

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 8111 - L2 Version 2  
Chandra X-Ray Center

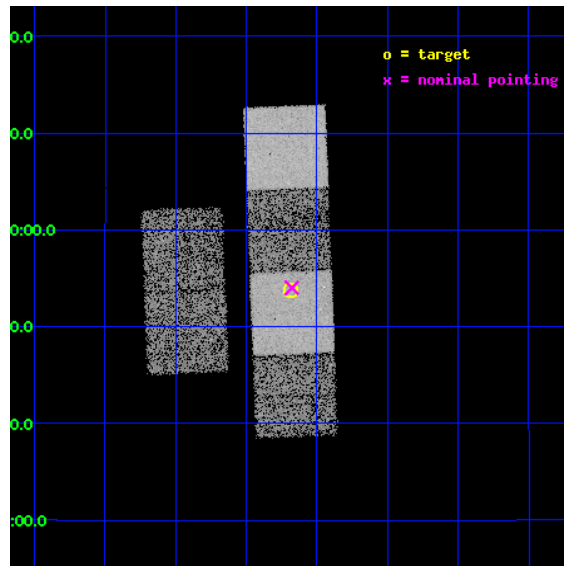
L2 Processing Date : May 10 2012

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# 1 Front

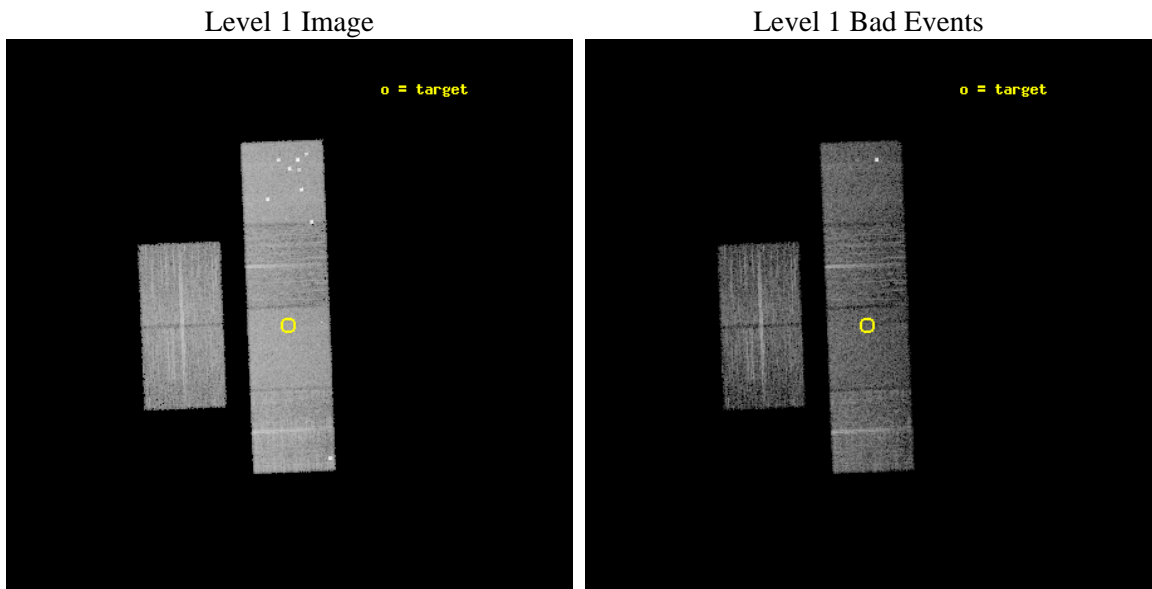
seq_num	900652	Sequence number
obs_id	8111	Observation id
title	The Duty Cycle of Supermassive Black Holes: X-raying Virgo	Proposa
observer	Prof Tommaso Treu	Principal investigator
object	1826	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	190.046667	Observer's specified target RA [deg]
dec_targ	9.896083	Observer's specified target Dec [deg]
ra_nom	190.04425186853	Nominal RA [deg]
dec_nom	9.9003085838264	Nominal Dec [deg]
roll_nom	87.729003819928	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5158.1298741698	Sum of GTIs [s]
livetime	5092.8145278502	Livetime [s]
ontime2	5158.1709141731	Sum of GTIs [s]
ontime3	5158.0067541599	Sum of GTIs [s]
ontime5	5158.0888341665	Sum of GTIs [s]
ontime6	5158.0477941632	Sum of GTIs [s]
ontime7	5158.1298741698	Sum of GTIs [s]
ontime8	5154.7246742845	Sum of GTIs [s]
l2events	82669	Number of level 2 events



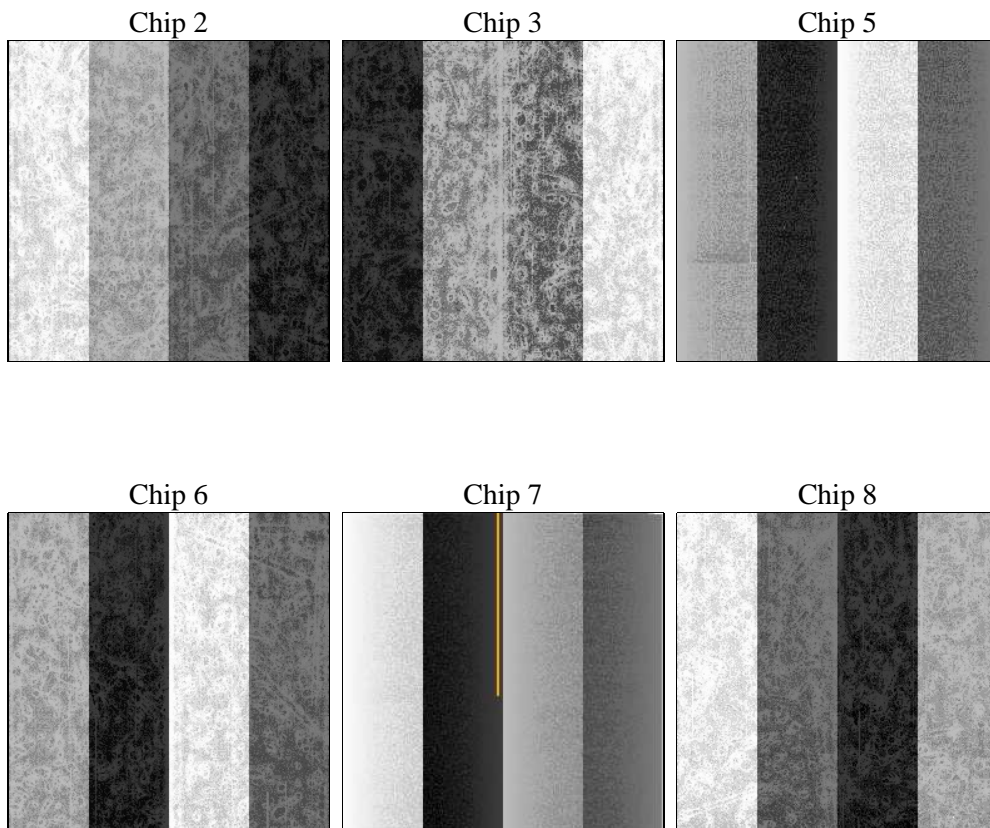
## 2 OBI

### 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	5158.1298741698	Sum of GTIs [s]
caldsver	4.4.9	&#160	ontime2	5158.1709141731	Sum of GTIs [s]
date	2012-05-10T08:34:14	Date and time of file creation	ontime3	5158.0067541599	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	5158.0888341665	Sum of GTIs [s]
			ontime6	5158.0477941632	Sum of GTIs [s]
			ontime7	5158.1298741698	Sum of GTIs [s]
			ontime8	5154.7246742845	Sum of GTIs [s]
			l1events	378727	Number of level 1 events

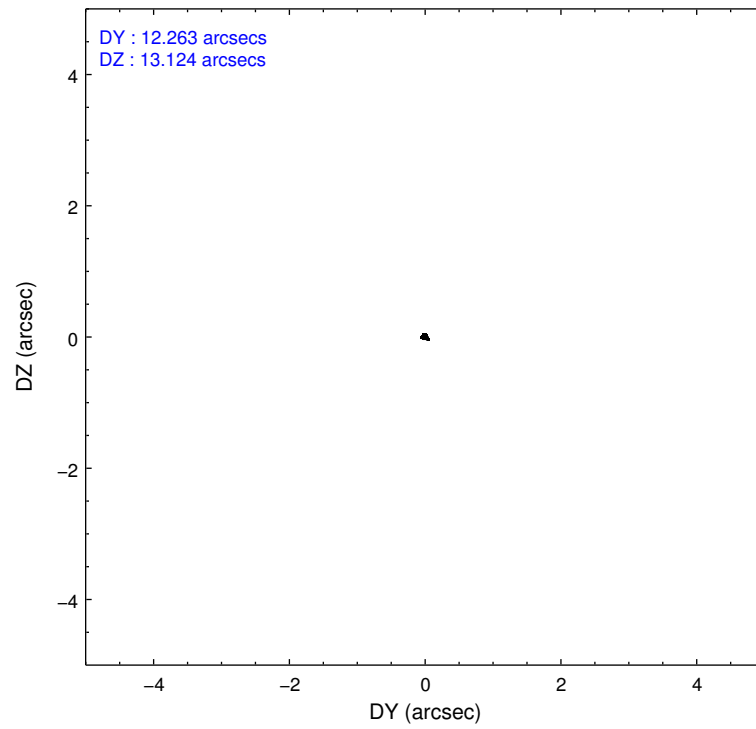
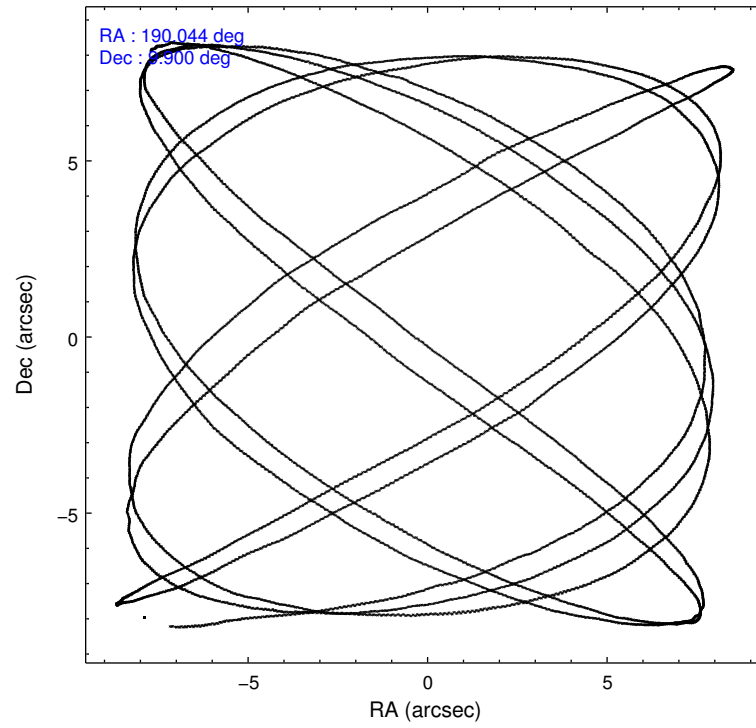
### 2.1.4 Events

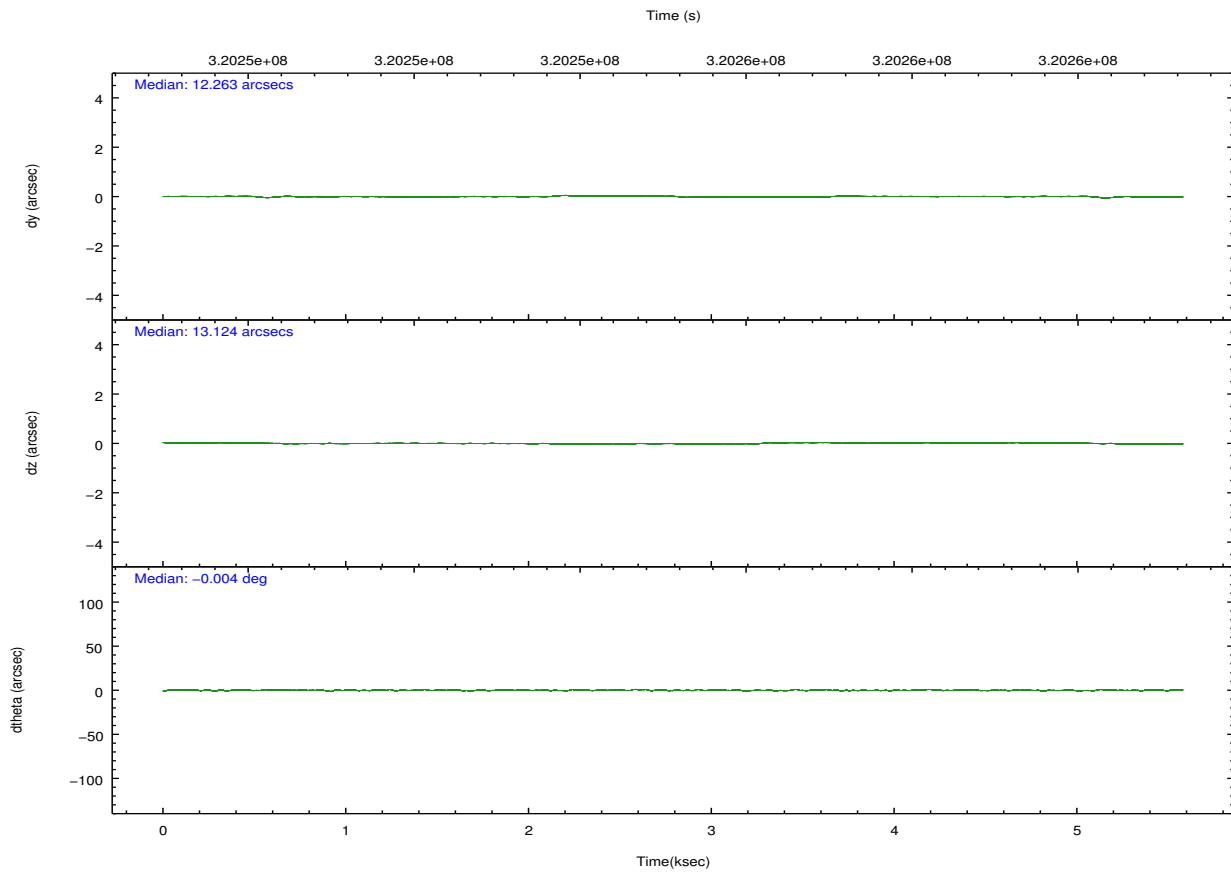
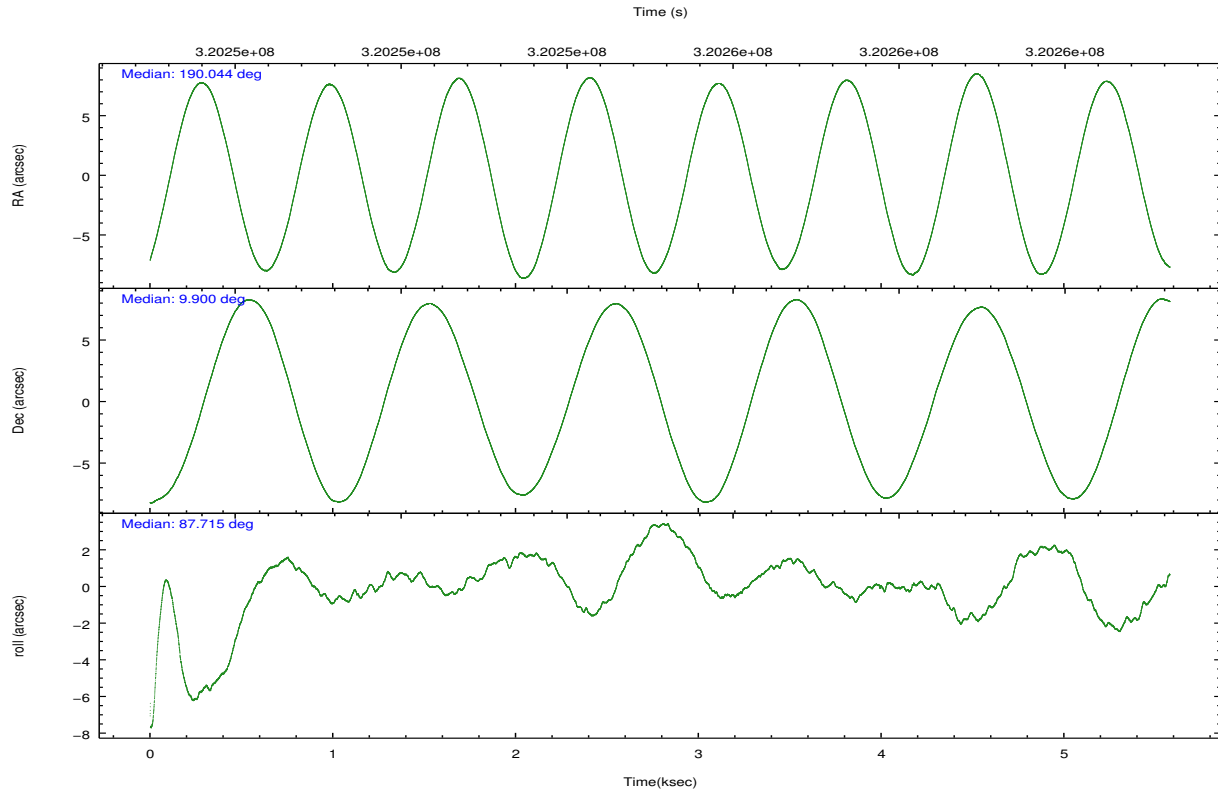
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	53207	49177	86801	50755	69684	69103	grade 0 events	2560	2581	7901	2382	2515	6007
rejected events	47269	43233	43989	44607	40848	52843		4%	5%	9%	4%	3%	8%
rejected %	88%	87%	50%	87%	58%	76%	grade 1 events	39	36	109	32	73	68
								0%	0%	0%	0%	0%	0%
							grade 2 events	1248	1183	11847	1422	5921	3450
								2%	2%	13%	2%	8%	4%
							grade 3 events	544	553	1388	528	2402	1510
								1%	1%	1%	1%	3%	2%
							grade 4 events	552	547	1222	593	2330	1420
								1%	1%	1%	1%	3%	2%
							grade 5 events	2044	2238	5370	2295	6390	3163
								3%	4%	6%	4%	9%	4%
							grade 6 events	1038	1087	20509	1231	15684	3883
								1%	2%	23%	2%	22%	5%
							grade 7 events	45182	40952	38455	42272	34369	49602
								84%	83%	44%	83%	49%	71%

## 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	190.057501	190.0442518685325	CCD I2 on	O1	Y
[deg] Pointing Dec	9.876285	9.900308583826364	CCD I3 on	O2	Y
[deg] Pointing Roll	87.570097	87.72900381992822	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)	320251957.184000	320251458.05671	CCD S5 on	N	N
Observation start date	2008-02-24T14:51:32	2008-02-24T14:44:18	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	320257357.184000	320257560.907	On-chip summing requested	N	N
Observation end date	2008-02-24T16:21:32	2008-02-24T16:26:00	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



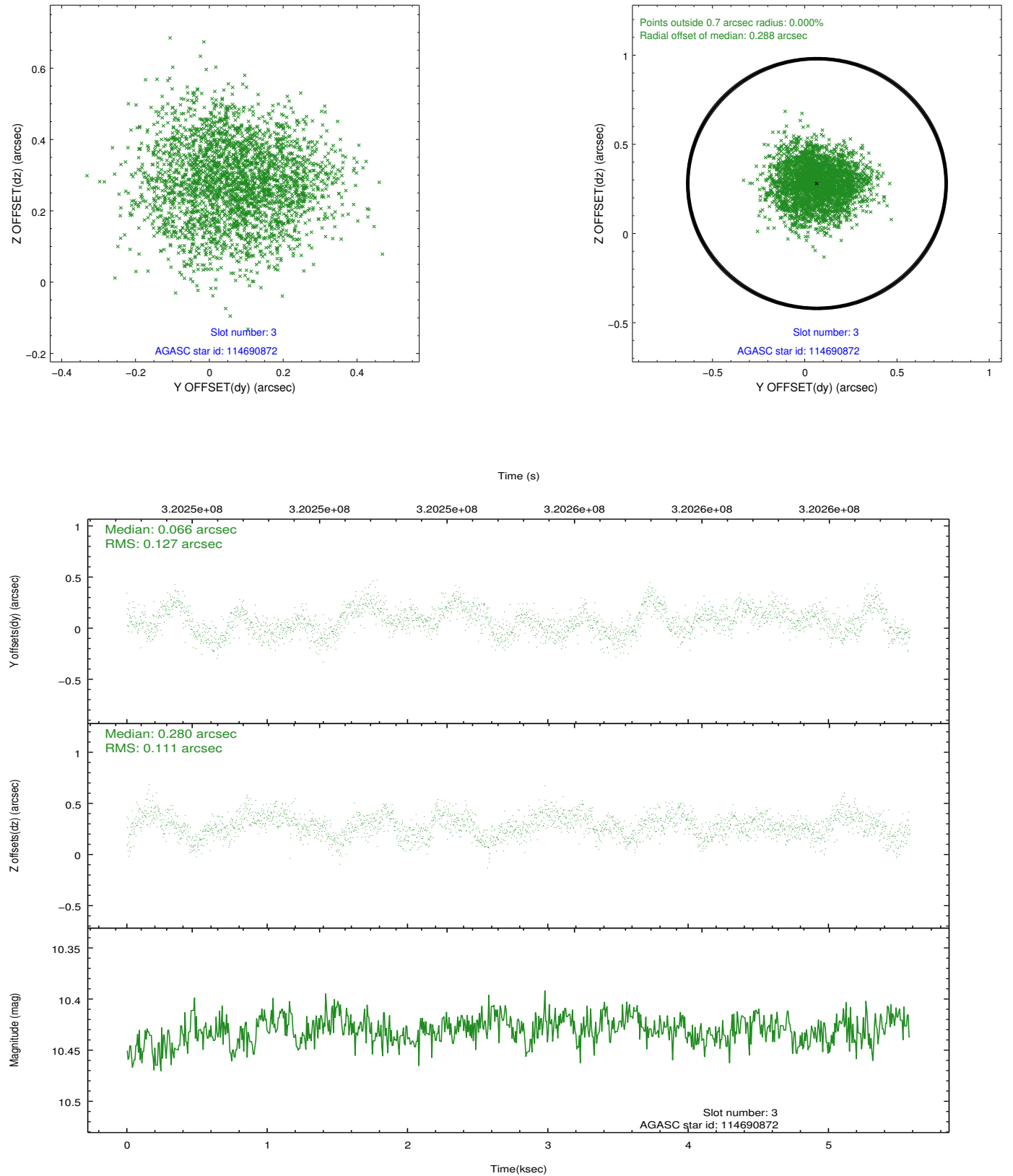


### Slot Statistics

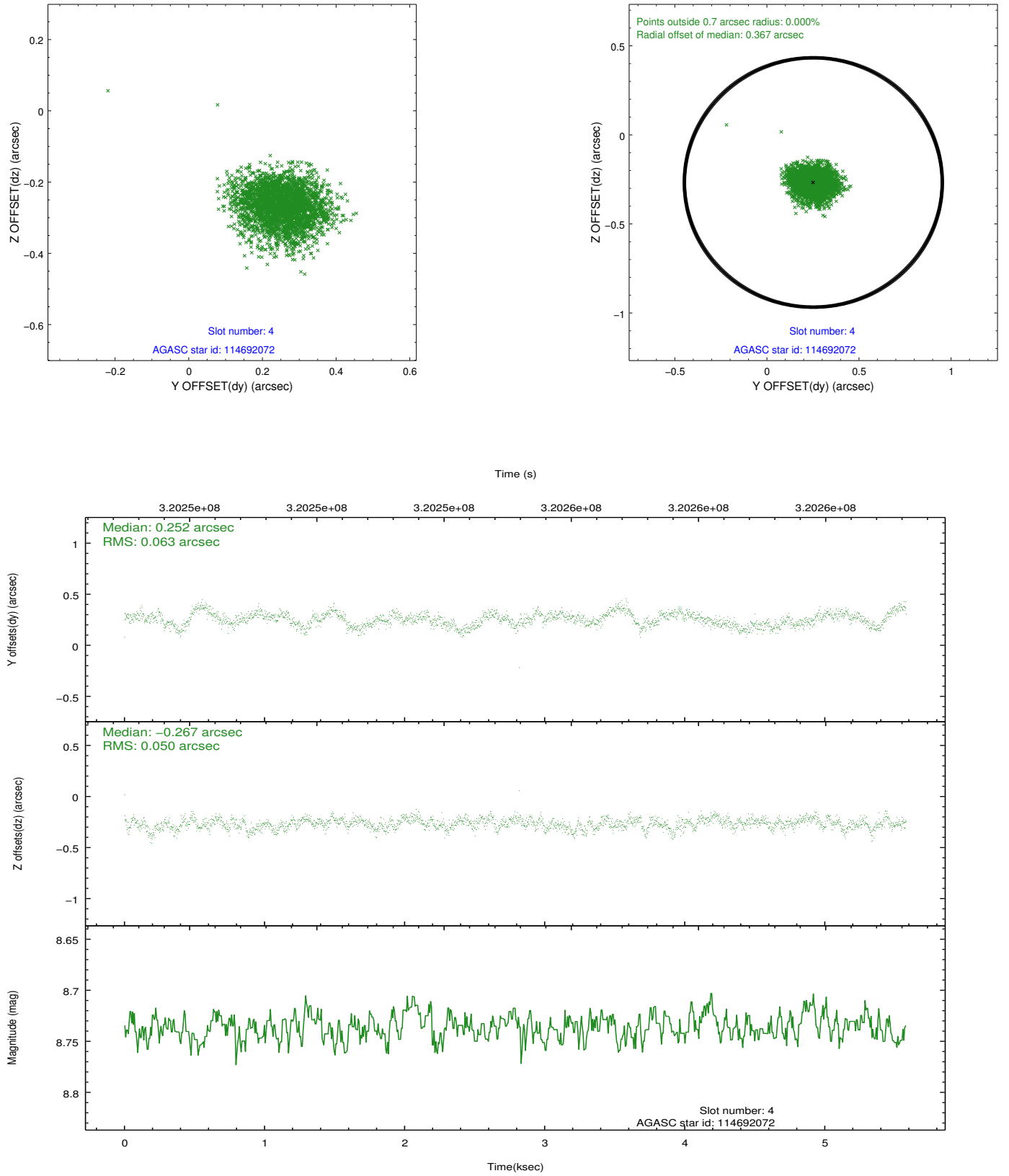
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	1361	-0.023	-0.051	0.006	0.011	0.000000	0.000000	-765.18	-1734.50
1	FID	ACIS-S-4	7.20	1361	0.117	0.025	0.005	0.009	0.000000	0.000000	2147.75	172.93
2	FID	ACIS-S-5	7.23	1361	-0.125	0.035	0.006	0.010	0.000000	0.000000	-1816.74	167.85
3	GUIDE	114690872	10.43	2723	0.066	0.280	0.184	0.277	190.075859	9.436880	-1577.31	-131.99
4	GUIDE	114692072	8.74	2722	0.252	-0.267	0.086	0.137	189.537092	9.585599	-1122.96	1801.10
5	GUIDE	115087240	9.24	2720	0.009	-0.148	0.086	0.141	189.980657	10.358703	1723.41	346.77
6	GUIDE	115089624	9.66	2714	-0.024	-0.508	0.116	0.191	189.471947	10.002512	368.19	2093.45
7	GUIDE	115090024	6.60	2722	-0.303	0.647	0.075	0.118	190.393304	10.426268	2029.55	-1101.73

## 2.4 Star Slots

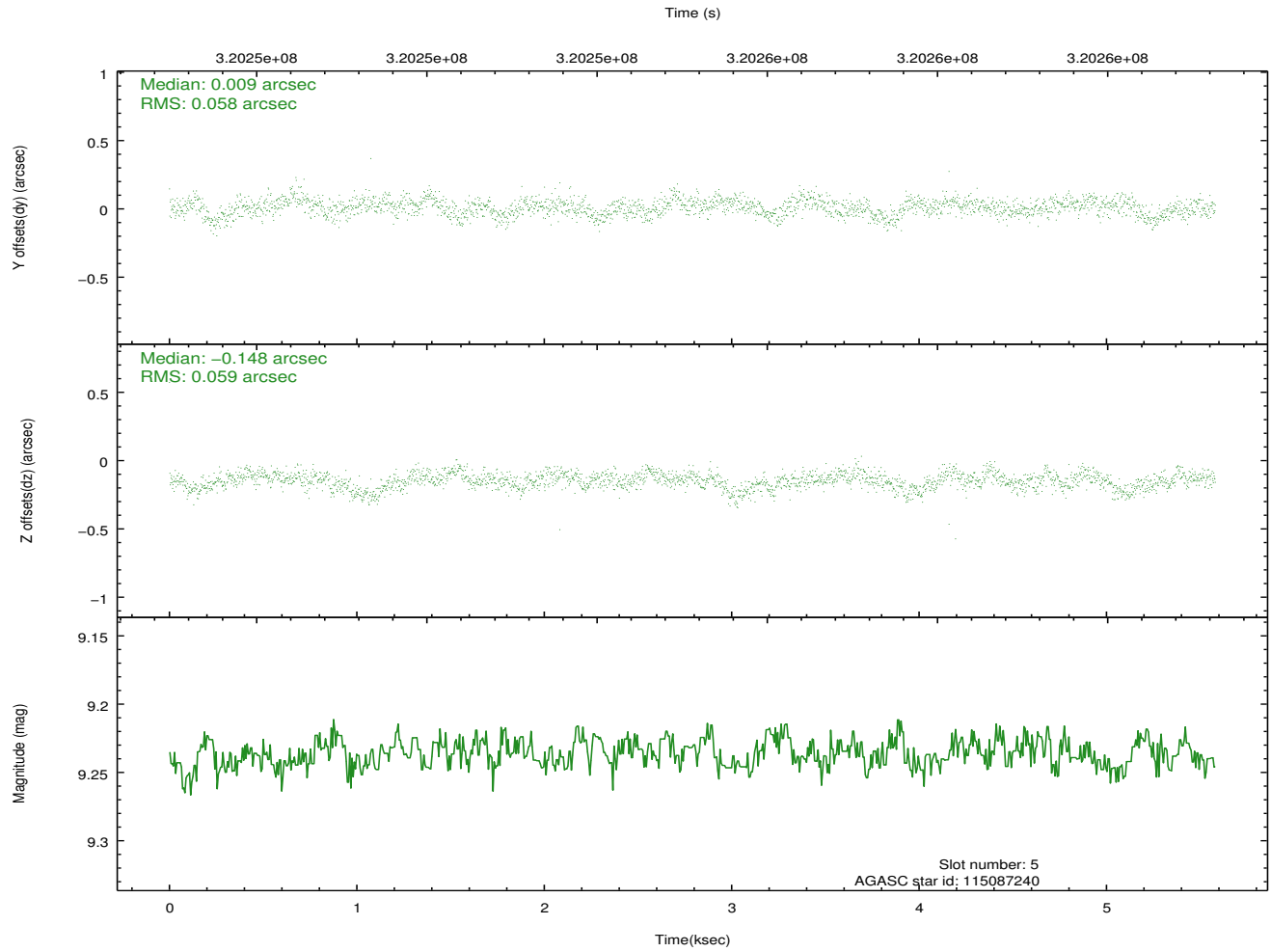
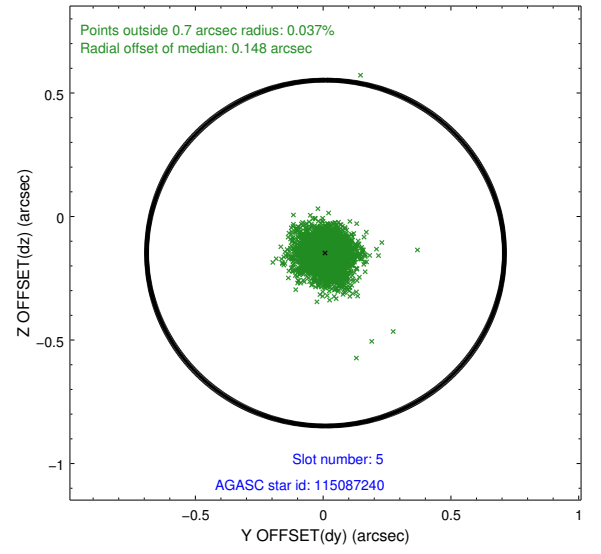
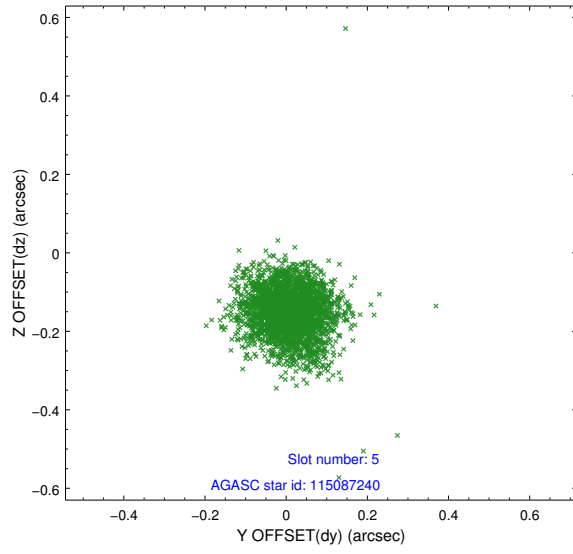
### 2.4.1 Slot 3



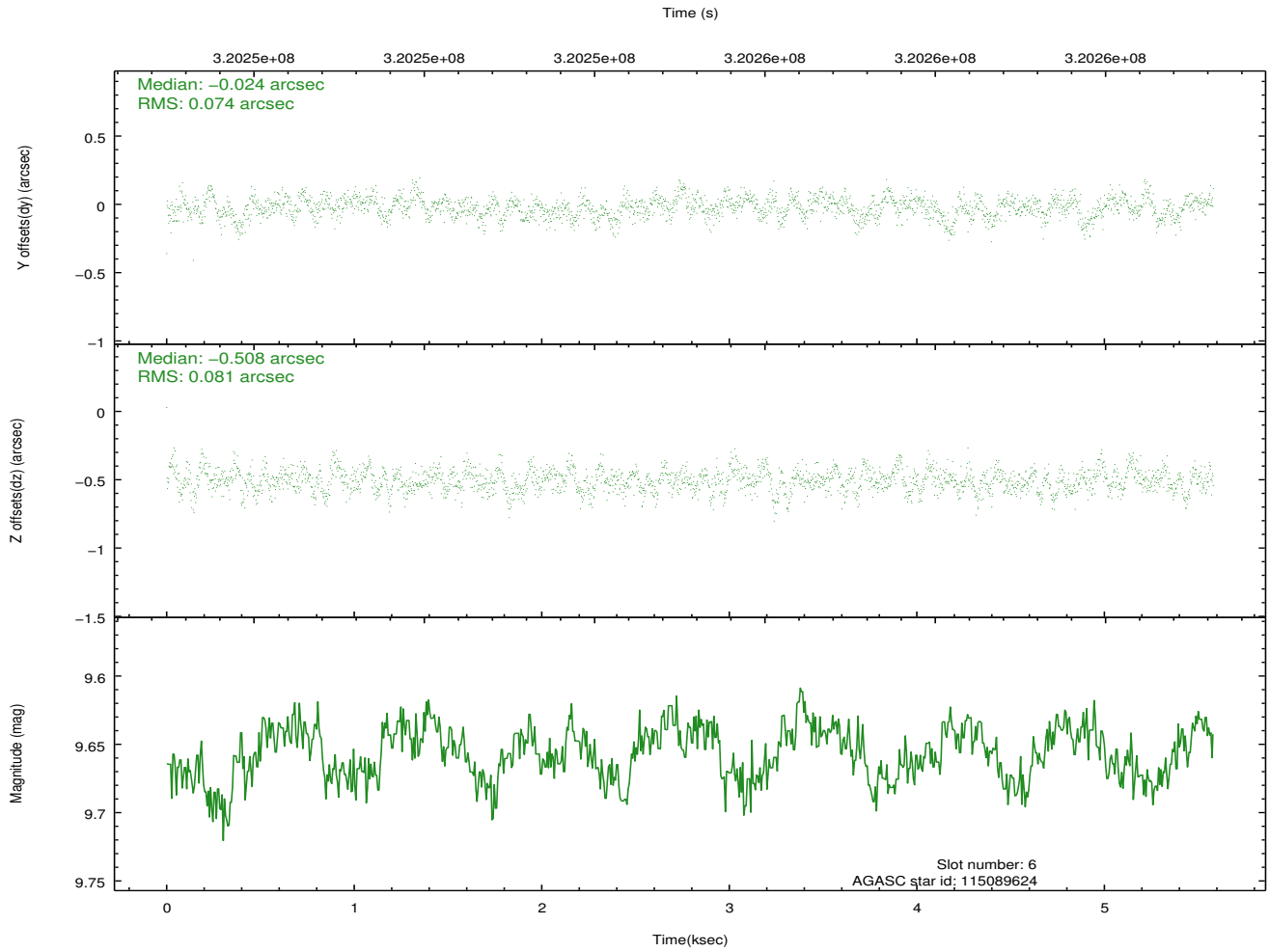
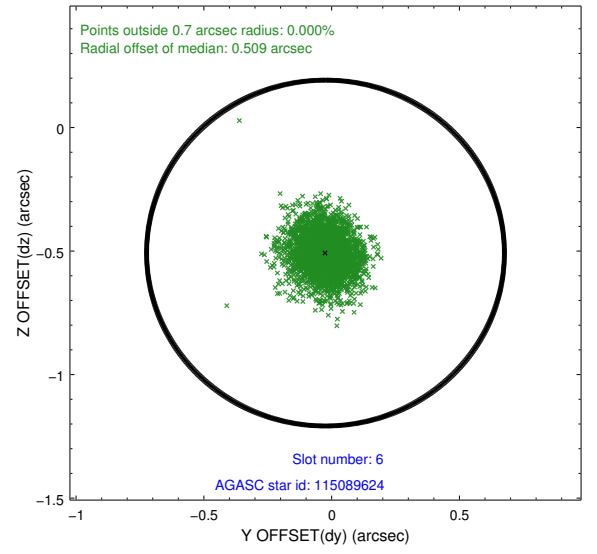
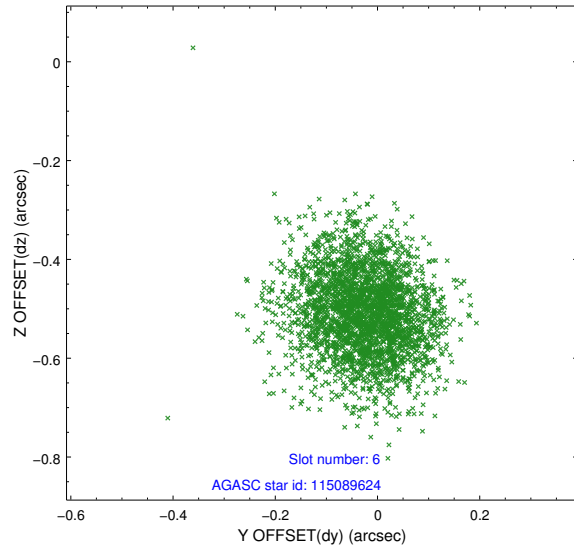
## 2.4.2 Slot 4



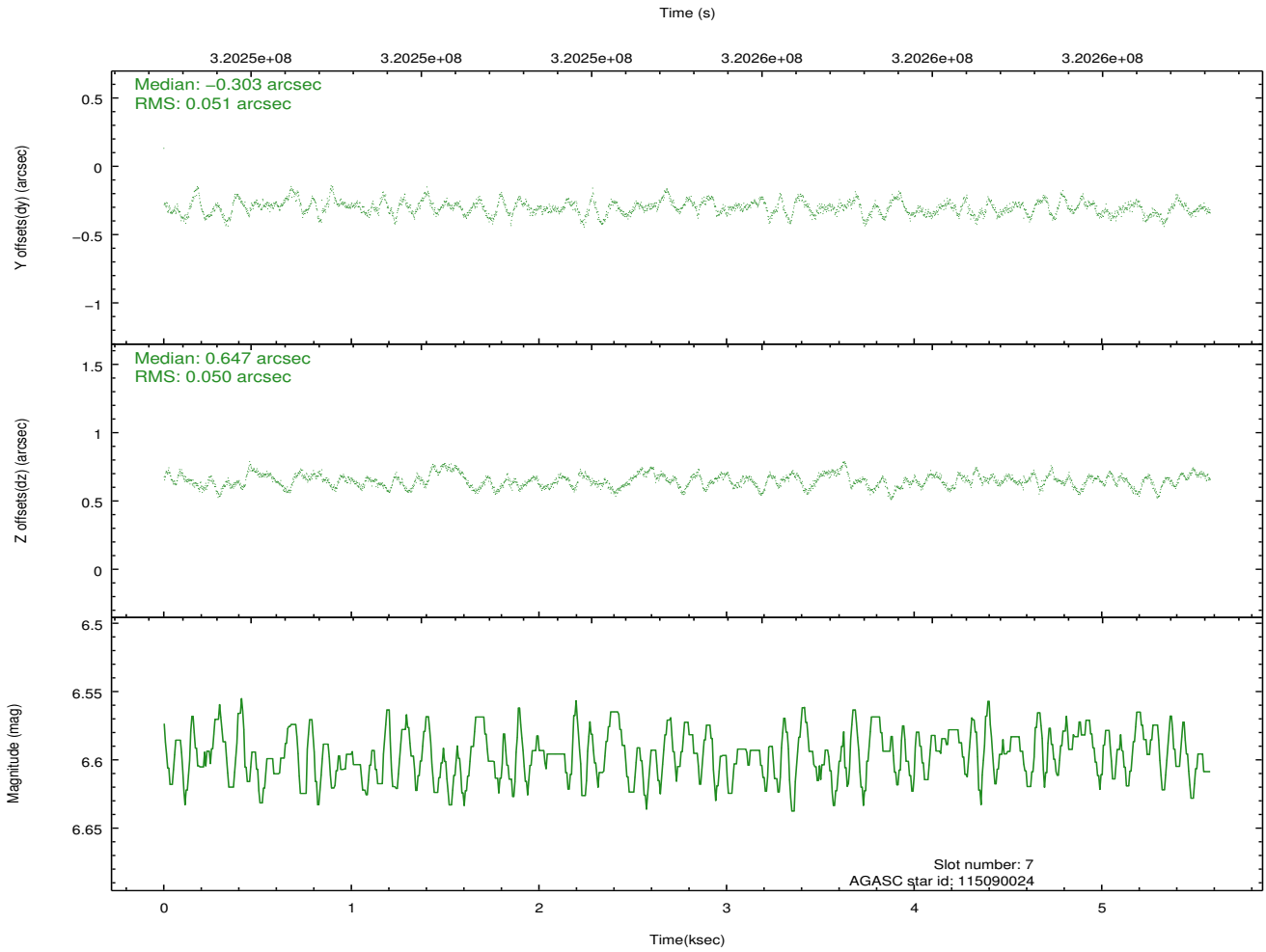
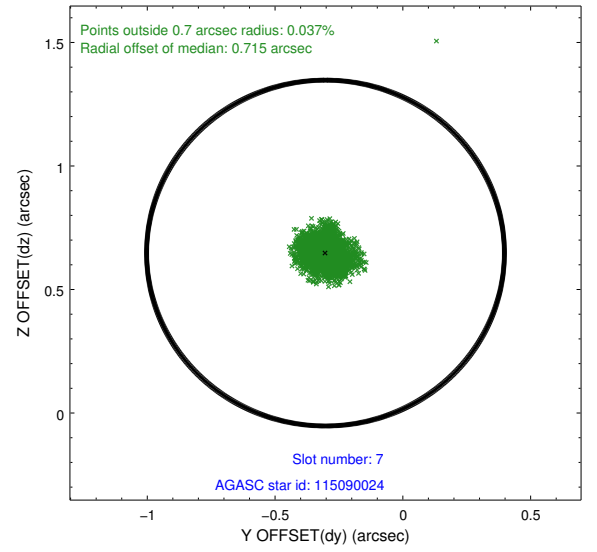
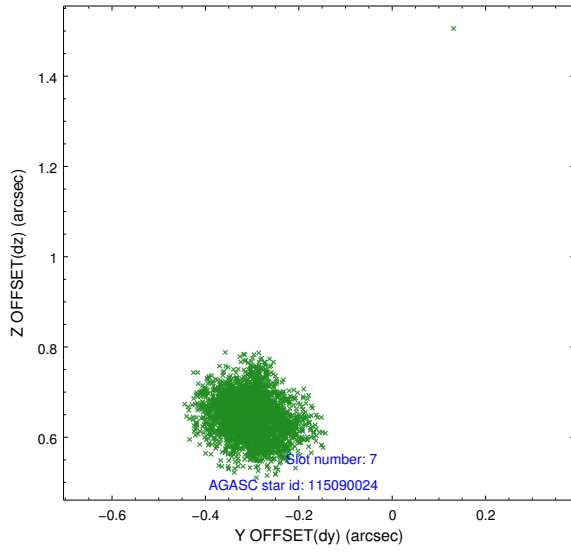
### 2.4.3 Slot 5



## 2.4.4 Slot 6

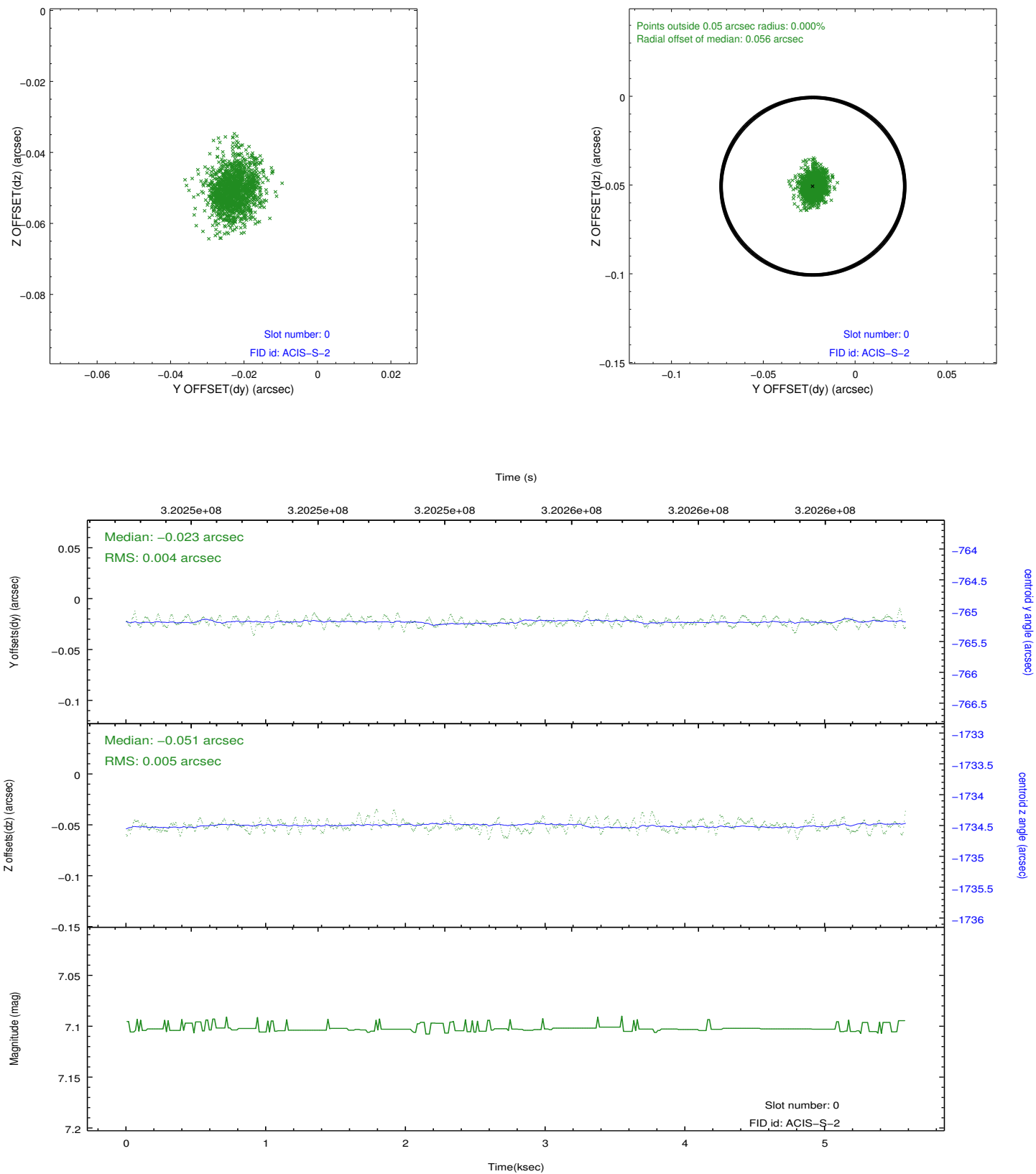


## 2.4.5 Slot 7

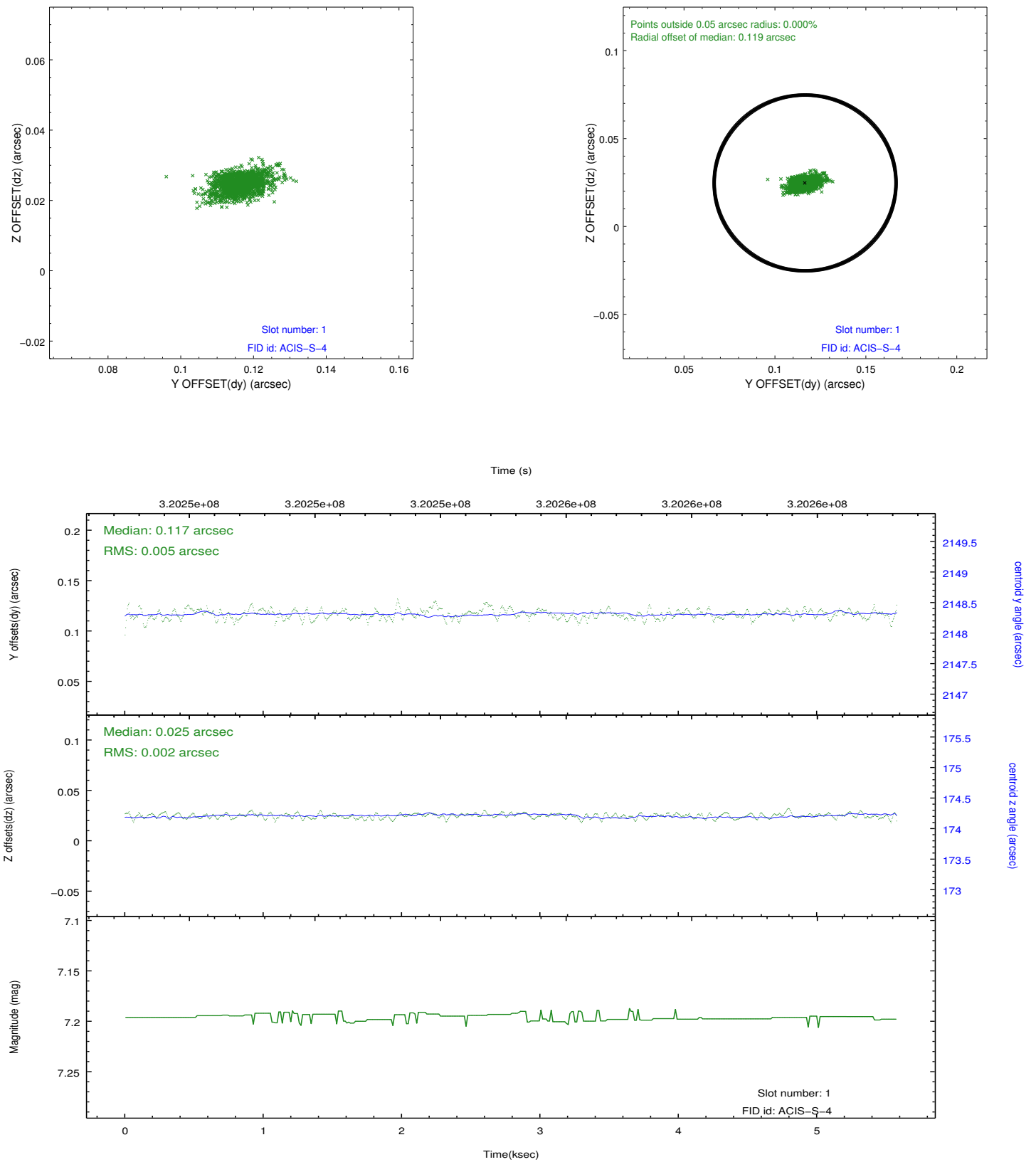


## 2.5 FID Slots

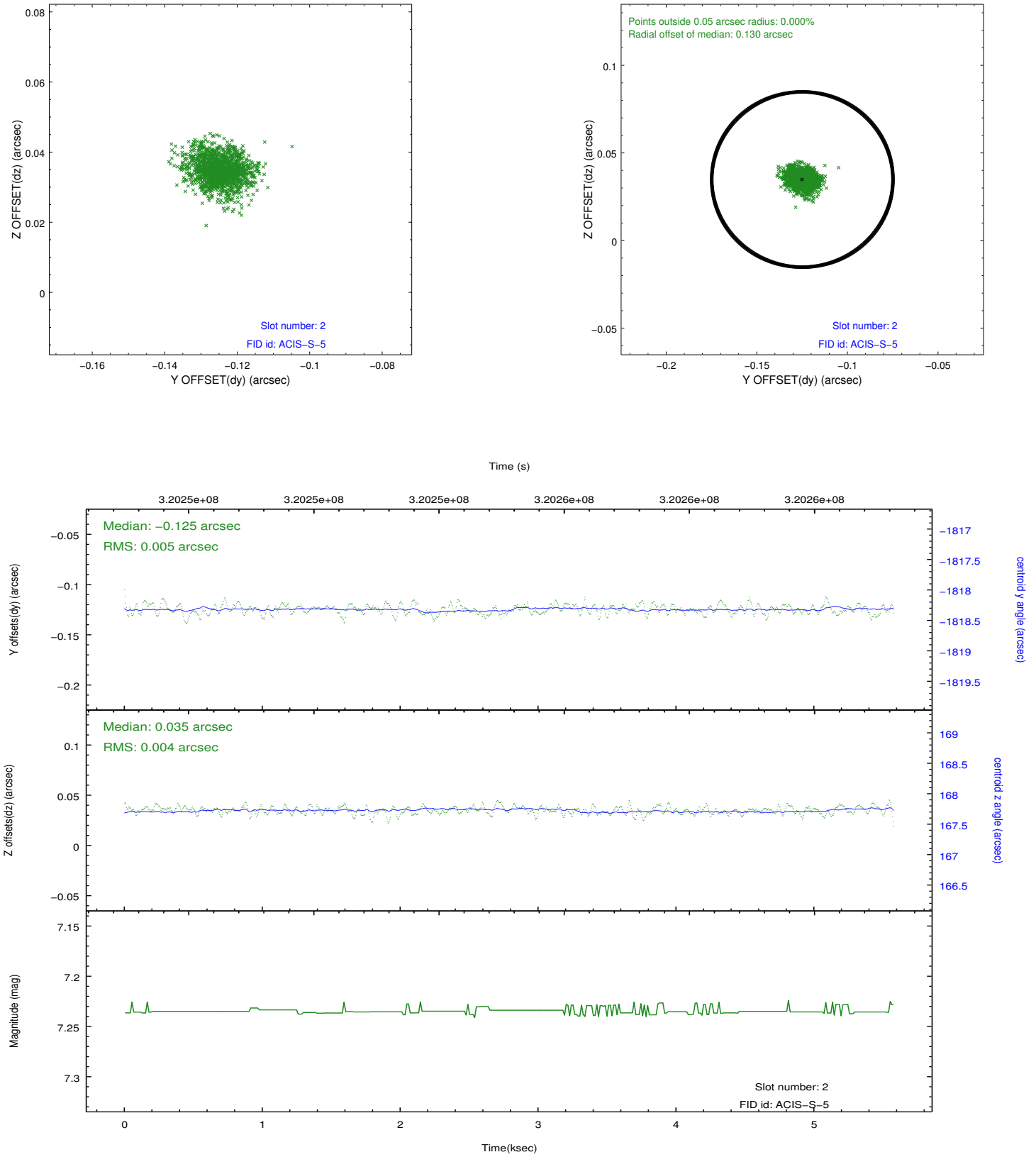
### 2.5.1 Slot 0



## 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