.7	&#160	ontime2	6037.6593803167	Sum of GTIs [s]
date	2012-02-03T00:27:37	Date and time of file creation	ontime3	6037.7414603233	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	6037.7825003266	Sum of GTIs [s]
			ontime7	6037.8235403299	Sum of GTIs [s]
			ontime8	6034.5593599677	Sum of GTIs [s]
			l1events	249591	Number of level 1 events

### 2.1.4 Events

	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	46187	43887	45511	55648	58358
rejected events	39564	37767	40596	31013	43353
rejected %	85%	86%	89%	55%	74%

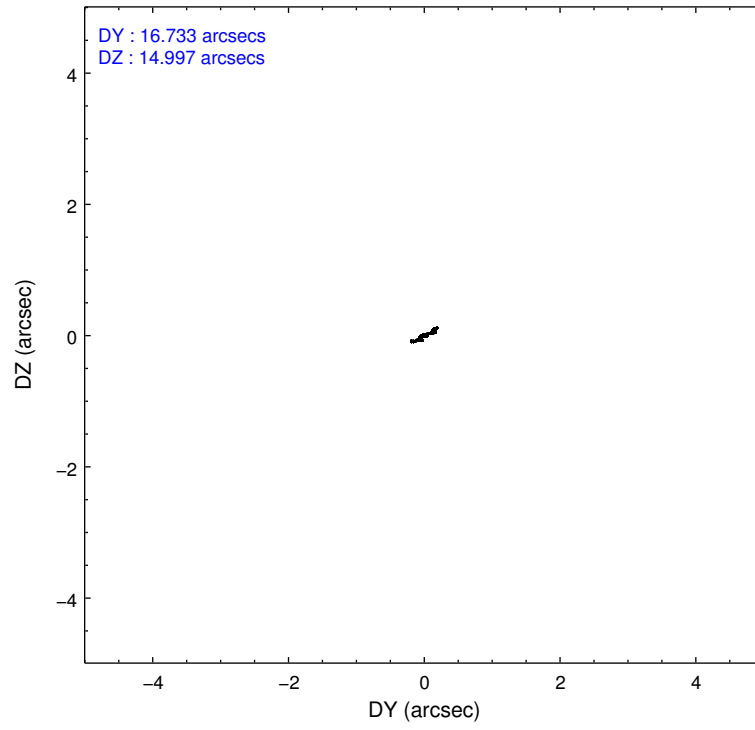
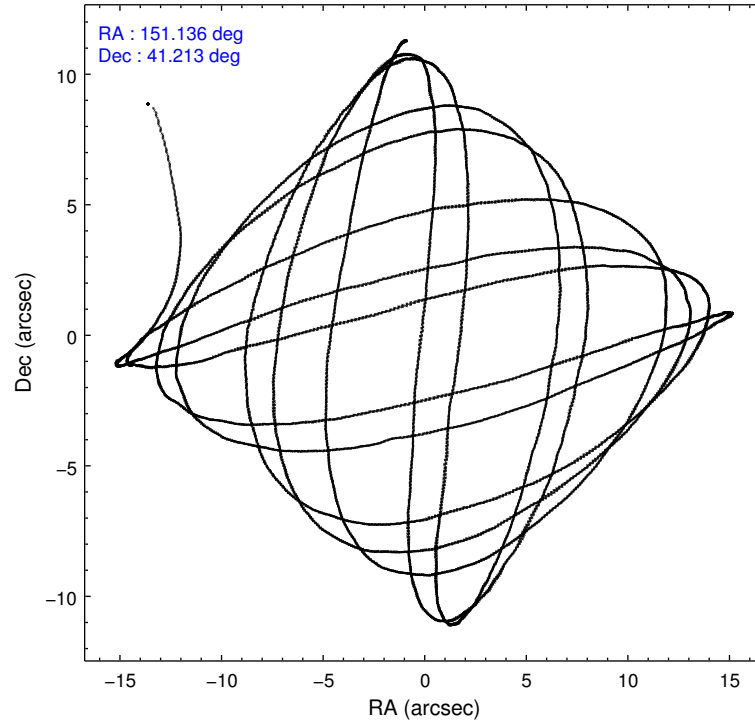
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	3539	3322	1705	2381	4482
	7%	7%	3%	4%	7%
grade 1 events	33	34	24	70	46
	0%	0%	0%	0%	0%
grade 2 events	1198	987	1073	5012	3607
	2%	2%	2%	9%	6%
grade 3 events	494	475	500	2145	1552
	1%	1%	1%	3%	2%
grade 4 events	496	469	529	2204	1361
	1%	1%	1%	3%	2%
grade 5 events	1672	1965	2083	5728	2899
	3%	4%	4%	10%	4%
grade 6 events	903	876	1112	12923	4024
	1%	1%	2%	23%	6%
grade 7 events	37852	35759	38485	25185	40387
	81%	81%	84%	45%	69%

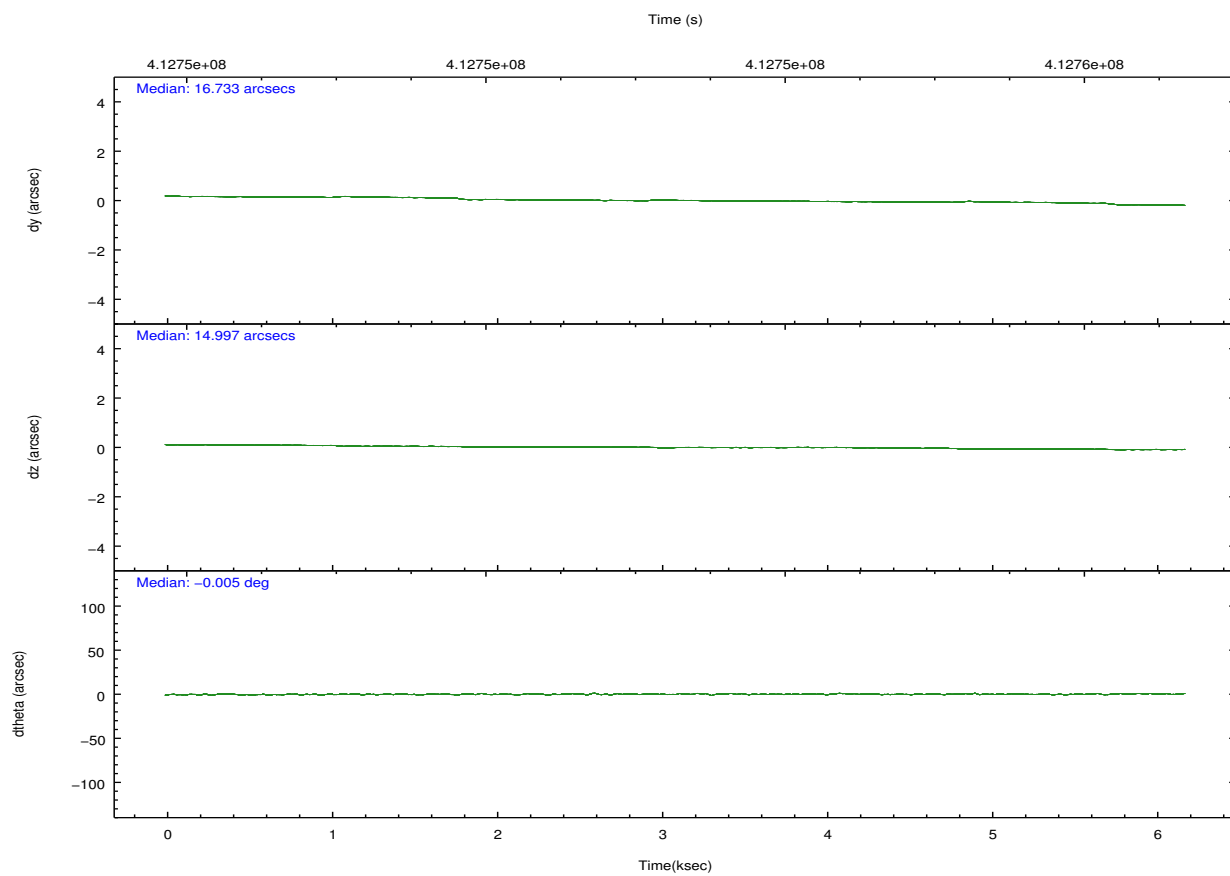
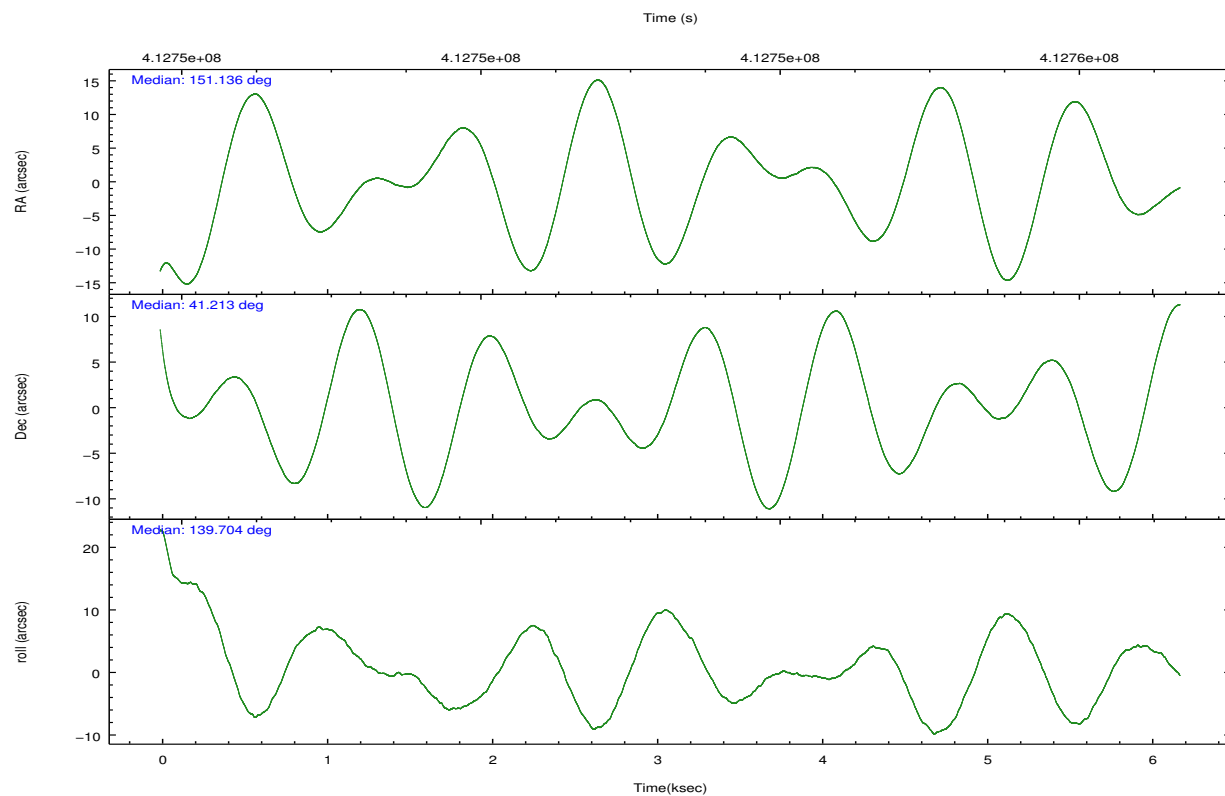


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-23678	ACIS-23678	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	151.171971	151.1360019291361	CCD I2 on	O4	Y
[deg] Pointing Dec	41.208424	41.21294490186413	CCD I3 on	O3	Y
[deg] Pointing Roll	139.524177	139.7045316688542	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	N	N
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	O1	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	O2	Y
[s] Observation start time (MET)	412750342.184000	412749334.11544	CCD S5 on	N	N
Observation start date	2011-01-30T04:51:16	2011-01-30T04:35:34	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	412756342.184000	412757306.05336	On-chip summing requested	N	N
Observation end date	2011-01-30T06:31:16	2011-01-30T06:48:26	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



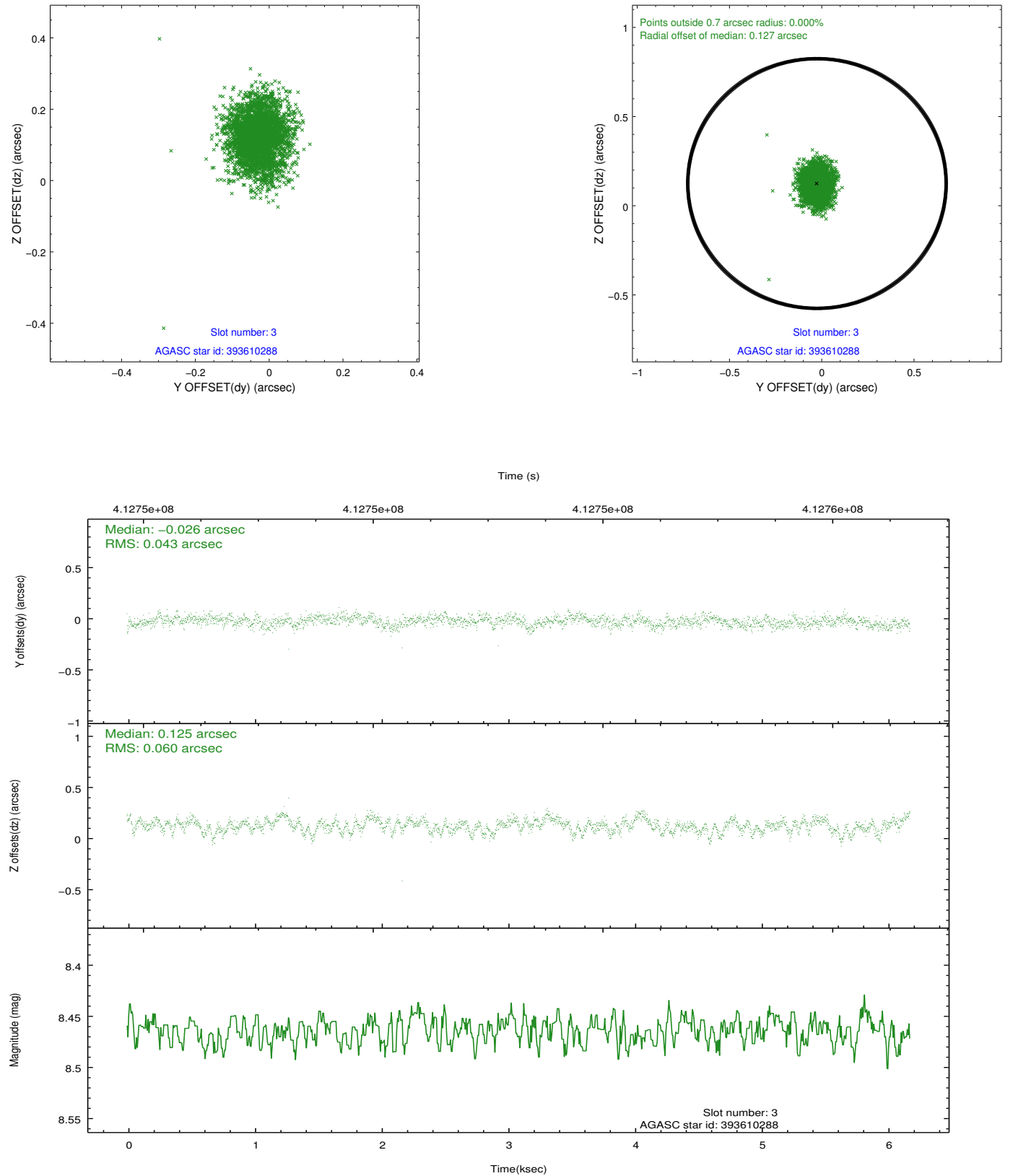


### Slot Statistics

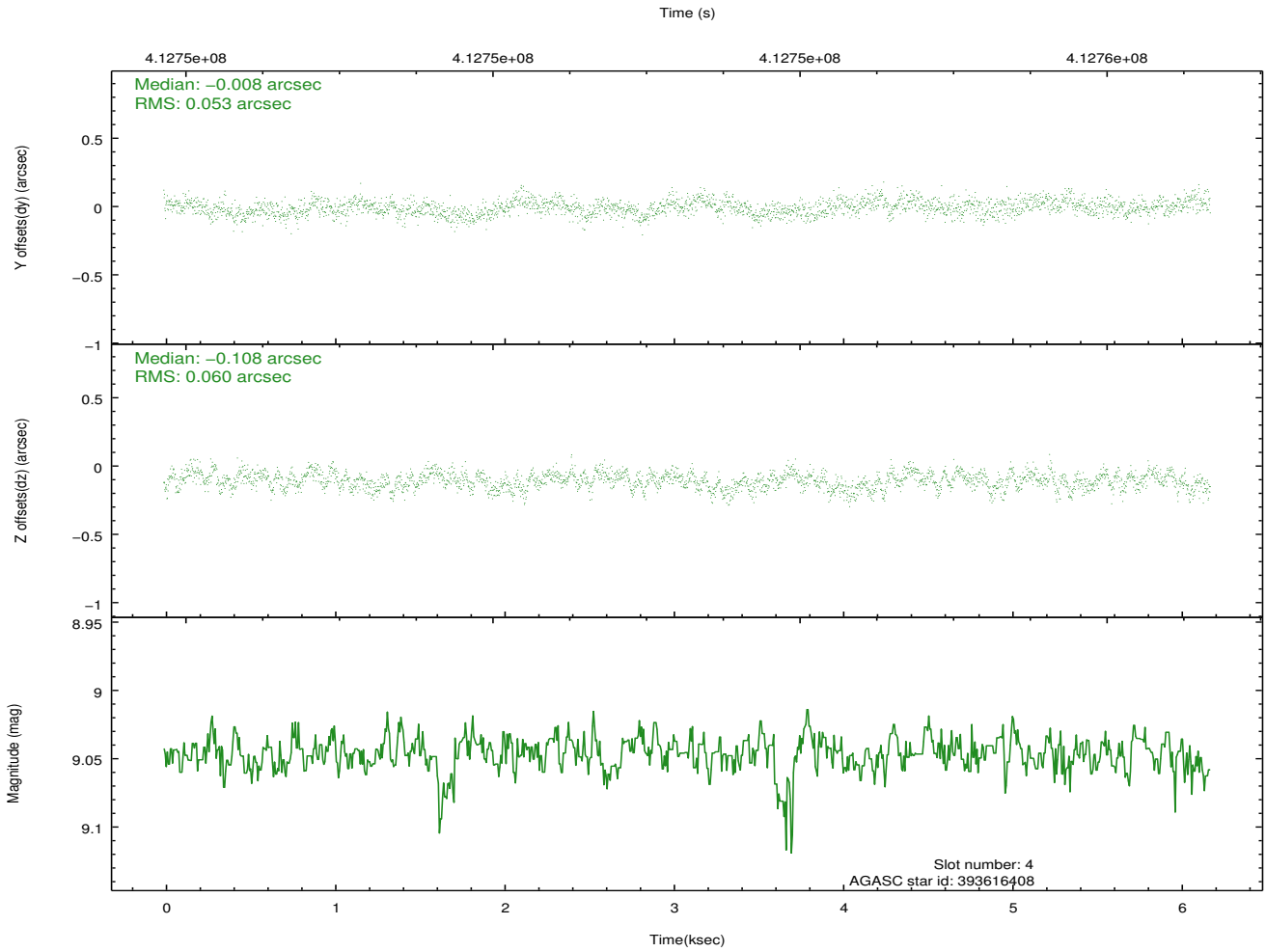
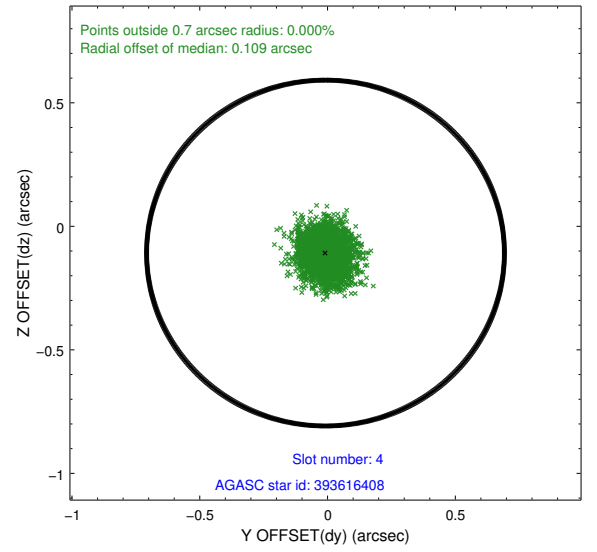
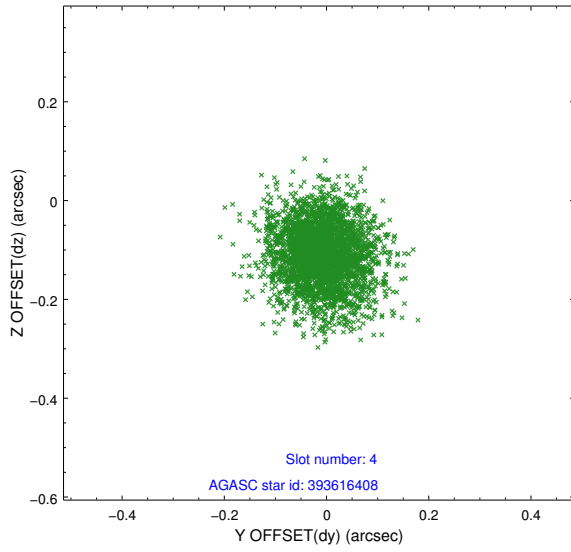
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.01	1508	-0.100	-0.027	0.010	0.017	0.000000	0.000000	-769.84	-1736.37
1	FID	ACIS-S-4	7.09	1508	0.192	0.056	0.008	0.013	0.000000	0.000000	2143.27	171.25
2	FID	ACIS-S-5	7.13	1508	-0.123	-0.019	0.008	0.014	0.000000	0.000000	-1821.51	165.88
3	GUIDE	393610288	8.46	3012	-0.026	0.125	0.078	0.126	151.538899	41.090404	-1031.19	-323.71
4	GUIDE	393616408	9.05	3004	-0.008	-0.108	0.086	0.140	150.713966	41.346840	1266.60	421.72
5	GUIDE	393616688	9.00	3000	0.107	0.095	0.079	0.129	151.530834	40.712712	-1901.66	720.47
6	GUIDE	393616816	8.43	3016	-0.089	-0.213	0.079	0.127	151.562975	40.925077	-1469.87	84.51
7	GUIDE	392695480	8.85	3015	0.016	0.103	0.072	0.118	149.916110	41.131503	2425.90	2402.56

## 2.4 Star Slots

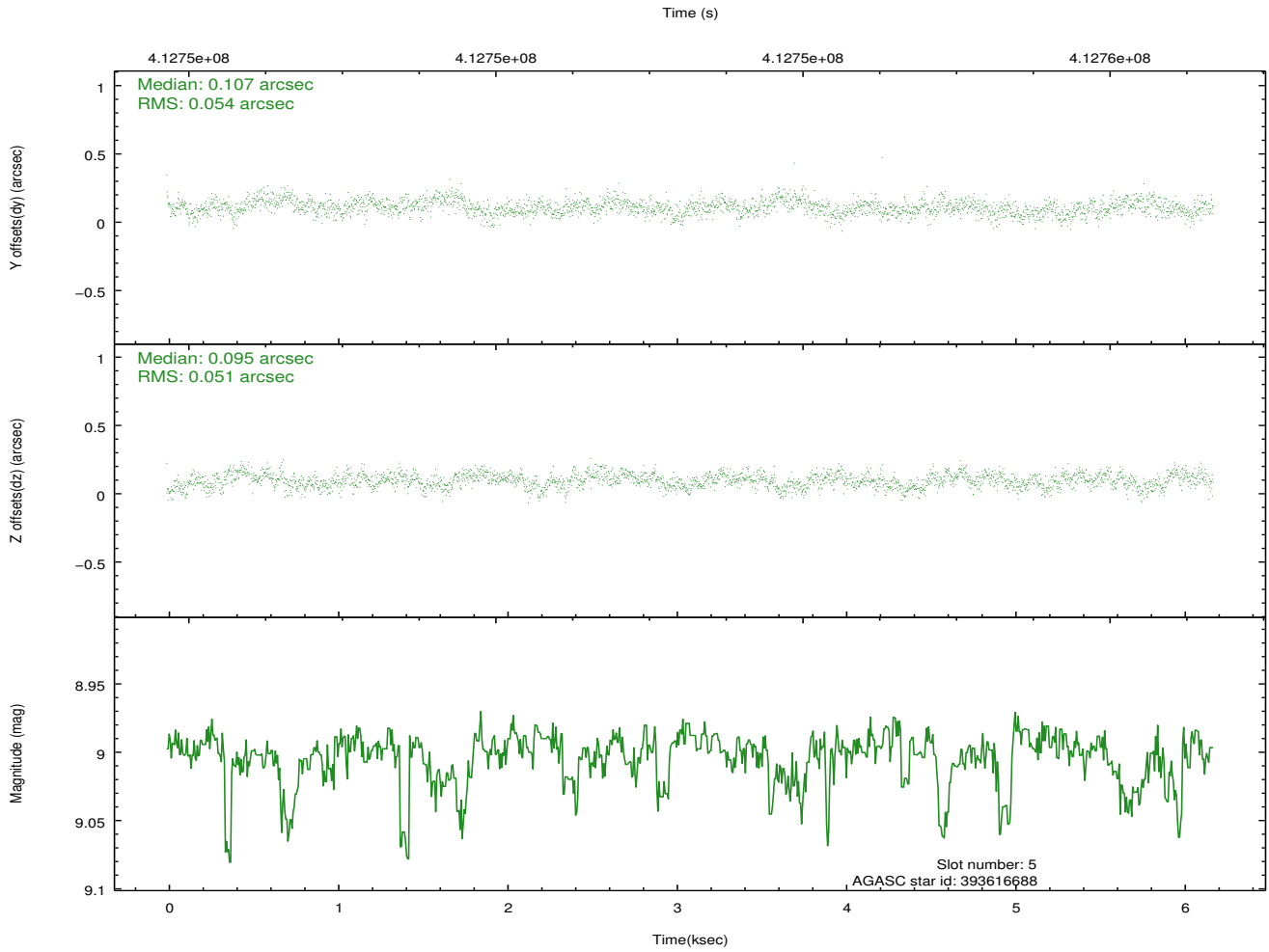
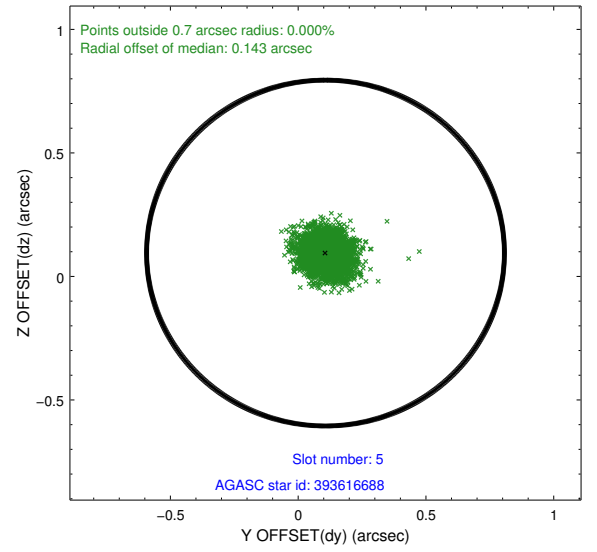
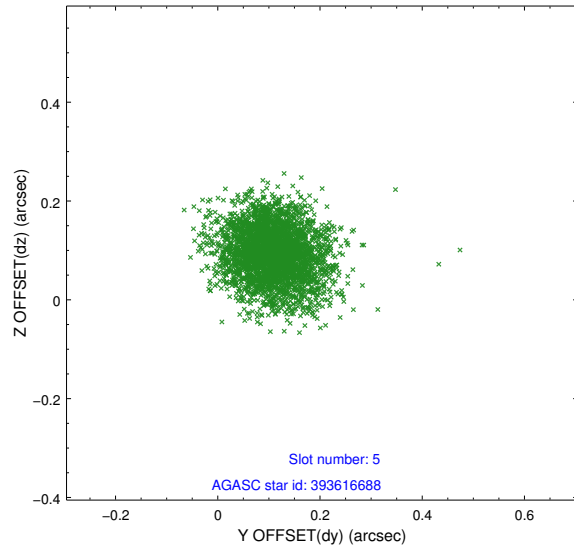
### 2.4.1 Slot 3



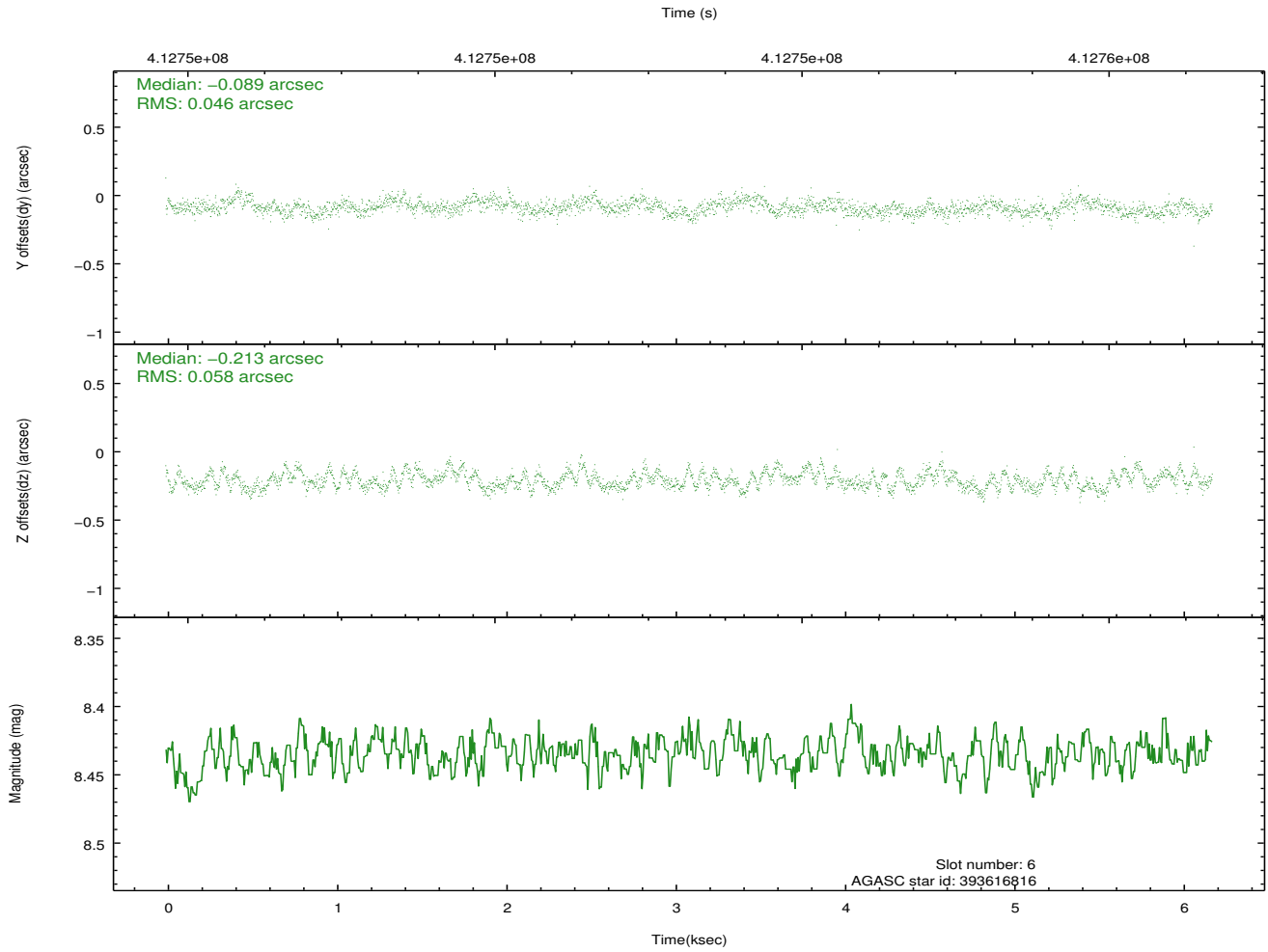
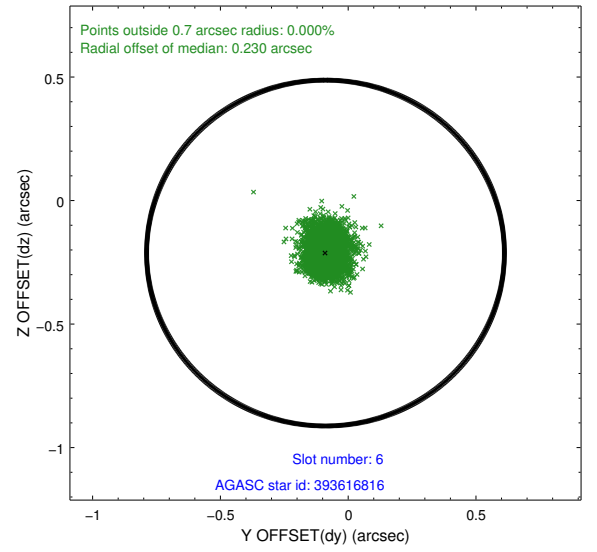
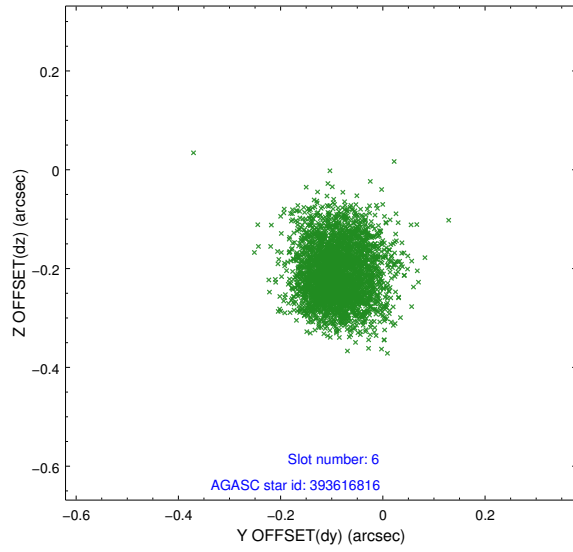
## 2.4.2 Slot 4



### 2.4.3 Slot 5

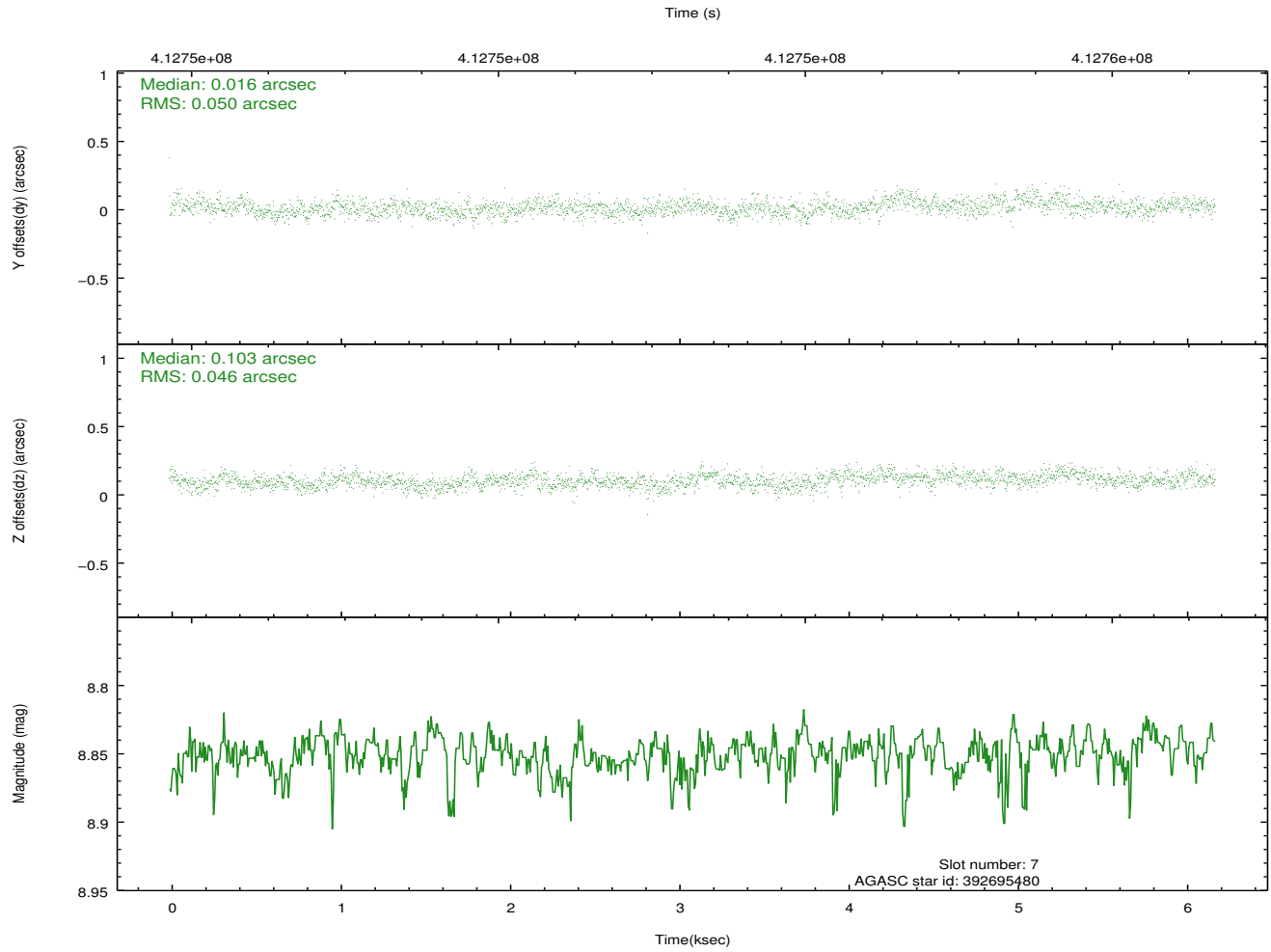
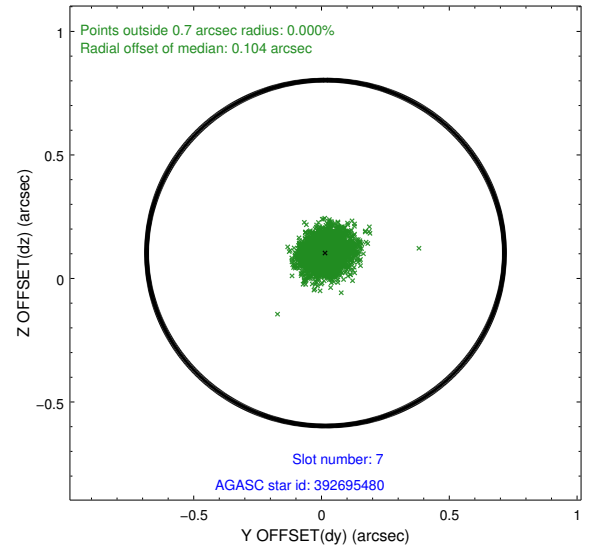
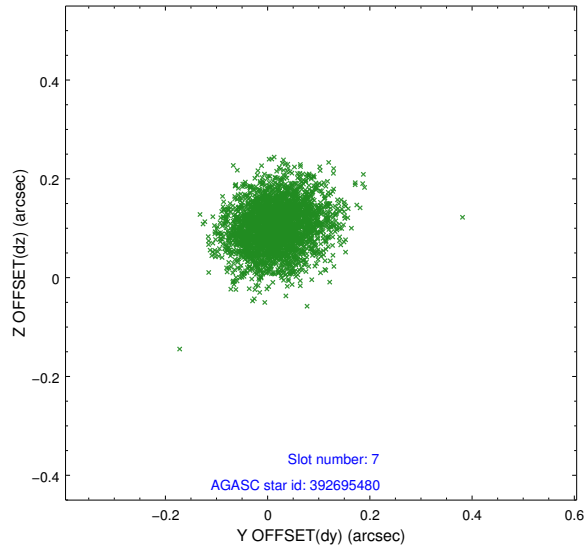


## 2.4.4 Slot 6



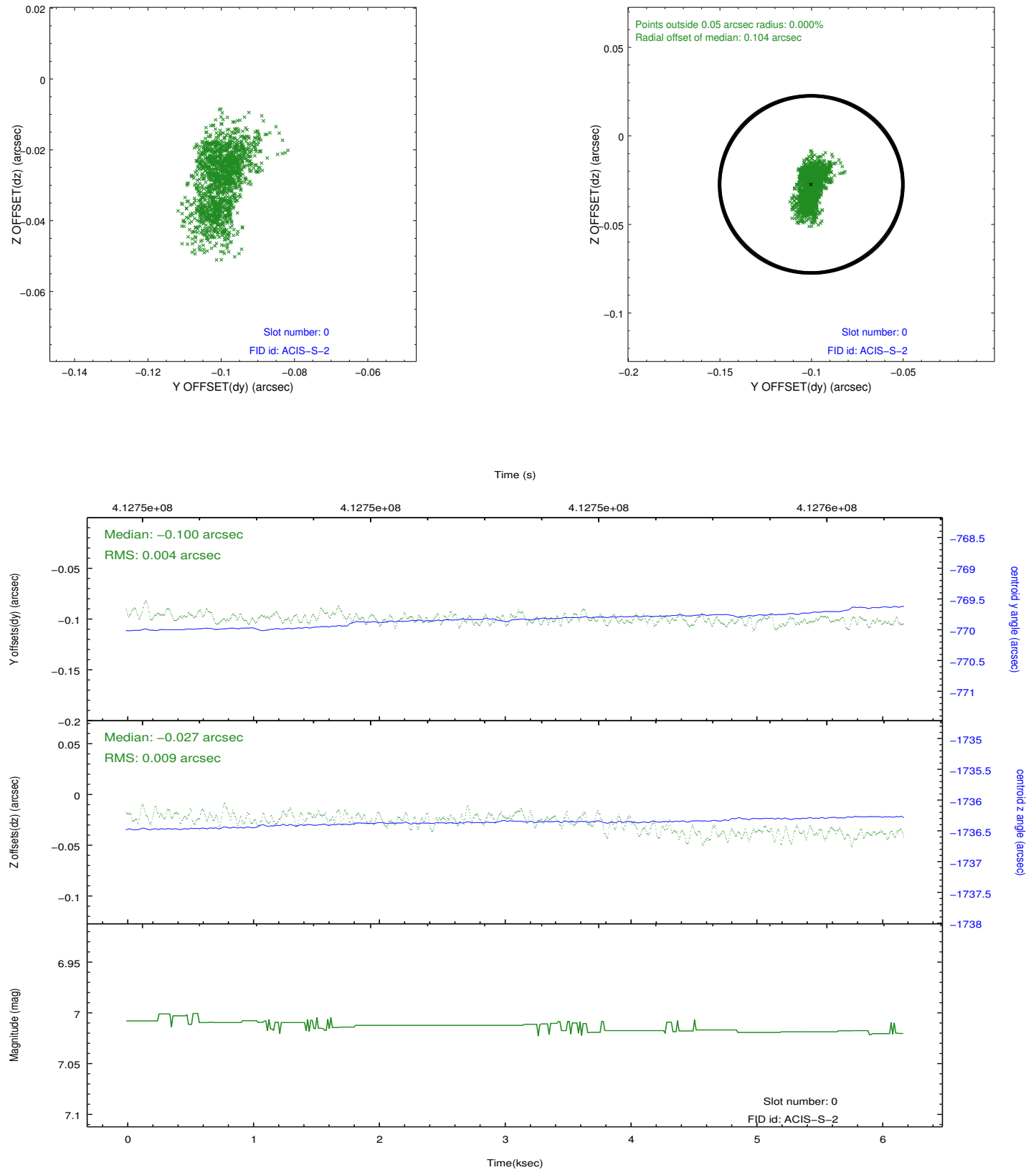


## 2.4.5 Slot 7

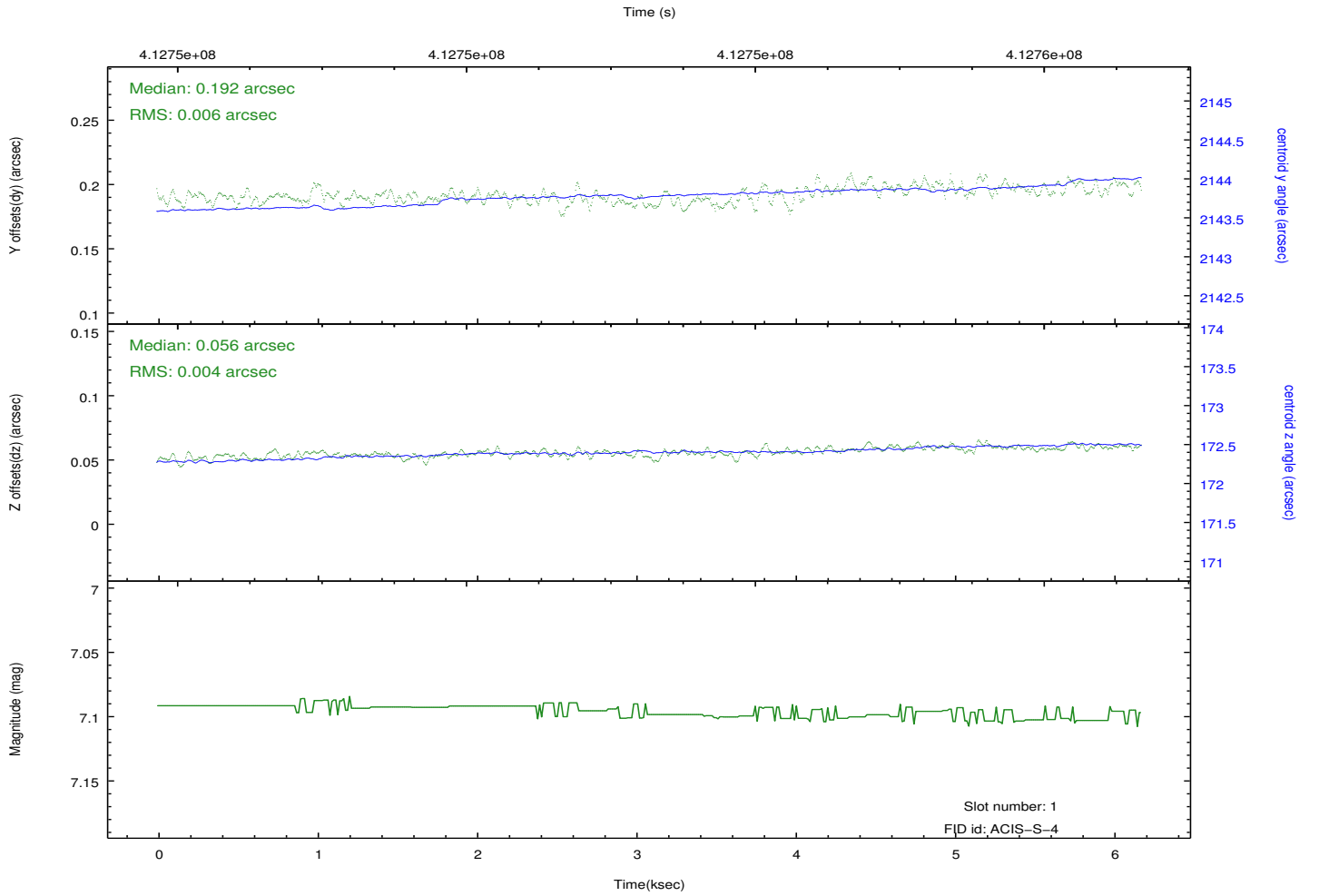
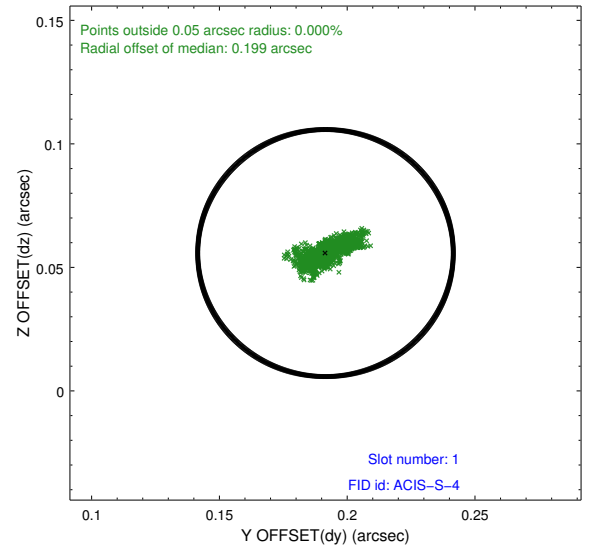
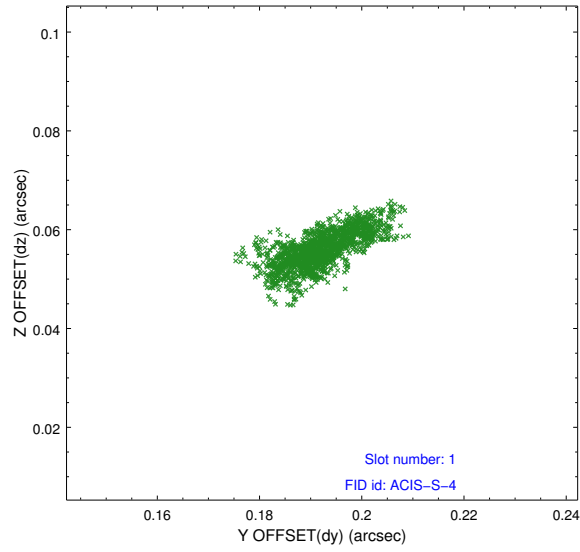


## 2.5 FID Slots

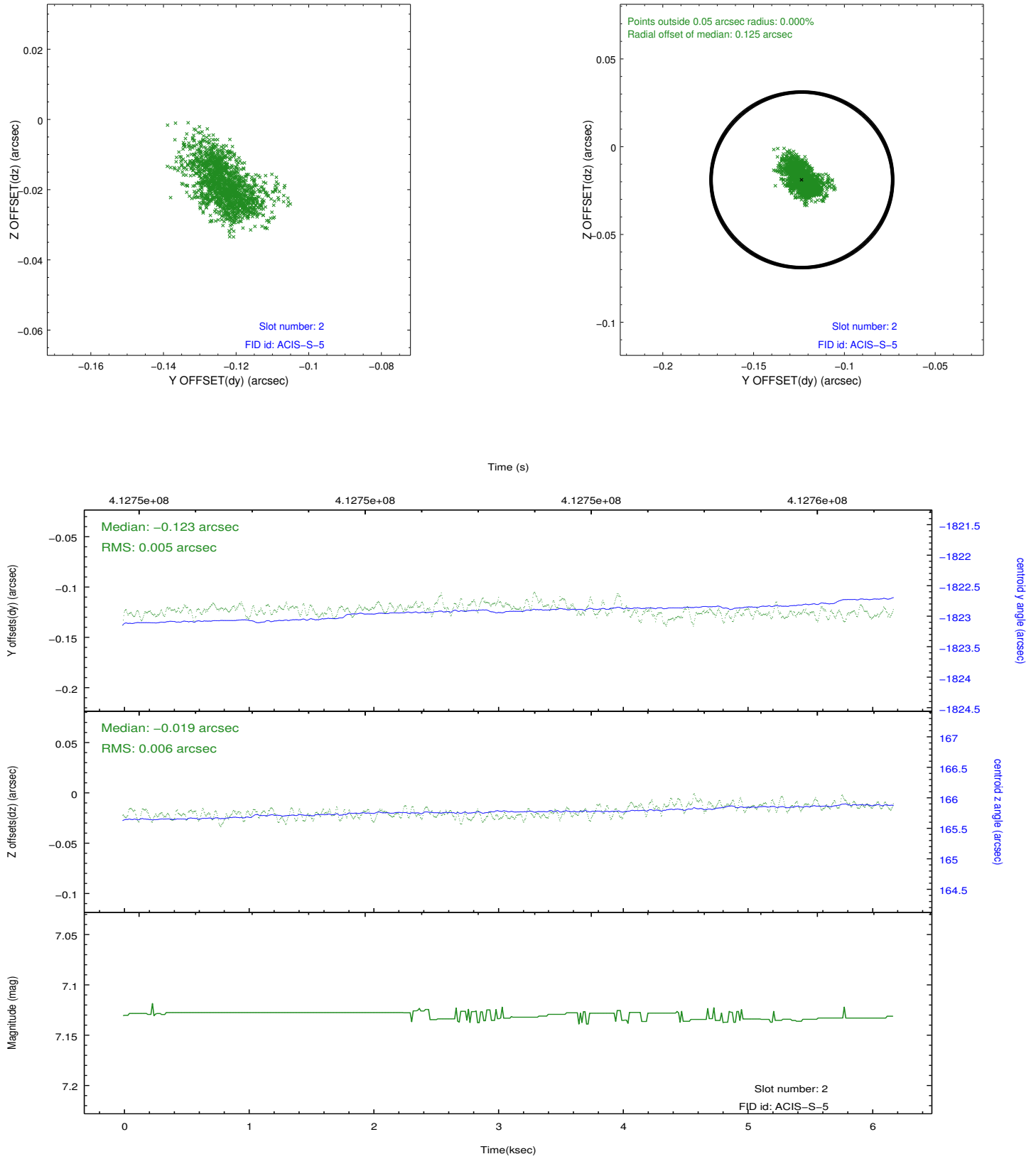
### 2.5.1 Slot 0



## 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	6.03782354635

## 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.