

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 8076 - L2 Version 2  
Chandra X-Ray Center

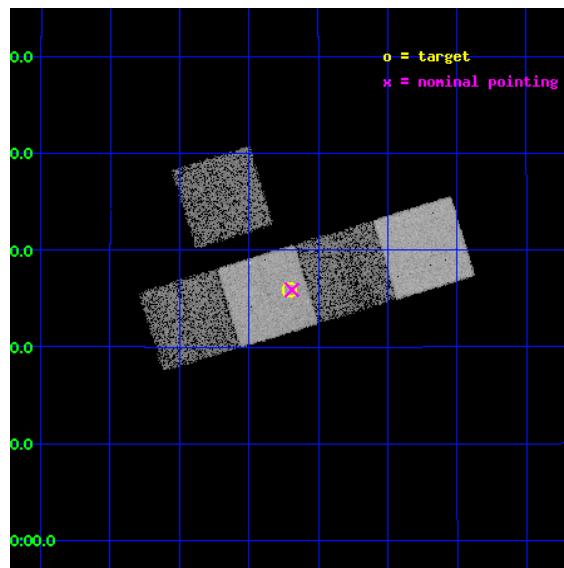
L2 Processing Date : May 11 2012

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# 1 Front

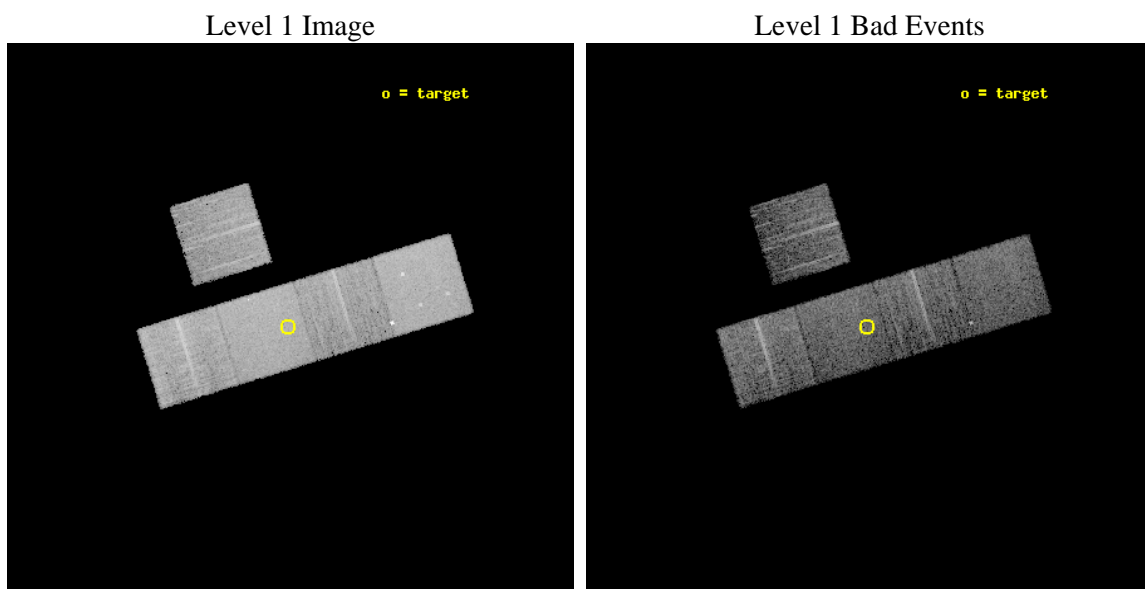
seq_num	900617	Sequence number
obs_id	8076	Observation id
title	The Duty Cycle of Supermassive Black Holes: X-raying Virgo	Proposa
observer	Prof Tommaso Treu	Principal investigator
object	140	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	183.8025	Observer's specified target RA [deg]
dec_targ	14.433083	Observer's specified target Dec [deg]
ra_nom	183.79759200336	Nominal RA [deg]
dec_nom	14.431801420995	Nominal Dec [deg]
roll_nom	163.03068378268	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5173.1181831956	Sum of GTIs [s]
livetime	5105.5275857379	Livetime [s]
ontime3	5172.9950931668	Sum of GTIs [s]
ontime5	5173.0771731734	Sum of GTIs [s]
ontime6	5173.0361331701	Sum of GTIs [s]
ontime7	5173.1181831956	Sum of GTIs [s]
ontime8	5166.6720727086	Sum of GTIs [s]
l2events	79823	Number of level 2 events



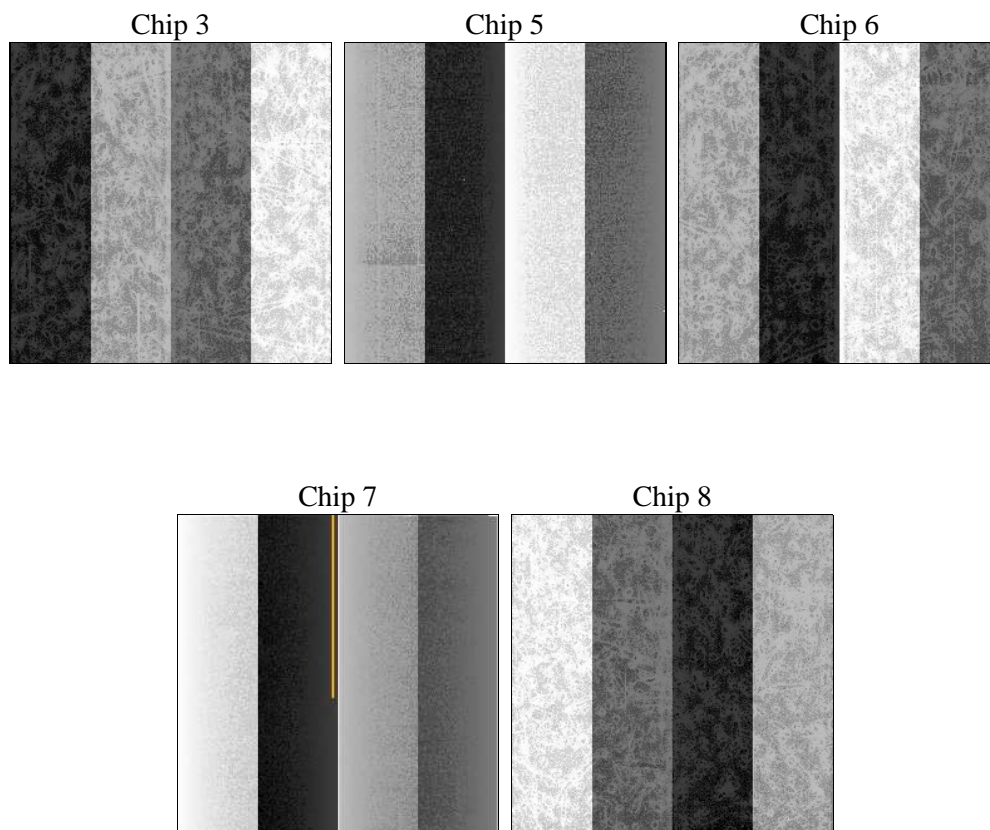
## 2 OBI

### 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	5173.1181831956	Sum of GTIs [s]
caldsver	4.4.9	&#160	ontime3	5172.9950931668	Sum of GTIs [s]
date	2012-05-11T13:18:18	Date and time of file creation	ontime5	5173.0771731734	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	5173.0361331701	Sum of GTIs [s]
			ontime7	5173.1181831956	Sum of GTIs [s]
			ontime8	5166.6720727086	Sum of GTIs [s]
			l1events	312782	Number of level 1 events

### 2.1.4 Events

	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	47683	78567	49611	70720	66201
rejected events	41401	41791	43340	41381	51495
rejected %	86%	53%	87%	58%	77%

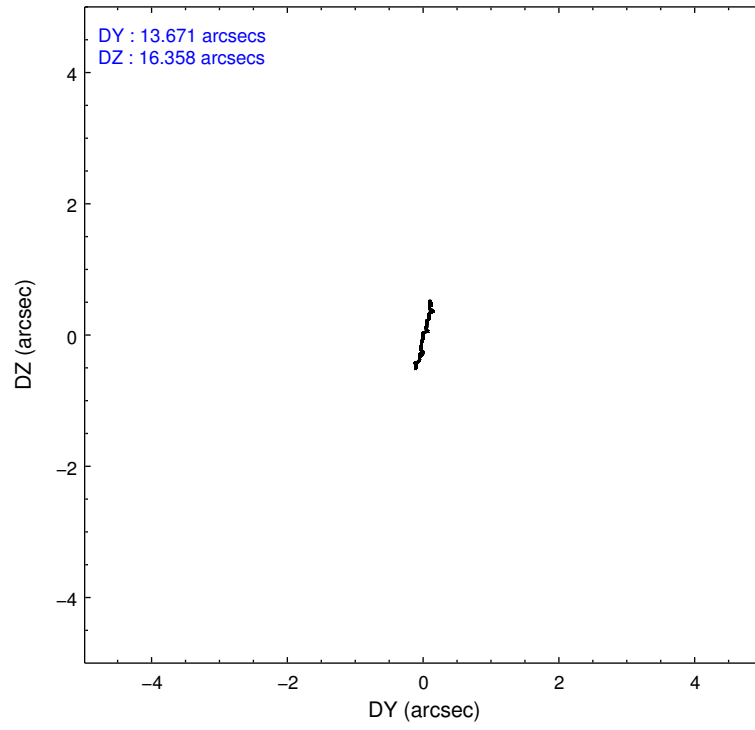
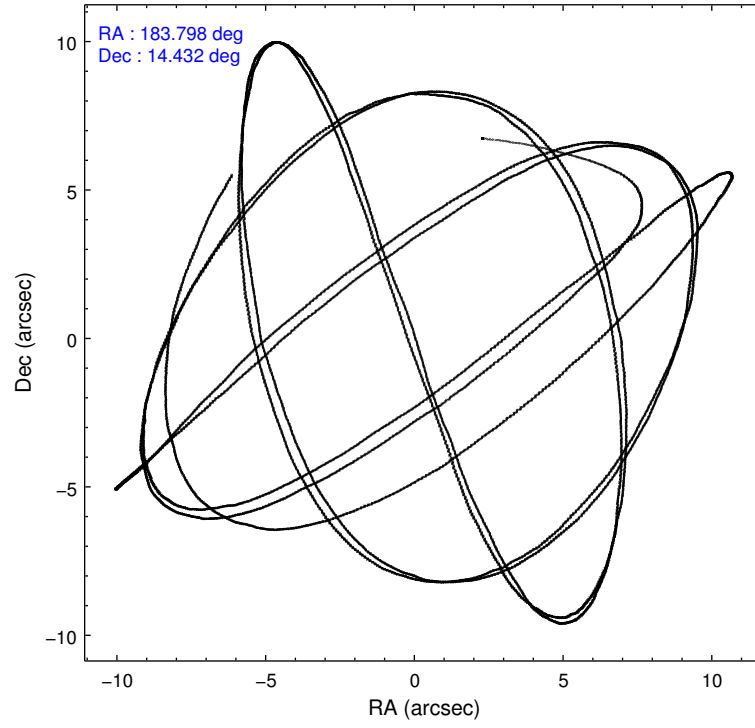
	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	2791	3517	2539	2598	4735
	5%	4%	5%	3%	7%
grade 1 events	19	188	27	59	54
	0%	0%	0%	0%	0%
grade 2 events	1267	10827	1318	6064	3166
	2%	13%	2%	8%	4%
grade 3 events	555	1557	575	2478	1531
	1%	1%	1%	3%	2%
grade 4 events	586	1439	572	2632	1481
	1%	1%	1%	3%	2%
grade 5 events	2327	5576	2322	6655	3067
	4%	7%	4%	9%	4%
grade 6 events	1088	19453	1271	15590	3795
	2%	24%	2%	22%	5%
grade 7 events	39050	36010	40987	34644	48372
	81%	45%	82%	48%	73%

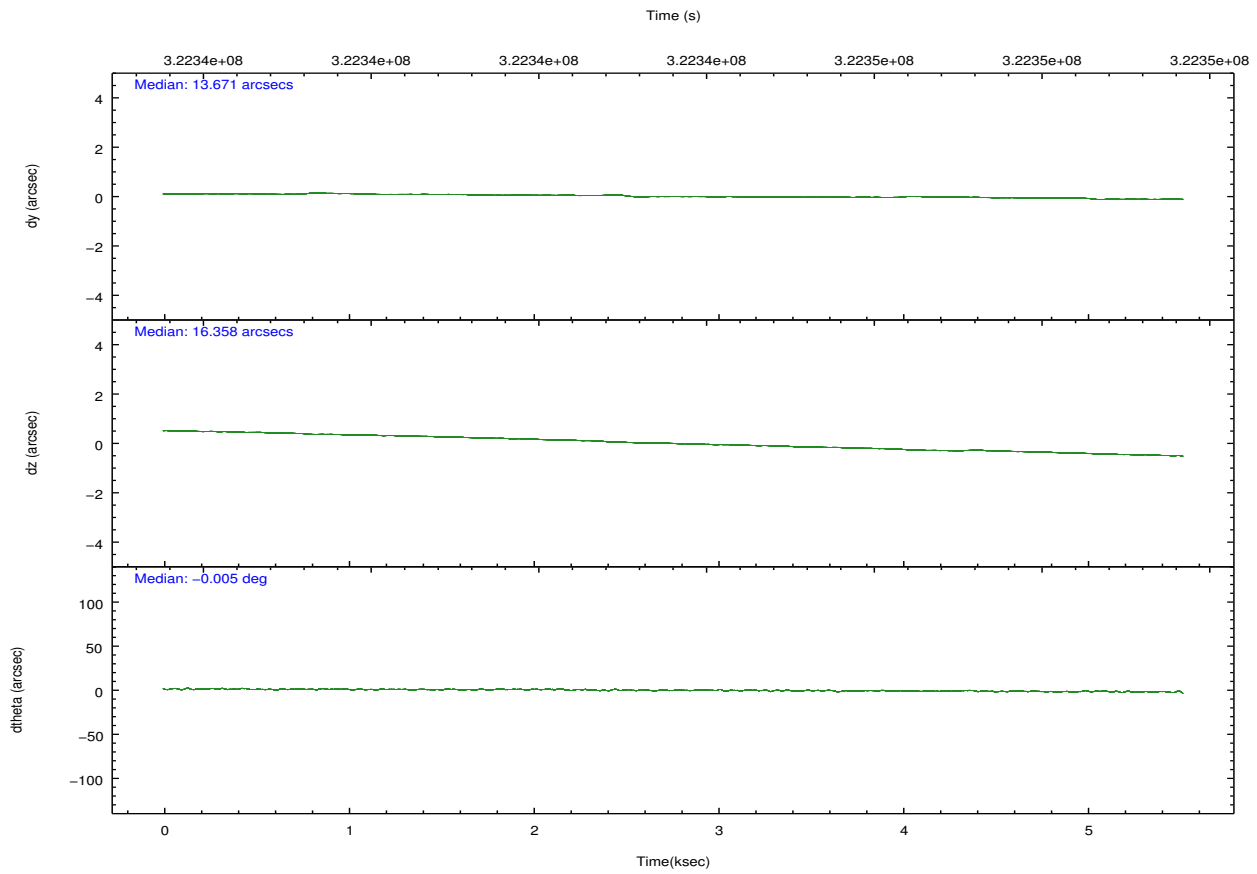
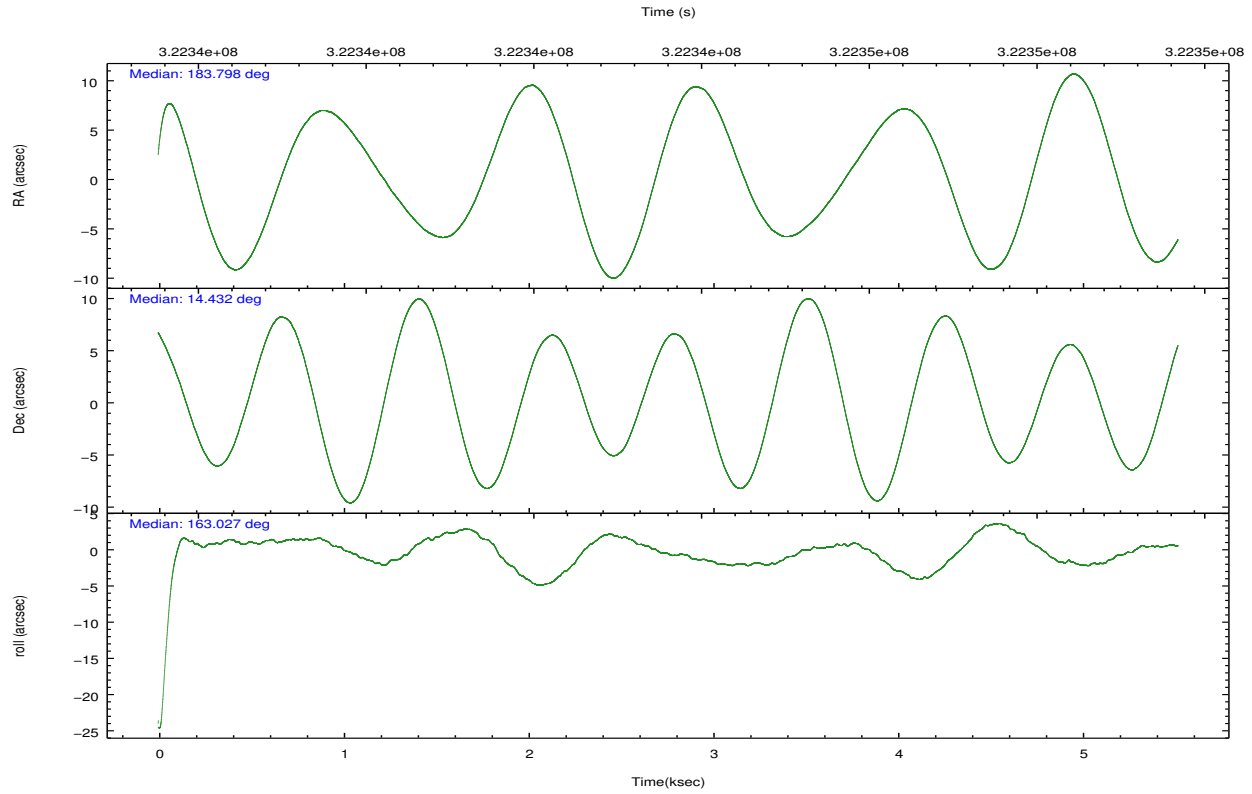


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-35678	ACIS-35678	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	183.825078	183.7975920033586	CCD I2 on	O1	N
[deg] Pointing Dec	14.438372	14.43180142099483	CCD I3 on	O2	Y
[deg] Pointing Roll	162.867256	163.0306837826779	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	-190.145094680475	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01257209746719923	CCD S4 on	O4	Y
[s] Observation start time (MET)	322342160.184000	322340810.98324	CCD S5 on	N	N
Observation start date	2008-03-19T19:28:15	2008-03-19T19:06:50	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	322347560.184000	322348126.4086	On-chip summing requested	N	N
Observation end date	2008-03-19T20:58:15	2008-03-19T21:08:46	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



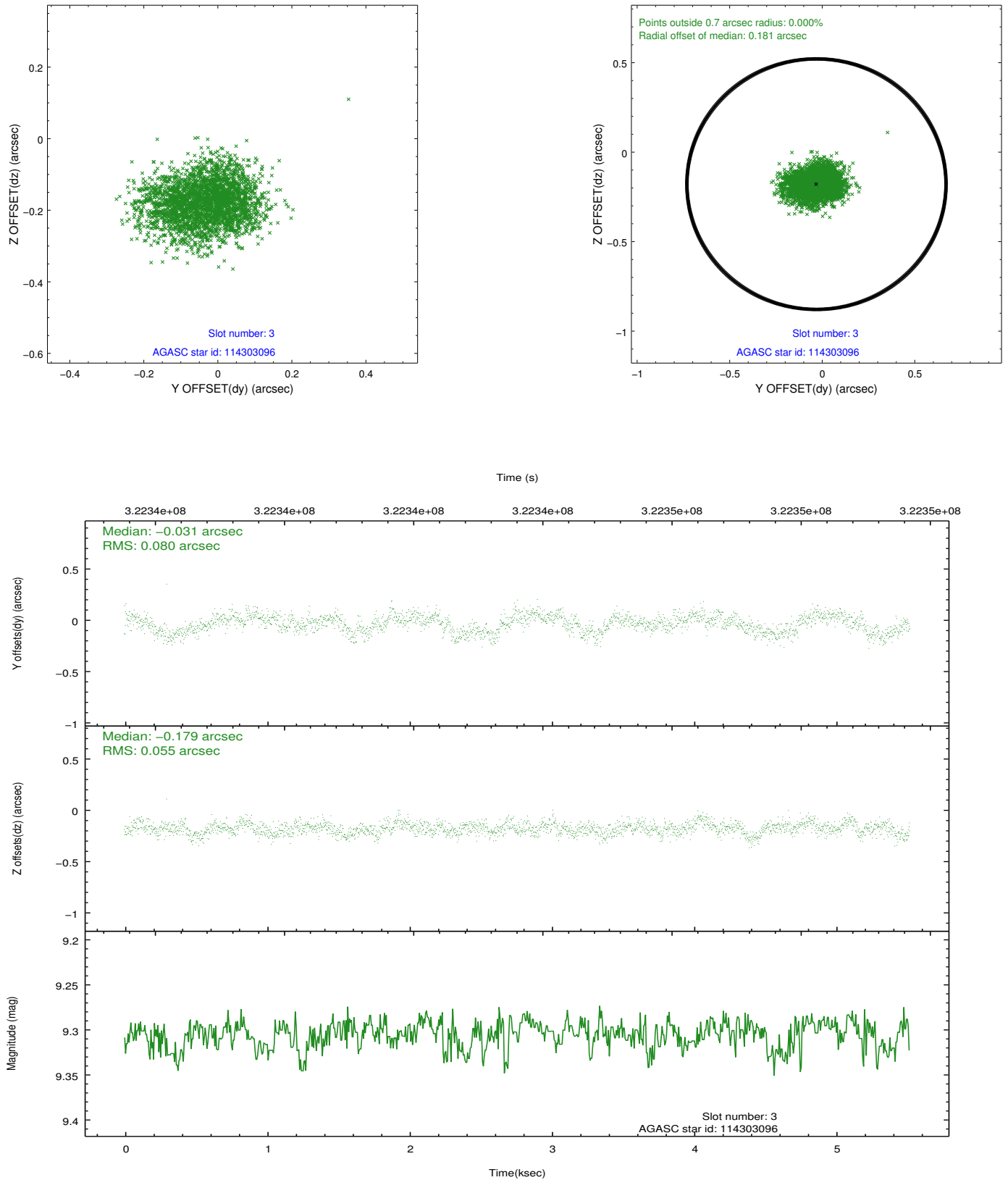


### Slot Statistics

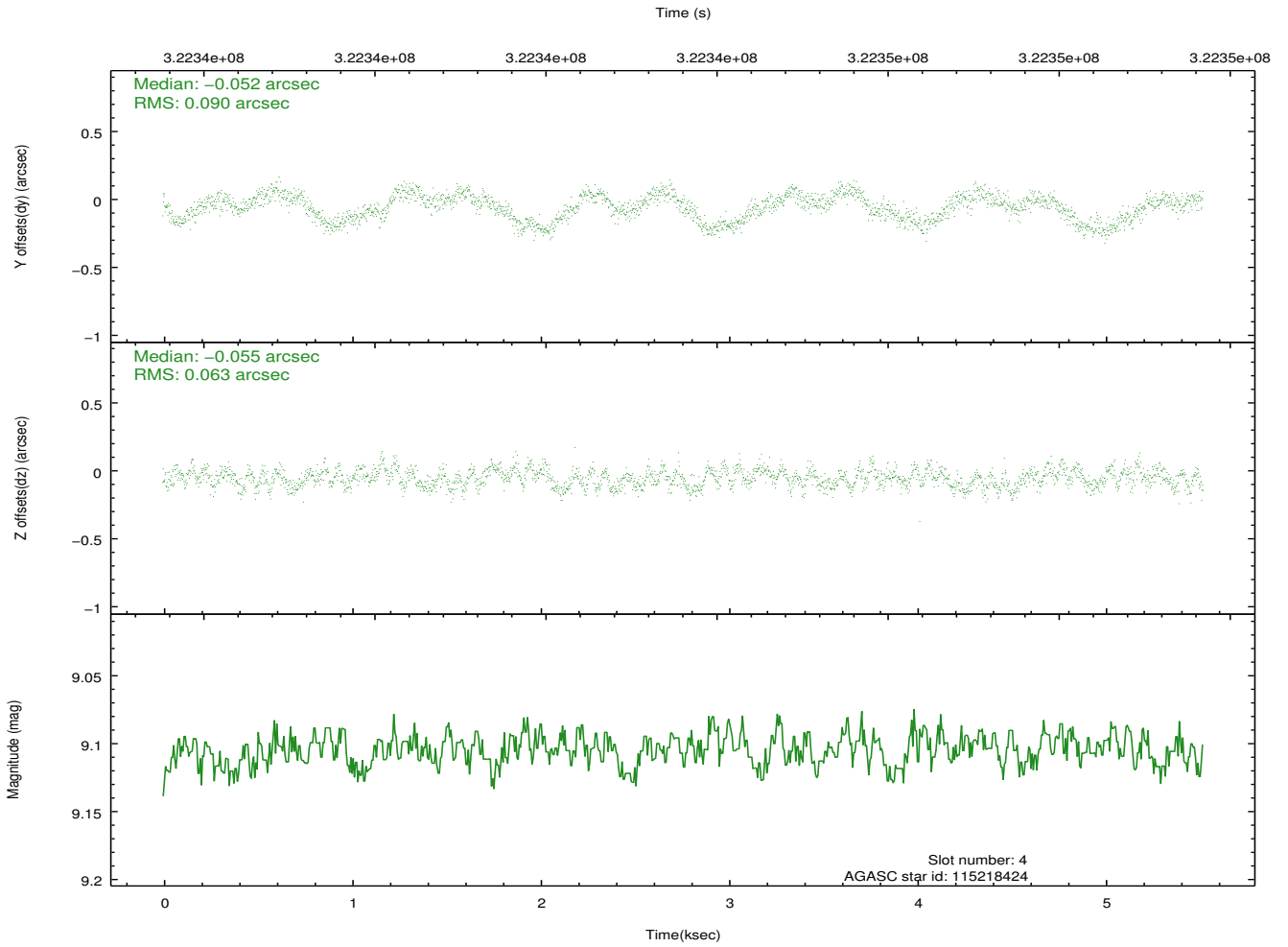
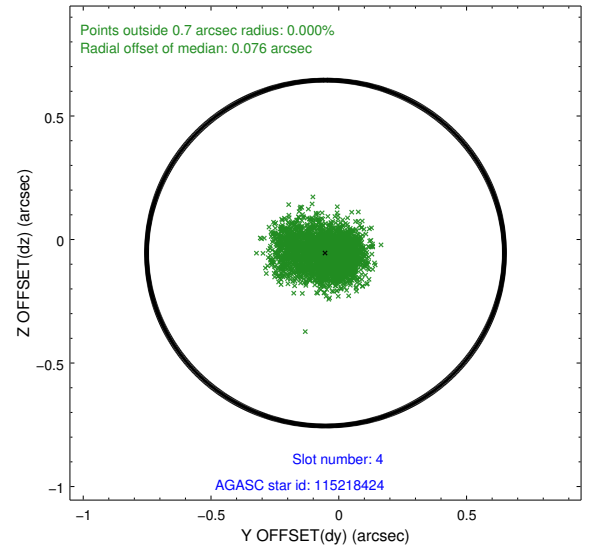
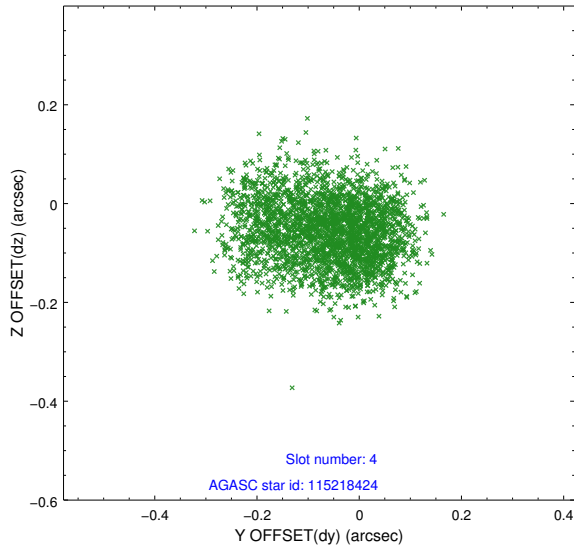
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.19	1346	0.107	-0.114	0.011	0.017	0.000000	0.000000	929.51	-1733.43
1	FID	ACIS-S-5	7.23	1347	-0.165	0.060	0.011	0.017	0.000000	0.000000	-1819.14	163.19
2	FID	ACIS-S-6	7.32	1347	0.037	0.065	0.009	0.015	0.000000	0.000000	393.83	808.37
3	GUIDE	114303096	9.30	2692	-0.031	-0.179	0.104	0.168	183.214020	14.515722	2118.21	358.51
4	GUIDE	115218424	9.10	2691	-0.052	-0.055	0.119	0.187	184.237137	14.820527	-963.87	-1738.14
5	GUIDE	115218912	8.27	2693	0.020	-0.001	0.068	0.110	184.400783	14.442830	-1912.15	-609.32
6	GUIDE	114296256	9.34	2691	0.055	0.124	0.085	0.137	182.985406	14.017213	2356.84	2307.88
7	GUIDE	114301168	9.20	2690	0.030	0.113	0.104	0.165	182.996668	14.071189	2377.45	2111.57

## 2.4 Star Slots

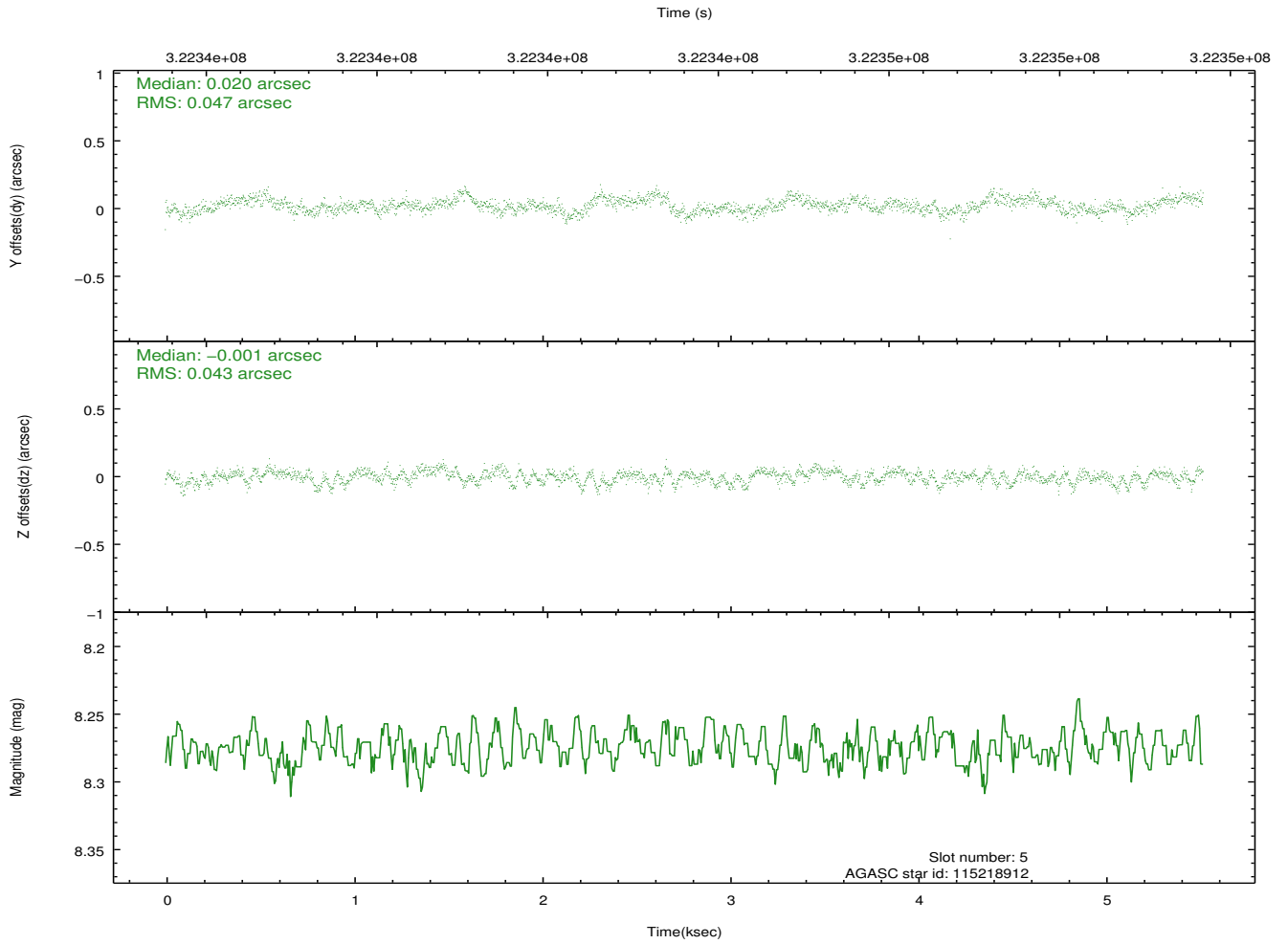
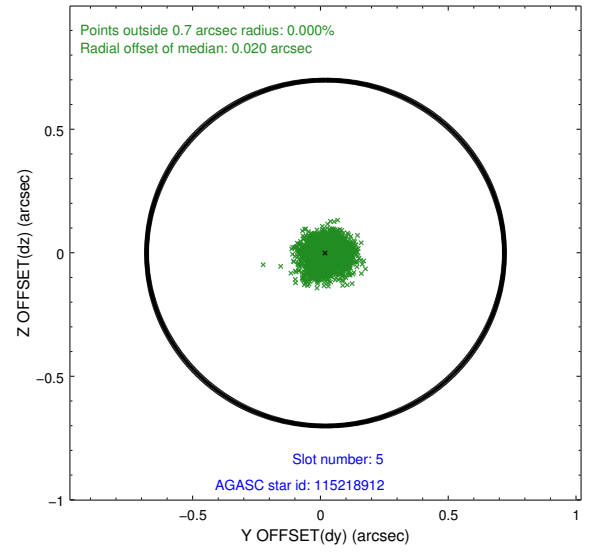
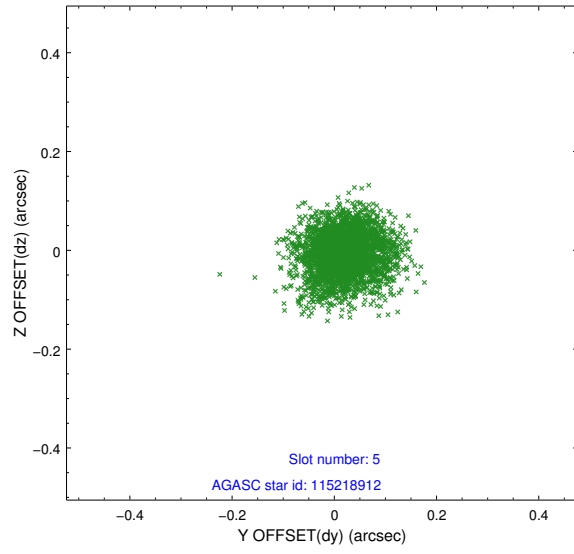
### 2.4.1 Slot 3



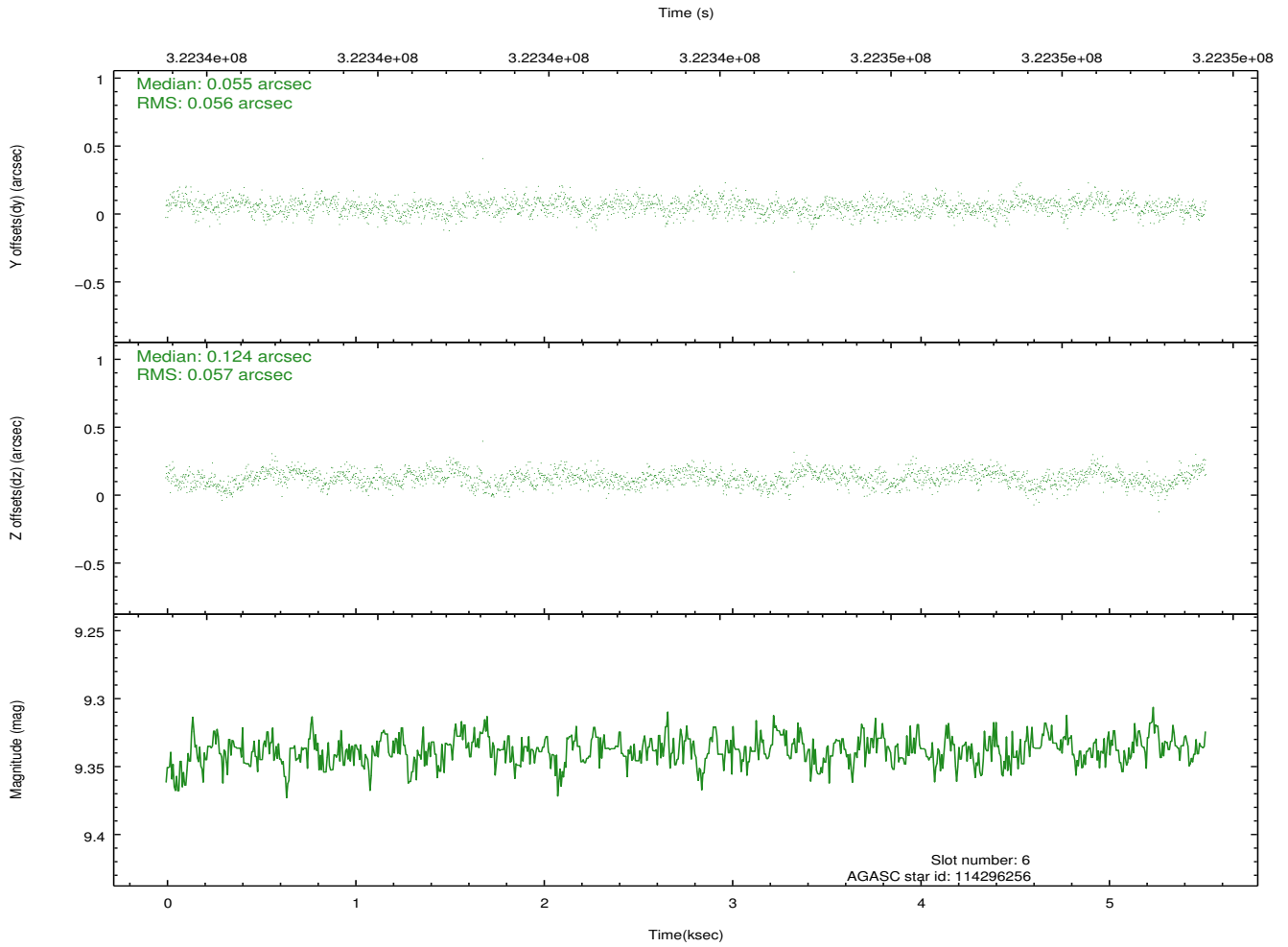
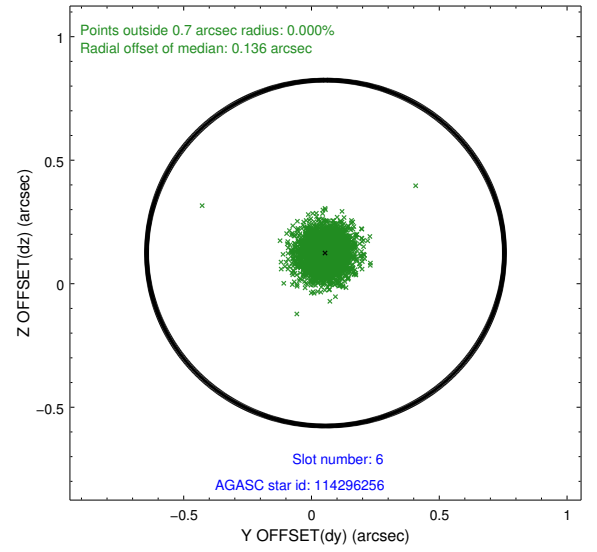
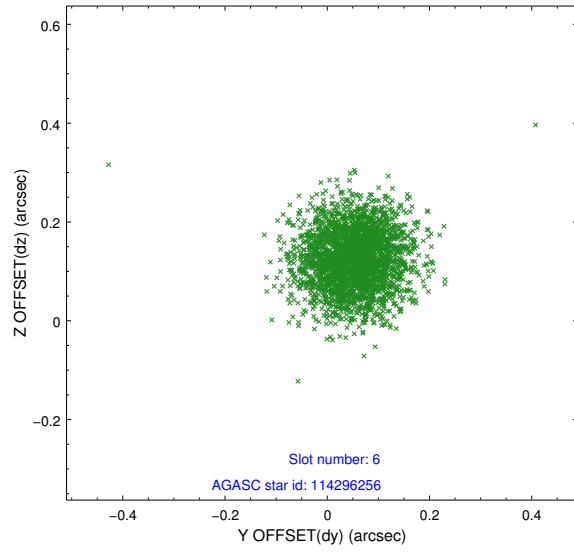
## 2.4.2 Slot 4



### 2.4.3 Slot 5

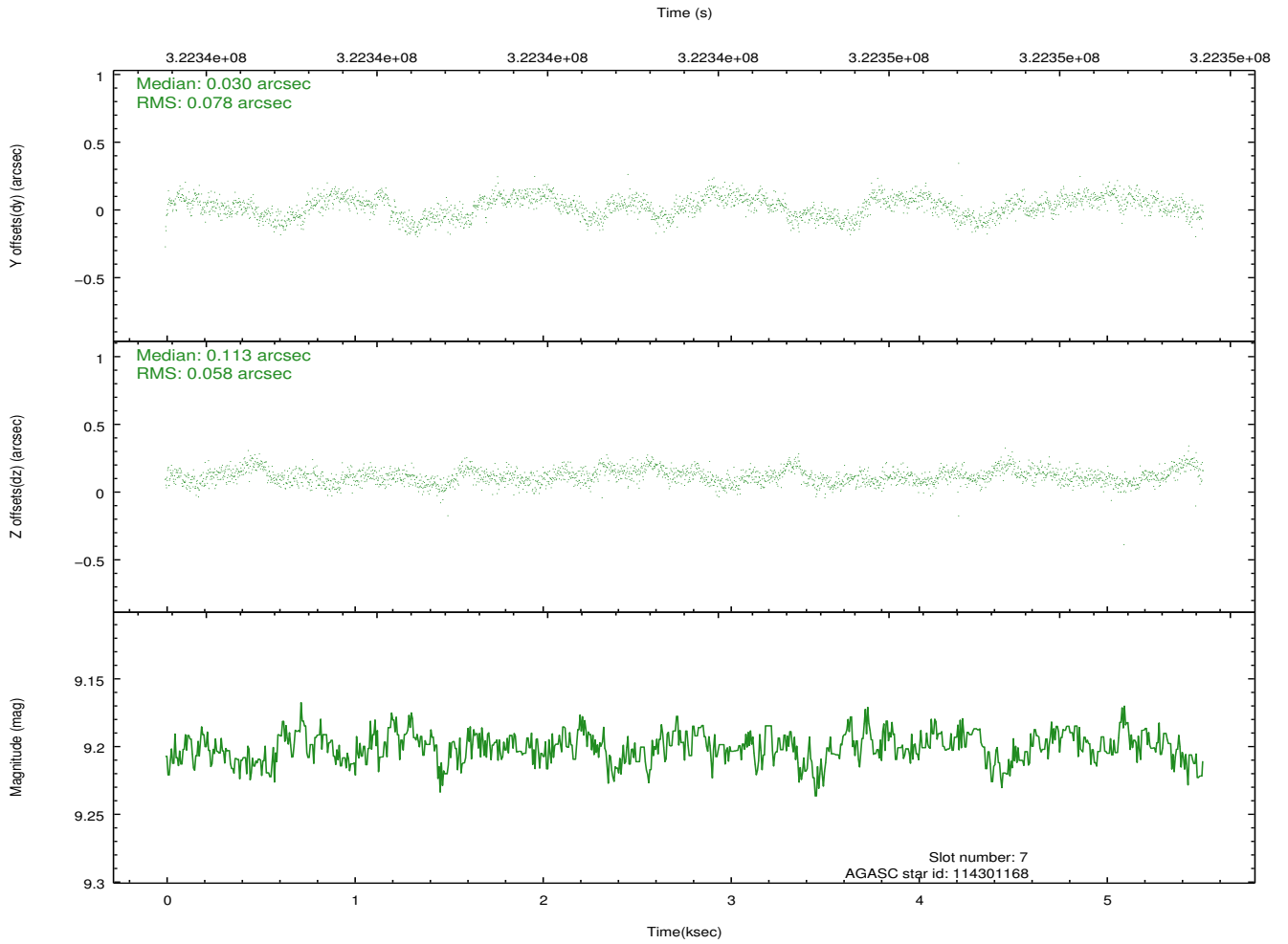
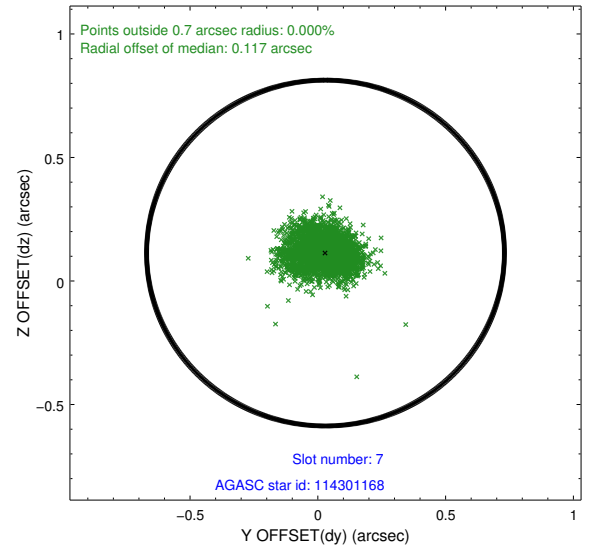
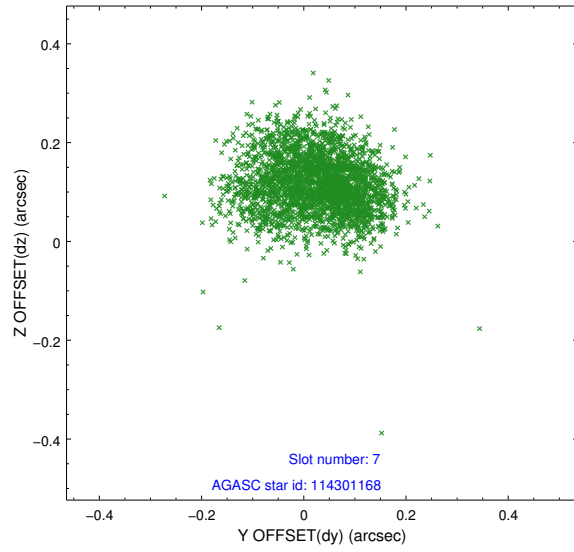


## 2.4.4 Slot 6



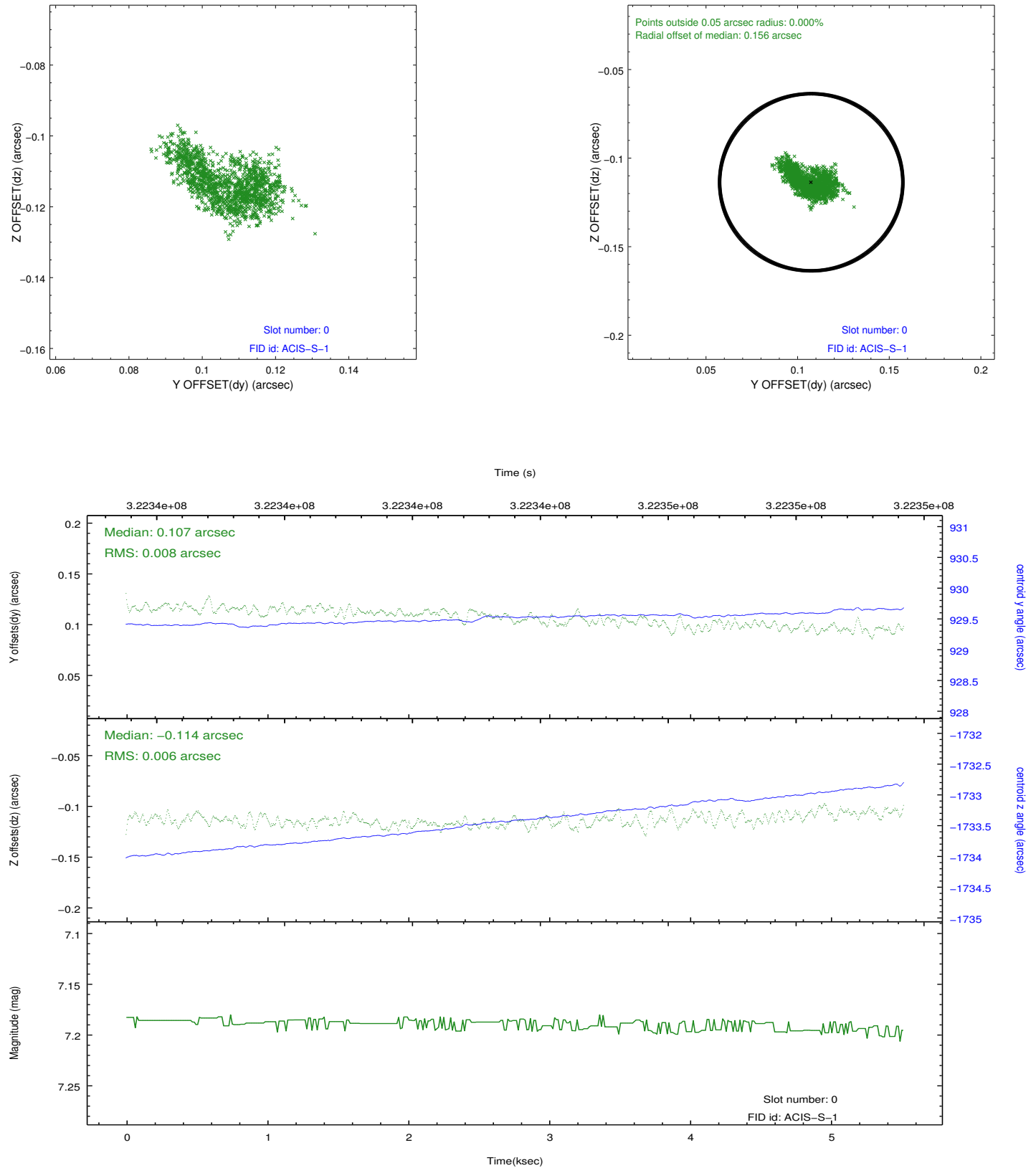


## 2.4.5 Slot 7

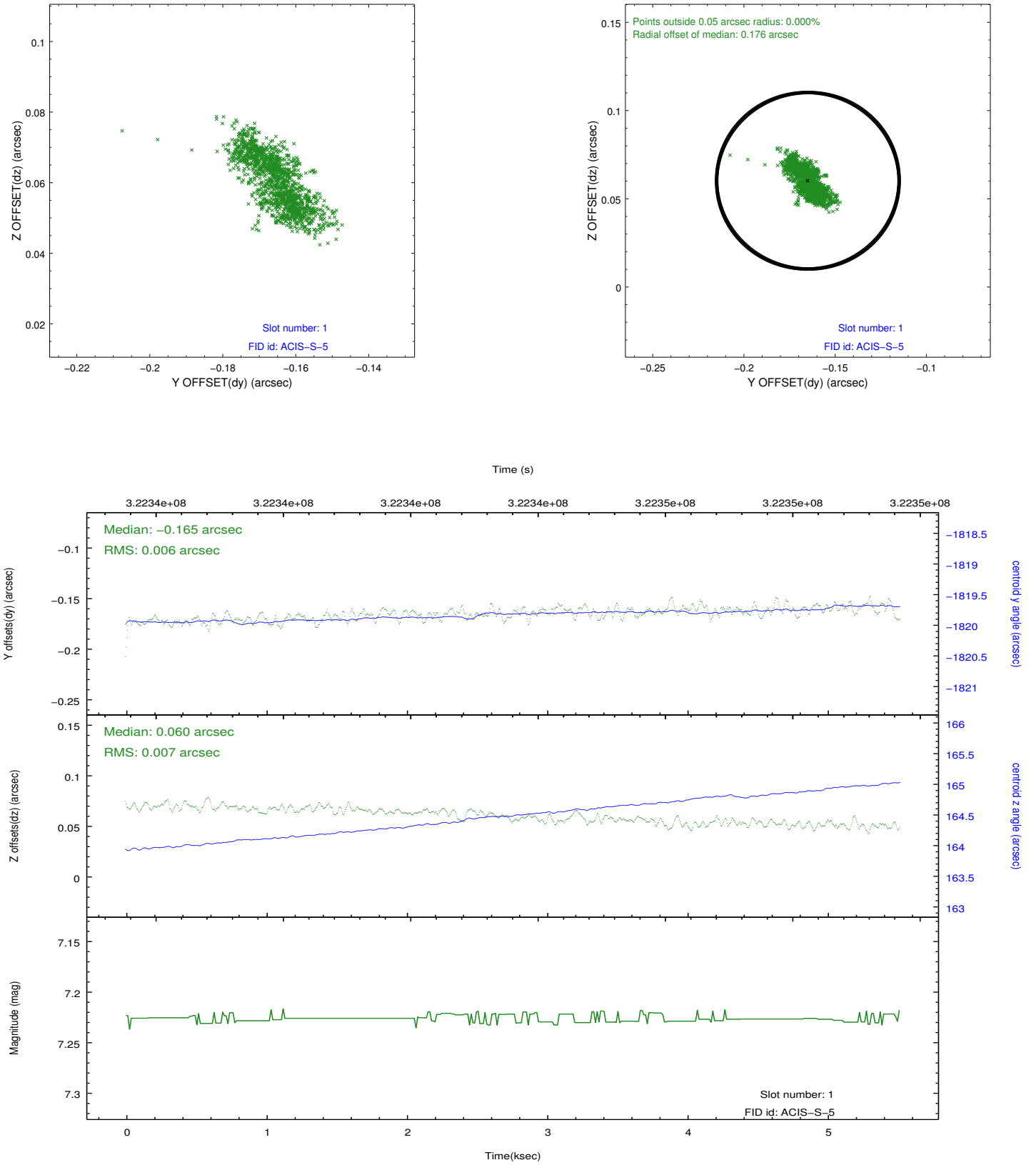


## 2.5 FID Slots

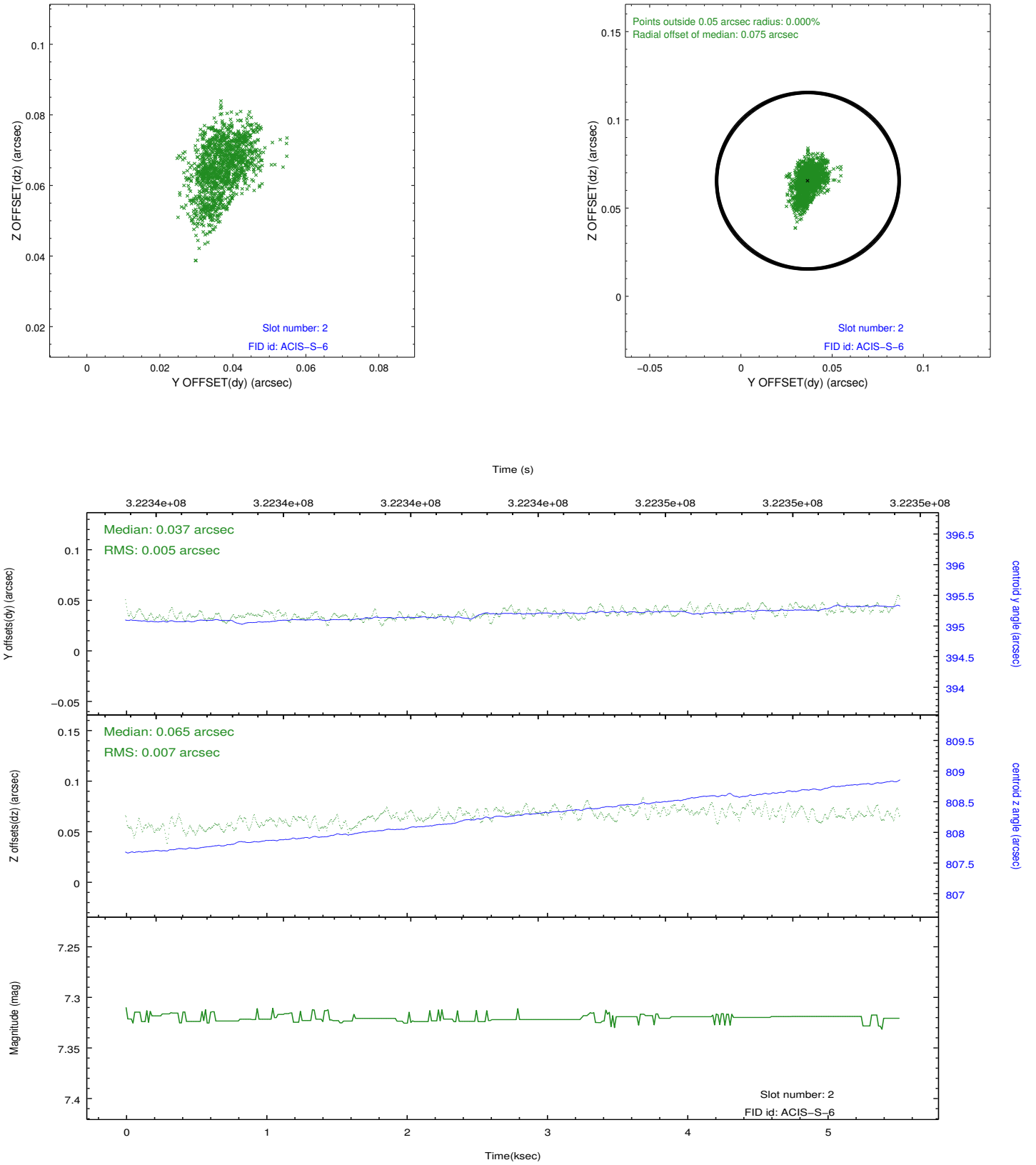
### 2.5.1 Slot 0



## 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)	2012.05.14
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.17390003

### A.2 Comments

Joint proposal with Spitzer. CCD chip I2 was not used in this observation. It was designated as optional by the observer and observing constraints mandated that it not be used.