

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 8105 - L2 Version 2  
Chandra X-Ray Center

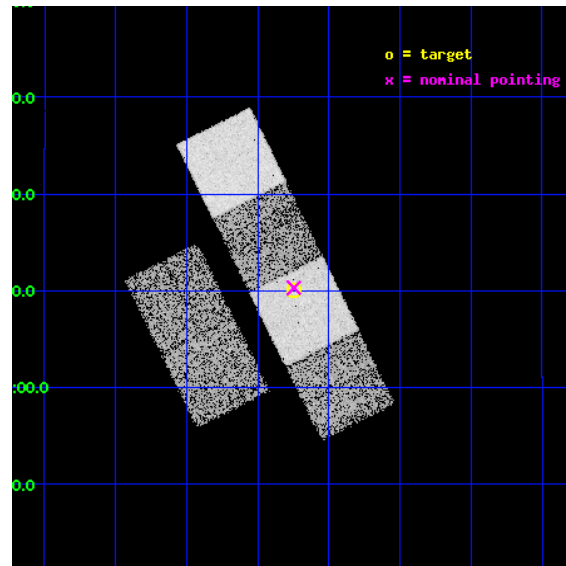
L2 Processing Date : May 4 2012

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# 1 Front

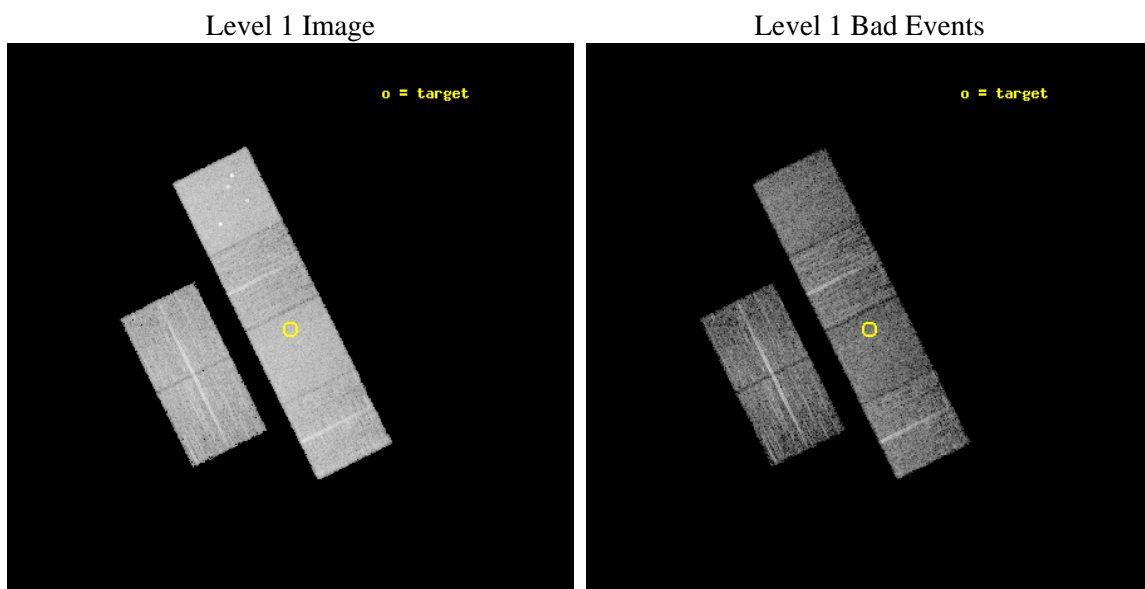
seq_num	900646	Sequence number
obs_id	8105	Observation id
title	The Duty Cycle of Supermassive Black Holes: X-raying Virgo	Proposa
observer	Prof Tommaso Treu	Principal investigator
object	538	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	185.561667	Observer's specified target RA [deg]
dec_targ	7.166889	Observer's specified target Dec [deg]
ra_nom	185.56123327887	Nominal RA [deg]
dec_nom	7.1717157703766	Nominal Dec [deg]
roll_nom	63.556706316158	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5347.1999801397	Sum of GTIs [s]
livetime	5279.4905142939	Livetime [s]
ontime2	5347.1999801397	Sum of GTIs [s]
ontime3	5347.1999801397	Sum of GTIs [s]
ontime5	5347.1999801397	Sum of GTIs [s]
ontime6	5347.1999801397	Sum of GTIs [s]
ontime7	5347.1999801397	Sum of GTIs [s]
ontime8	5347.1999801397	Sum of GTIs [s]
l2events	86840	Number of level 2 events



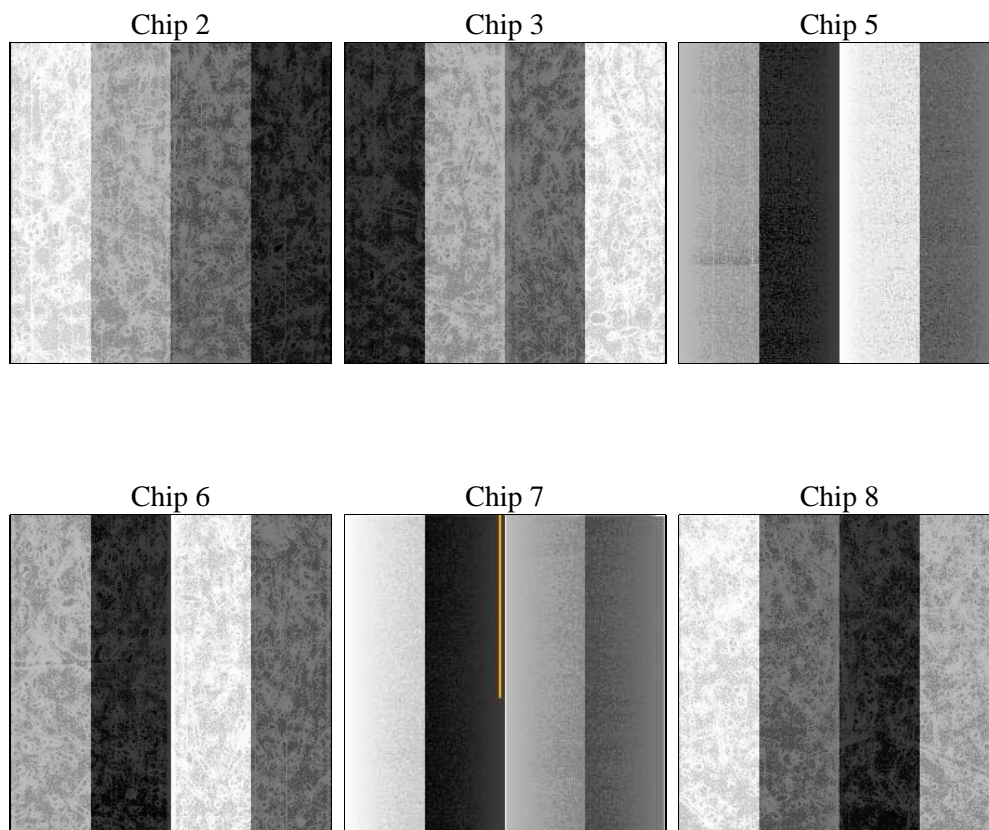
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5400.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	5347.1999801397	Sum of GTIs [s]
caldsver	4.4.9	&#160	ontime2	5347.1999801397	Sum of GTIs [s]
date	2012-05-04T13:25:46	Date and time of file creation	ontime3	5347.1999801397	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	5347.1999801397	Sum of GTIs [s]
			ontime6	5347.1999801397	Sum of GTIs [s]
			ontime7	5347.1999801397	Sum of GTIs [s]
			ontime8	5347.1999801397	Sum of GTIs [s]
			l1events	373724	Number of level 1 events

### 2.1.4 Events

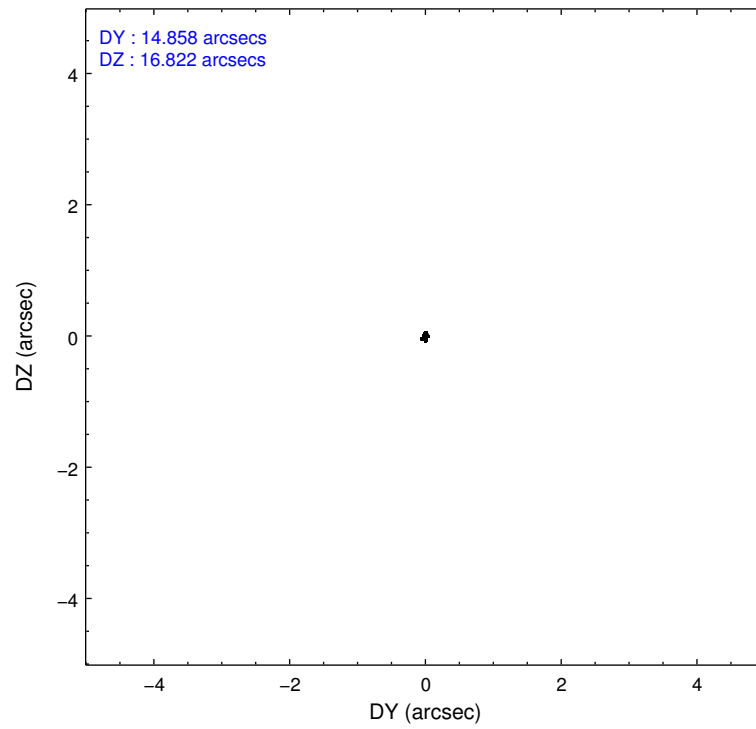
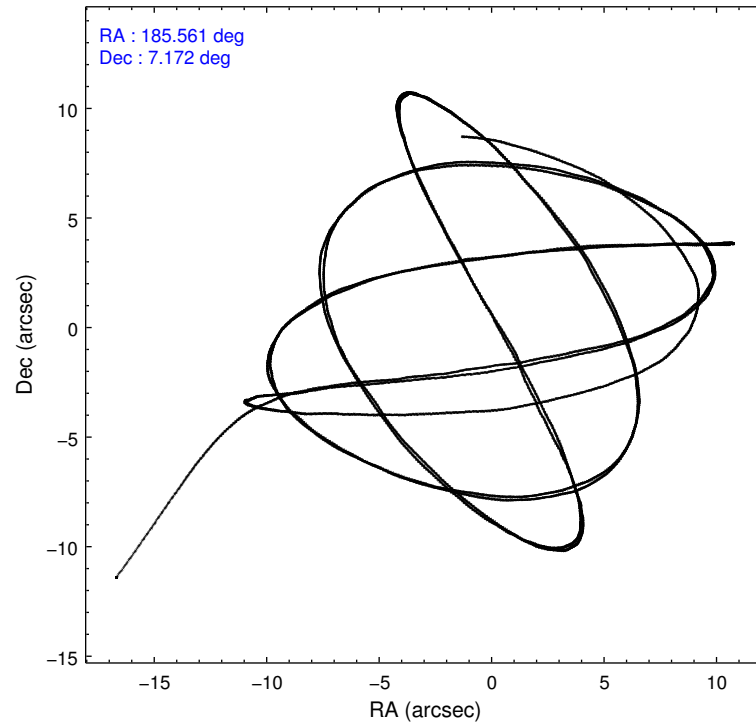
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	51391	50142	80701	53773	72055	65662	grade 0 events	2897	2752	4172	2407	2731	4631
rejected events	44980	43912	43038	47586	41742	50958		5%	5%	5%	4%	3%	7%
rejected %	87%	87%	53%	88%	57%	77%	grade 1 events	32	45	140	30	73	40
								0%	0%	0%	0%	0%	0%
							grade 2 events	1319	1215	11291	1368	6077	3302
								2%	2%	13%	2%	8%	5%
							grade 3 events	592	589	1452	591	2702	1520
								1%	1%	1%	1%	3%	2%
							grade 4 events	561	591	1319	555	2672	1391
								1%	1%	1%	1%	3%	2%
							grade 5 events	2067	2381	5677	2393	6868	3249
								4%	4%	7%	4%	9%	4%
							grade 6 events	1047	1089	19475	1273	16186	3872
								2%	2%	24%	2%	22%	5%
							grade 7 events	42876	41480	37175	45156	34746	47657
								83%	82%	46%	83%	48%	72%

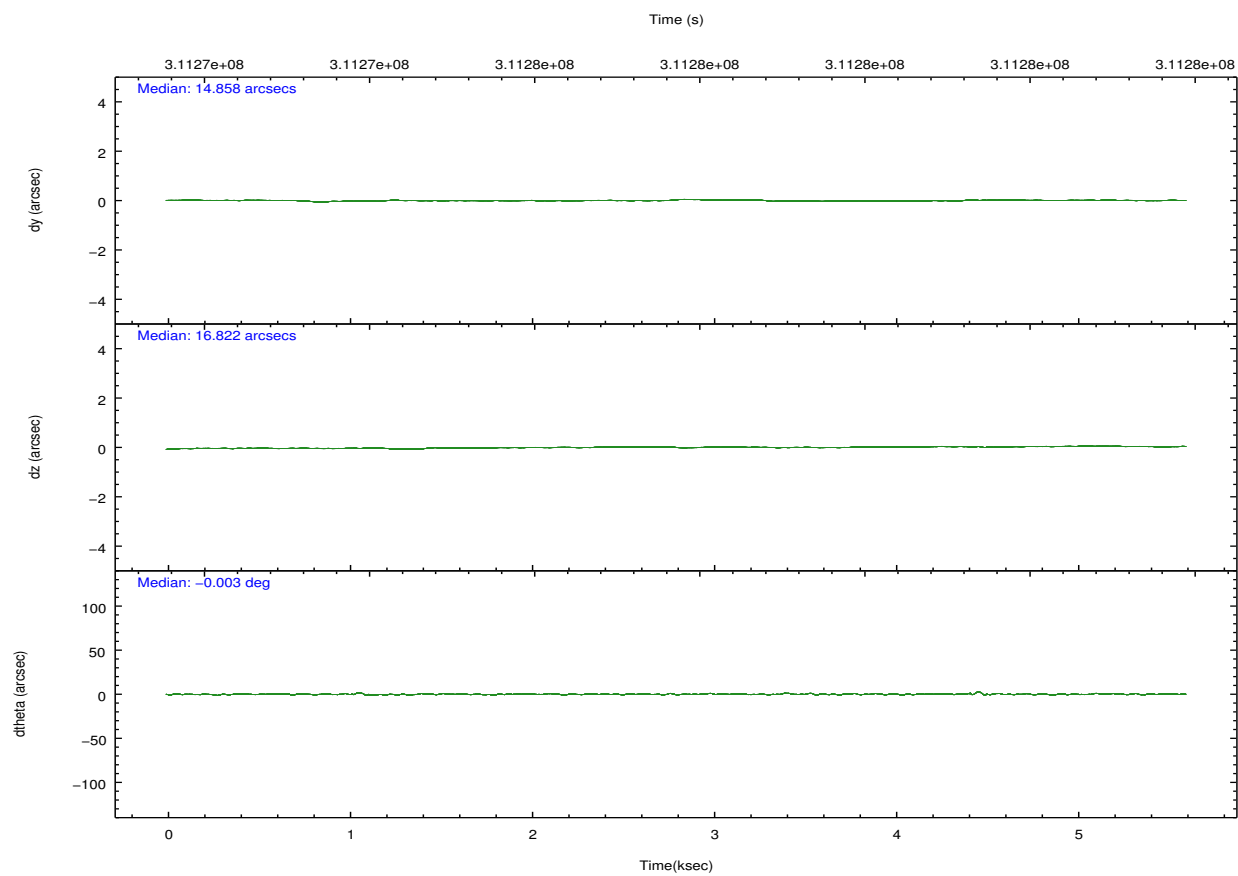
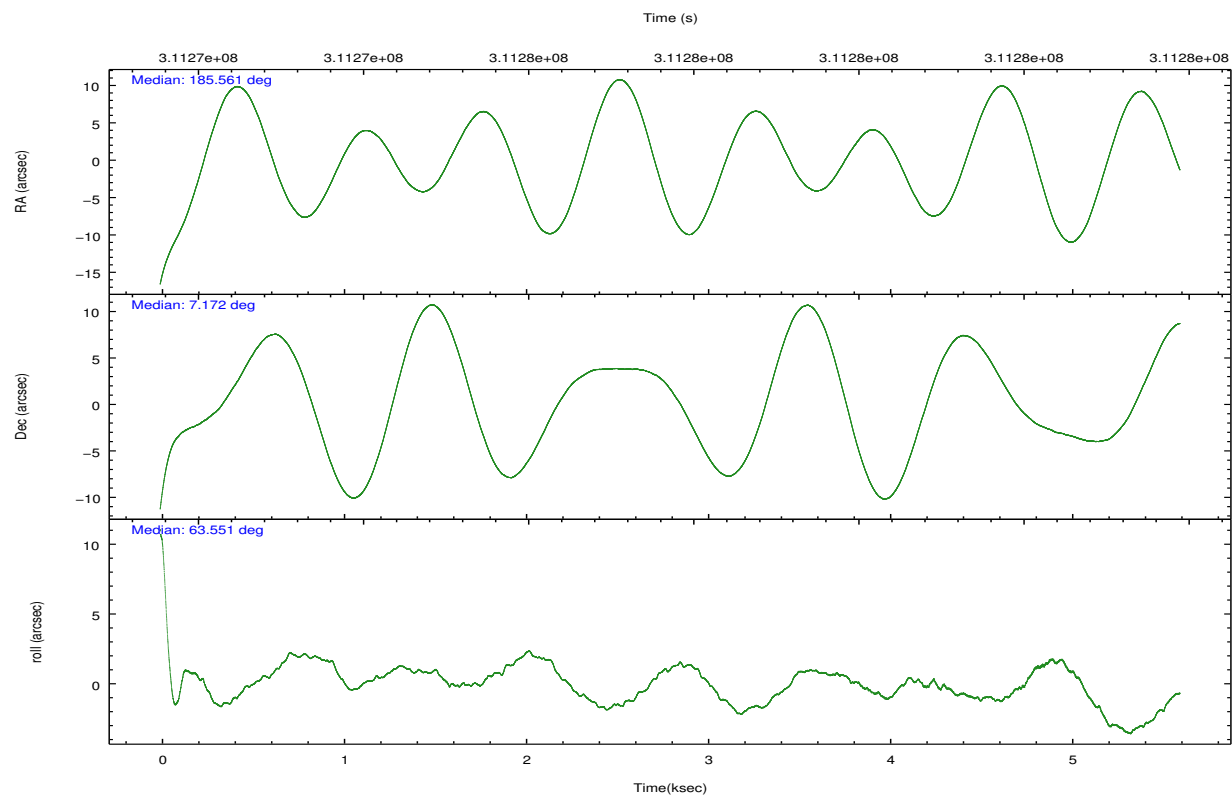


## 2.2 Compared Parameters

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	185.563306	185.5612332788726	CCD I2 on	O1	Y
[deg] Pointing Dec	7.144457	7.171715770376569	CCD I3 on	O2	Y
[deg] Pointing Roll	63.399801	63.55670631615774	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)	311273245.184000	311272276.70943	CCD S5 on	N	N
Observation start date	2007-11-12T16:46:20	2007-11-12T16:31:16	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	311278645.184000	311279759.72229	On-chip summing requested	N	N
Observation end date	2007-11-12T18:16:20	2007-11-12T18:35:59	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



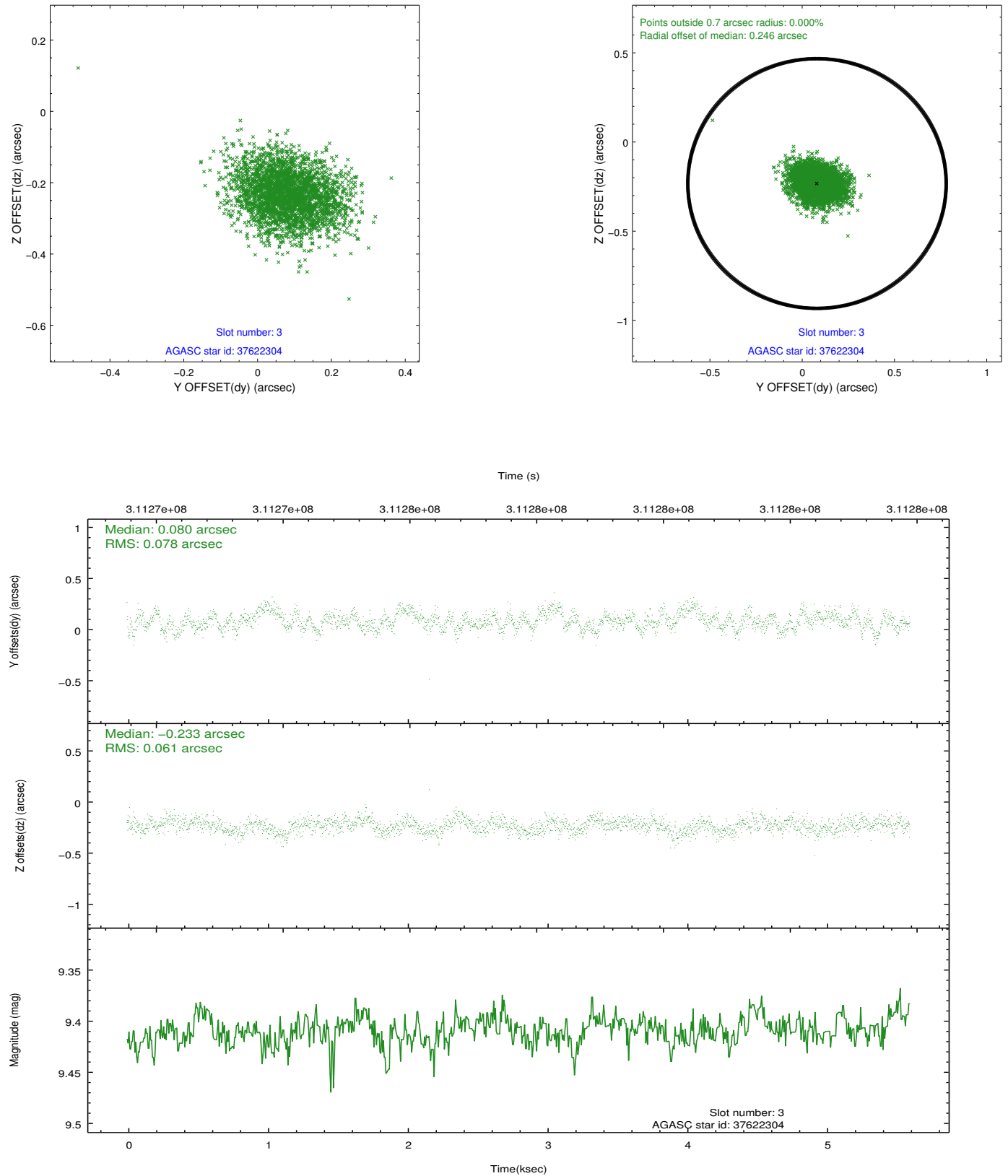


### Slot Statistics

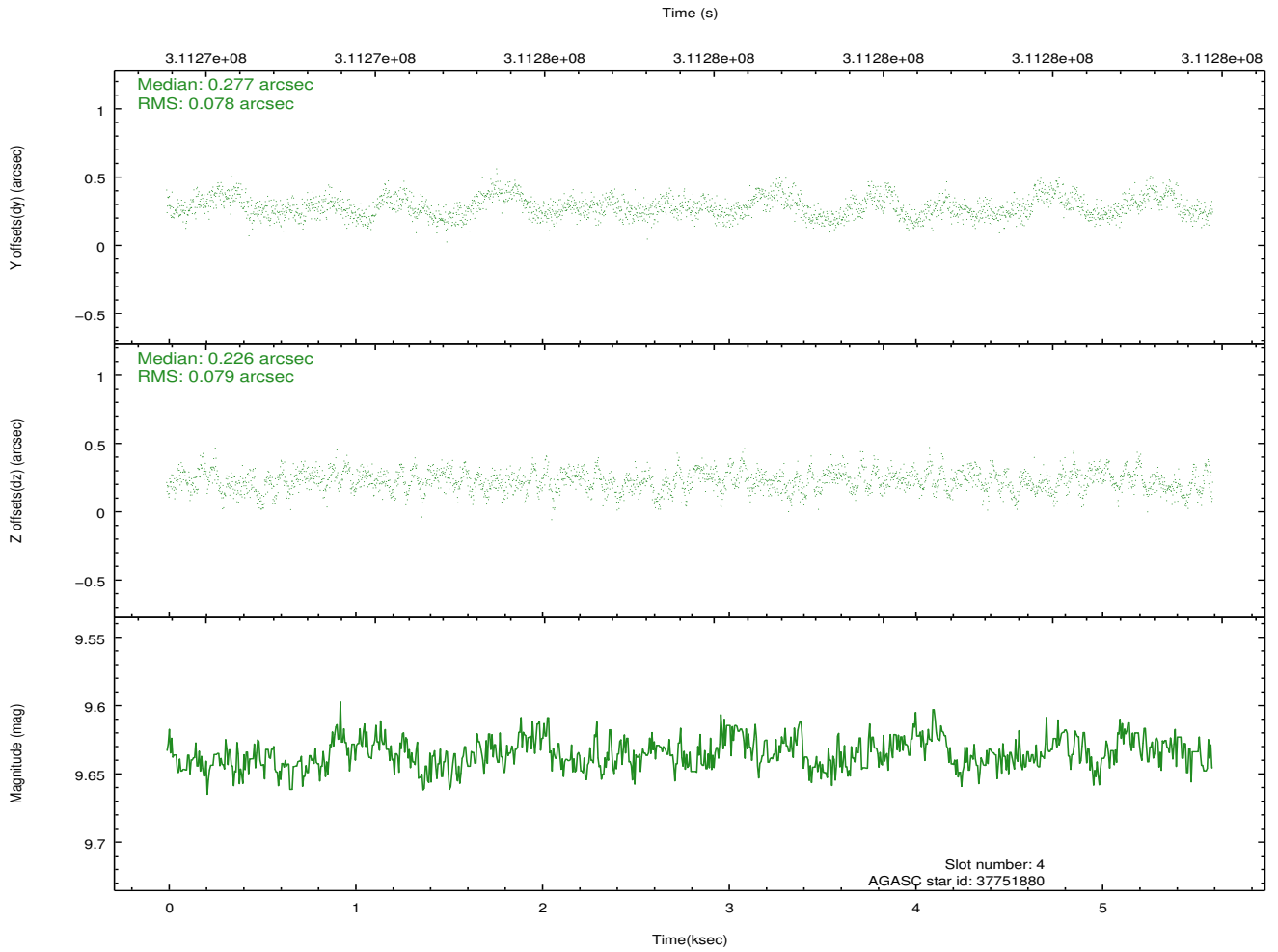
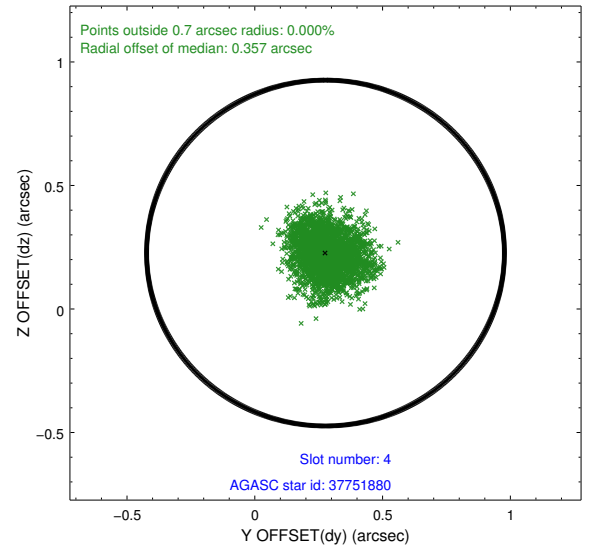
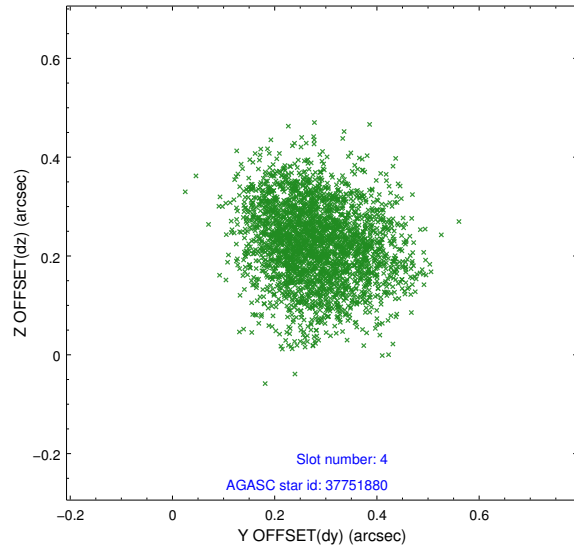
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	1367	-0.070	-0.042	0.007	0.011	0.000000	0.000000	-767.93	-1738.22
1	FID	ACIS-S-4	7.19	1367	0.179	0.045	0.006	0.010	0.000000	0.000000	2145.15	169.18
2	FID	ACIS-S-5	7.22	1367	-0.140	0.005	0.006	0.011	0.000000	0.000000	-1819.43	164.11
3	GUIDE	37622304	9.41	2727	0.080	-0.233	0.106	0.170	184.800430	7.005757	-1665.04	2214.48
4	GUIDE	37751880	9.64	2731	0.277	0.226	0.120	0.189	185.771871	6.844190	-632.73	-1149.43
5	GUIDE	37753960	9.16	2733	0.031	0.253	0.093	0.152	185.663596	6.383809	-2287.70	-1547.33
6	GUIDE	114433792	9.64	2726	-0.263	-0.148	0.136	0.210	185.373016	7.818558	1864.79	1692.83
7	GUIDE	114434008	8.75	2731	-0.132	-0.097	0.081	0.132	185.534773	7.569663	1323.63	777.40

## 2.4 Star Slots

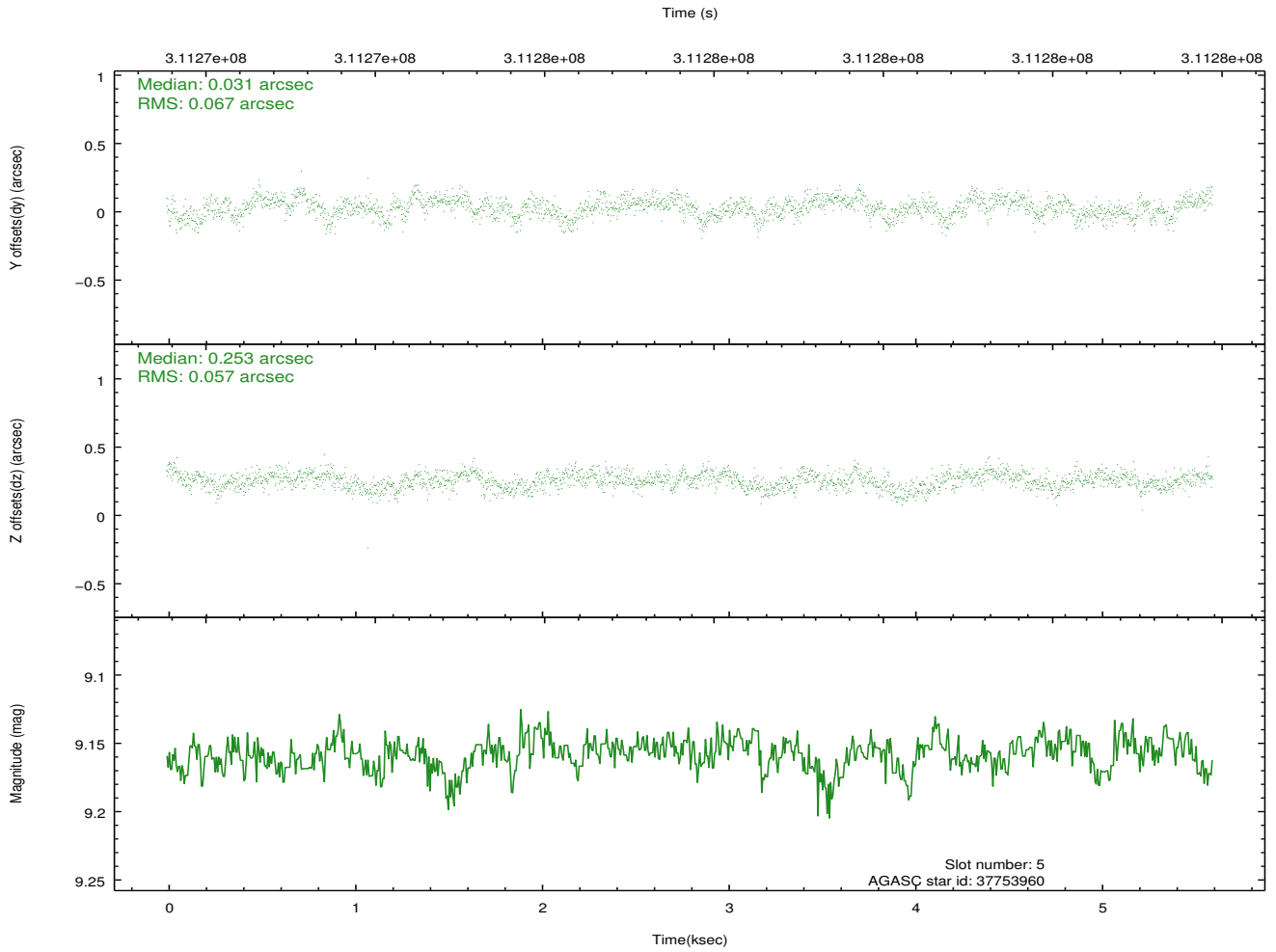
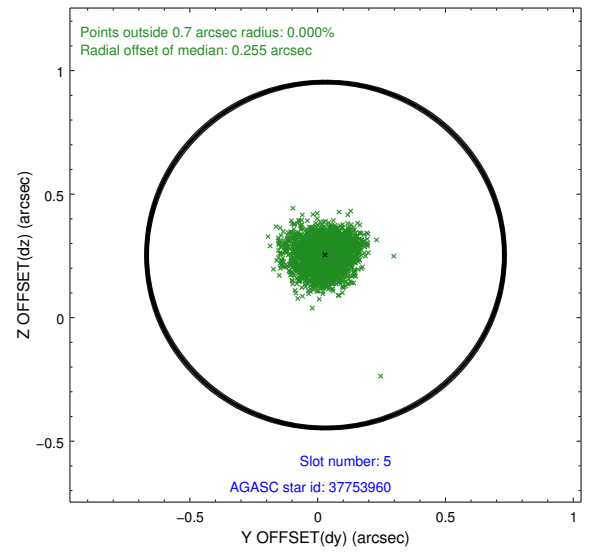
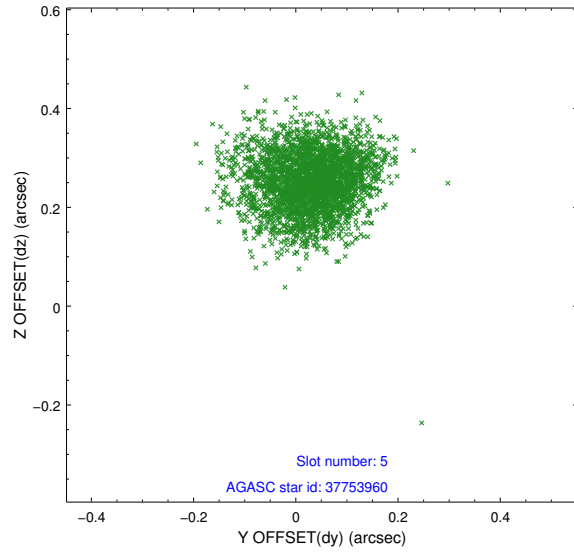
### 2.4.1 Slot 3



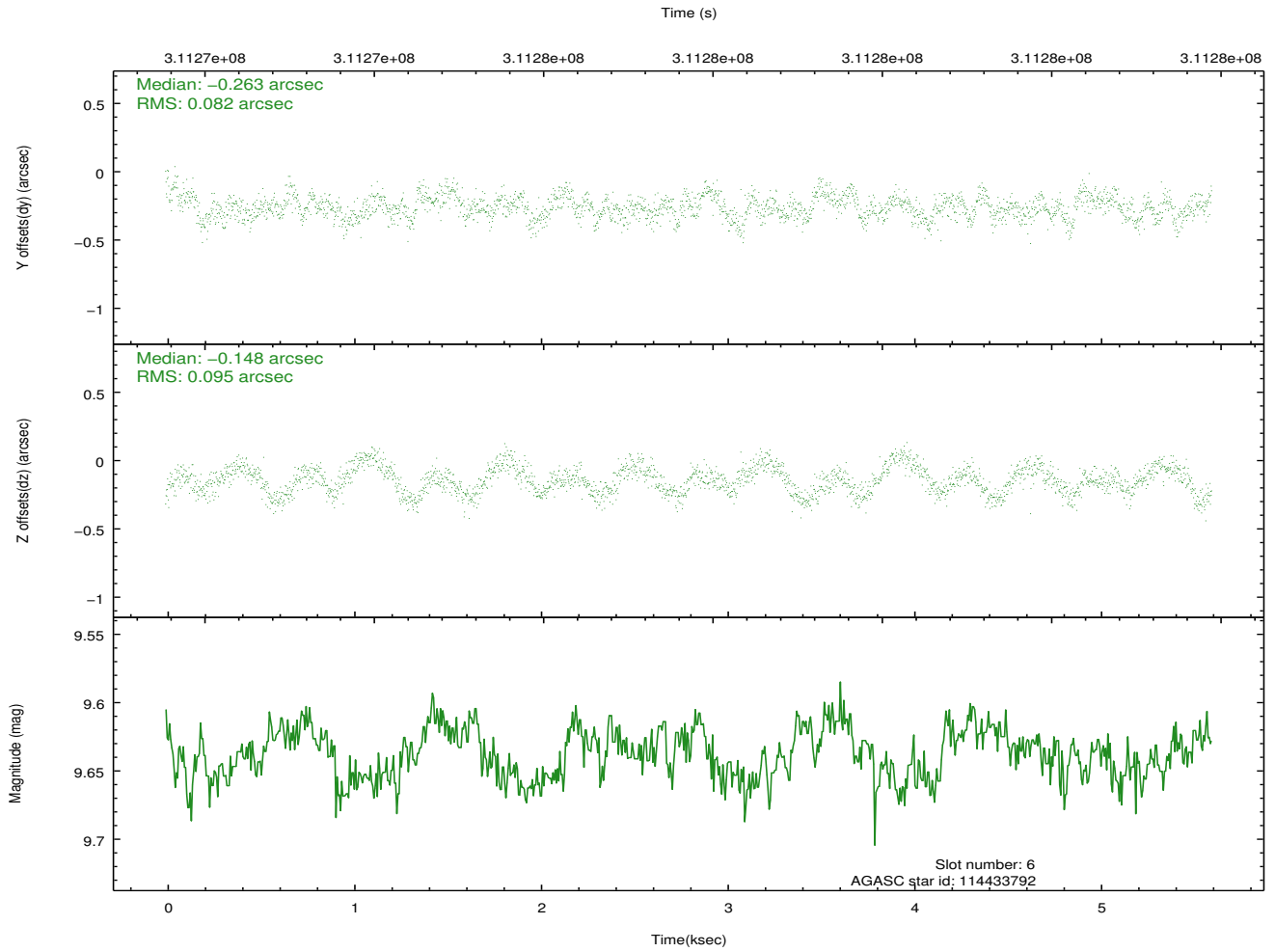
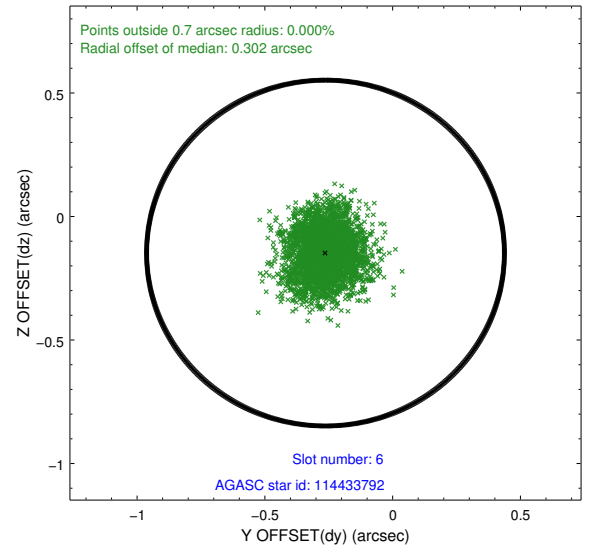
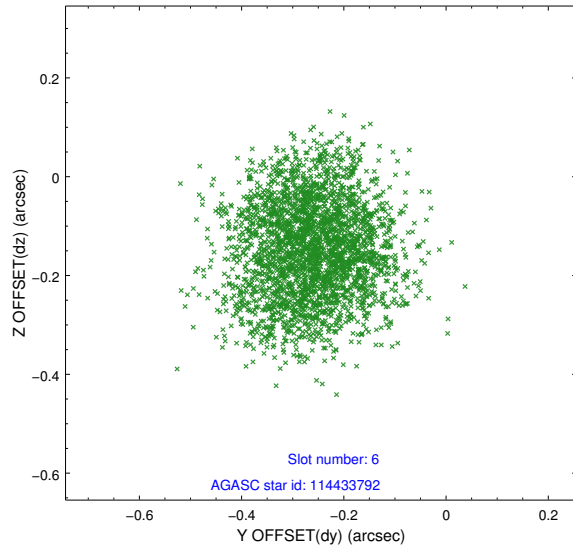
## 2.4.2 Slot 4



### 2.4.3 Slot 5

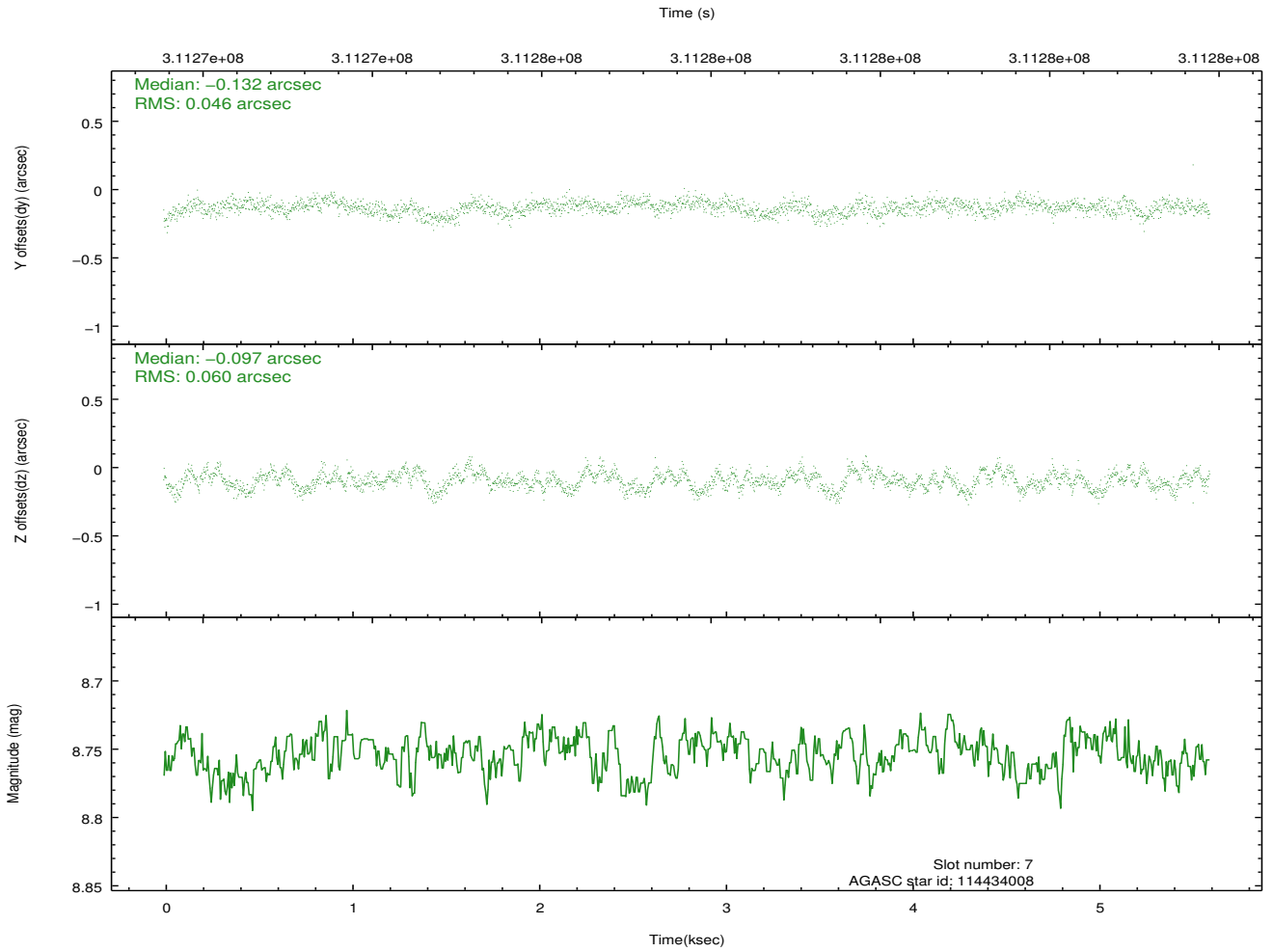
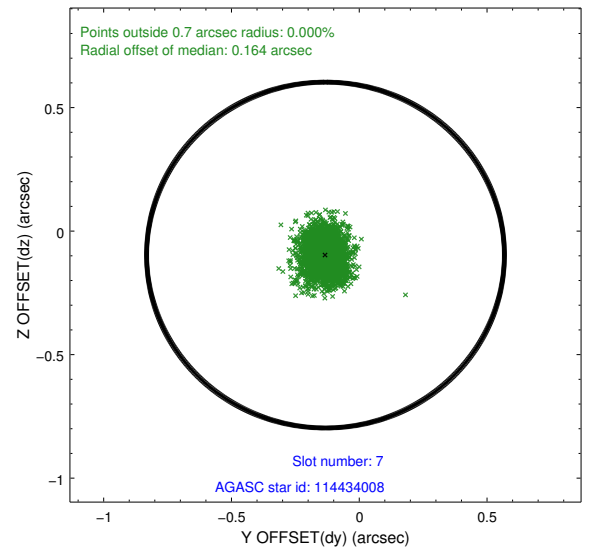
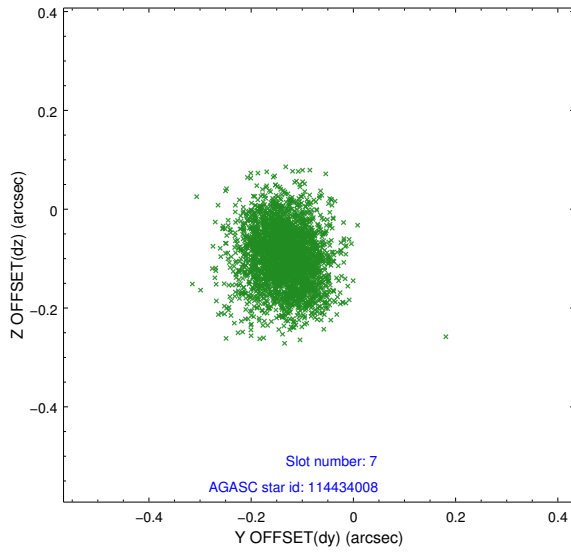


## 2.4.4 Slot 6



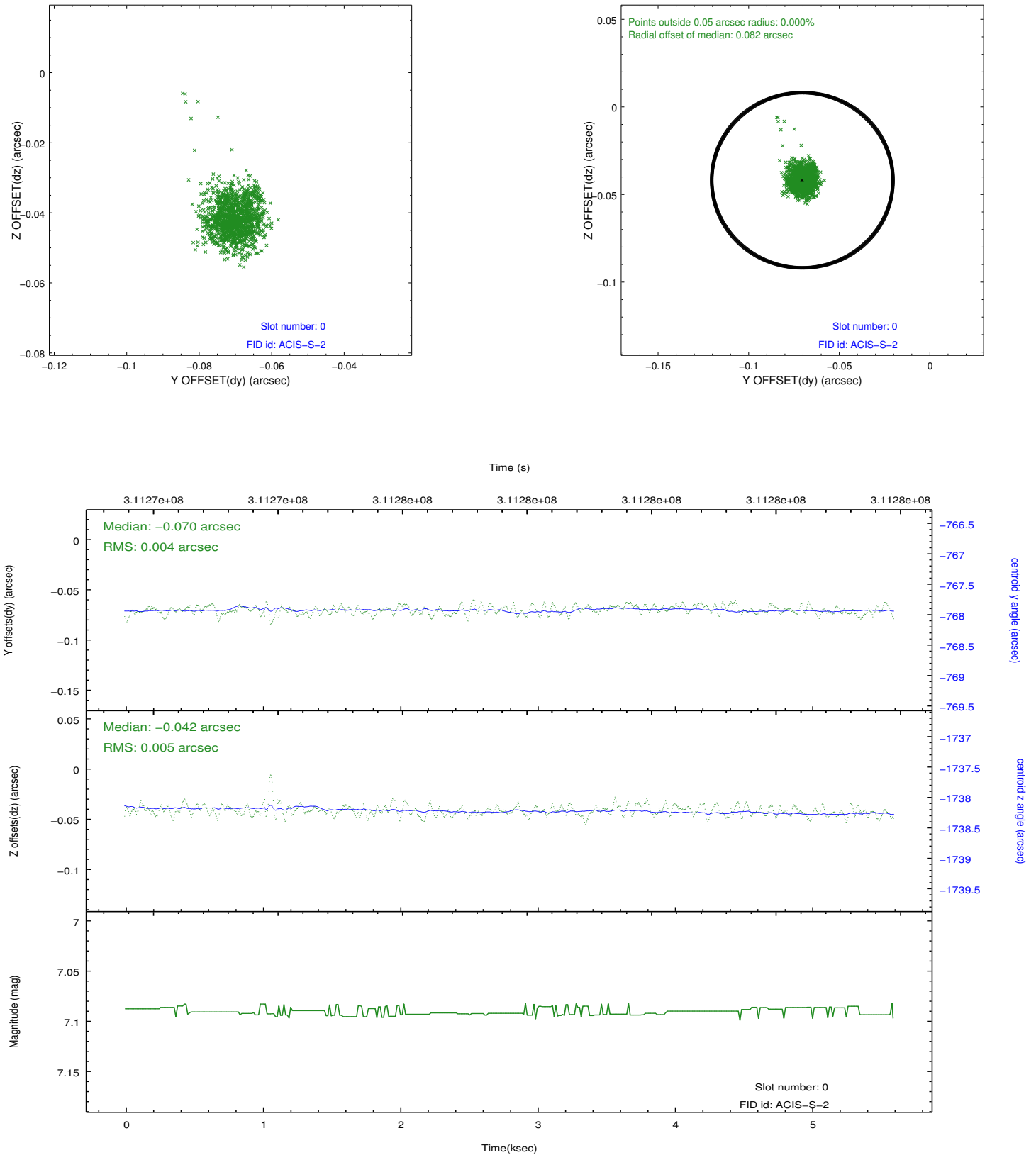


## 2.4.5 Slot 7

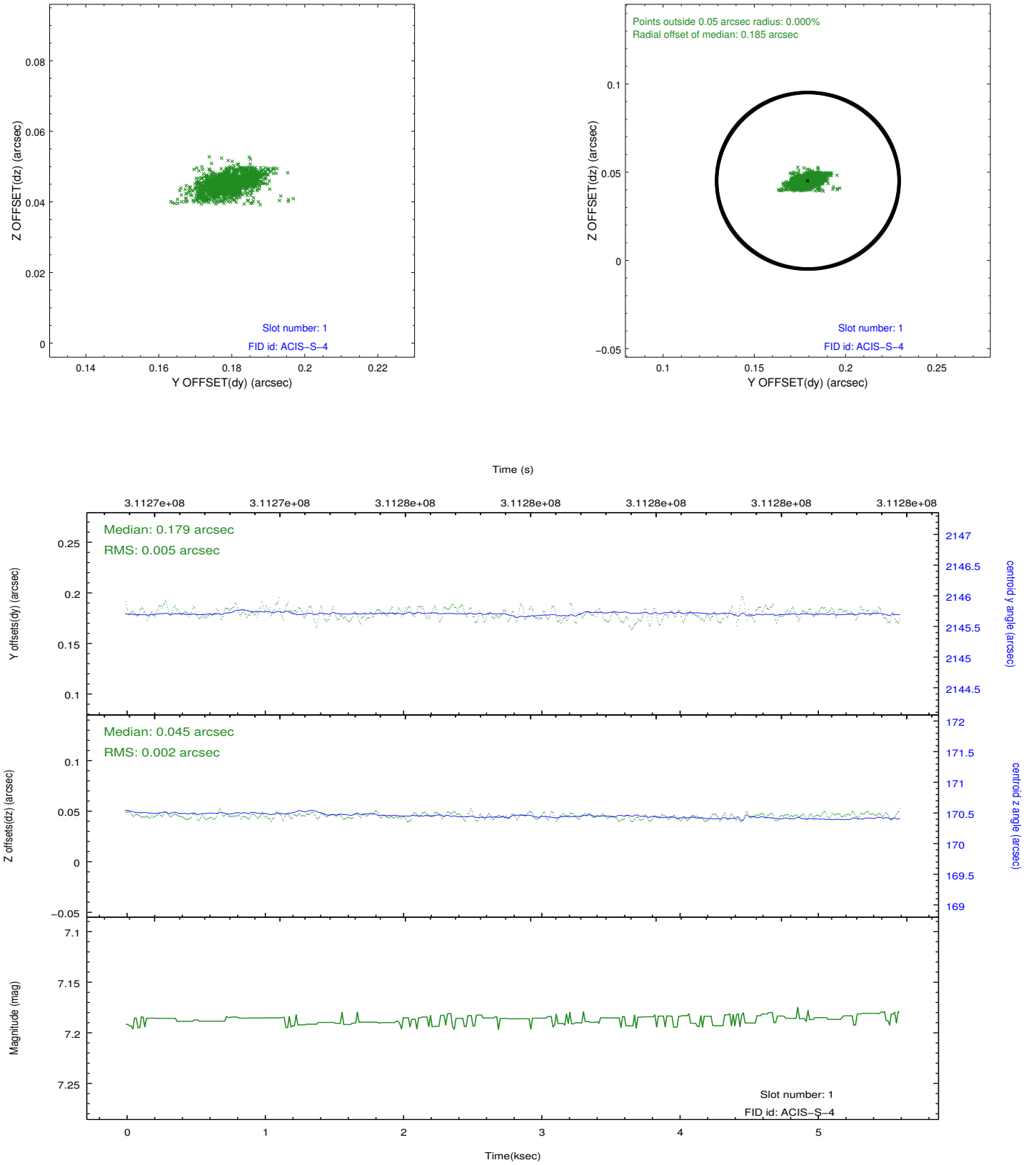


## 2.5 FID Slots

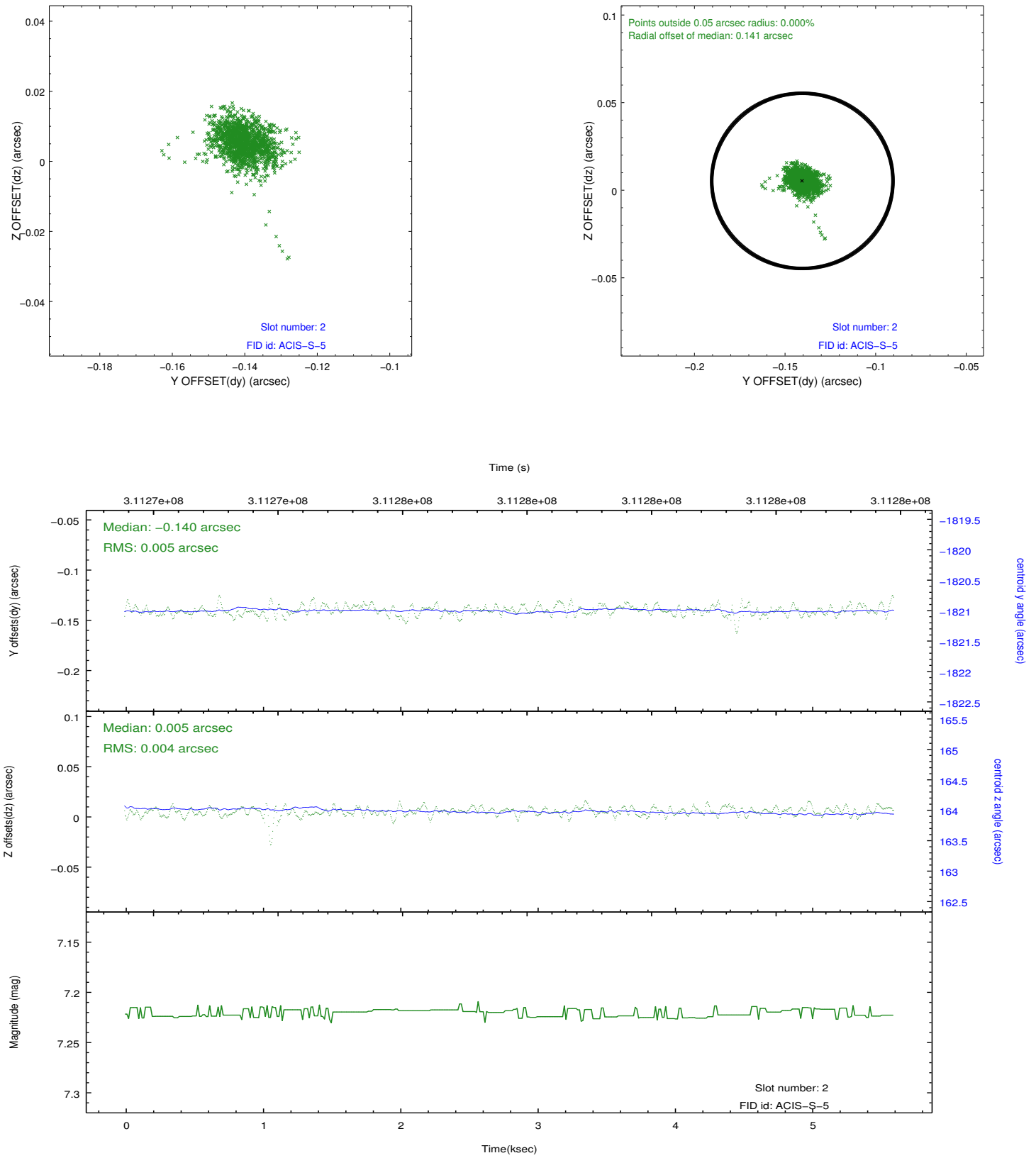
### 2.5.1 Slot 0



## 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)	2012.05.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.34719998

### A.2 Comments

Joint proposal with Spitzer.