

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 8100 - L2 Version 2  
Chandra X-Ray Center

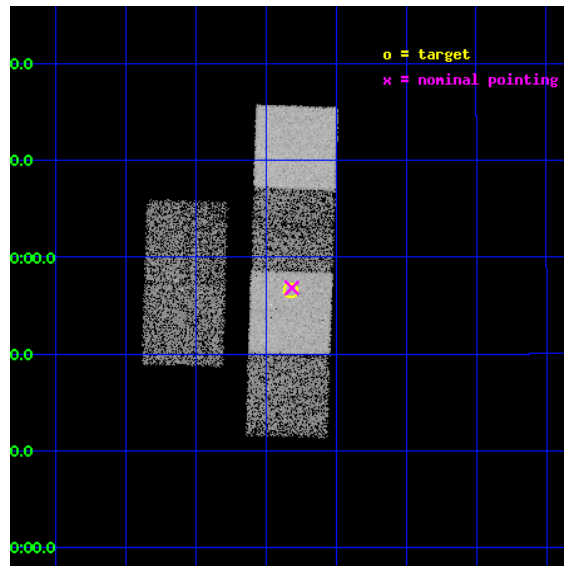
L2 Processing Date : May 10 2012

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# 1 Front

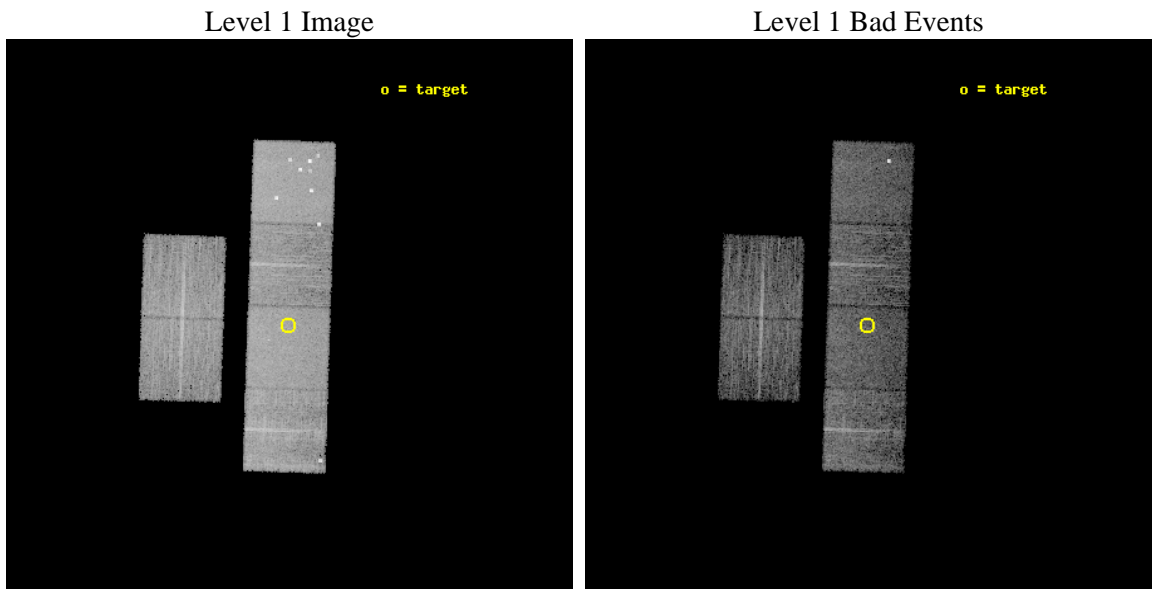
seq_num	900641	Sequence number
obs_id	8100	Observation id
title	The Duty Cycle of Supermassive Black Holes: X-raying Virgo	Proposa
observer	Prof Tommaso Treu	Principal investigator
object	230	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	184.331667	Observer's specified target RA [deg]
dec_targ	11.943389	Observer's specified target Dec [deg]
ra_nom	184.32892092594	Nominal RA [deg]
dec_nom	11.947346897833	Nominal Dec [deg]
roll_nom	91.856387180023	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5158.3999808431	Sum of GTIs [s]
livetime	5093.0812142701	Livetime [s]
ontime2	5158.3999808431	Sum of GTIs [s]
ontime3	5158.3999808431	Sum of GTIs [s]
ontime5	5158.3999808431	Sum of GTIs [s]
ontime6	5158.3999808431	Sum of GTIs [s]
ontime7	5158.3999808431	Sum of GTIs [s]
ontime8	5155.1589505076	Sum of GTIs [s]
l2events	82087	Number of level 2 events



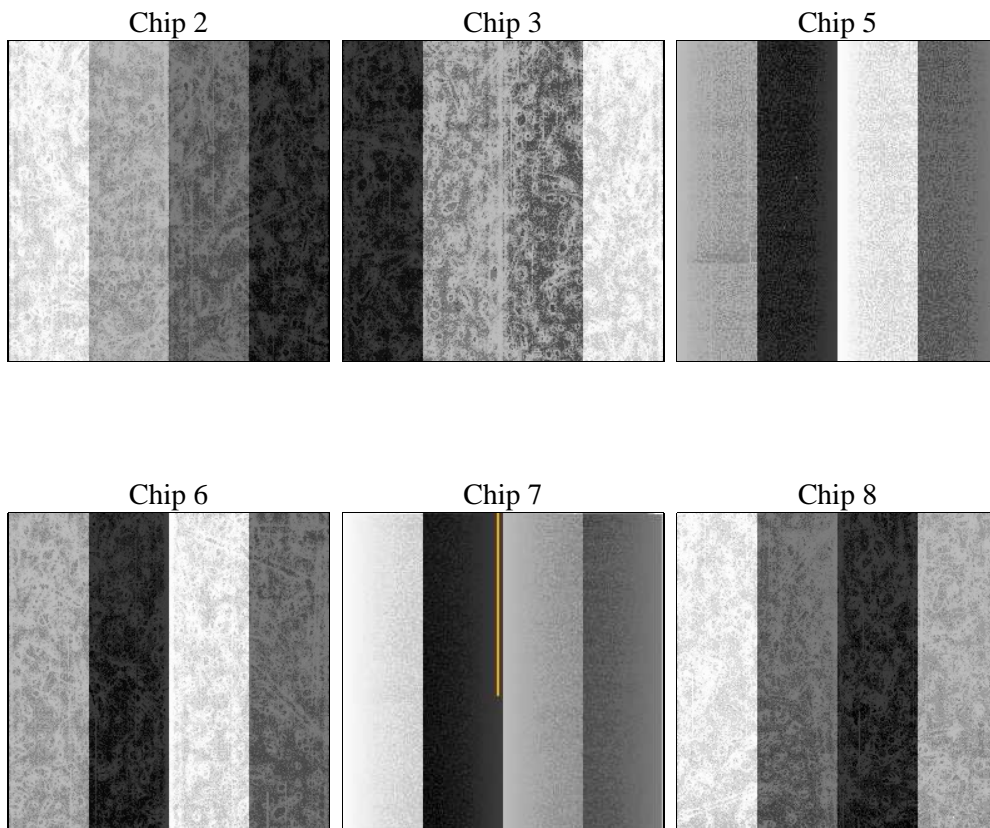
## 2 OBI

### 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	5158.3999808431	Sum of GTIs [s]
caldsver	4.4.9	&#160	ontime2	5158.3999808431	Sum of GTIs [s]
date	2012-05-10T08:38:01	Date and time of file creation	ontime3	5158.3999808431	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	5158.3999808431	Sum of GTIs [s]
			ontime6	5158.3999808431	Sum of GTIs [s]
			ontime7	5158.3999808431	Sum of GTIs [s]
			ontime8	5155.1589505076	Sum of GTIs [s]
			l1events	374735	Number of level 1 events

### 2.1.4 Events

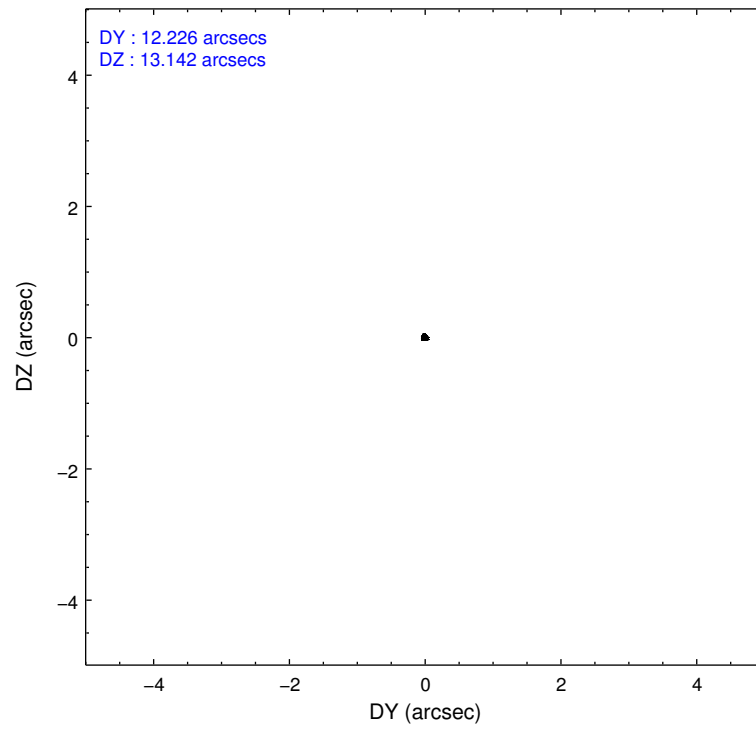
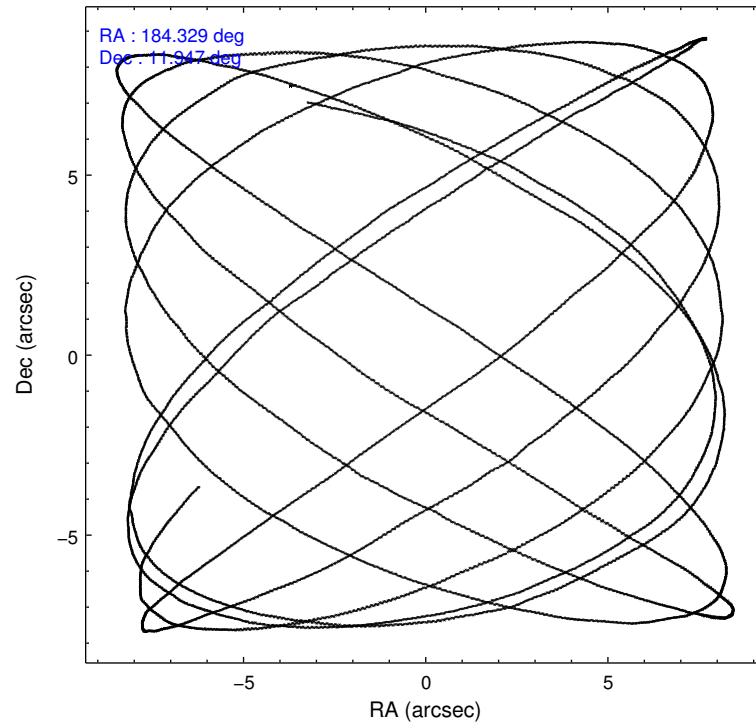
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	51427	49591	85949	50298	69521	67949	grade 0 events	2365	2506	7501	2285	2402	5445
rejected events	45773	43836	43736	44245	40790	52510		4%	5%	8%	4%	3%	8%
rejected %	89%	88%	50%	87%	58%	77%	grade 1 events	27	34	110	28	64	71
								0%	0%	0%	0%	0%	0%
							grade 2 events	1278	1109	11518	1397	5765	3392
								2%	2%	13%	2%	8%	4%
							grade 3 events	528	561	1361	550	2403	1458
								1%	1%	1%	1%	3%	2%
							grade 4 events	544	546	1190	556	2361	1310
								1%	1%	1%	1%	3%	1%
							grade 5 events	1905	2240	5188	2359	6465	2988
								3%	4%	6%	4%	9%	4%
							grade 6 events	943	1035	20667	1272	15810	3849
								1%	2%	24%	2%	22%	5%
							grade 7 events	43837	41560	38414	41851	34251	49436
								85%	83%	44%	83%	49%	72%

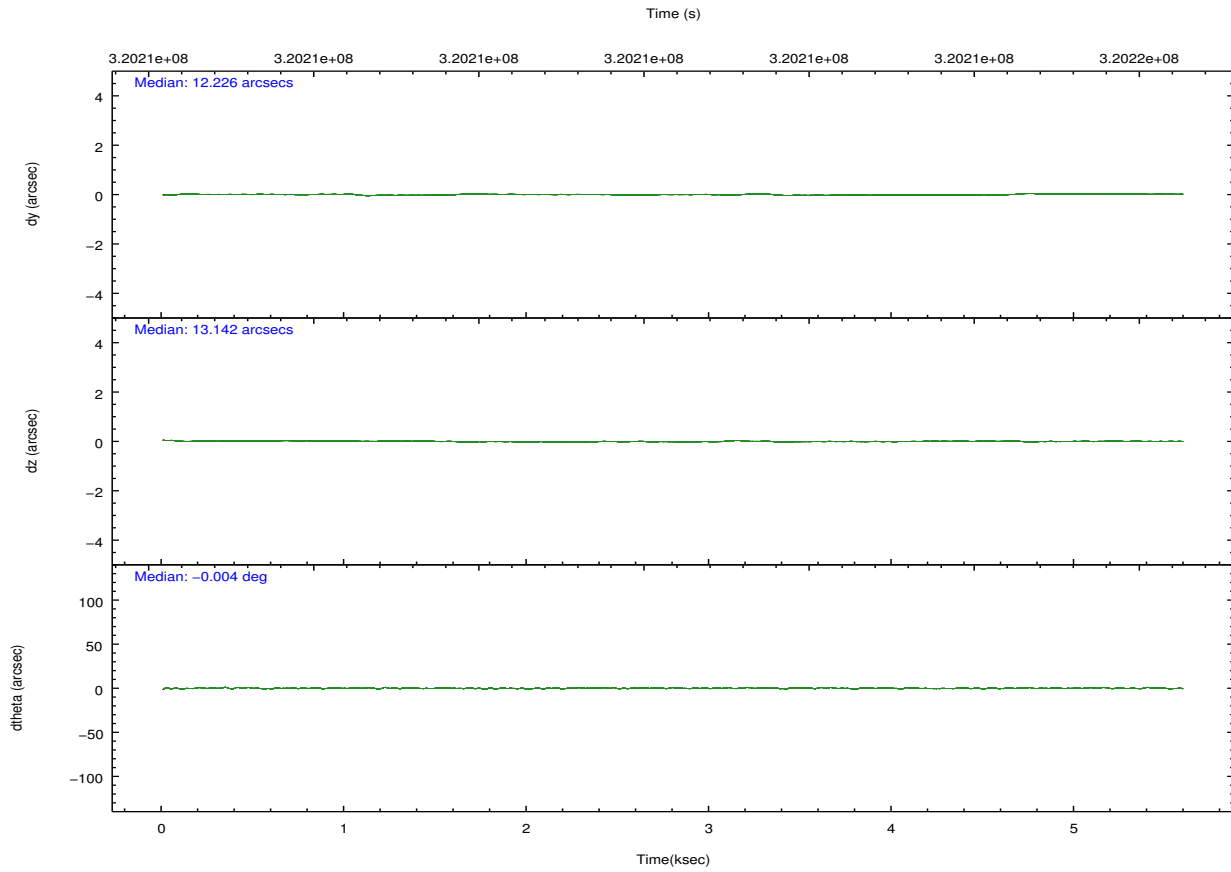
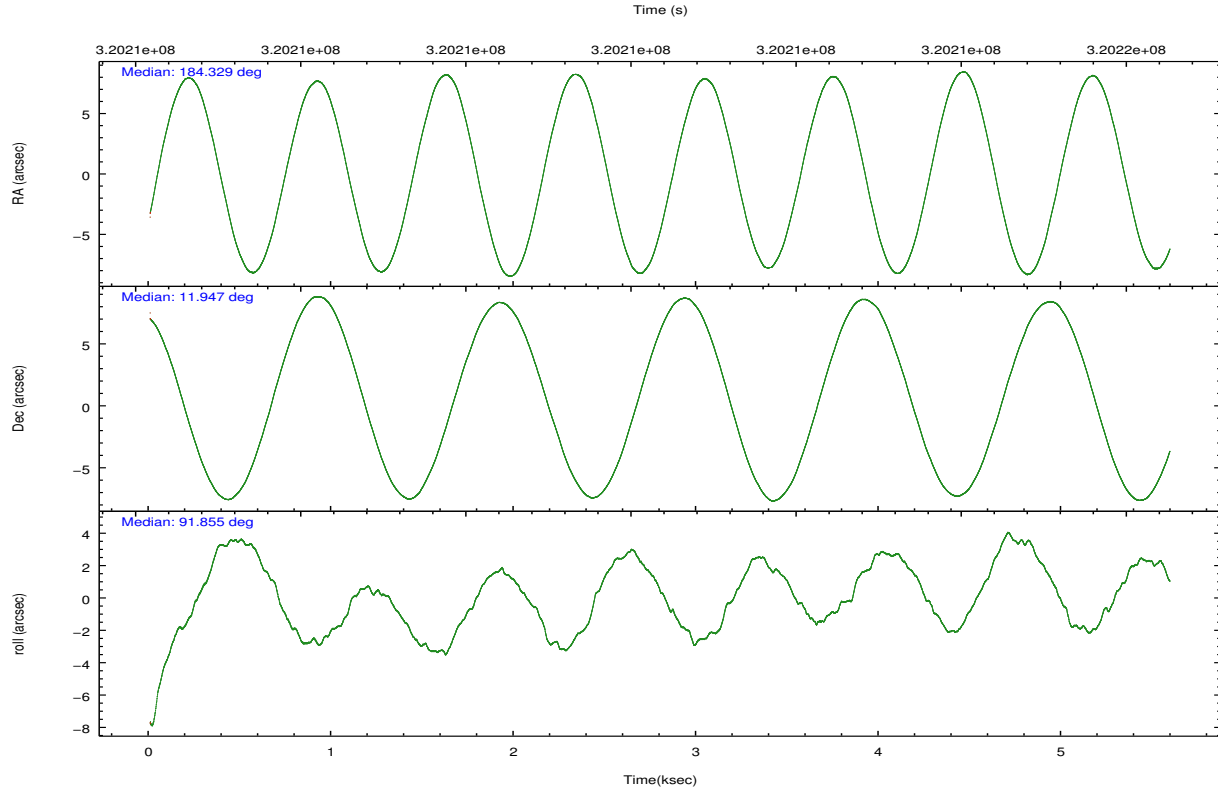


## 2.2 Compared Parameters

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	184.344001	184.3289209259438	CCD I2 on	O1	Y
[deg] Pointing Dec	11.924410	11.94734689783268	CCD I3 on	O2	Y
[deg] Pointing Roll	91.696635	91.85638718002288	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	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	O4	Y
[s] Observation start time (MET)	320209575.184000	320209097.36715	CCD S5 on	N	N
Observation start date	2008-02-24T03:05:10	2008-02-24T02:58:17	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	320214975.184000	320215254.54245	On-chip summing requested	N	N
Observation end date	2008-02-24T04:35:10	2008-02-24T04:40:54	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



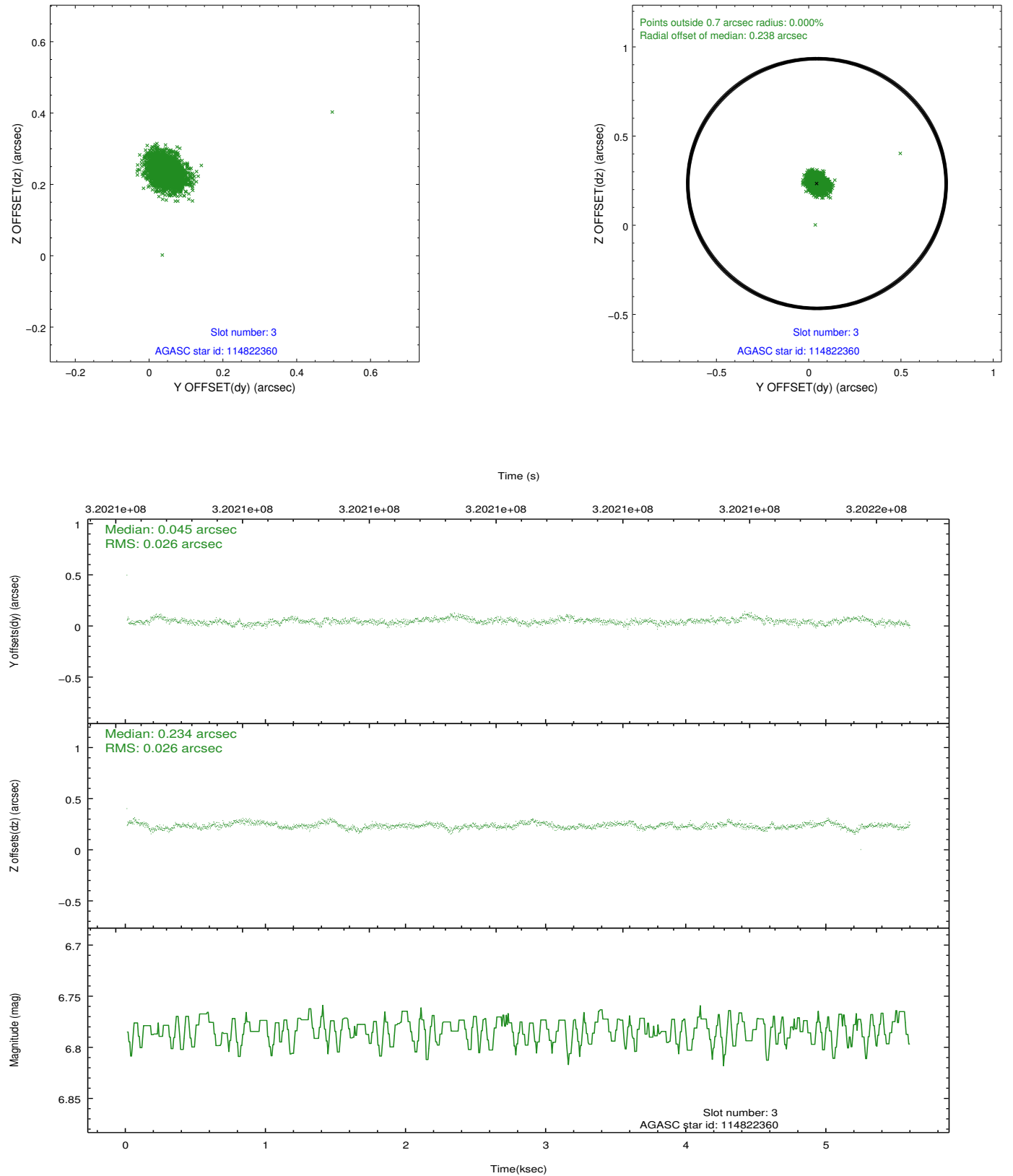


### Slot Statistics

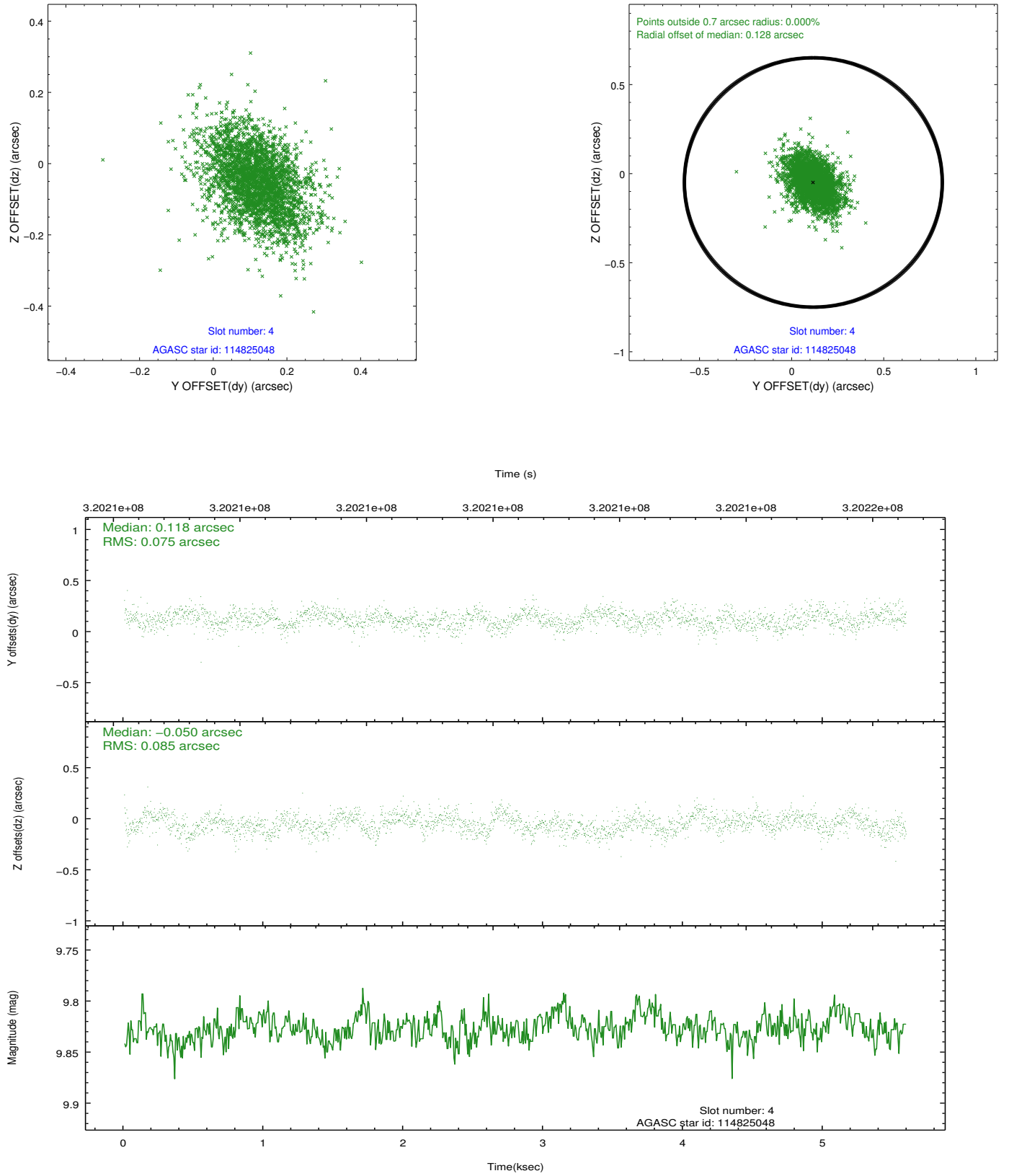
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	1364	-0.022	-0.051	0.007	0.011	0.000000	0.000000	-765.14	-1734.52
1	FID	ACIS-S-4	7.20	1364	0.115	0.024	0.006	0.010	0.000000	0.000000	2147.79	172.92
2	FID	ACIS-S-5	7.24	1362	-0.124	0.035	0.006	0.011	0.000000	0.000000	-1816.71	167.83
3	GUIDE	114822360	6.78	2727	0.045	0.234	0.037	0.063	184.966087	11.598578	-1234.48	-2157.77
4	GUIDE	114825048	9.83	2721	0.118	-0.050	0.117	0.197	183.904746	11.291802	-2229.03	1617.15
5	GUIDE	114826328	8.90	2723	0.043	-0.212	0.086	0.135	184.260342	11.778742	-515.65	310.77
6	GUIDE	115217776	8.84	2723	-0.107	-0.004	0.070	0.114	184.204027	12.539164	2227.07	426.50
7	GUIDE	115218080	9.51	2724	-0.099	0.033	0.125	0.197	184.130022	12.510081	2131.29	689.72

## 2.4 Star Slots

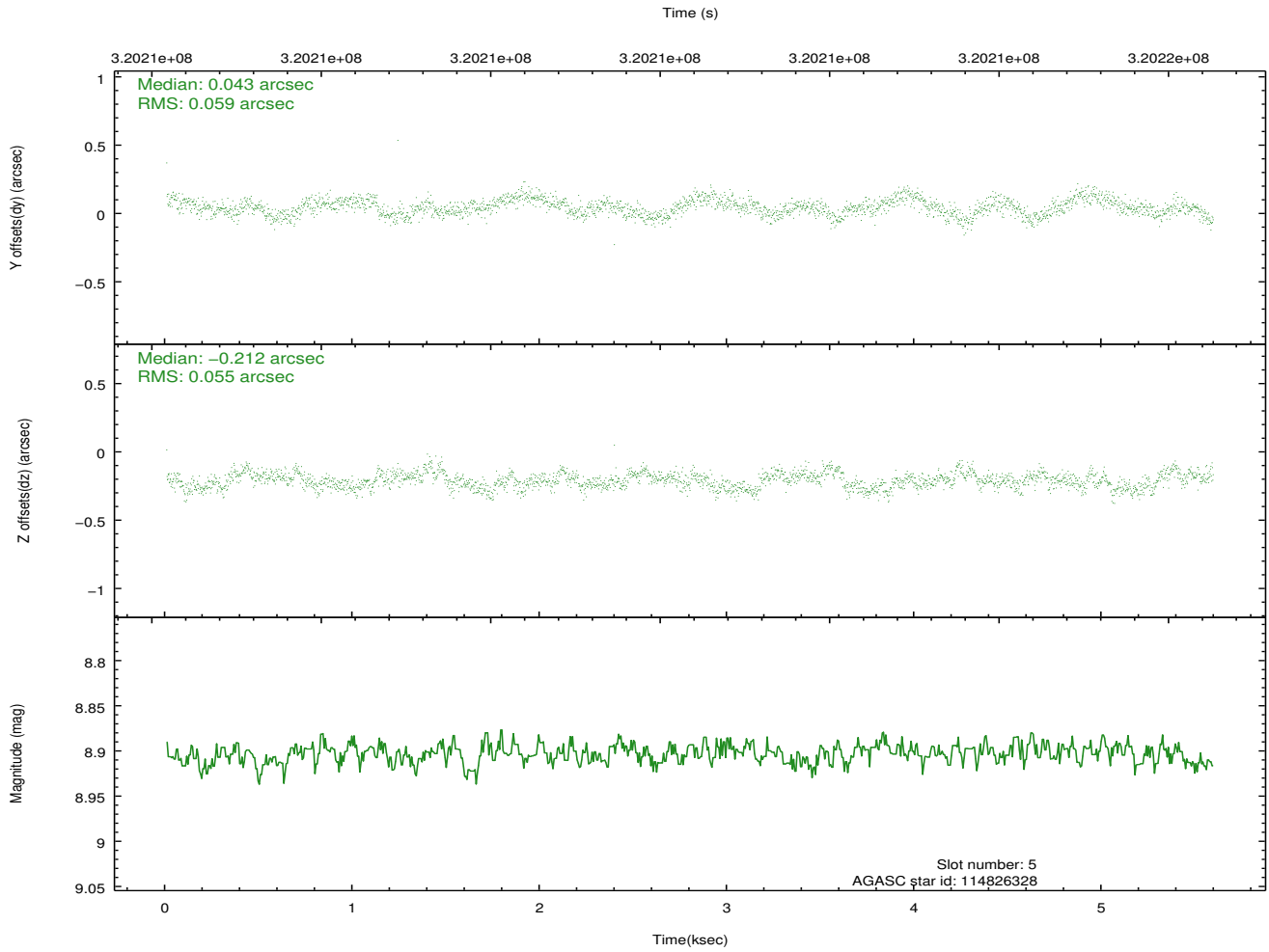
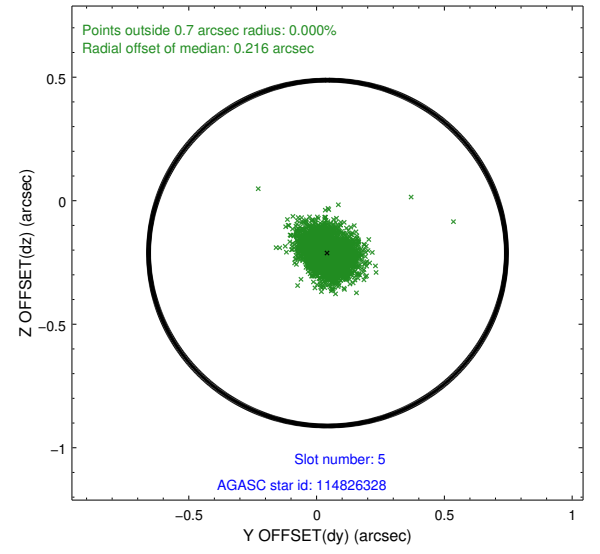
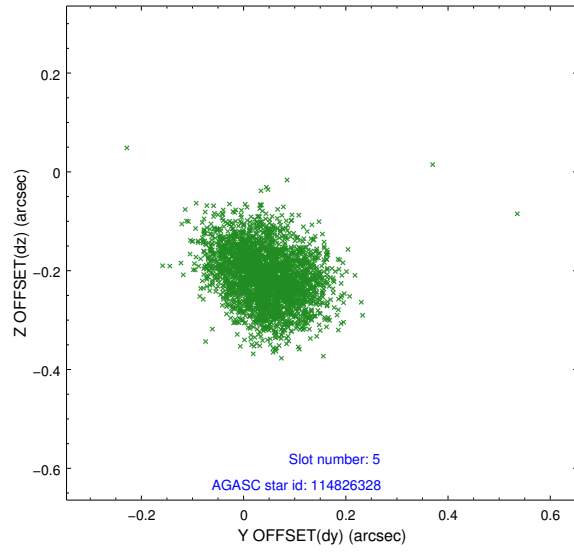
### 2.4.1 Slot 3



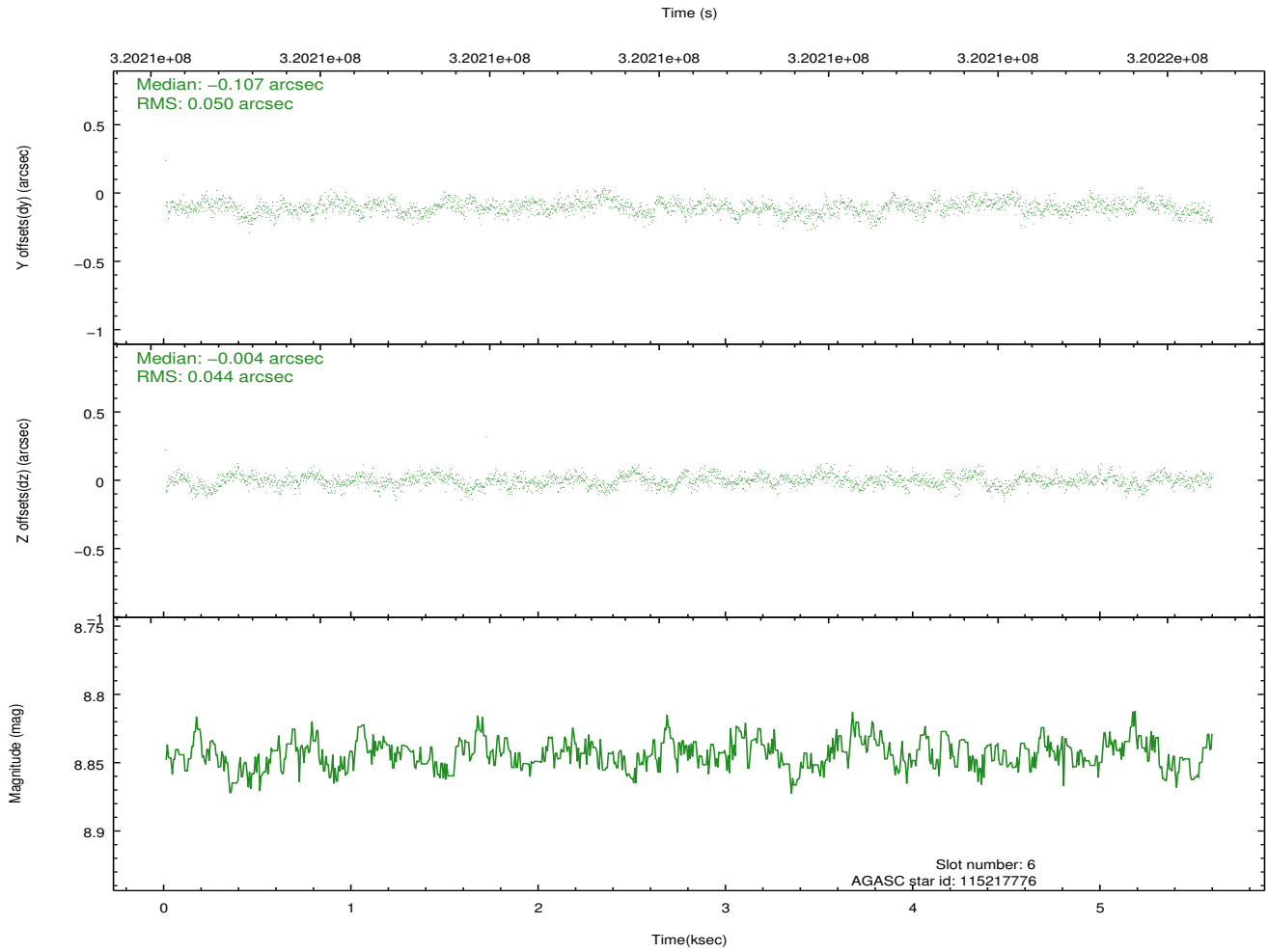
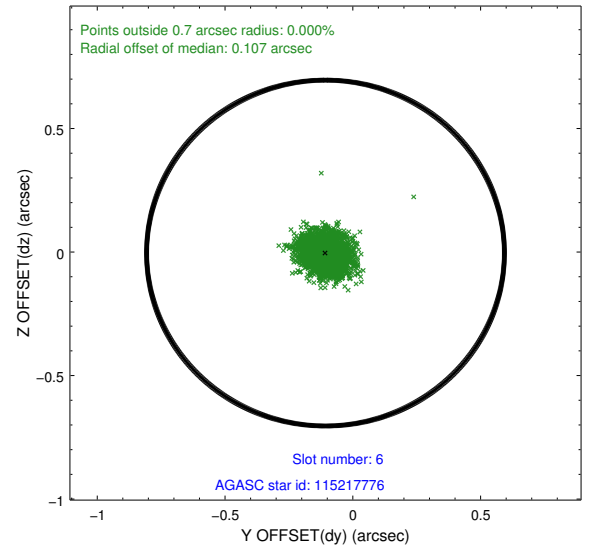
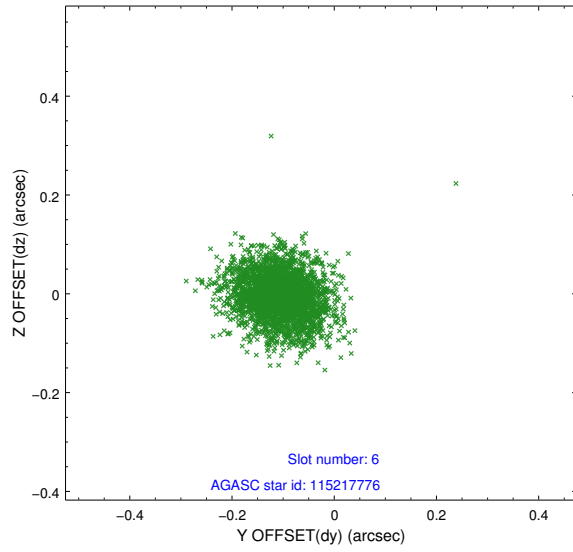
## 2.4.2 Slot 4



### 2.4.3 Slot 5

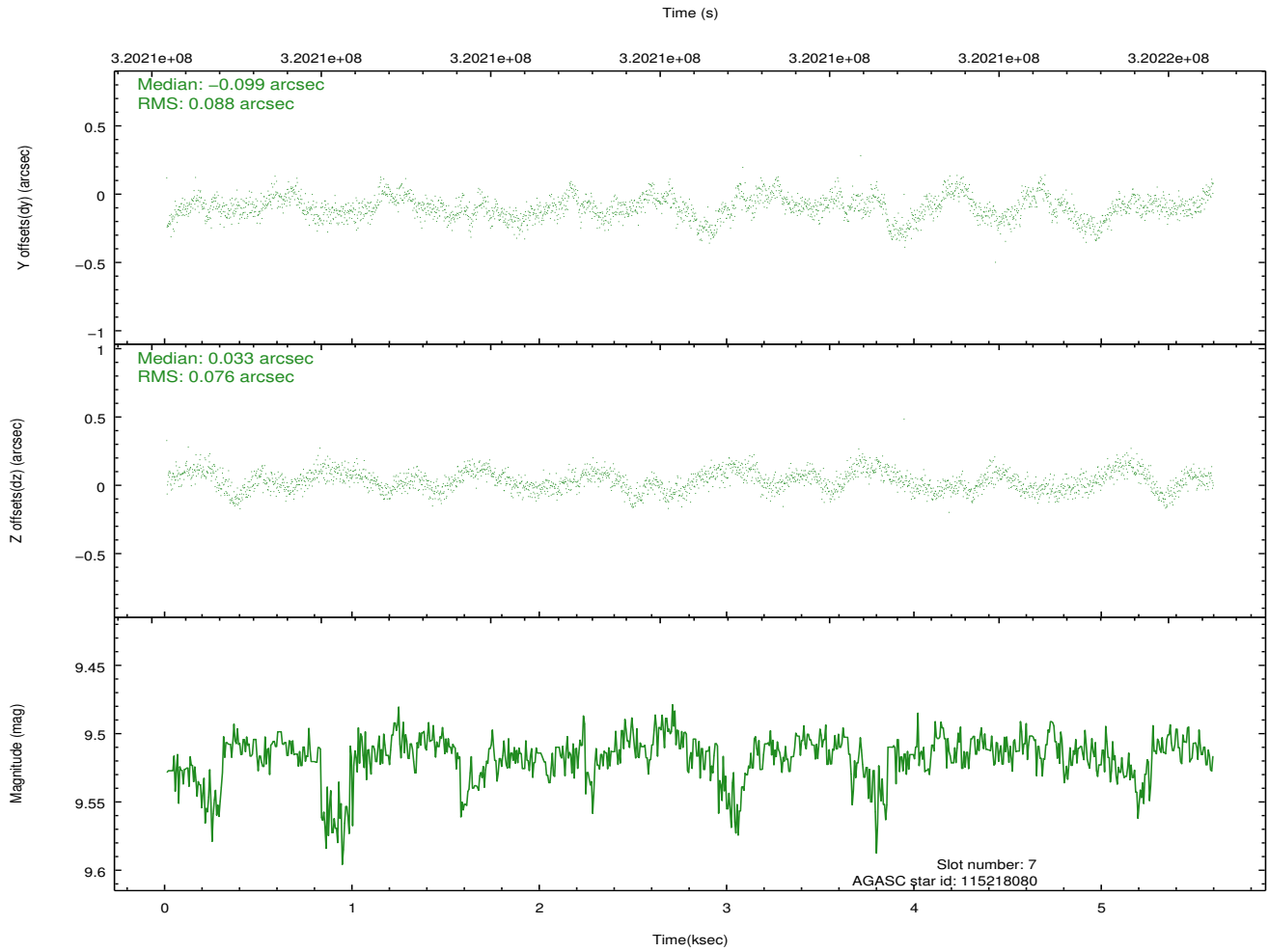
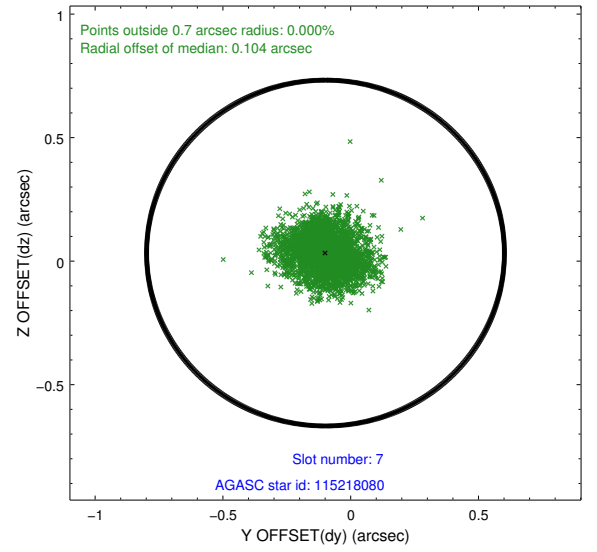
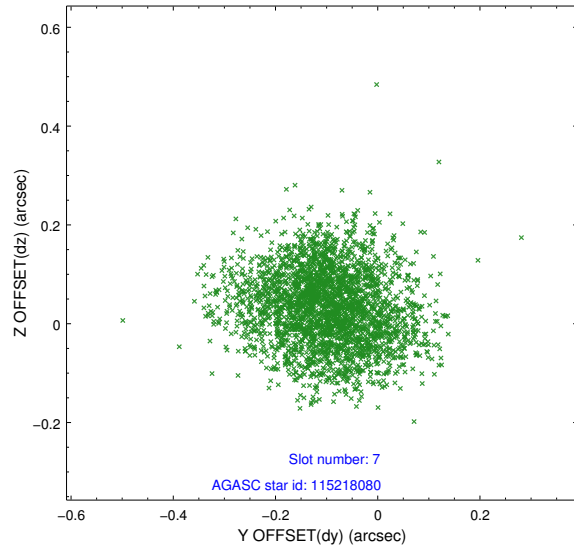


## 2.4.4 Slot 6



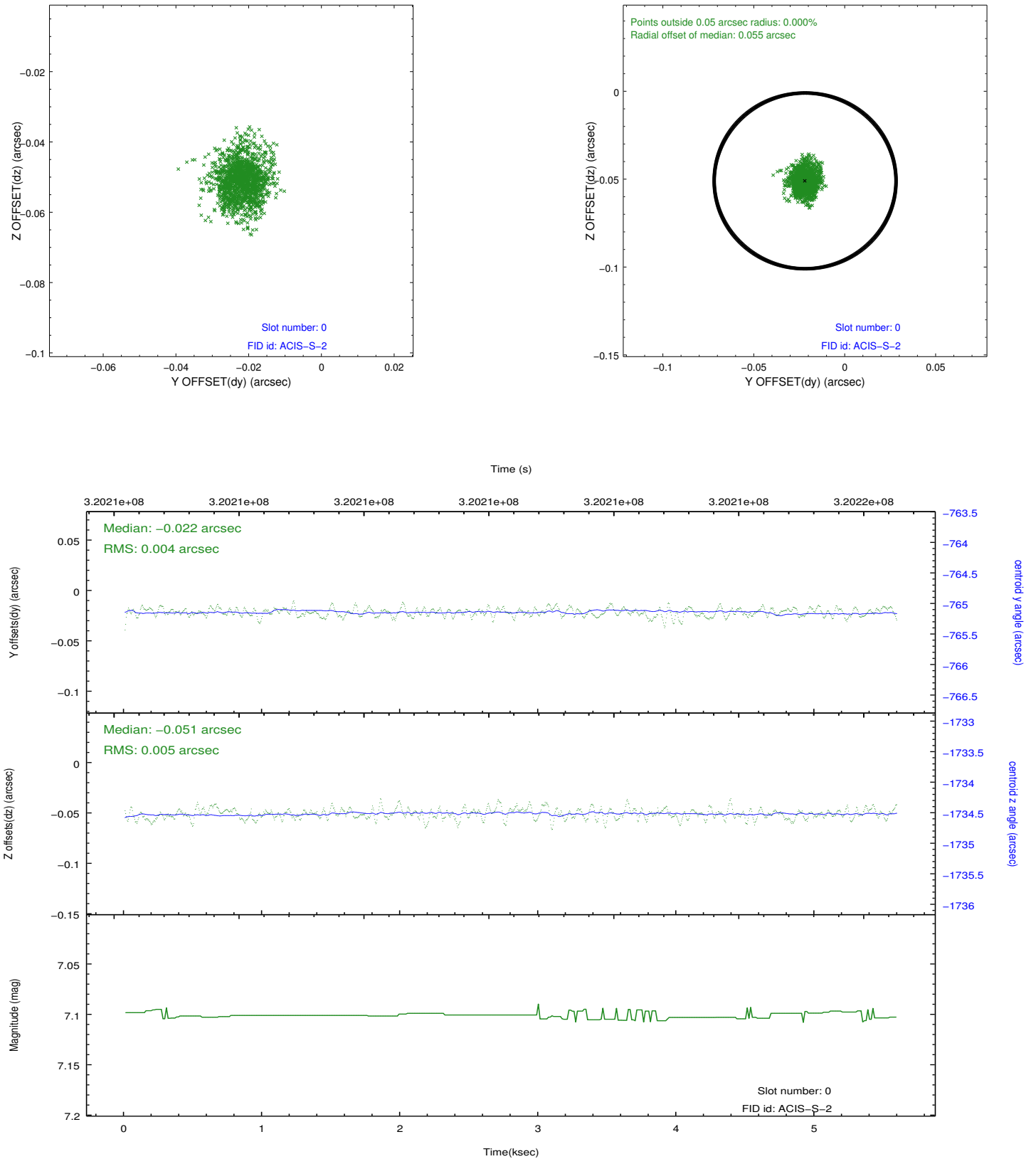


## 2.4.5 Slot 7

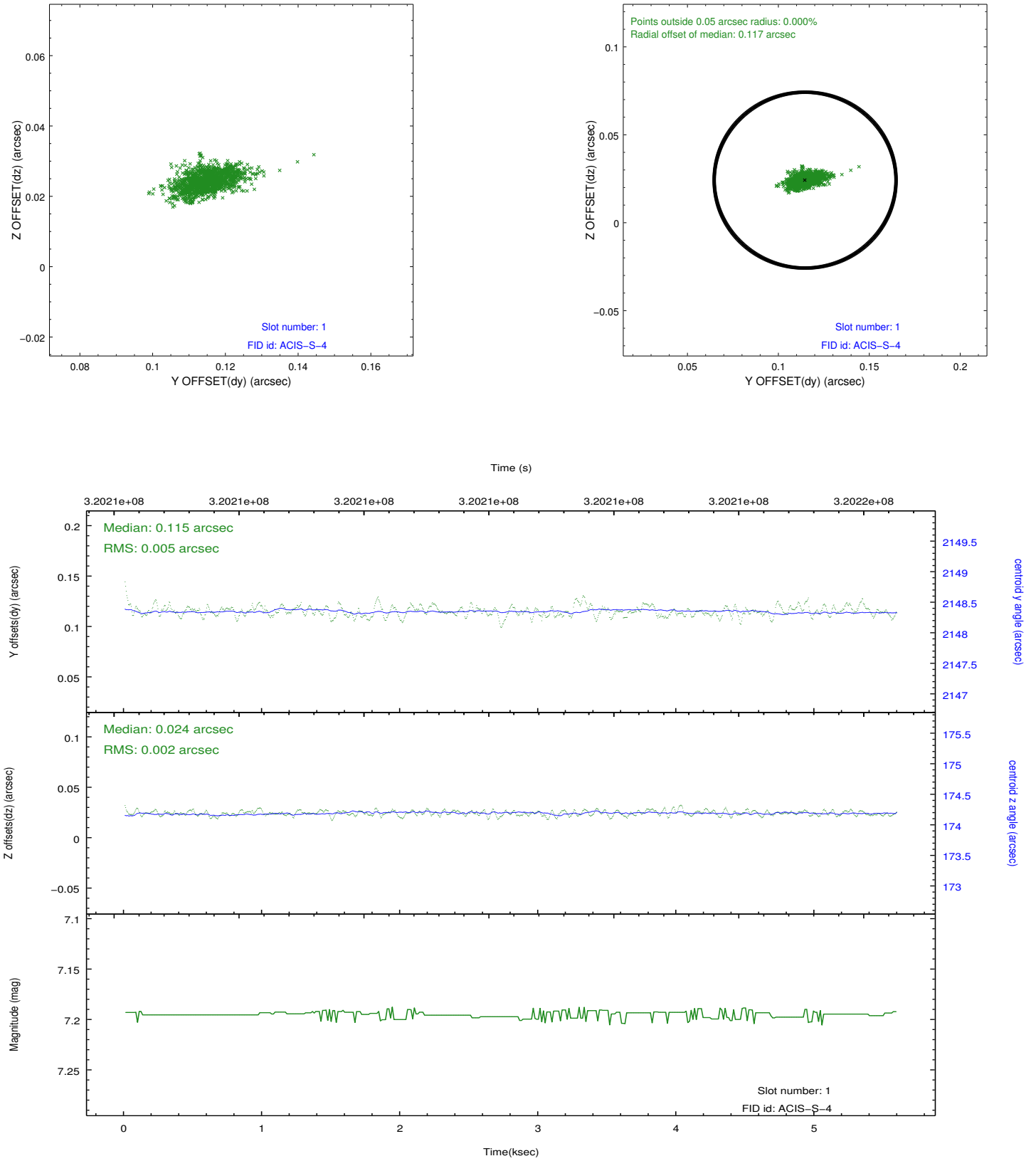


## 2.5 FID Slots

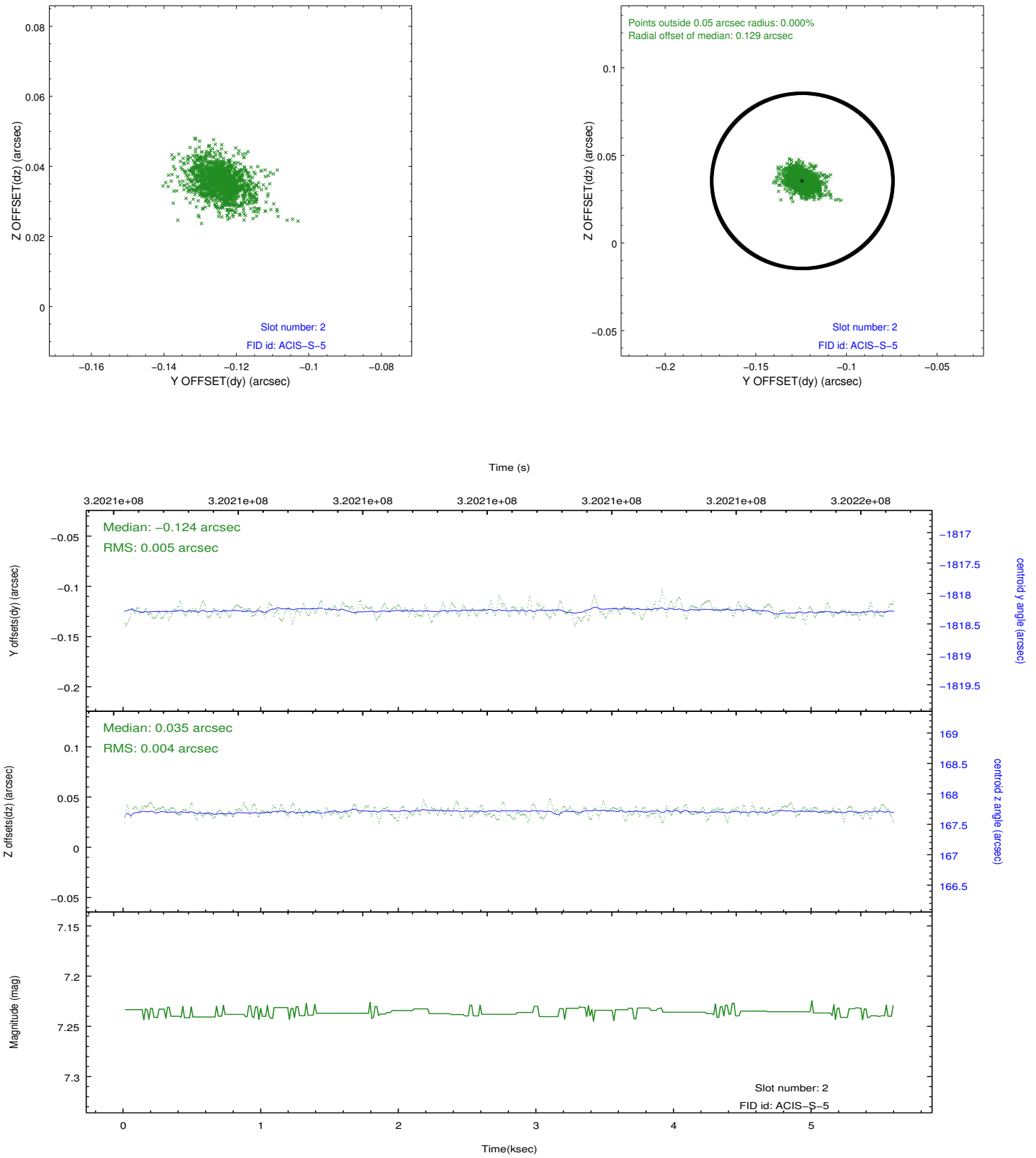
### 2.5.1 Slot 0



## 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