

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 8113 - L2 Version 2  
Chandra X-Ray Center

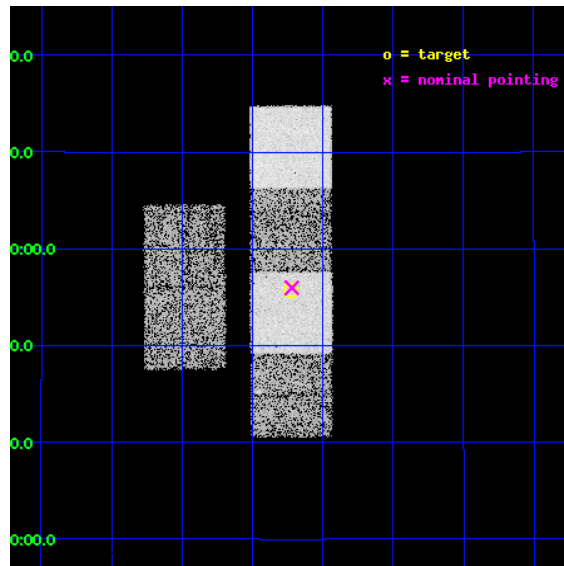
L2 Processing Date : May 10 2012

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# 1 Front

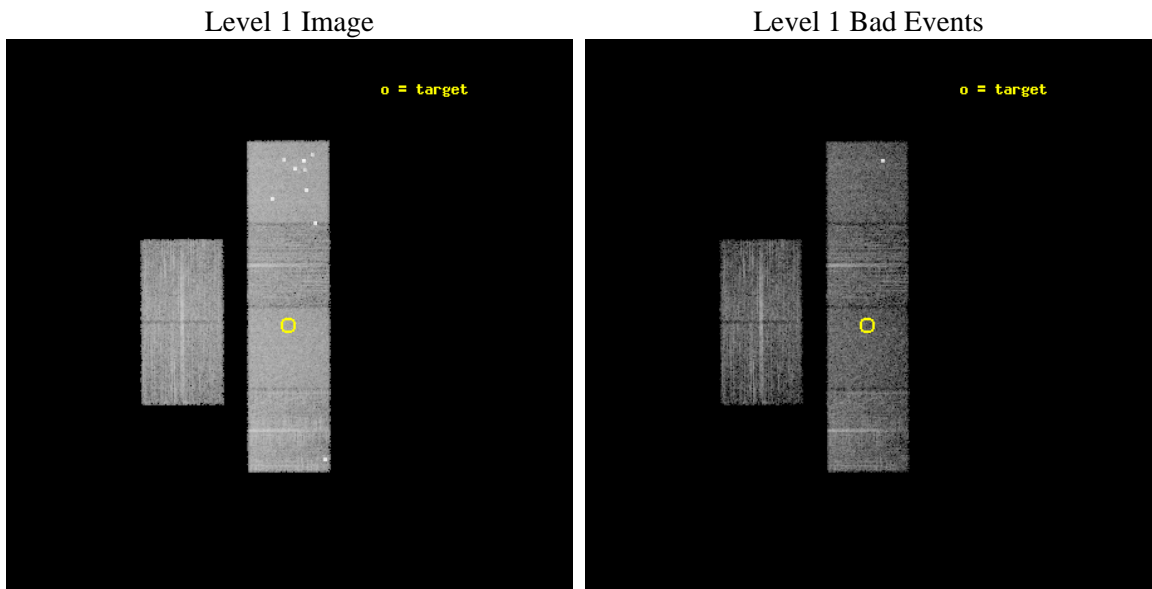
seq_num	900654	Sequence number
obs_id	8113	Observation id
title	The Duty Cycle of Supermassive Black Holes: X-raying Virgo	Proposa
observer	Prof Tommaso Treu	Principal investigator
object	1489	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	188.3075	Observer's specified target RA [deg]
dec_targ	10.928778	Observer's specified target Dec [deg]
ra_nom	188.30492385109	Nominal RA [deg]
dec_nom	10.932883674423	Nominal Dec [deg]
roll_nom	89.784218772316	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5155.199980855	Sum of GTIs [s]
livetime	5089.9217346086	Livetime [s]
ontime2	5155.199980855	Sum of GTIs [s]
ontime3	5155.199980855	Sum of GTIs [s]
ontime5	5155.199980855	Sum of GTIs [s]
ontime6	5155.199980855	Sum of GTIs [s]
ontime7	5155.199980855	Sum of GTIs [s]
ontime8	5151.9589504004	Sum of GTIs [s]
l2events	84249	Number of level 2 events



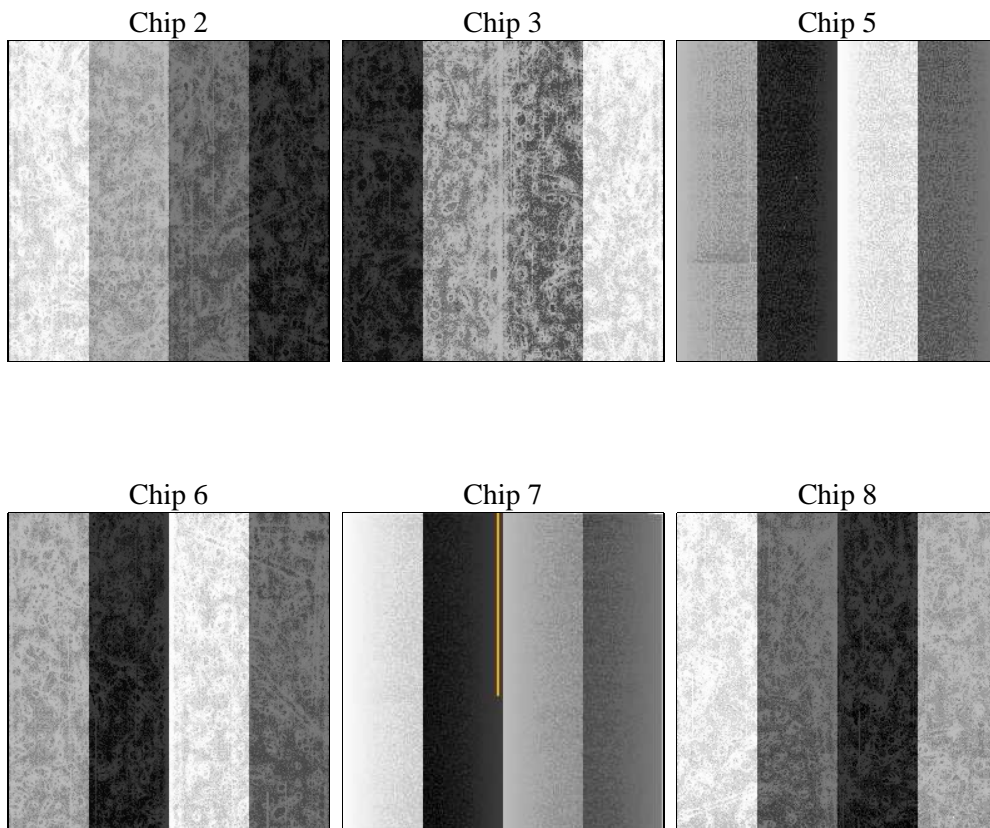
## 2 OBI

### 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	5155.199980855	Sum of GTIs [s]
caldbver	4.4.9	&#160	ontime2	5155.199980855	Sum of GTIs [s]
date	2012-05-10T08:33:52	Date and time of file creation	ontime3	5155.199980855	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	5155.199980855	Sum of GTIs [s]
			ontime6	5155.199980855	Sum of GTIs [s]
			ontime7	5155.199980855	Sum of GTIs [s]
			ontime8	5151.9589504004	Sum of GTIs [s]
			l1events	381644	Number of level 1 events

### 2.1.4 Events

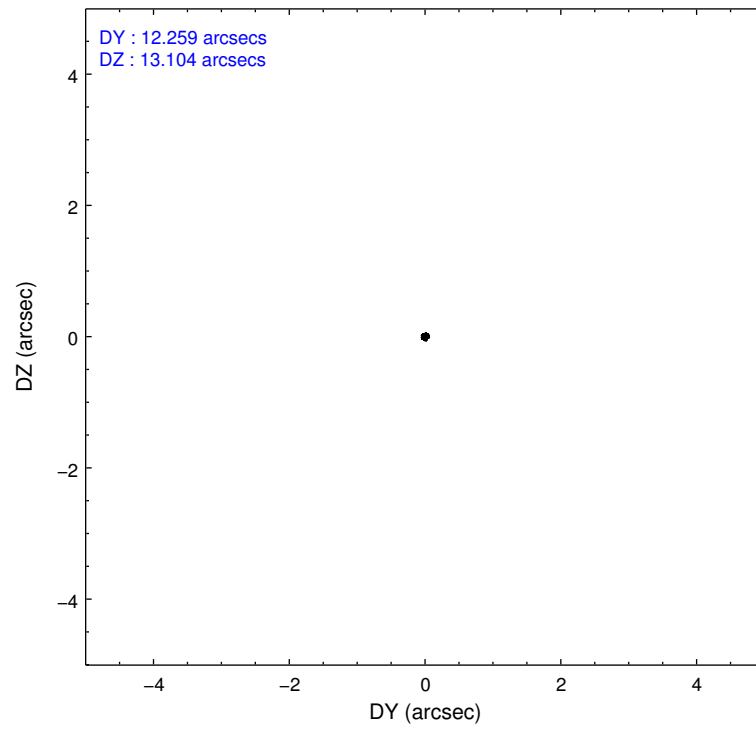
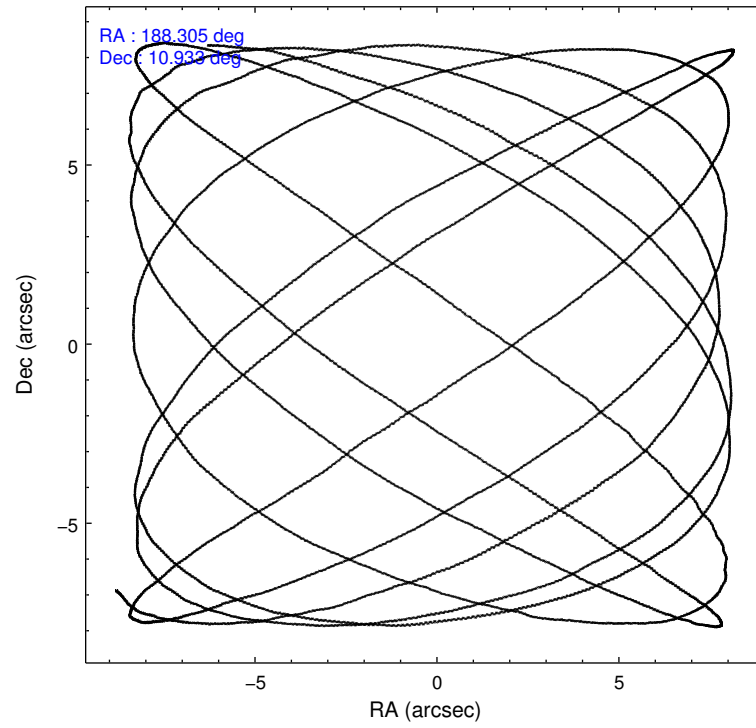
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	52675	48739	88035	51812	69724	70659	grade 0 events	2698	2707	8168	2710	2654	6178
rejected events	46641	42704	44366	45328	40675	54389		5%	5%	9%	5%	3%	8%
rejected %	88%	87%	50%	87%	58%	76%	grade 1 events	33	27	109	26	68	78
								0%	0%	0%	0%	0%	0%
							grade 2 events	1224	1200	11917	1406	5941	3395
								2%	2%	13%	2%	8%	4%
							grade 3 events	591	558	1508	597	2390	1480
								1%	1%	1%	1%	3%	2%
							grade 4 events	560	532	1229	547	2361	1409
								1%	1%	1%	1%	3%	1%
							grade 5 events	2045	2213	5318	2415	6321	3111
								3%	4%	6%	4%	9%	4%
							grade 6 events	964	1043	20900	1232	15746	3833
								1%	2%	23%	2%	22%	5%
							grade 7 events	44560	40459	38886	42879	34243	51175
								84%	83%	44%	82%	49%	72%

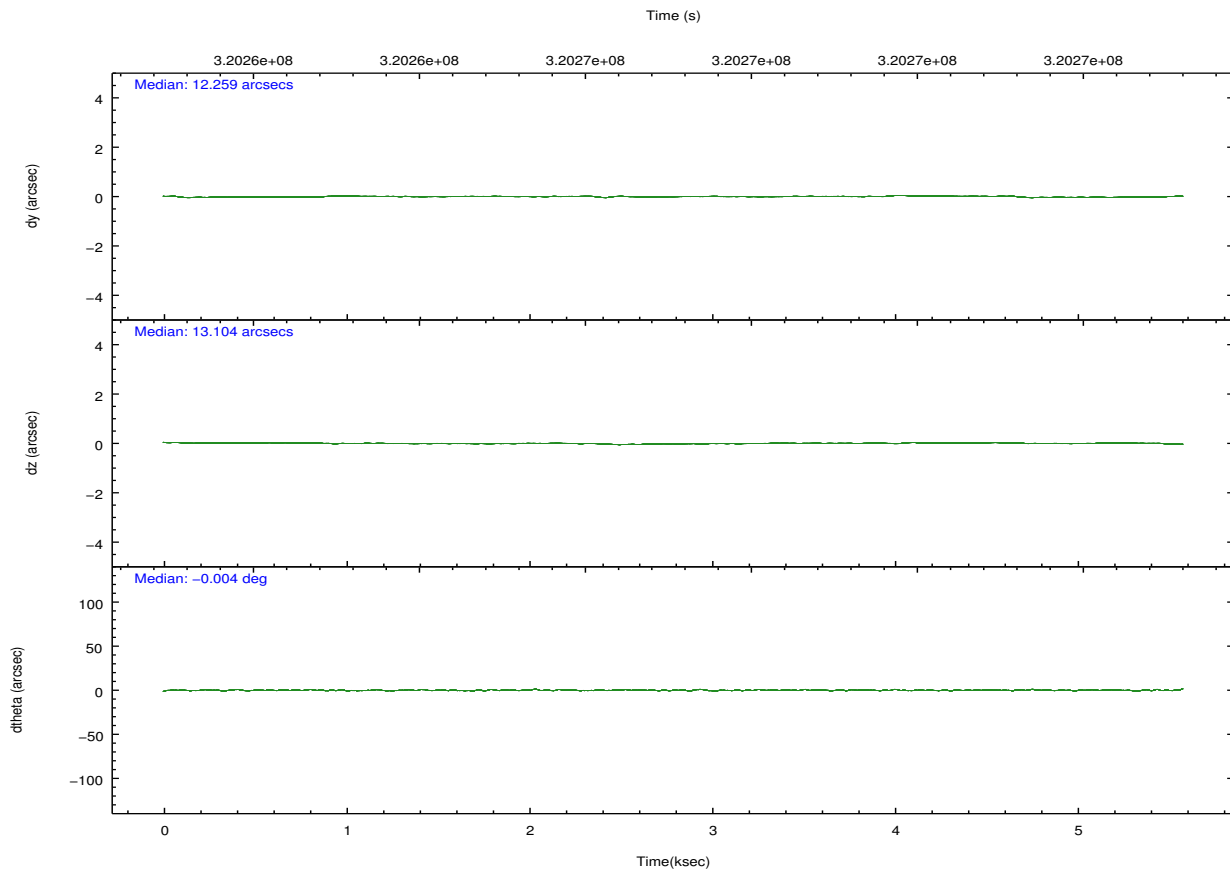
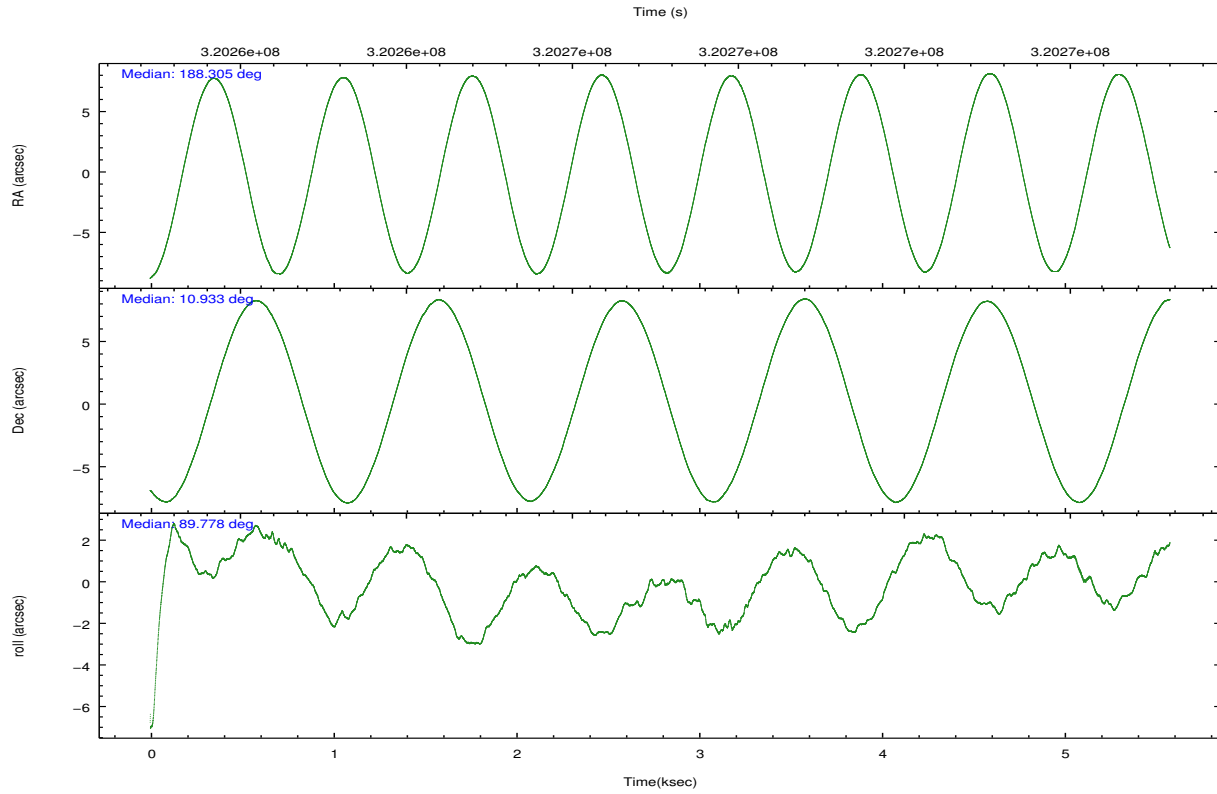


## 2.2 Compared Parameters

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	188.319087	188.3049238510855	CCD I2 on	O1	Y
[deg] Pointing Dec	10.909370	10.93288367442338	CCD I3 on	O2	Y
[deg] Pointing Roll	89.624910	89.78421877231612	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)	320263916.184000	320263540.75729	CCD S5 on	N	N
Observation start date	2008-02-24T18:10:51	2008-02-24T18:05:40	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	320269316.184000	320269521.12008	On-chip summing requested	N	N
Observation end date	2008-02-24T19:40:51	2008-02-24T19:45:21	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



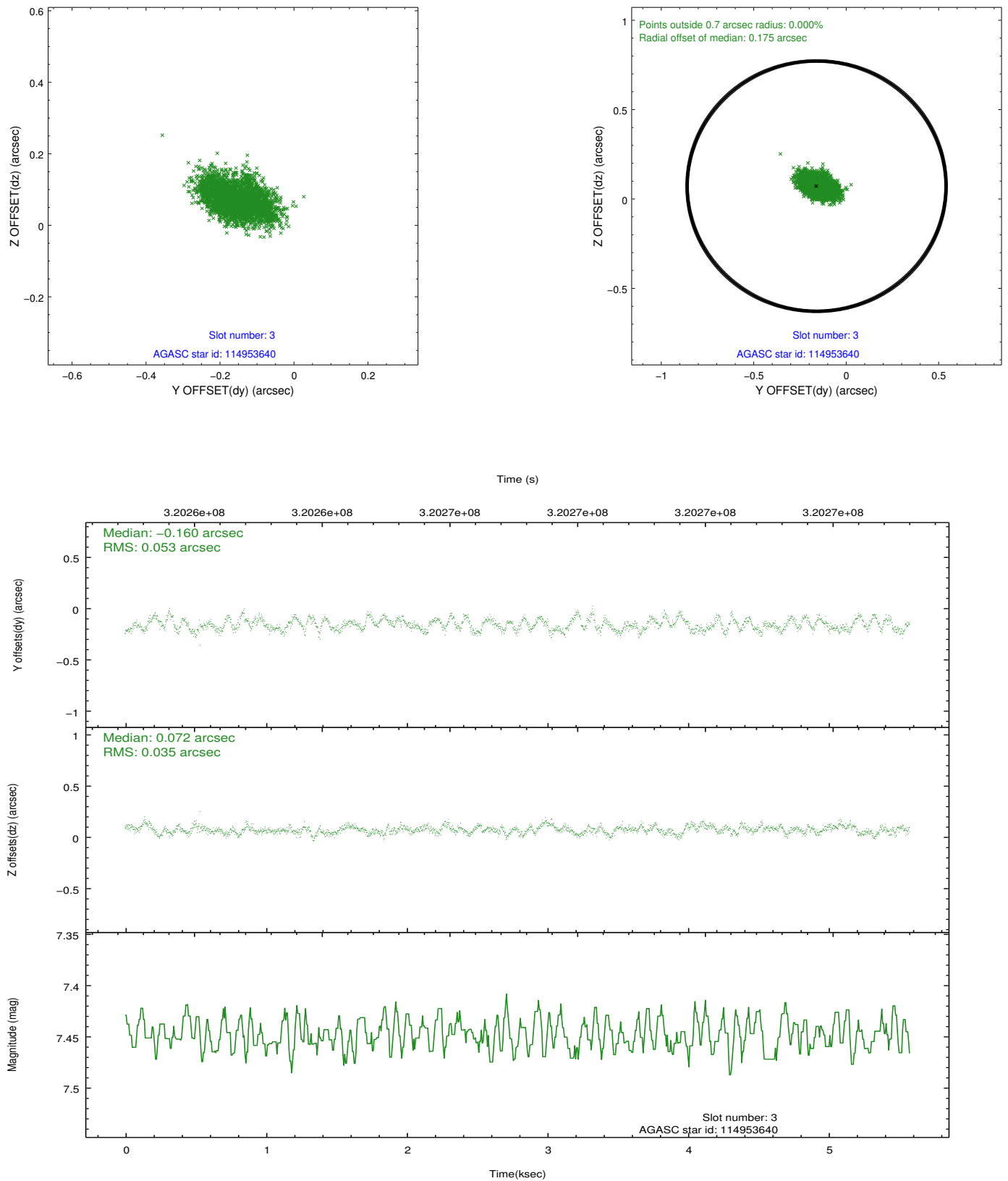


### Slot Statistics

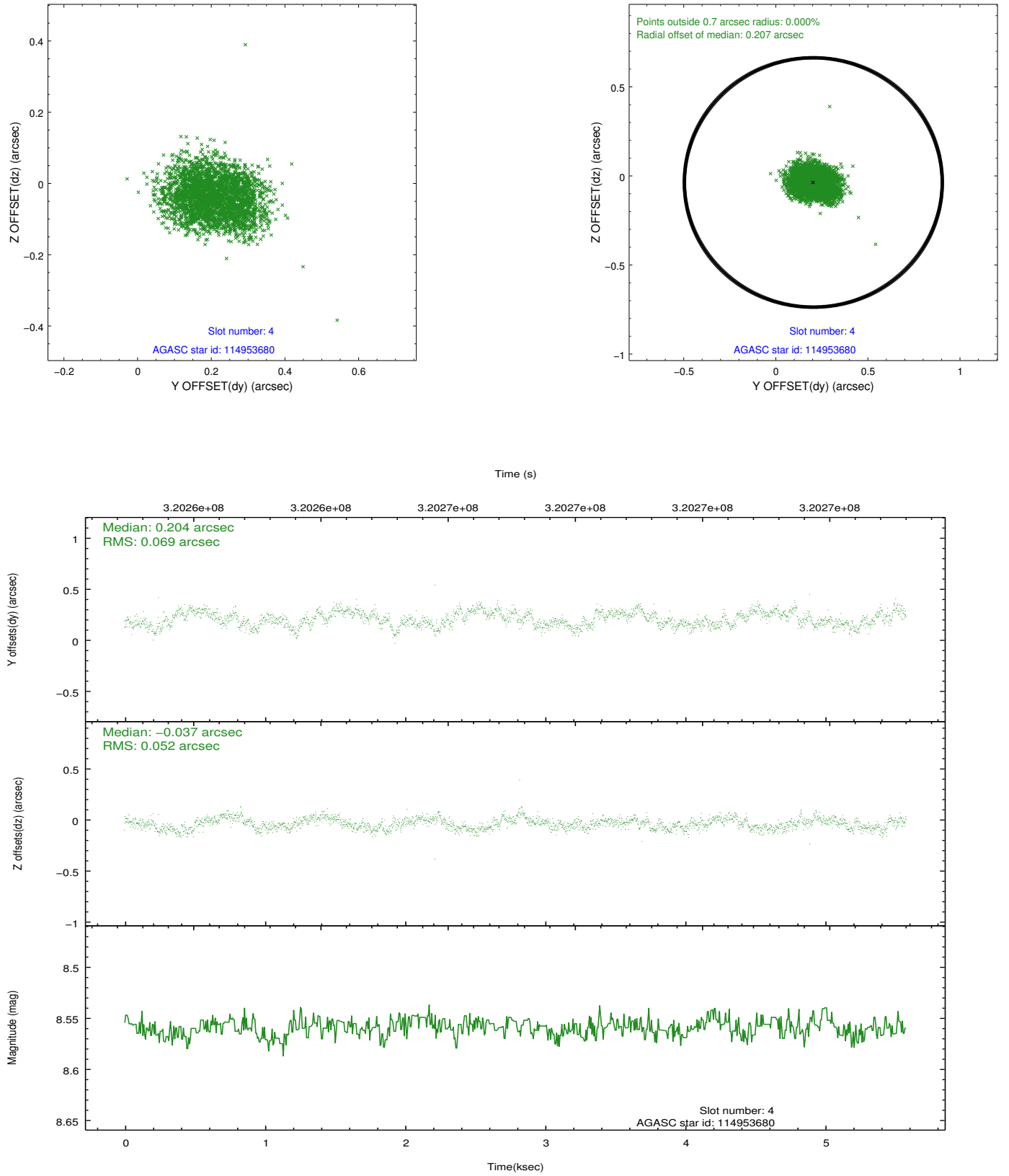
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	1360	-0.021	-0.052	0.007	0.012	0.000000	0.000000	-765.18	-1734.48
1	FID	ACIS-S-4	7.20	1360	0.117	0.024	0.006	0.011	0.000000	0.000000	2147.75	172.95
2	FID	ACIS-S-5	7.24	1361	-0.126	0.036	0.007	0.011	0.000000	0.000000	-1816.74	167.87
3	GUIDE	114953640	7.45	2721	-0.160	0.072	0.067	0.110	188.794711	11.547726	2310.65	-1661.87
4	GUIDE	114953680	8.56	2721	0.204	-0.037	0.093	0.145	187.904378	10.267361	-2319.49	1454.93
5	GUIDE	114955592	8.12	2722	-0.180	0.059	0.059	0.095	188.657433	11.300977	1417.64	-1184.16
6	GUIDE	114956456	8.17	2722	0.122	0.032	0.076	0.120	188.716512	10.836292	-252.11	-1406.90
7	GUIDE	114957816	6.23	2722	0.003	-0.126	0.059	0.092	188.261994	10.295673	-2210.35	187.62

## 2.4 Star Slots

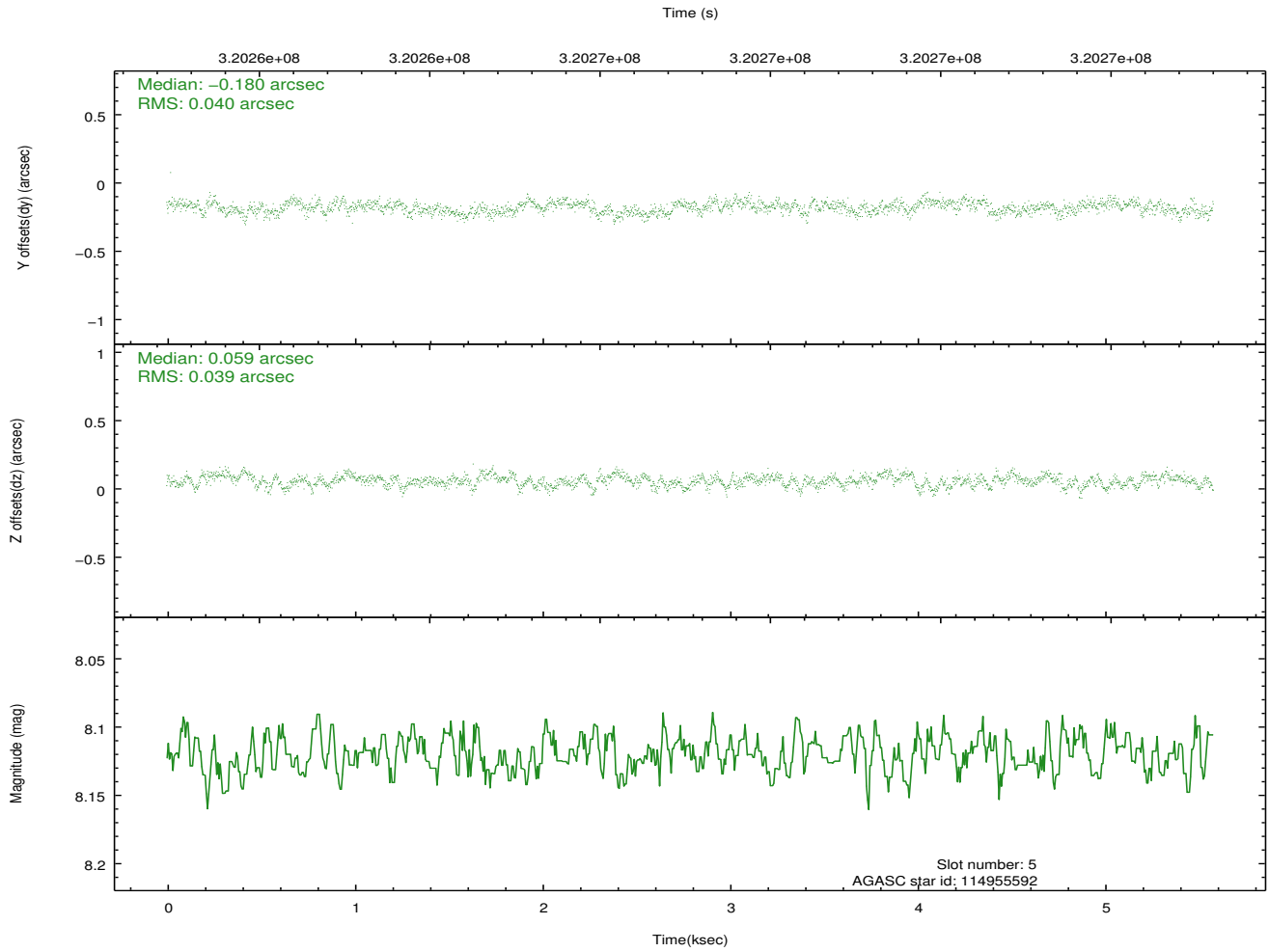
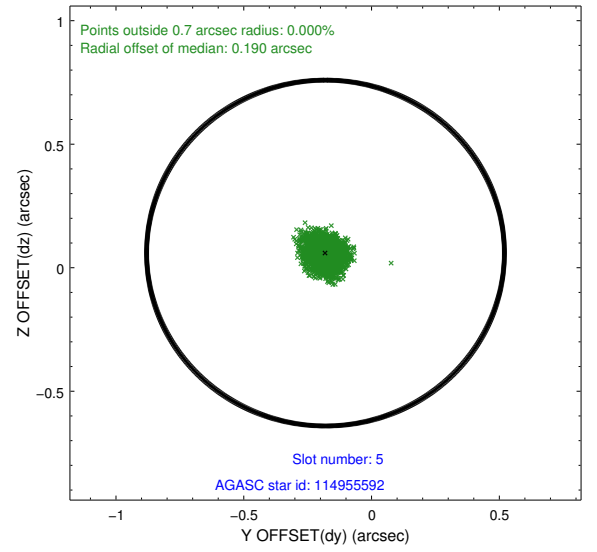
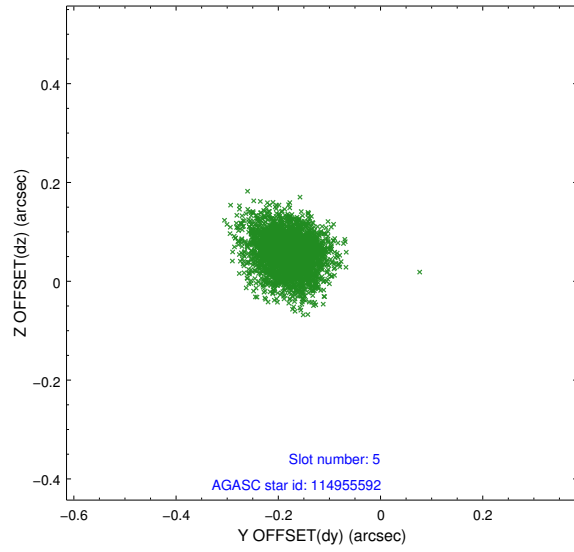
### 2.4.1 Slot 3



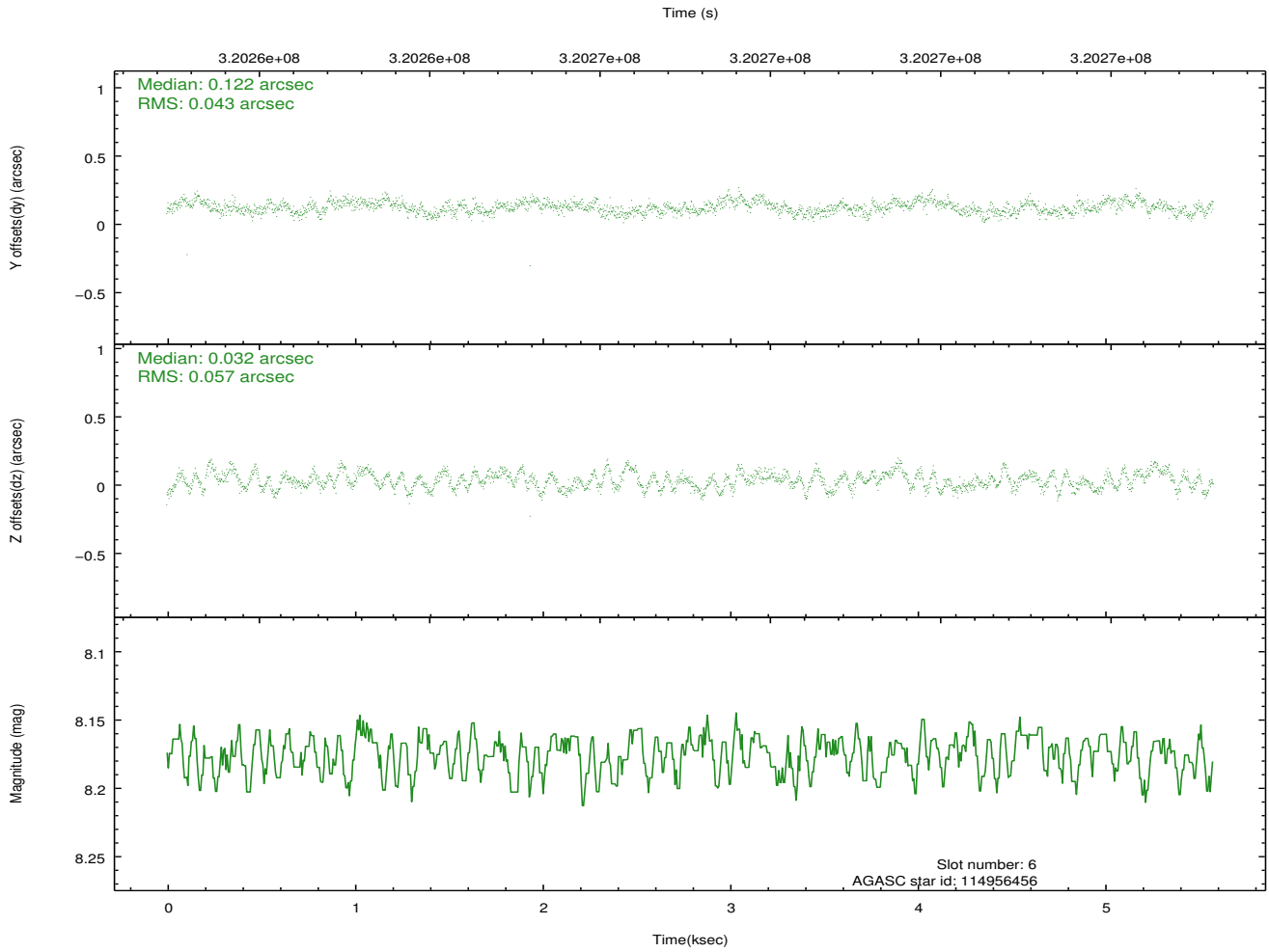
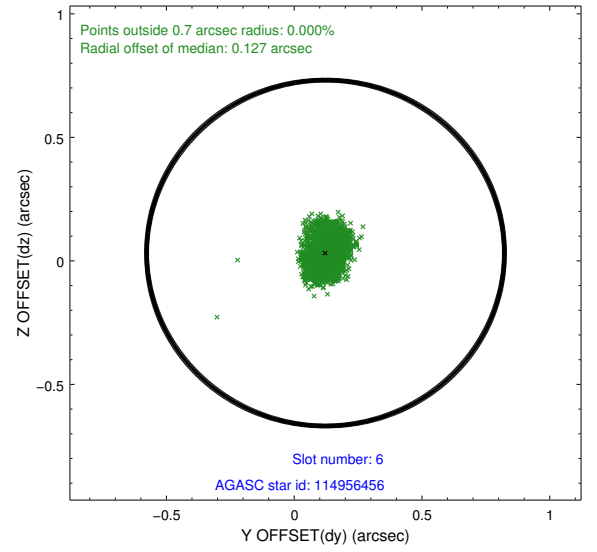
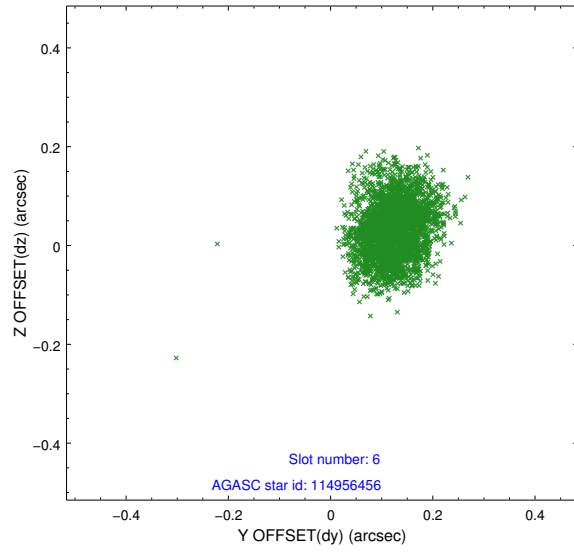
## 2.4.2 Slot 4



### 2.4.3 Slot 5

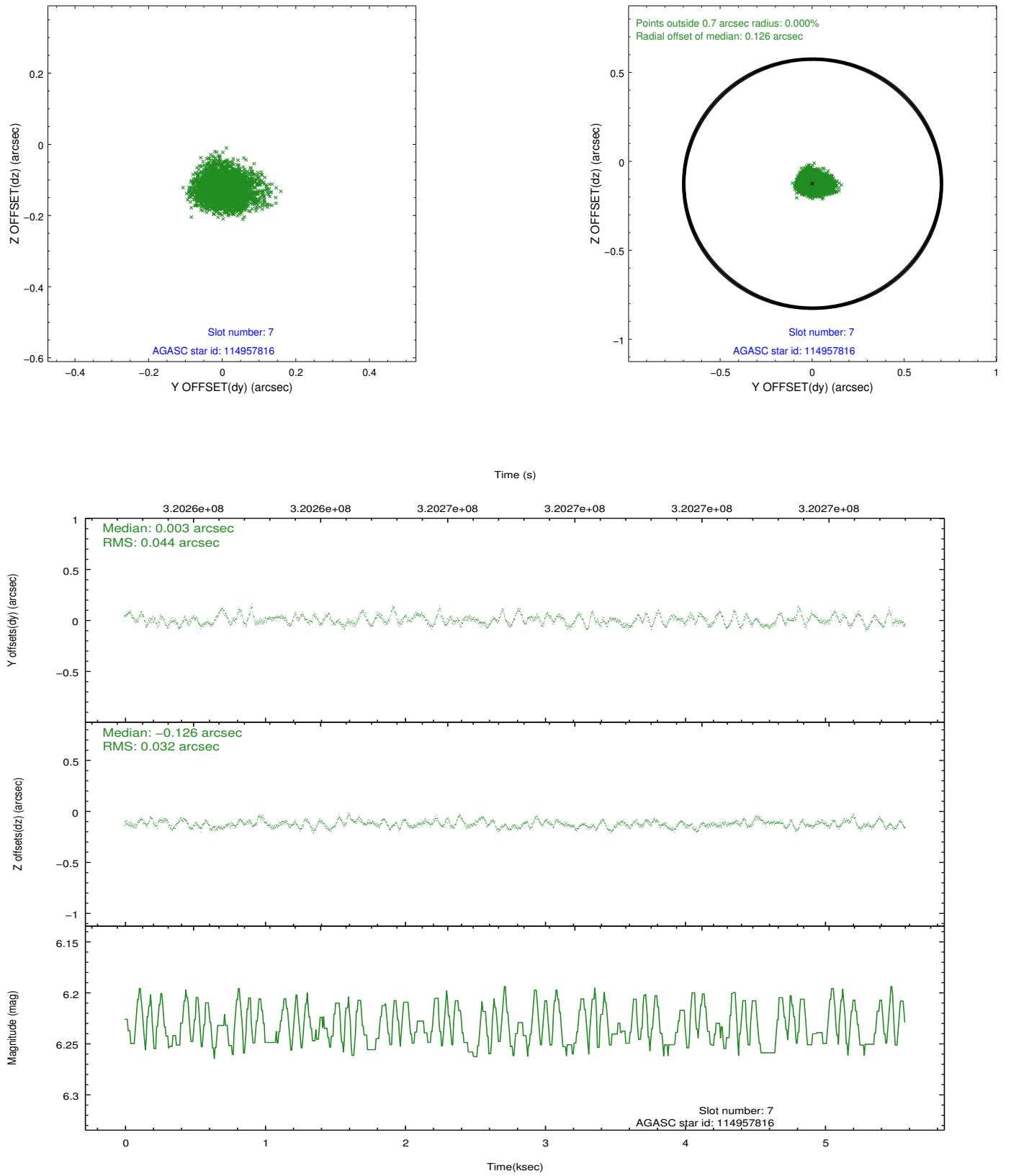


## 2.4.4 Slot 6



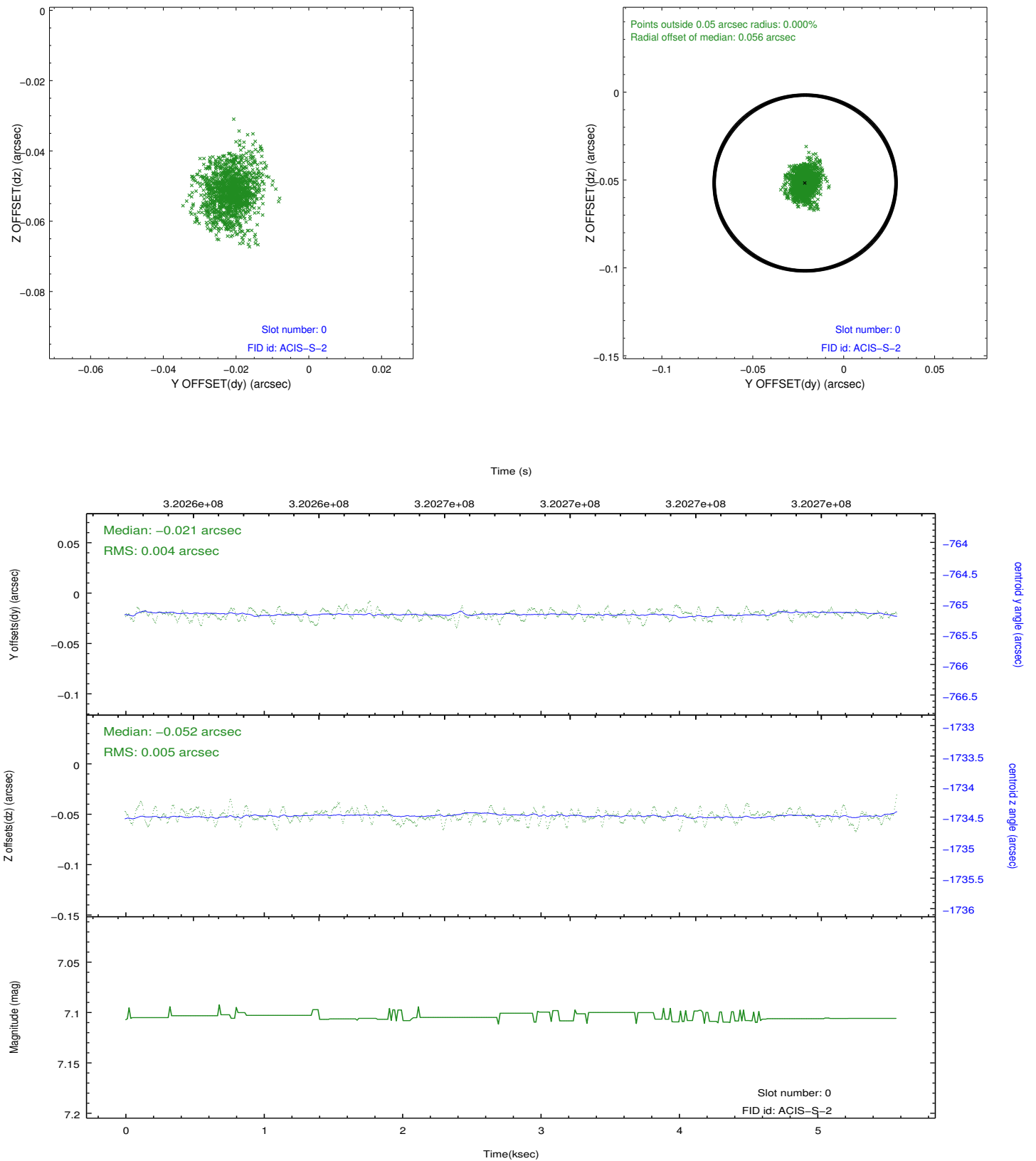


## 2.4.5 Slot 7

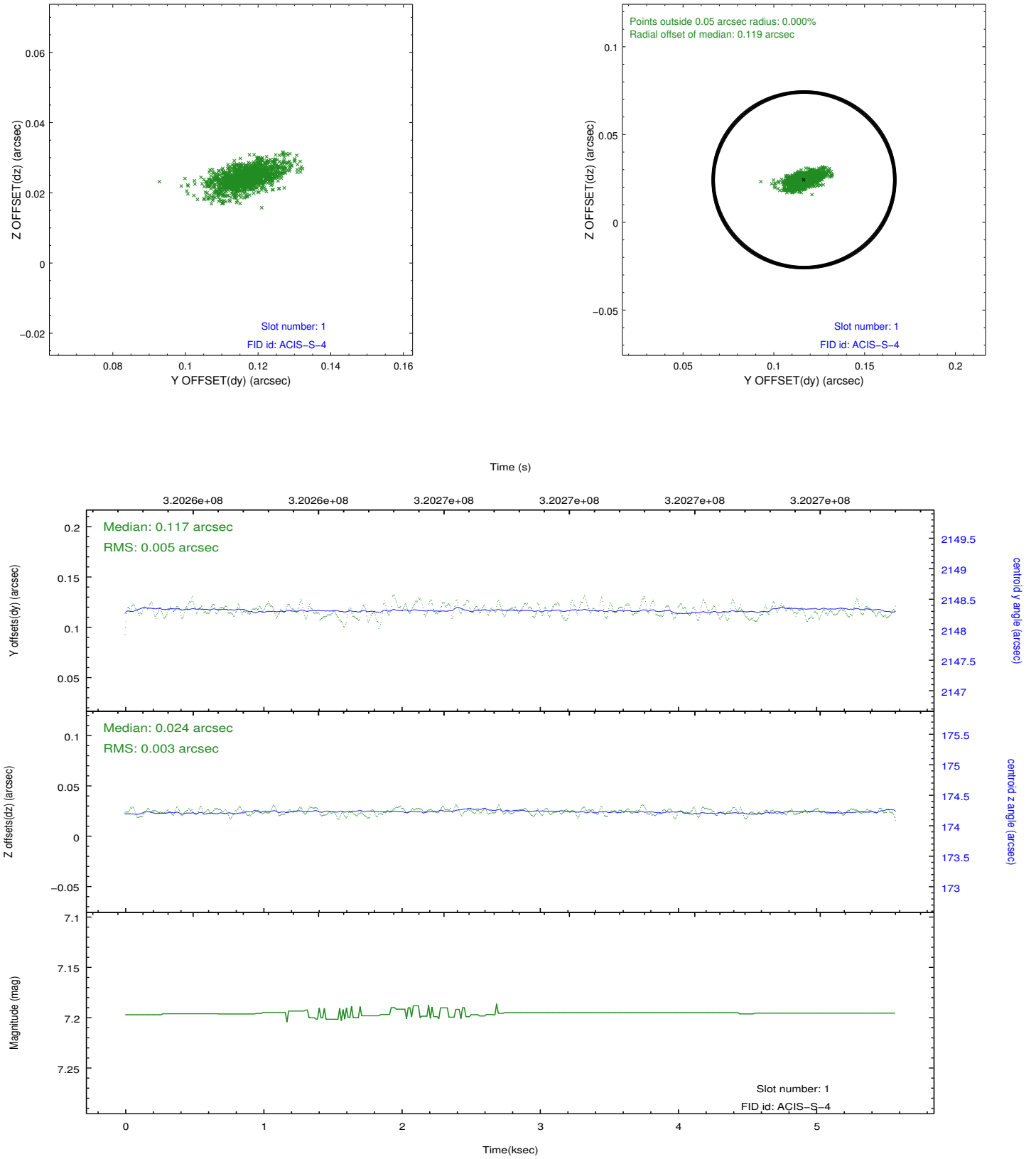


## 2.5 FID Slots

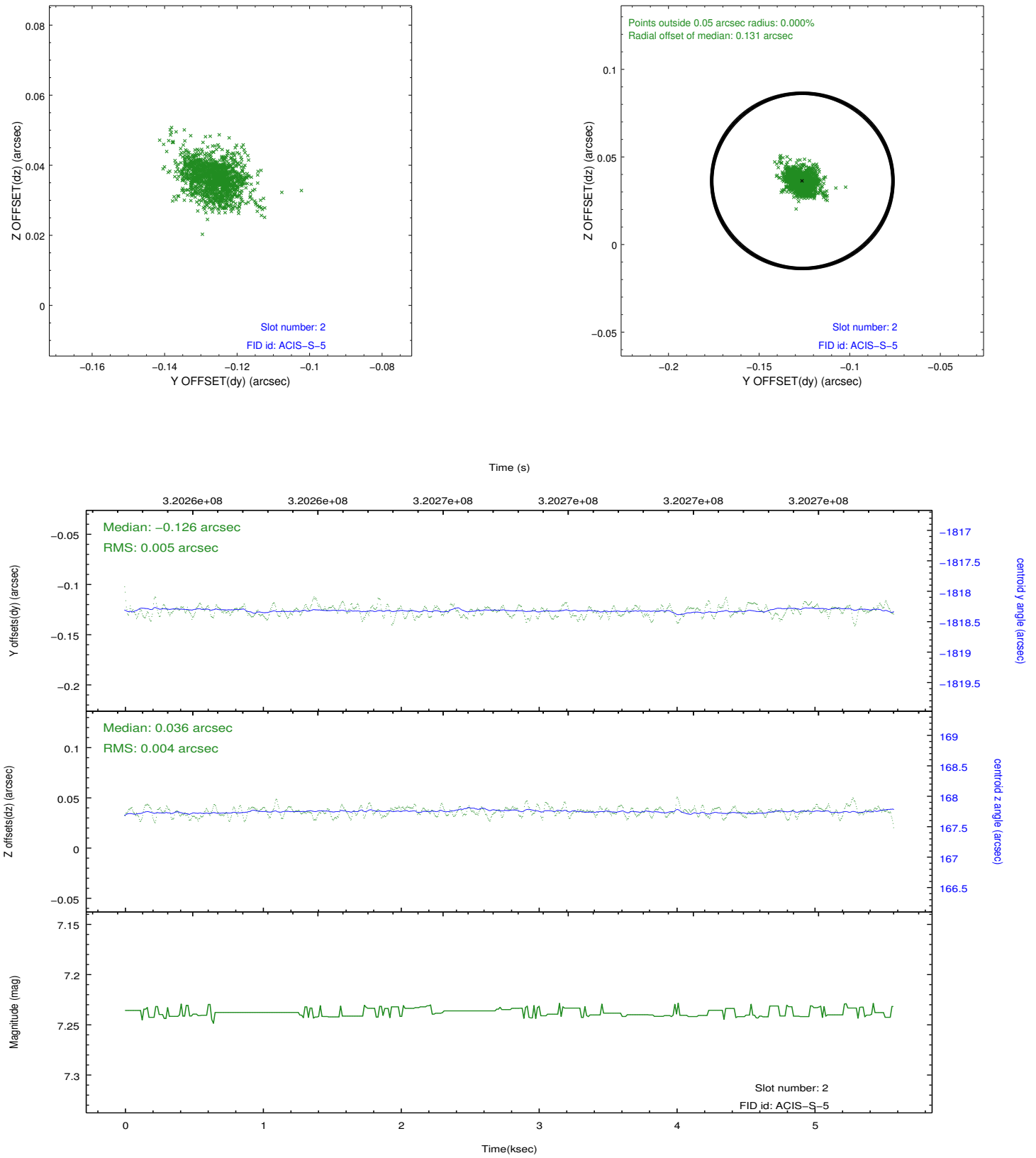
### 2.5.1 Slot 0



## 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	5.15519998

### A.2 Comments

Joint Proposal: Spitzer