

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 8078 - L2 Version 2  
Chandra X-Ray Center

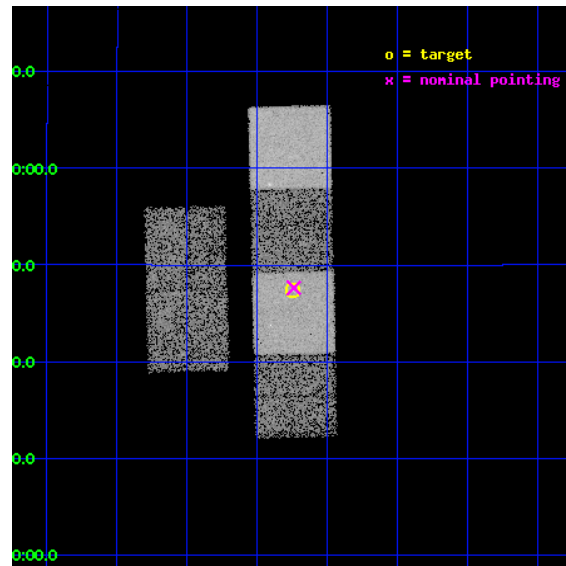
L2 Processing Date : May 10 2012

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# 1 Front

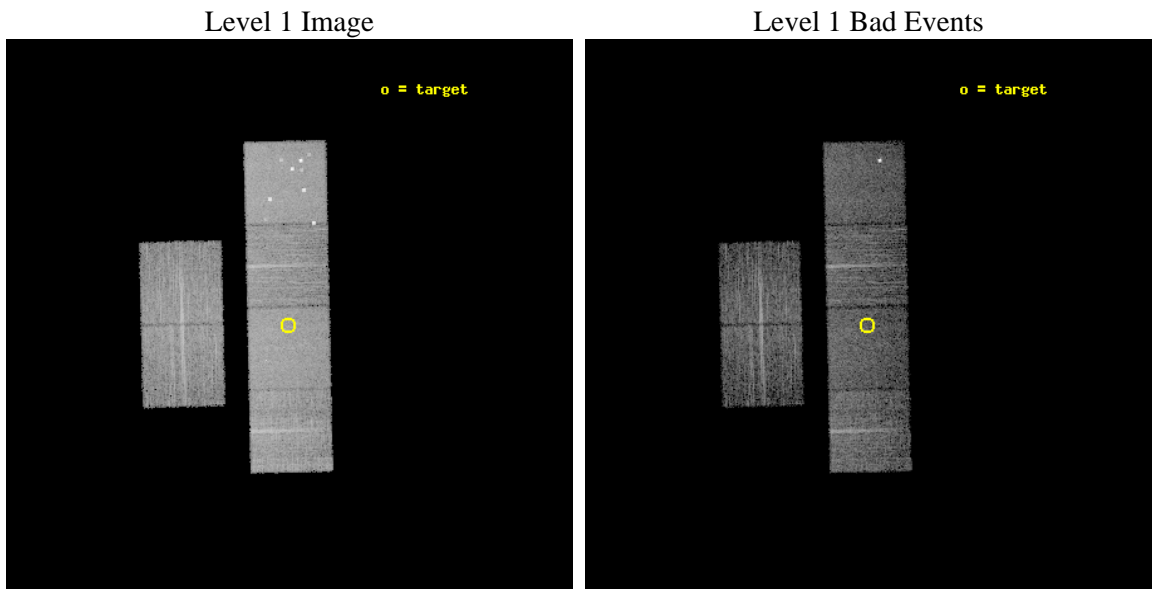
seq_num	900619	Sequence number
obs_id	8078	Observation id
title	The Duty Cycle of Supermassive Black Holes: X-raying Virgo	Proposa
observer	Prof Tommaso Treu	Principal investigator
object	1087	Source name
dtycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	187.062083	Observer's specified target RA [deg]
dec_targ	11.79	Observer's specified target Dec [deg]
ra_nom	187.05957370325	Nominal RA [deg]
dec_nom	11.794076259522	Nominal Dec [deg]
roll_nom	88.716031322683	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5157.2686901093	Sum of GTIs [s]
livetime	5091.9642486207	Livetime [s]
ontime2	5157.3097399473	Sum of GTIs [s]
ontime3	5157.1455799341	Sum of GTIs [s]
ontime5	5157.227650106	Sum of GTIs [s]
ontime6	5157.1866199374	Sum of GTIs [s]
ontime7	5157.2686901093	Sum of GTIs [s]
ontime8	5153.8634901643	Sum of GTIs [s]
l2events	86375	Number of level 2 events



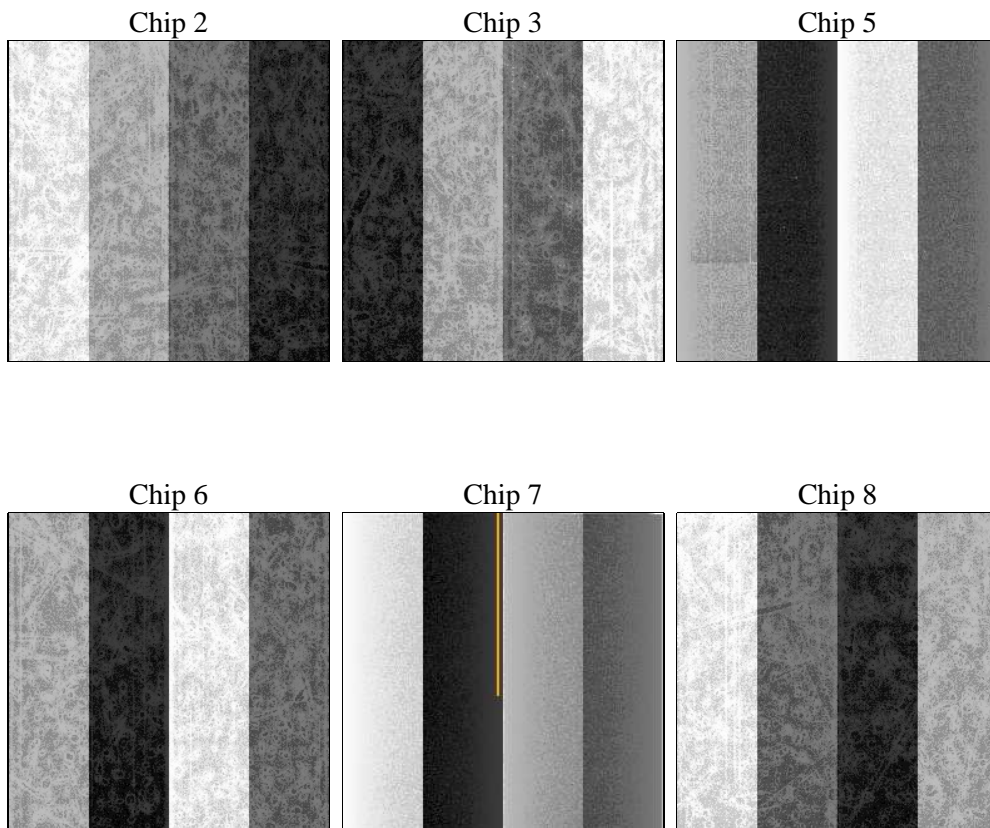
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	5400.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	5157.2686901093	Sum of GTIs [s]
caldsver	4.4.9	&#160	ontime2	5157.3097399473	Sum of GTIs [s]
date	2012-05-10T08:10:15	Date and time of file creation	ontime3	5157.1455799341	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	5157.227650106	Sum of GTIs [s]
			ontime6	5157.1866199374	Sum of GTIs [s]
			ontime7	5157.2686901093	Sum of GTIs [s]
			ontime8	5153.8634901643	Sum of GTIs [s]
			l1events	377775	Number of level 1 events

### 2.1.4 Events

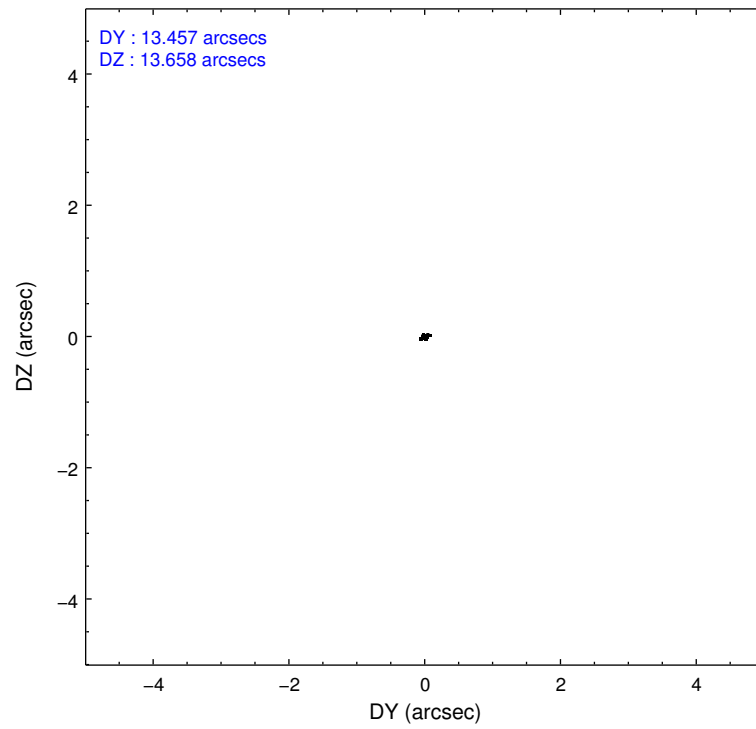
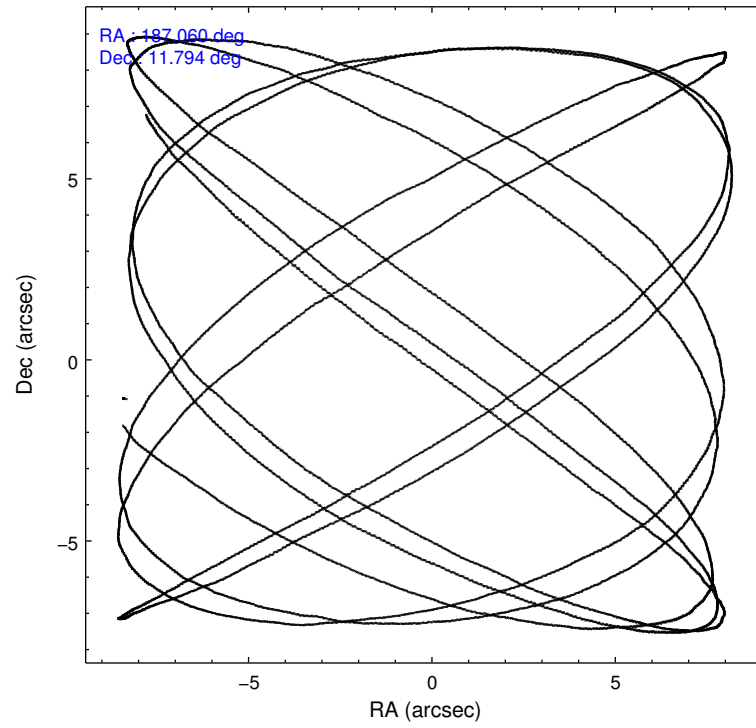
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	52871	49525	85636	52994	70038	66711	grade 0 events	3286	3107	7731	3001	2650	4721
rejected events	46131	43020	43043	46229	41111	52442		6%	6%	9%	5%	3%	7%
rejected %	87%	86%	50%	87%	58%	78%	grade 1 events	37	32	129	38	72	55
								0%	0%	0%	0%	0%	0%
							grade 2 events	1329	1207	11527	1445	5885	3197
								2%	2%	13%	2%	8%	4%
							grade 3 events	607	565	1385	568	2431	1464
								1%	1%	1%	1%	3%	2%
							grade 4 events	577	597	1277	566	2361	1354
								1%	1%	1%	1%	3%	2%
							grade 5 events	2002	2252	5086	2331	6472	3179
								3%	4%	5%	4%	9%	4%
							grade 6 events	954	1037	20732	1192	15638	3547
								1%	2%	24%	2%	22%	5%
							grade 7 events	44079	40728	37769	43853	34529	49194
								83%	82%	44%	82%	49%	73%

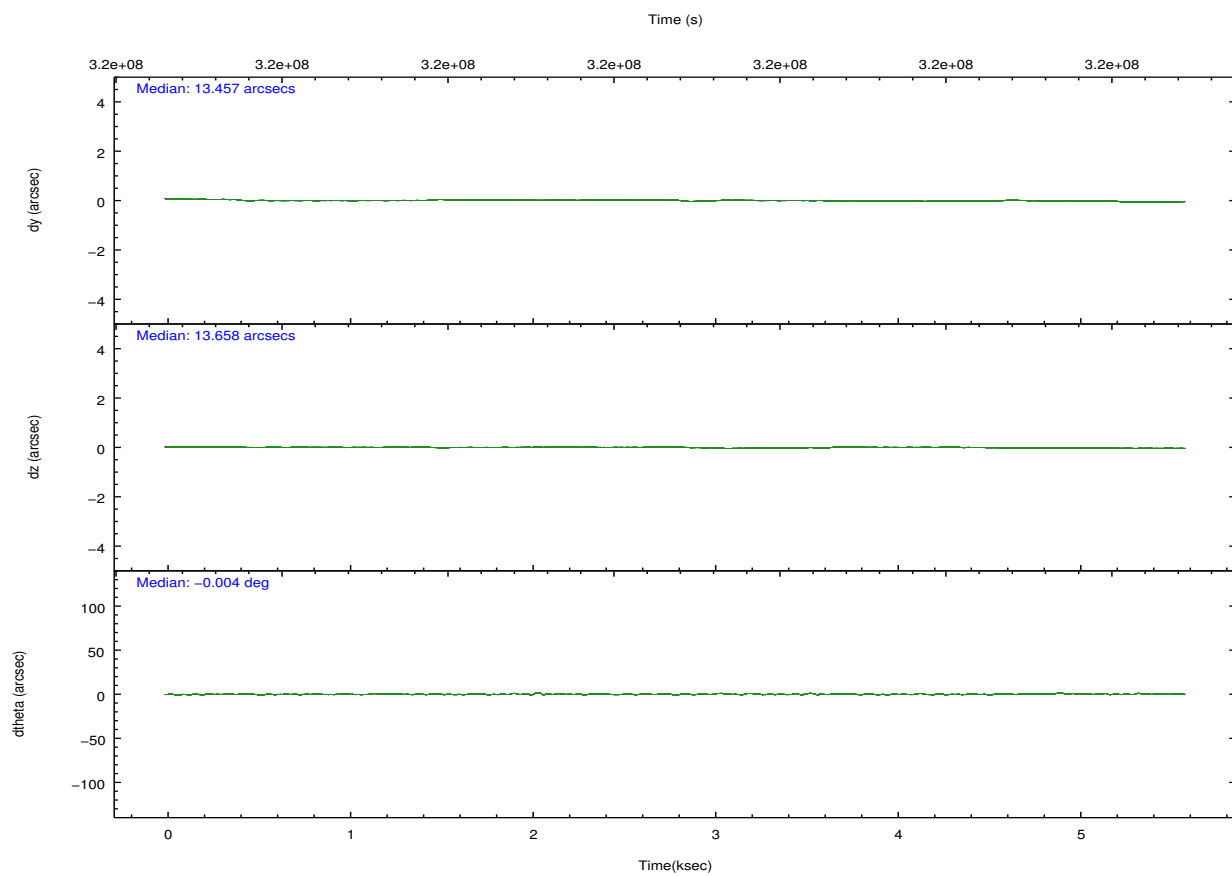
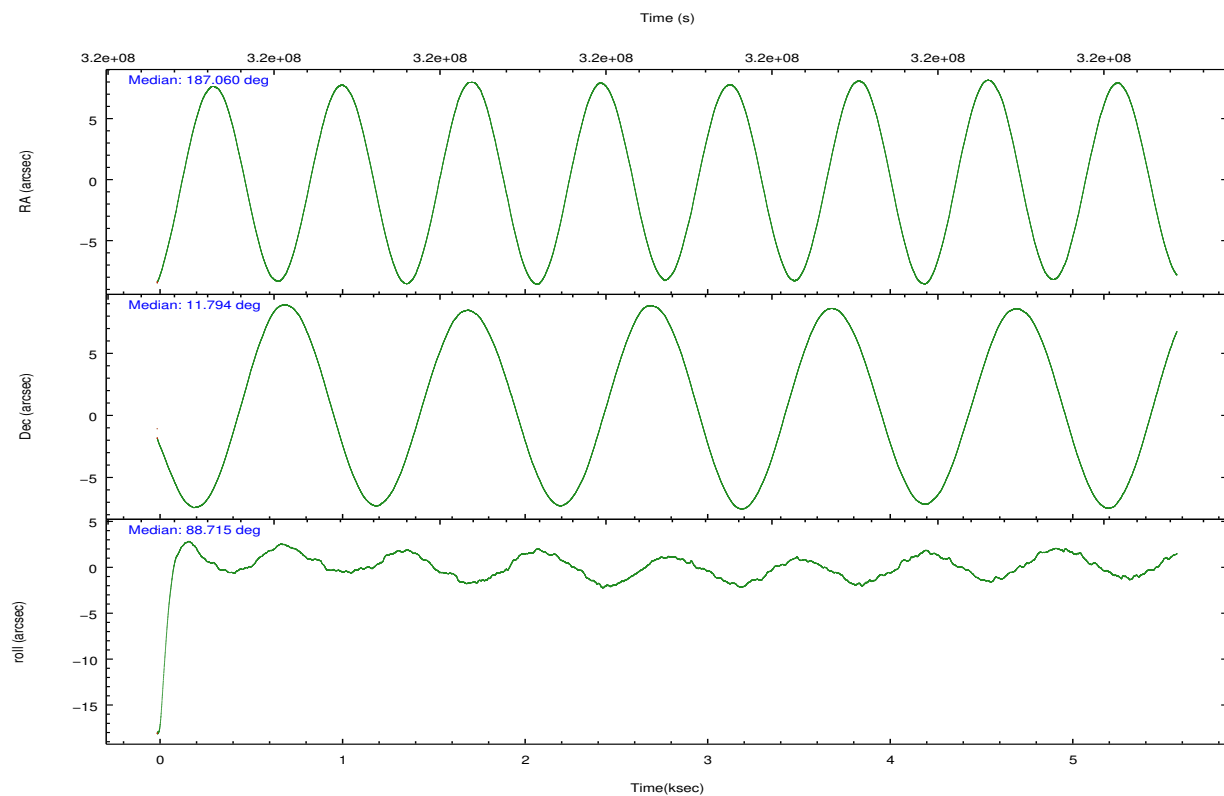


## 2.2 Compared Parameters

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	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	187.073337	187.0595737032463	CCD I2 on	O1	Y
[deg] Pointing Dec	11.770383	11.79407625952211	CCD I3 on	O2	Y
[deg] Pointing Roll	88.556625	88.71603132268251	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O3	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	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	O4	Y
[s] Observation start time (MET)	319995755.184000	319995280.81927	CCD S5 on	N	N
Observation start date	2008-02-21T15:41:30	2008-02-21T15:34:40	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	320001155.184000	320001362.65707	On-chip summing requested	N	N
Observation end date	2008-02-21T17:11:30	2008-02-21T17:16:02	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



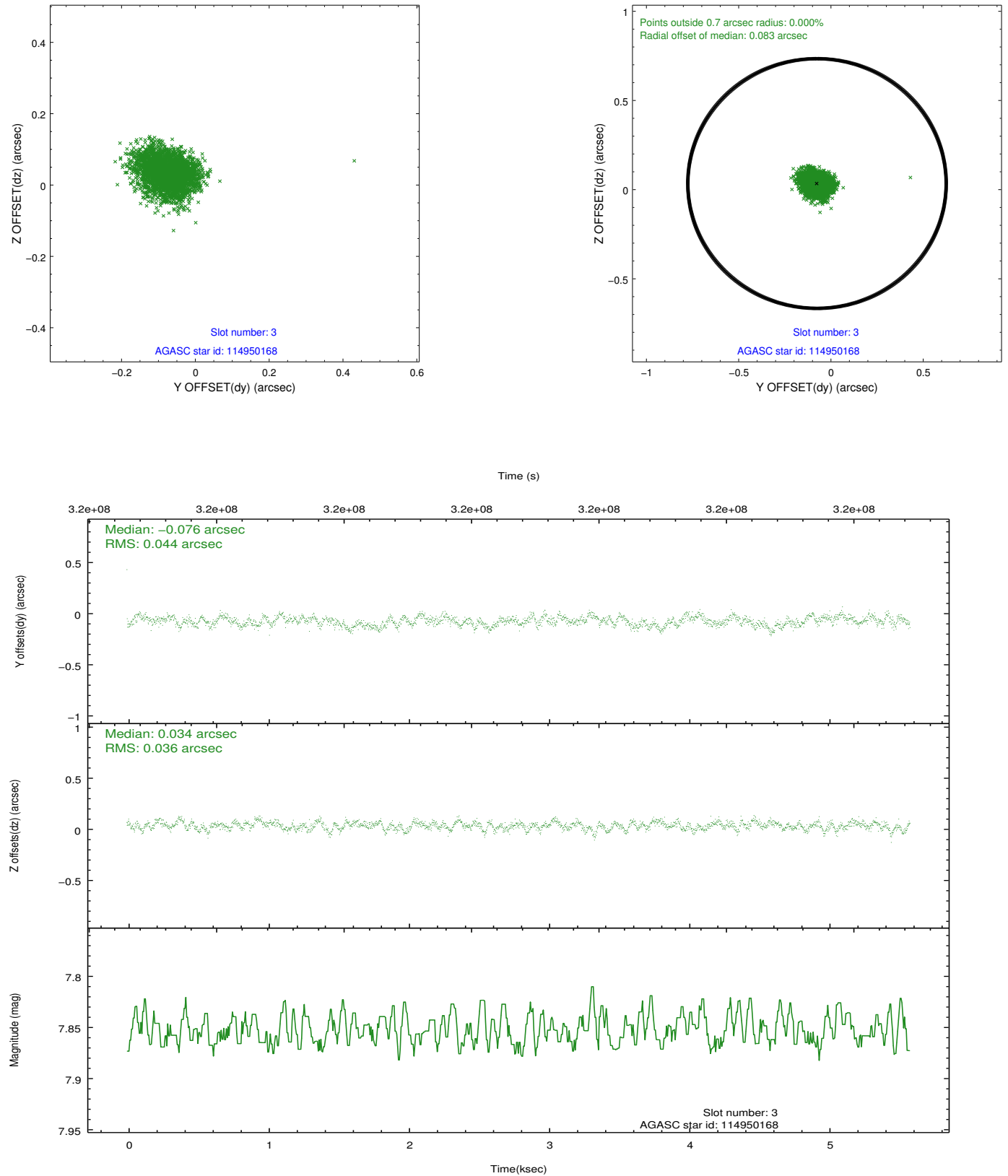


### Slot Statistics

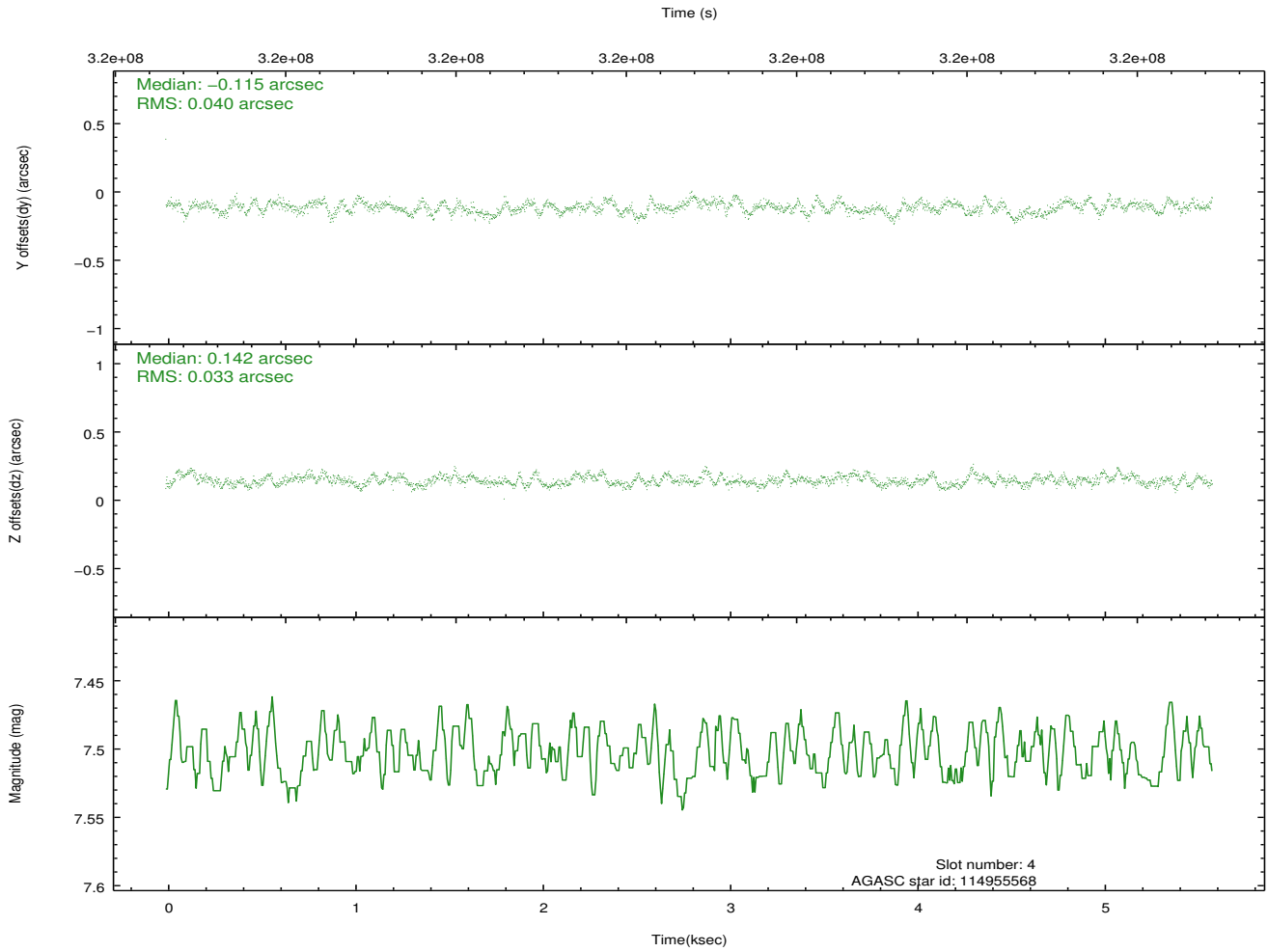
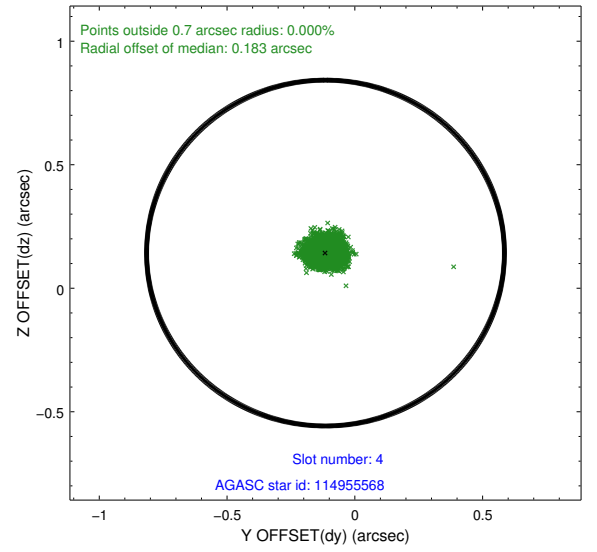
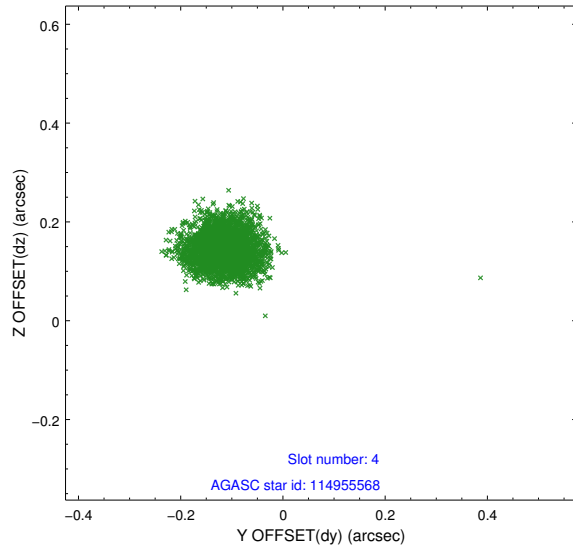
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	1363	-0.037	-0.058	0.006	0.010	0.000000	0.000000	-766.43	-1735.00
1	FID	ACIS-S-4	7.19	1363	0.163	0.034	0.005	0.011	0.000000	0.000000	2146.56	172.46
2	FID	ACIS-S-5	7.23	1363	-0.157	0.033	0.007	0.011	0.000000	0.000000	-1818.01	167.36
3	GUIDE	114950168	7.85	2721	-0.076	0.034	0.060	0.095	187.143398	12.117441	1255.57	-214.93
4	GUIDE	114955568	7.50	2726	-0.115	0.142	0.055	0.085	187.061916	11.826551	202.04	45.60
5	GUIDE	114957008	8.21	2723	-0.066	-0.199	0.054	0.086	186.894794	12.099160	1168.05	658.55
6	GUIDE	114957272	8.85	2725	0.190	0.158	0.067	0.115	187.367706	11.138889	-2244.71	-1095.89
7	GUIDE	114955672	9.16	2722	0.065	-0.141	0.073	0.123	186.876368	11.136298	-2299.47	637.70

## 2.4 Star Slots

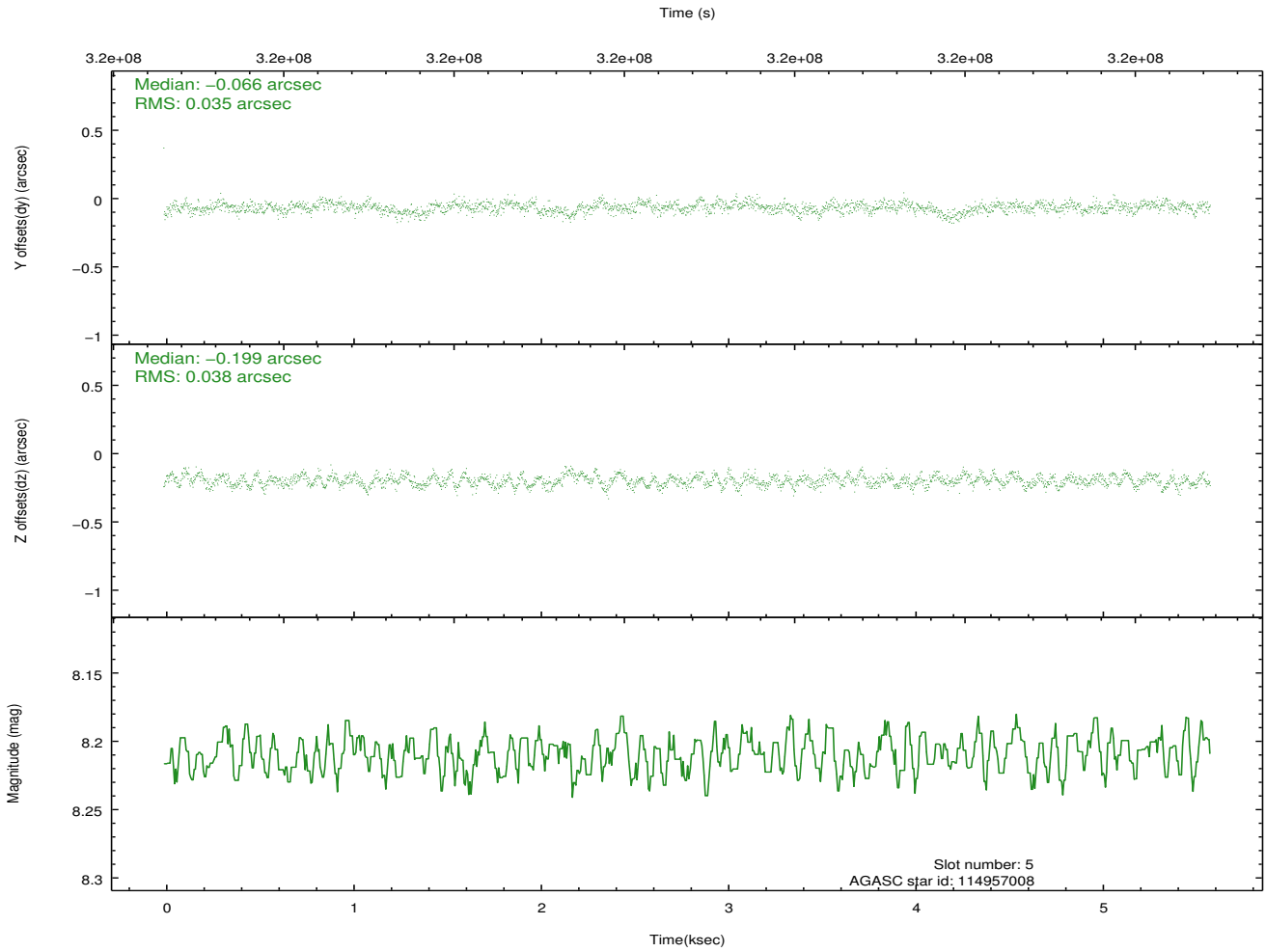
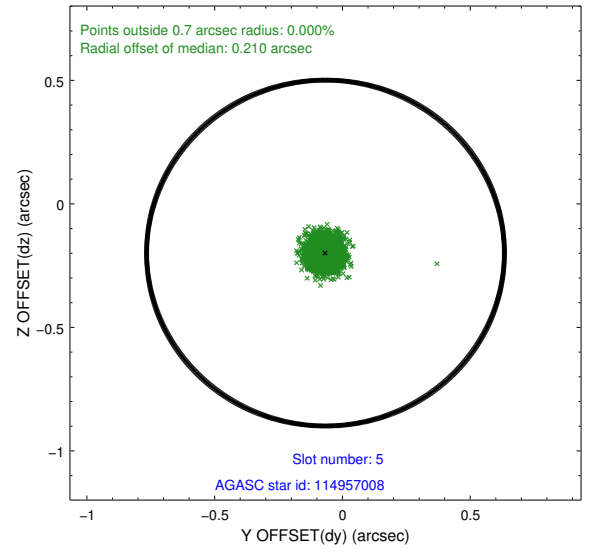
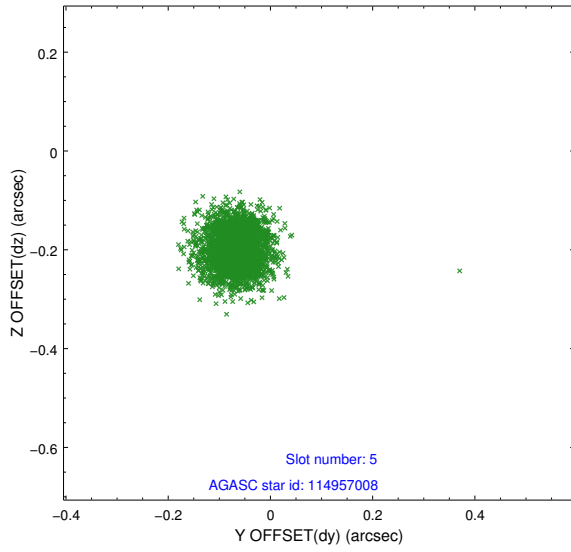
### 2.4.1 Slot 3



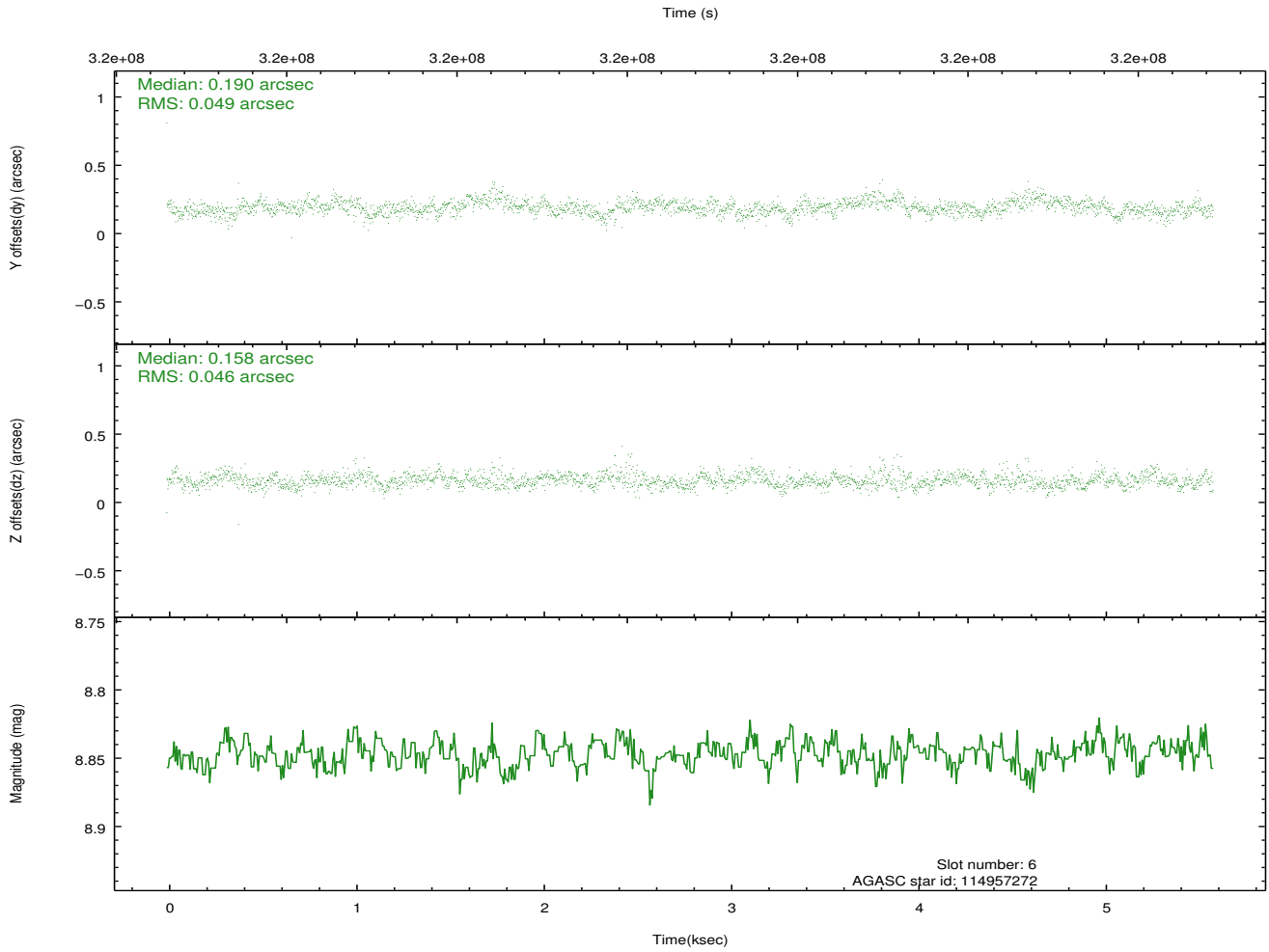
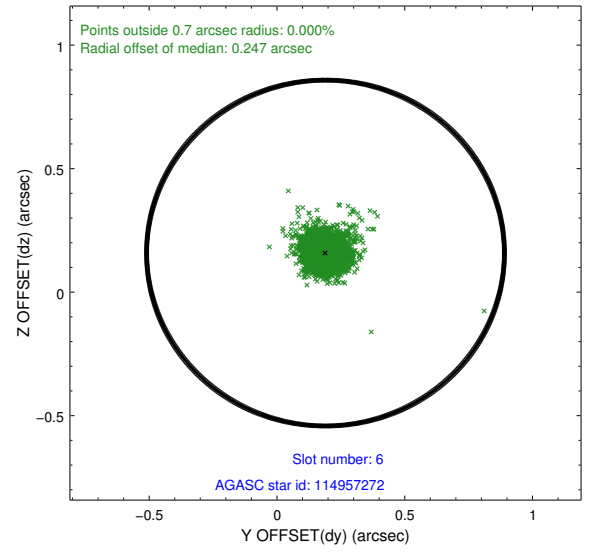
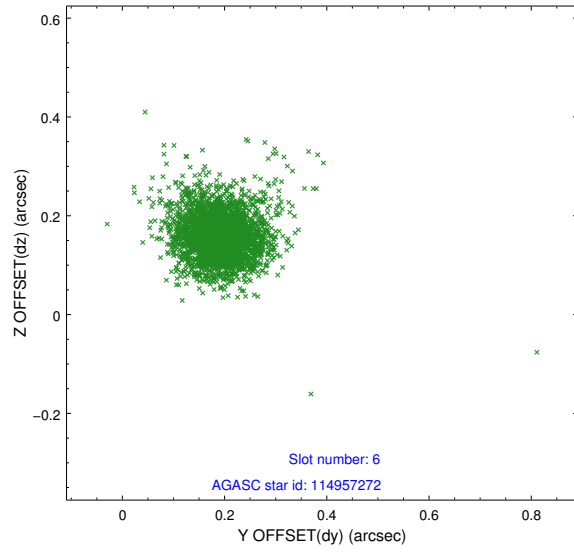
## 2.4.2 Slot 4



### 2.4.3 Slot 5

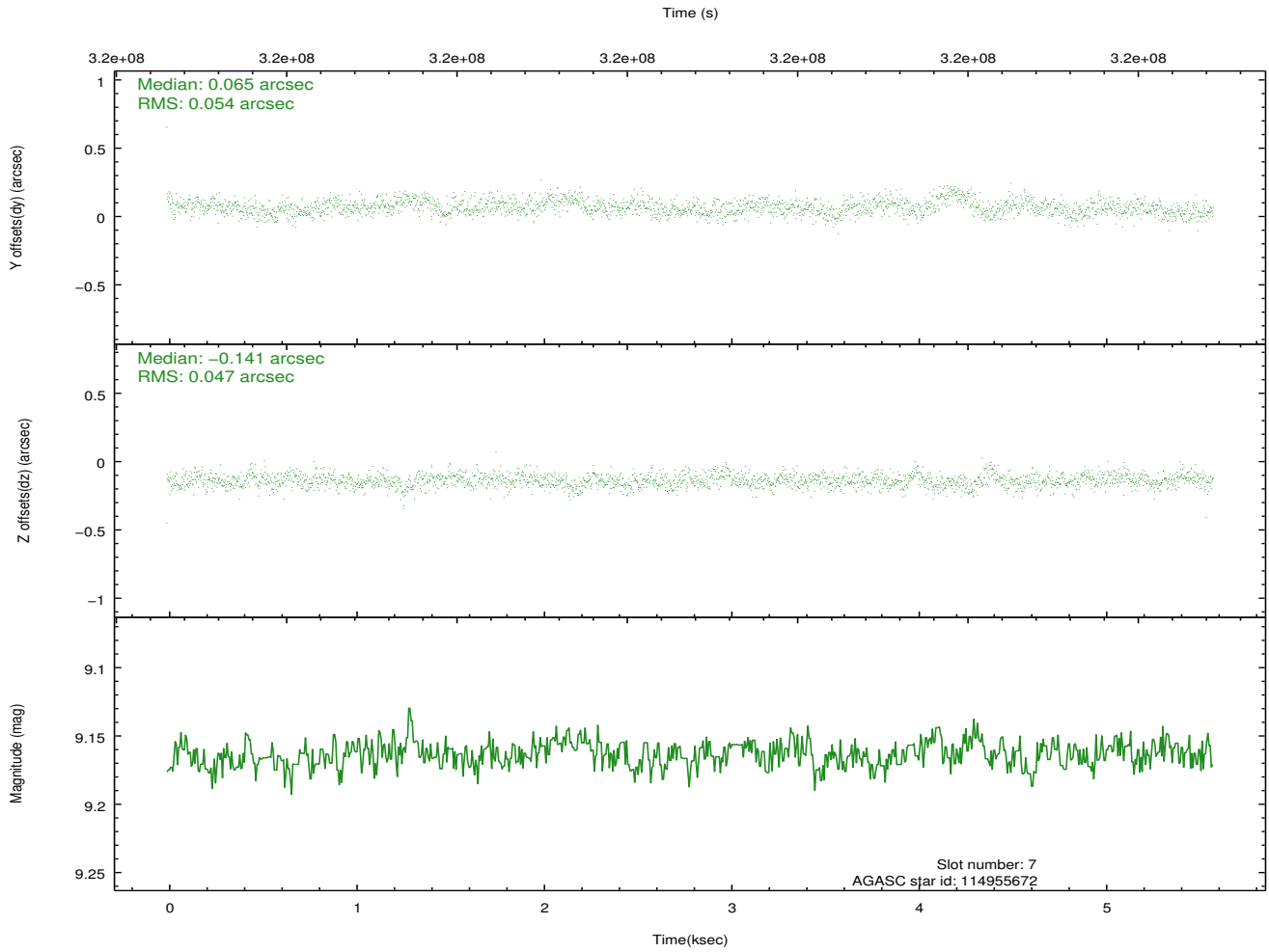
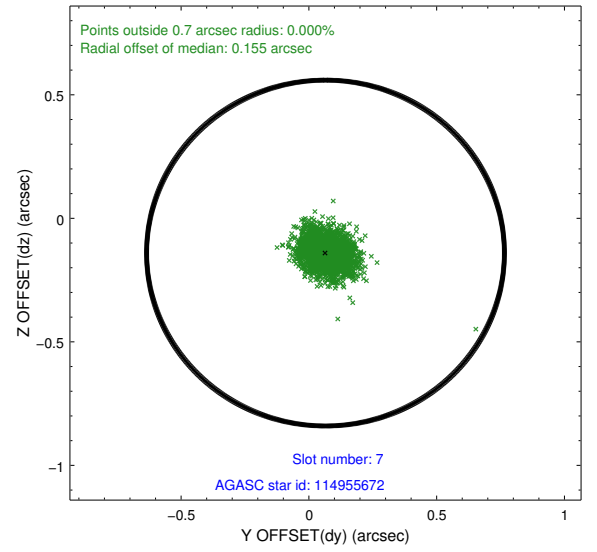
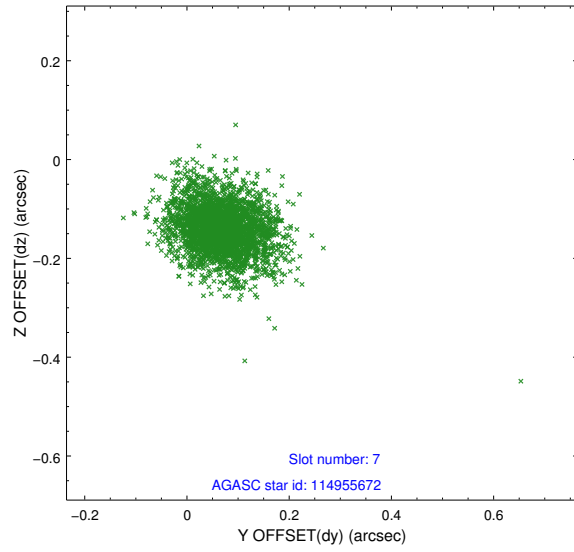


## 2.4.4 Slot 6



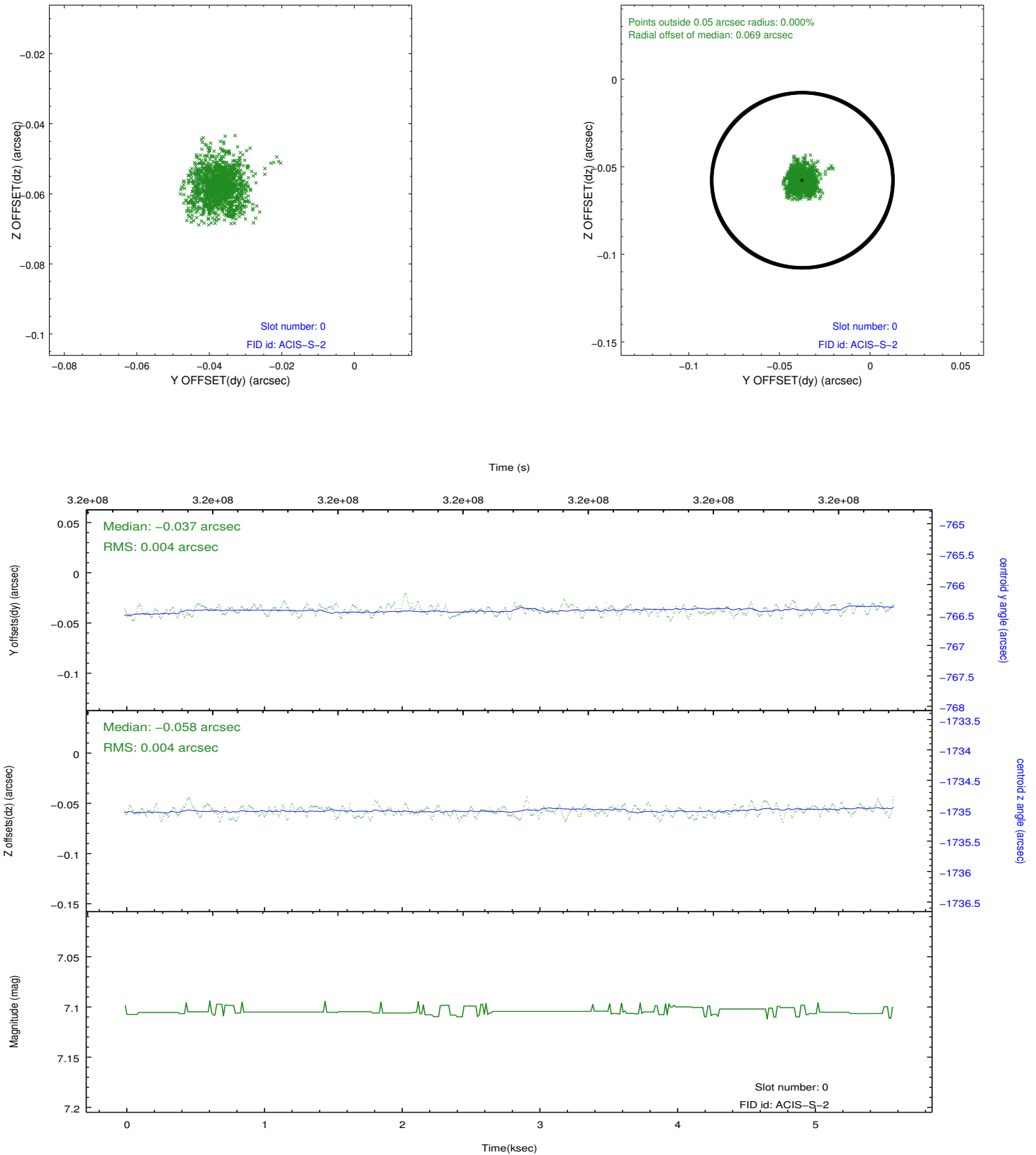


## 2.4.5 Slot 7

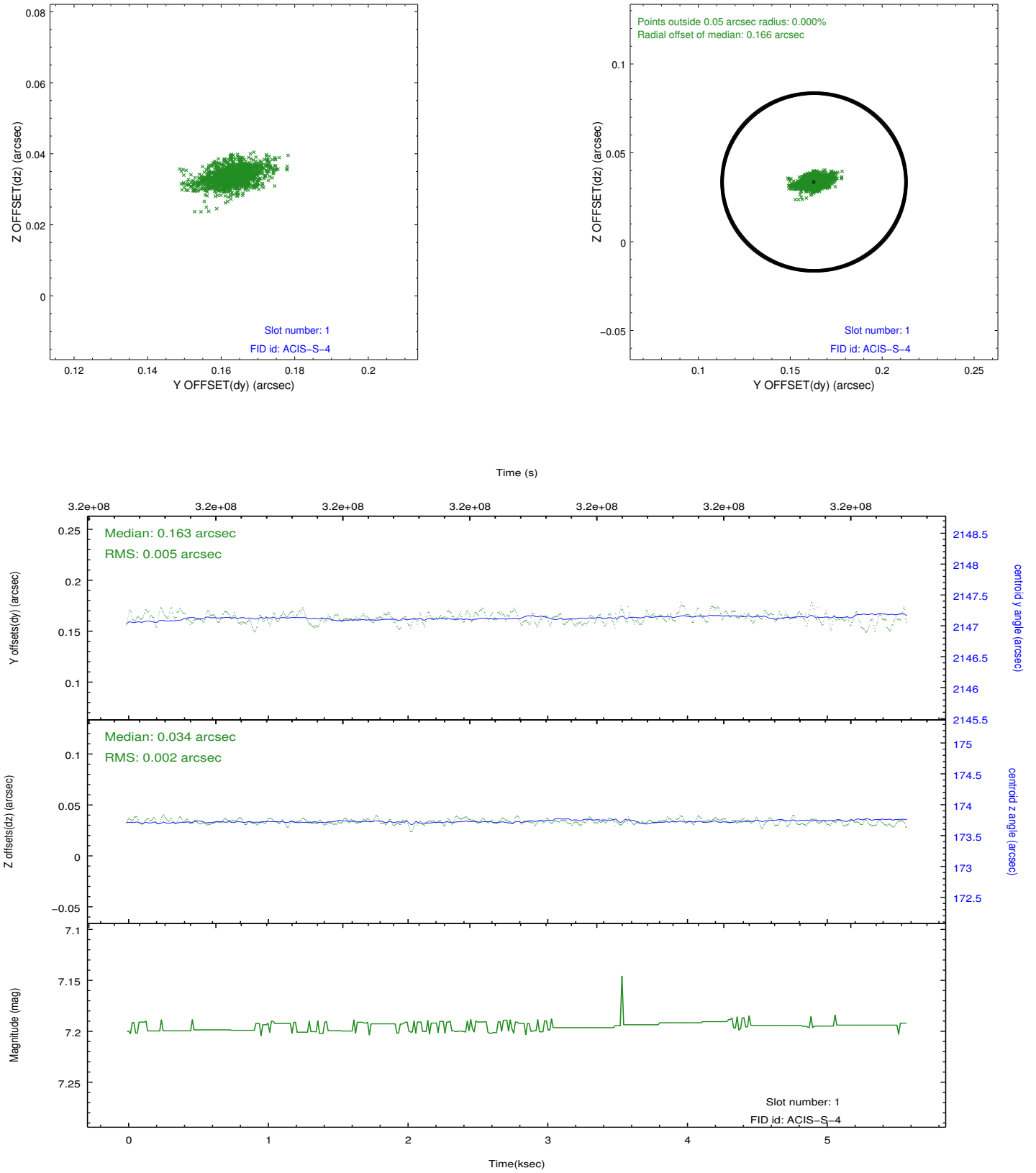


## 2.5 FID Slots

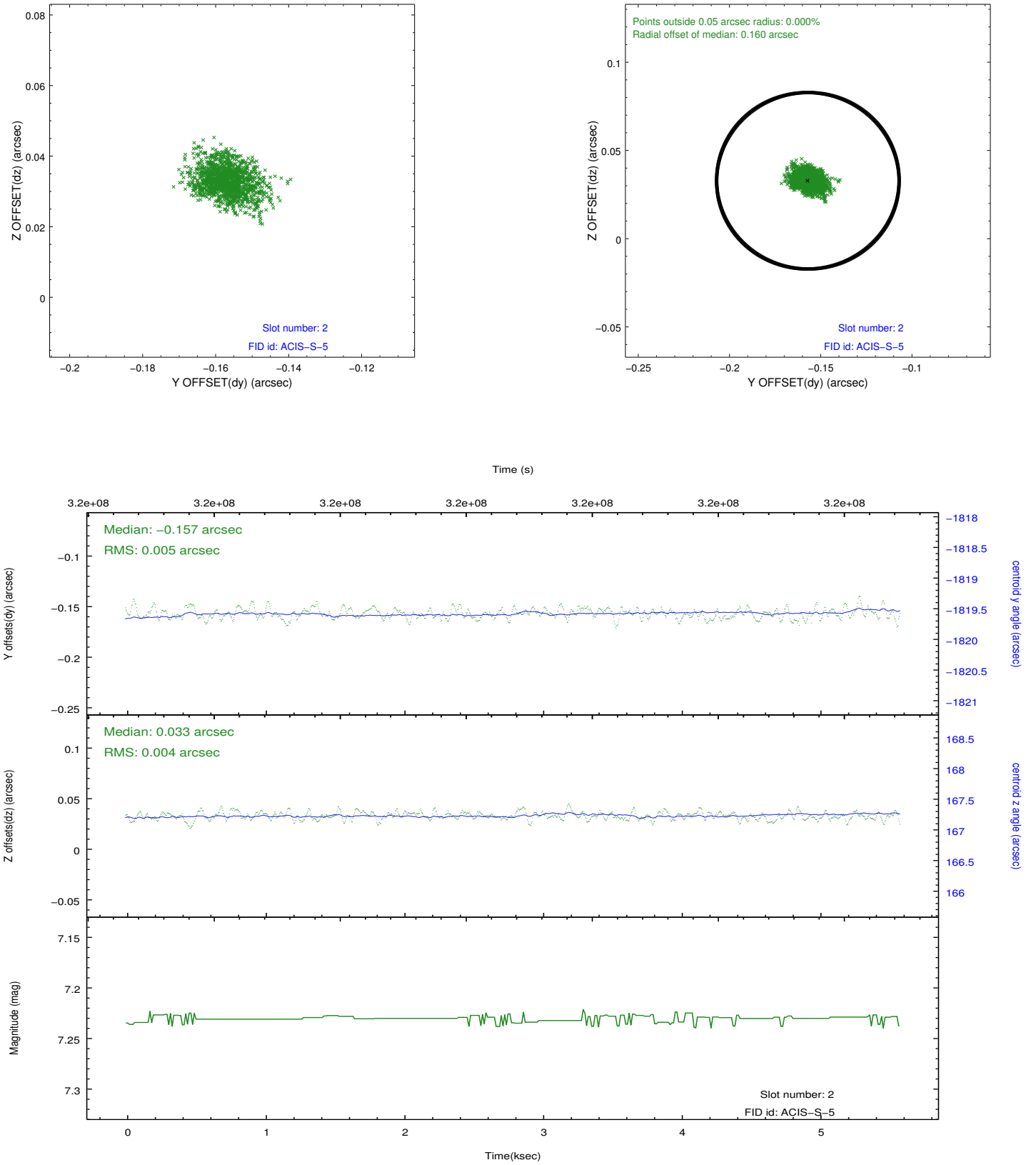
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



## A Summary

### A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.05.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.15839998

### A.2 Comments

Joint Proposal: Spitzer