

# V&V Reference Report

## L2 ASCDS Version : 10.4.3.1

Observation 17161 - L2 Version 1  
Chandra X-Ray Center

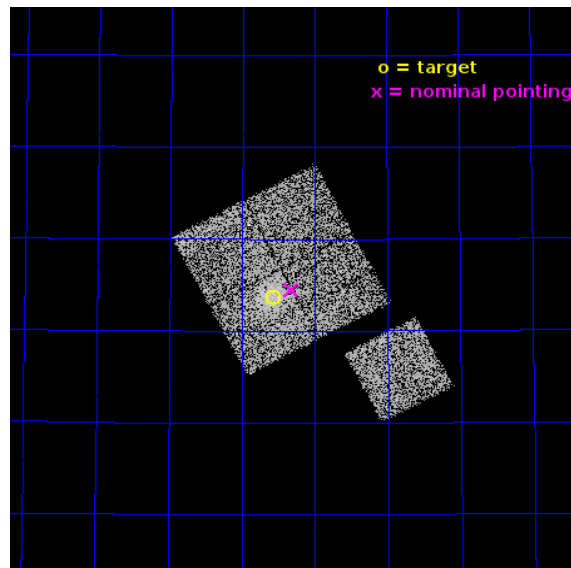
L2 Processing Date : Feb 1 2016

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# 1 Front

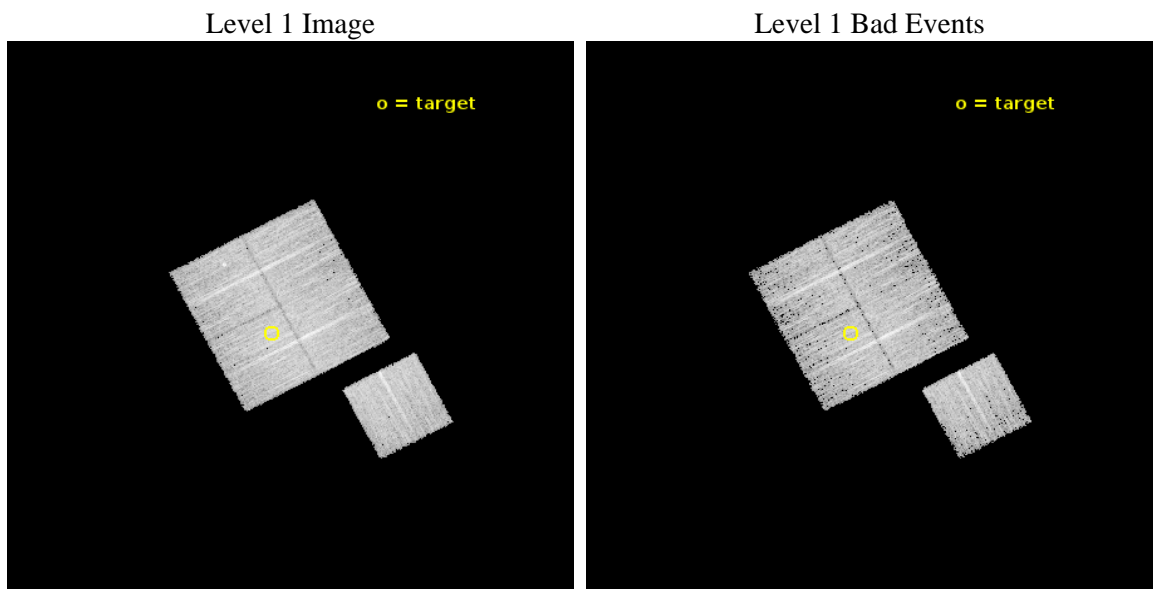
seq_num	801449	Sequence number
obs_id	17161	Observation id
title	Chandra Calibration of the Richness-Mass Relation of Galaxy Clusters: Enabling Cluster Cosmology with the DES	Proposal title
observer	Eduardo Rozo	Principal investigator
object	RM J101734.3+593339.8	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	154.392917	Observer's specified target RA [deg]
dec_targ	59.561056	Observer's specified target Dec [deg]
ra_nom	154.33063719869	Nominal RA [deg]
dec_nom	59.575076296422	Nominal Dec [deg]
roll_nom	152.17364797533	Nominal Roll [deg]
revision	1	Processing version of data
ontime	7669.400059104	Sum of GTIs [s]
livetime	7569.1937012016	Livetime [s]
ontime0	7669.400059104	Sum of GTIs [s]
ontime1	7669.400059104	Sum of GTIs [s]
ontime2	7669.400059104	Sum of GTIs [s]
ontime3	7669.400059104	Sum of GTIs [s]
ontime6	7669.400059104	Sum of GTIs [s]
l2events	23414	Number of level 2 events



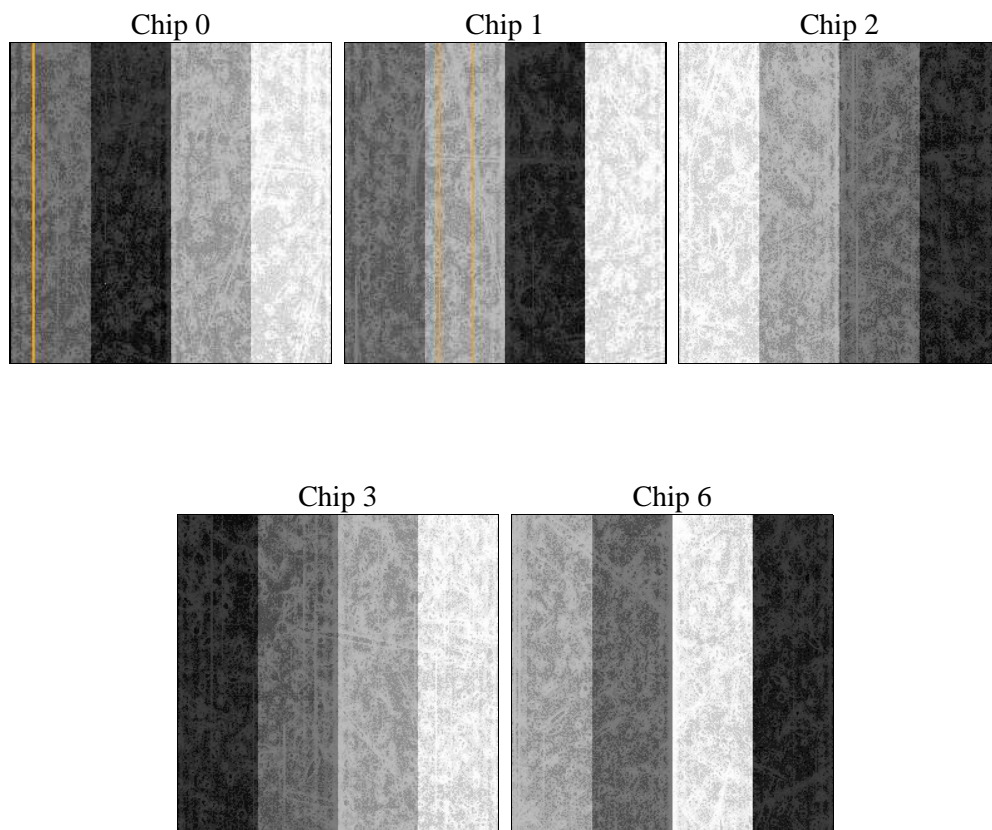
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	7600.000000	[s] Scheduled observation exposure time
ascdsver	10.4.3.1	Processing system revision	ontime	7669.400059104	Sum of GTIs [s]
caldsver	4.7.0	&#160	ontime0	7669.400059104	Sum of GTIs [s]
date	2016-02-02T03:17:34	Date and time of file creation	ontime1	7669.400059104	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	7669.400059104	Sum of GTIs [s]
			ontime3	7669.400059104	Sum of GTIs [s]
			ontime6	7669.400059104	Sum of GTIs [s]
			l1events	239093	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	45170	47129	49910	49561	47323
rejected events	40112	41202	44856	43281	42091
rejected %	88%	87%	89%	87%	88%

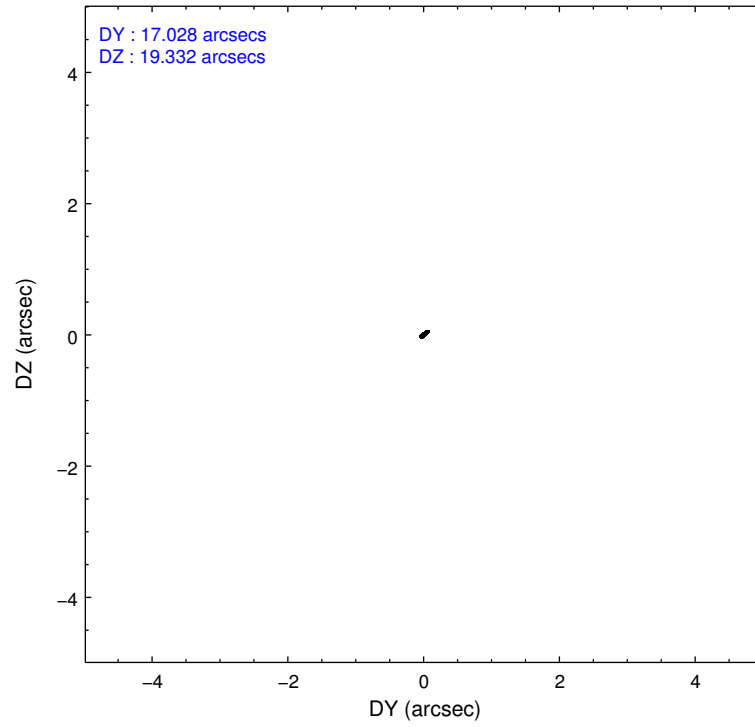
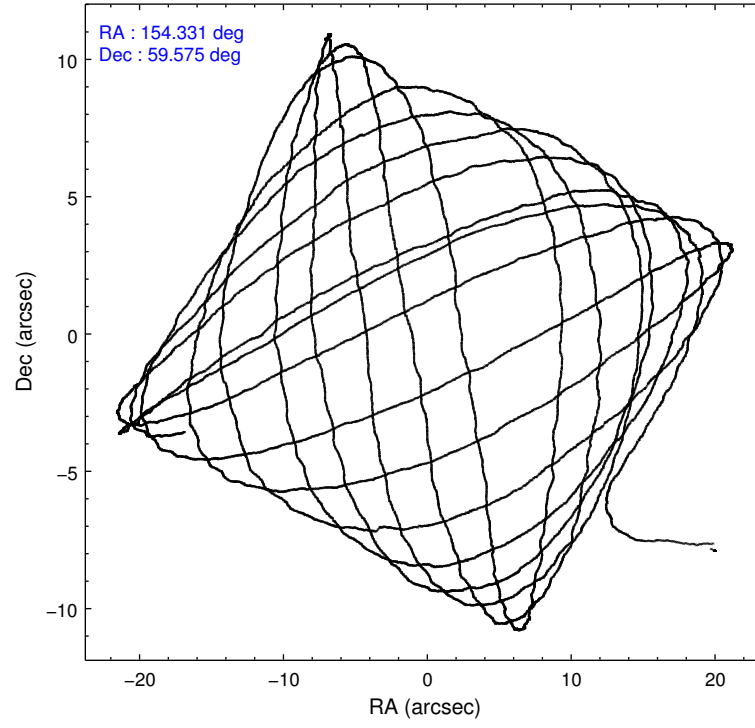
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	1713	2085	1866	2738	1635
	3%	4%	3%	5%	3%
grade 1 events	23	29	26	29	24
	0%	0%	0%	0%	0%
grade 2 events	1280	1367	1174	1215	1242
	2%	2%	2%	2%	2%
grade 3 events	501	551	499	601	493
	1%	1%	0%	1%	1%
grade 4 events	480	538	512	556	515
	1%	1%	1%	1%	1%
grade 5 events	2026	2060	1837	2288	2078
	4%	4%	3%	4%	4%
grade 6 events	1088	1391	1004	1178	1350
	2%	2%	2%	2%	2%
grade 7 events	38059	39108	42992	40956	39986
	84%	82%	86%	82%	84%

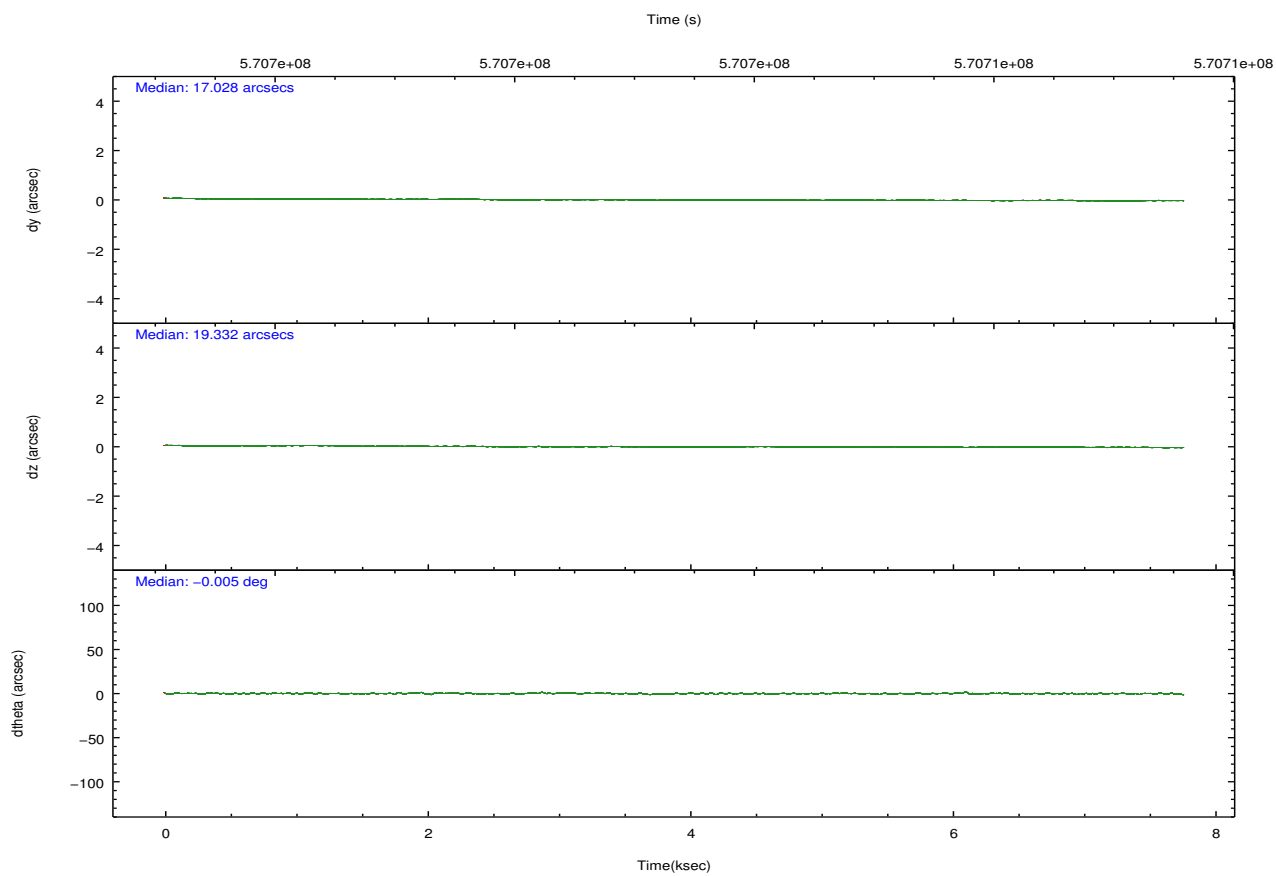
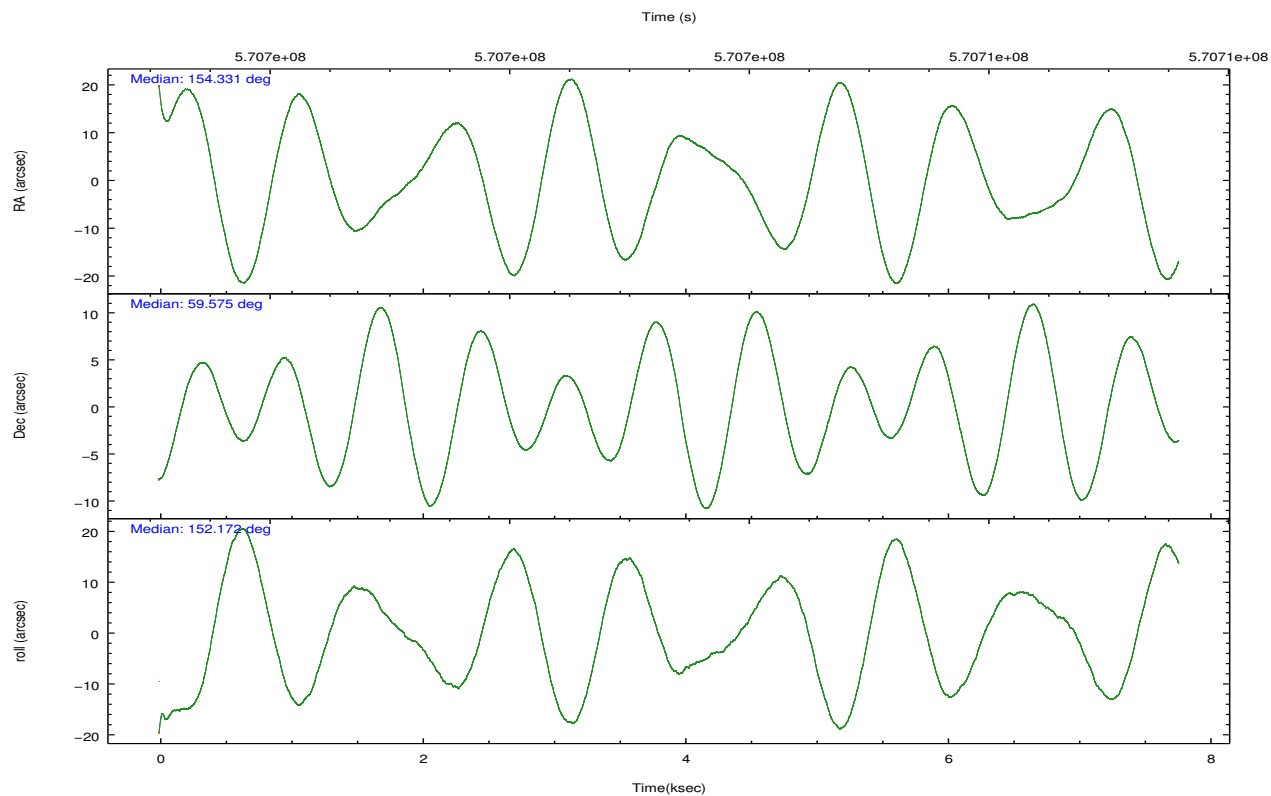


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-01236	ACIS-01236	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	154.385089	154.3306371986916	CCD I2 on	Y	Y
[deg] Pointing Dec	59.576235	59.57507629642166	CCD I3 on	Y	Y
[deg] Pointing Roll	151.918000	152.1736479753327	CCD S0 on	N	N
[mm] SIM focus pos	-0.782348	-0.7809083437167272	CCD S1 on	N	N
[mm] SIM defocus	0	0.001439871863259334	CCD S2 on	O1	Y
[mm] SIM translation stage pos	-228.472463	-228.4808600833603	CCD S3 on	N	N
[mm] SIM translation stage offset	-5.12	-5.111592919569347	CCD S4 on	N	N
[s] Observation start time (MET)	570699611.184000	570698586.99344	CCD S5 on	N	N
Observation start date	2016-02-01T07:39:03	2016-02-01T07:23:06	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	570707211.184000	570707552.15645	On-chip summing requested	N	N
Observation end date	2016-02-01T09:45:43	2016-02-01T09:52:32	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



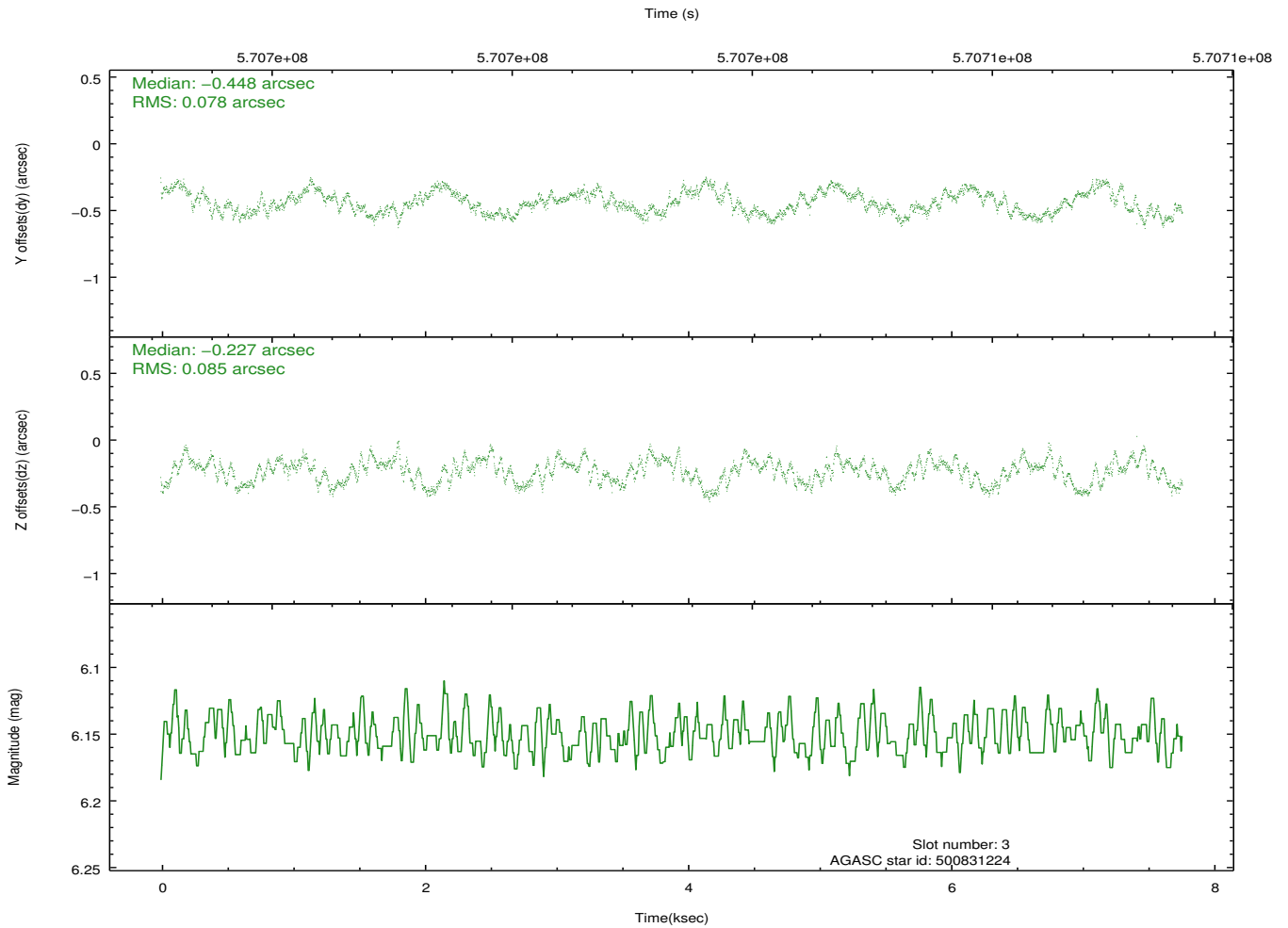
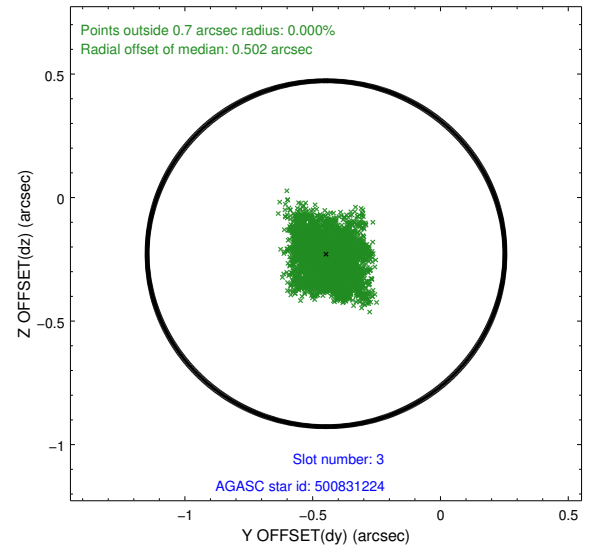
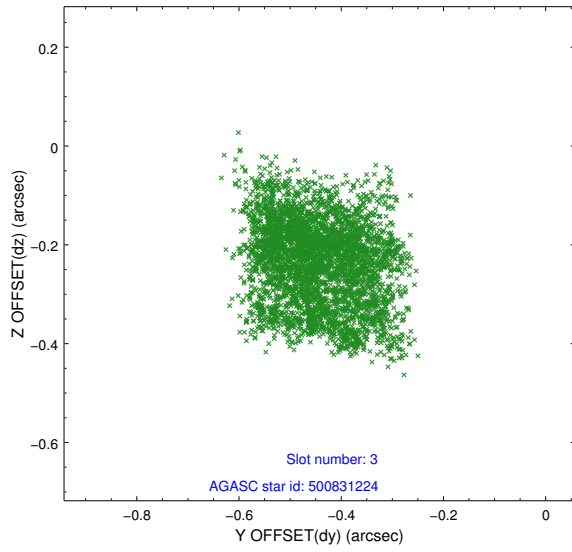


### Slot Statistics

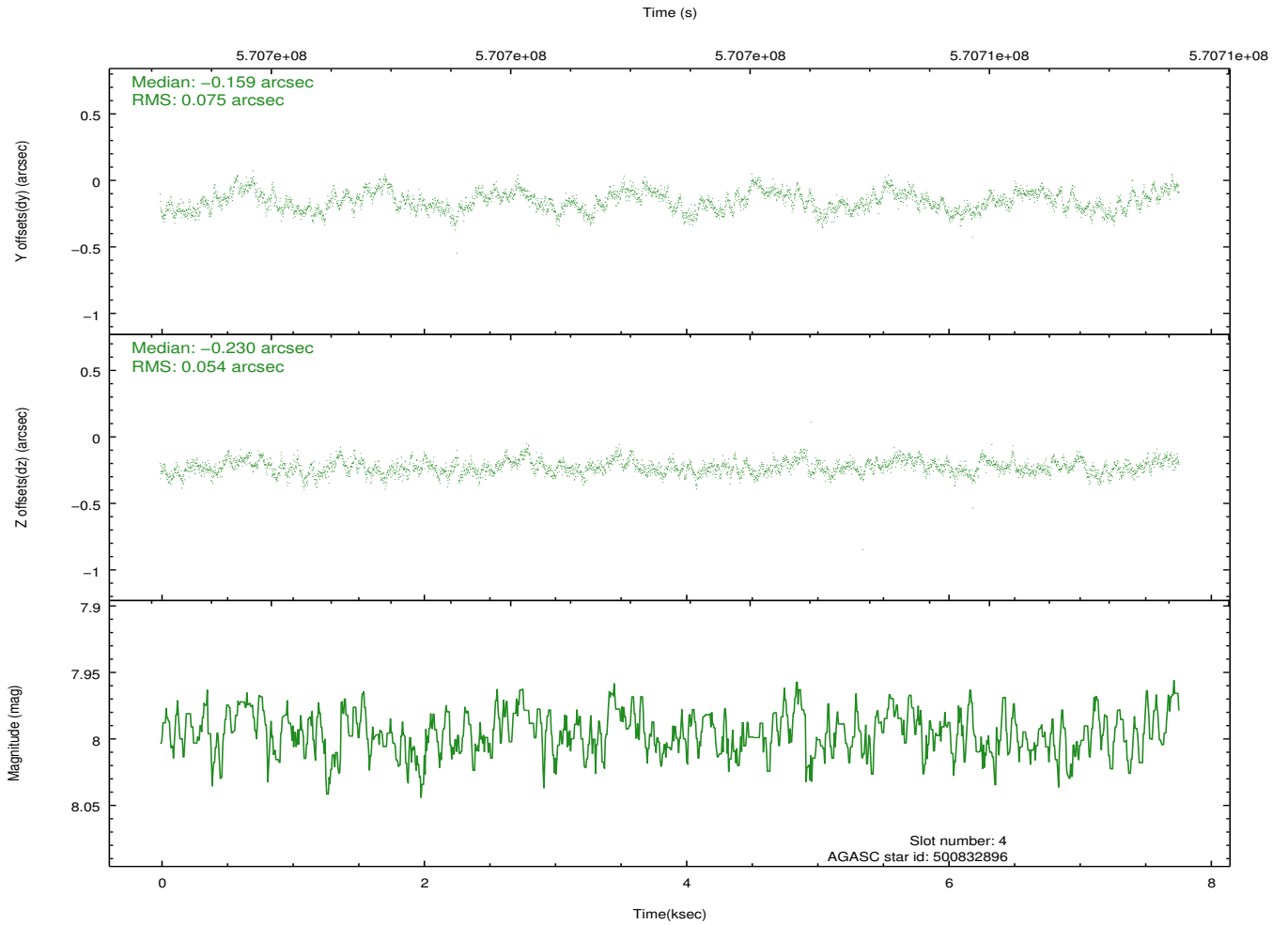
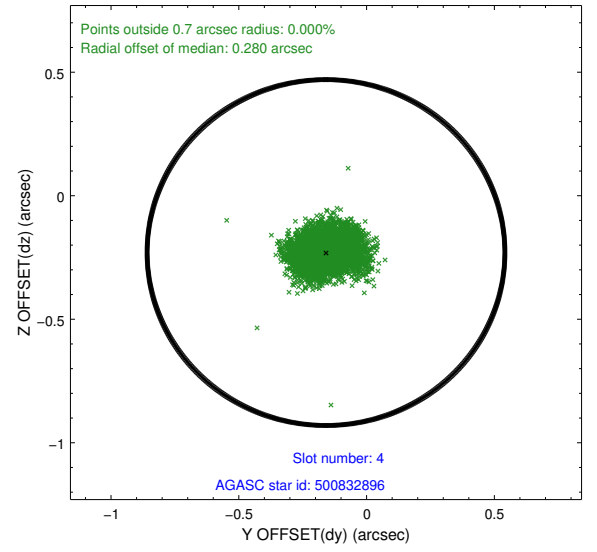
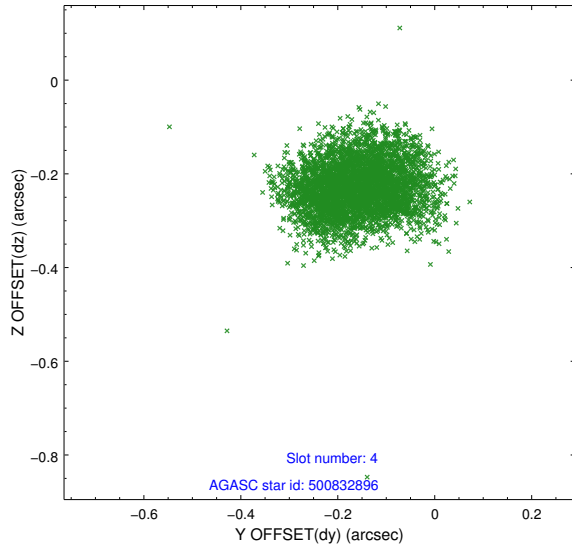
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.29	1895	0.147	-0.147	0.007	0.012	0.000000	0.000000	922.48	-948.04
1	FID		ACIS-I-5	7.28	1895	-0.413	0.076	0.007	0.012	0.000000	0.000000	-1825.90	949.08
2	FID		ACIS-I-6	7.28	1895	0.175	0.143	0.007	0.012	0.000000	0.000000	387.11	1594.61
3	GUIDE	used	500831224	6.15	3790	-0.448	-0.227	0.127	0.187	153.602717	59.399713	969.43	1228.18
4	GUIDE	used	500832896	8.00	3789	-0.159	-0.230	0.099	0.154	153.963984	59.358051	313.50	1055.59
5	GUIDE	used	542252064	7.00	3790	0.182	0.025	0.088	0.144	154.012943	60.150619	1563.15	-1510.89
6	GUIDE	used	500831336	8.50	3788	0.143	-0.074	0.079	0.130	155.255732	59.045258	-2316.55	918.21
7	GUIDE	used	500964680	9.03	3789	0.279	0.513	0.100	0.164	155.609210	59.553074	-1999.85	-994.83

## 2.4 Star Slots

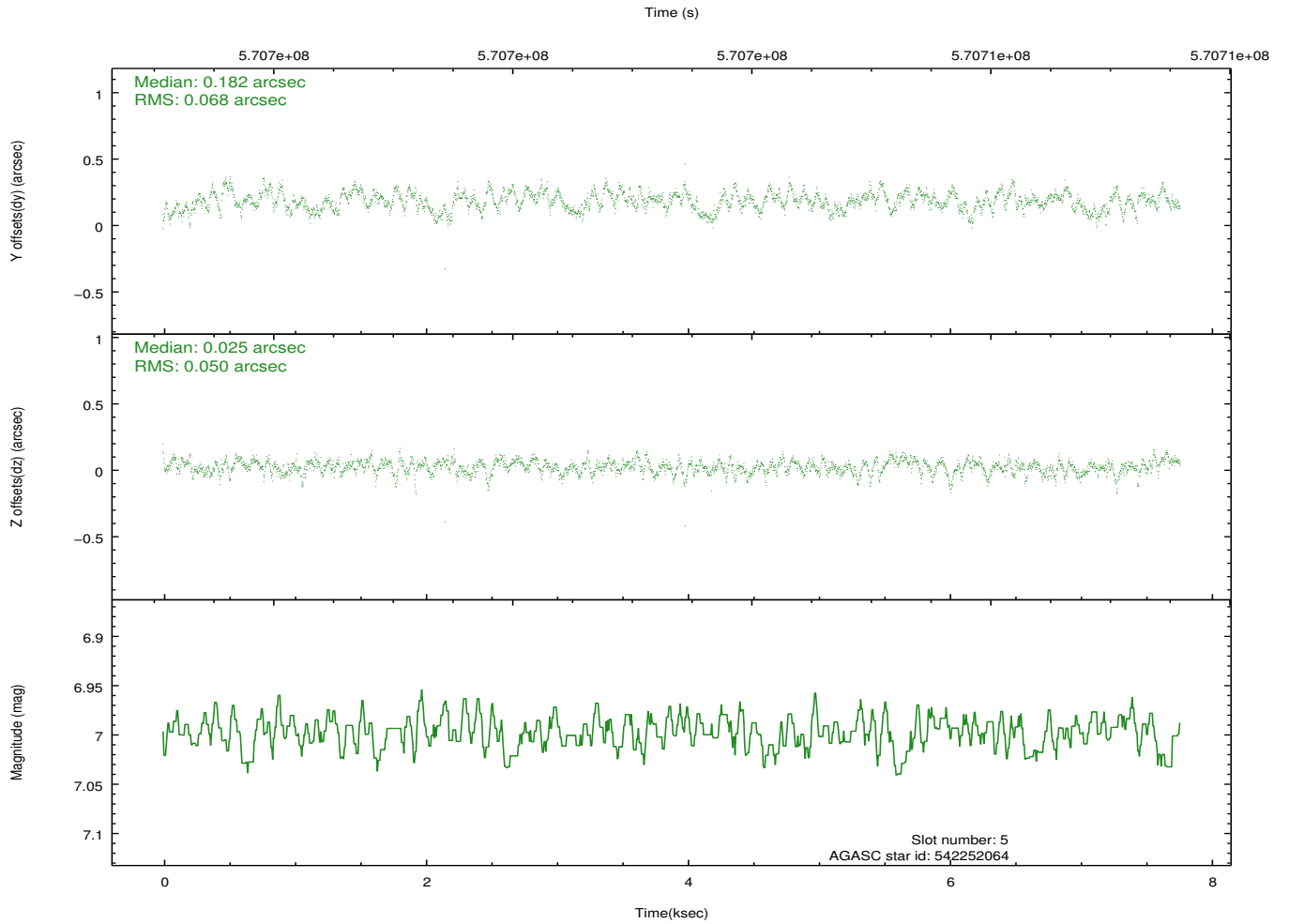
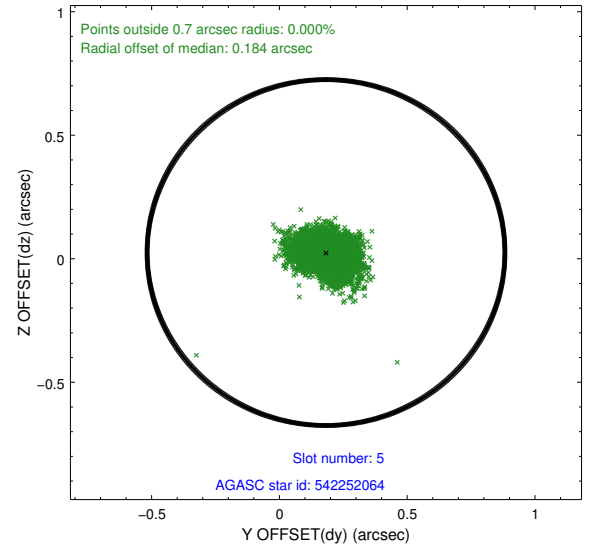
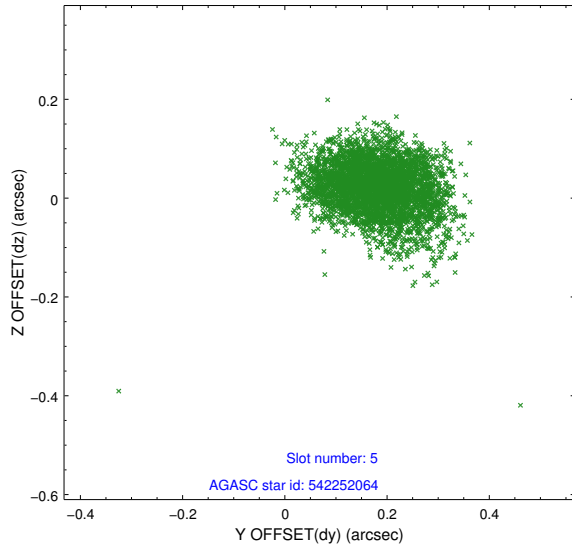
### 2.4.1 Slot 3



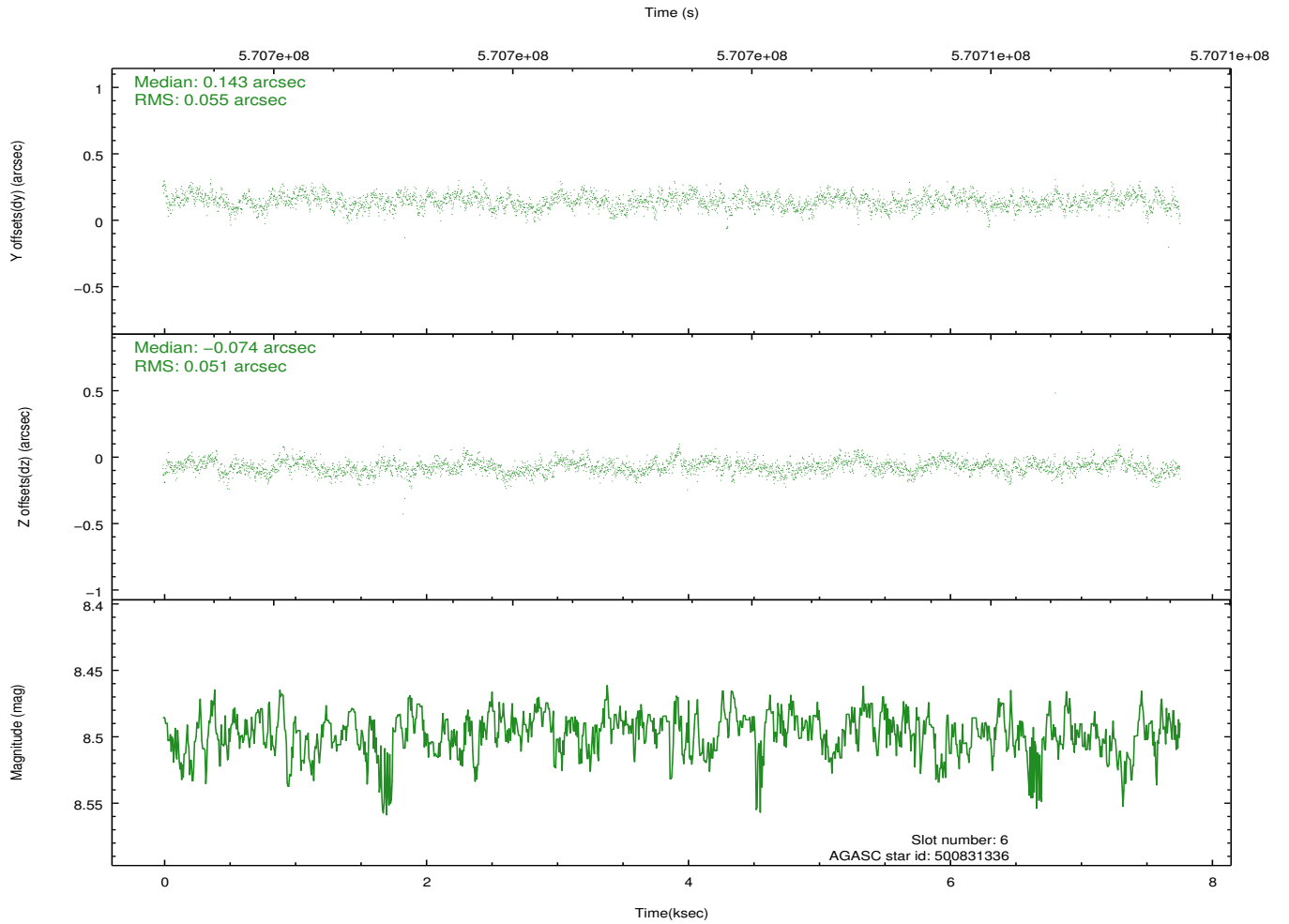
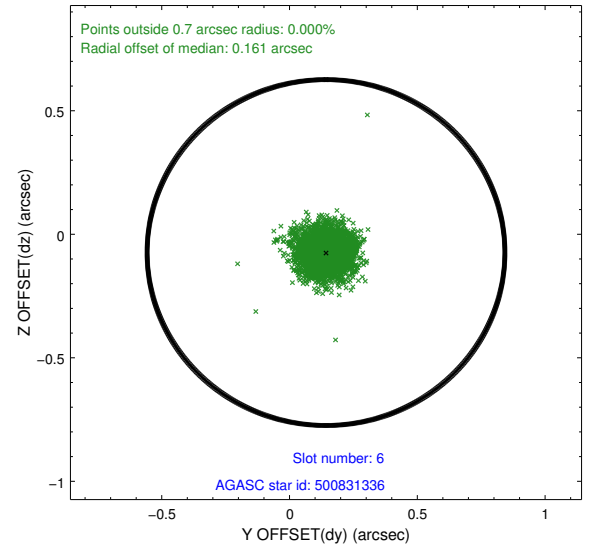
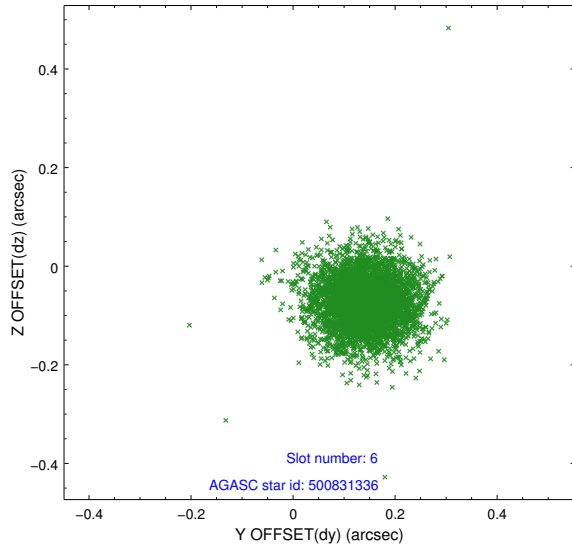
## 2.4.2 Slot 4



### 2.4.3 Slot 5

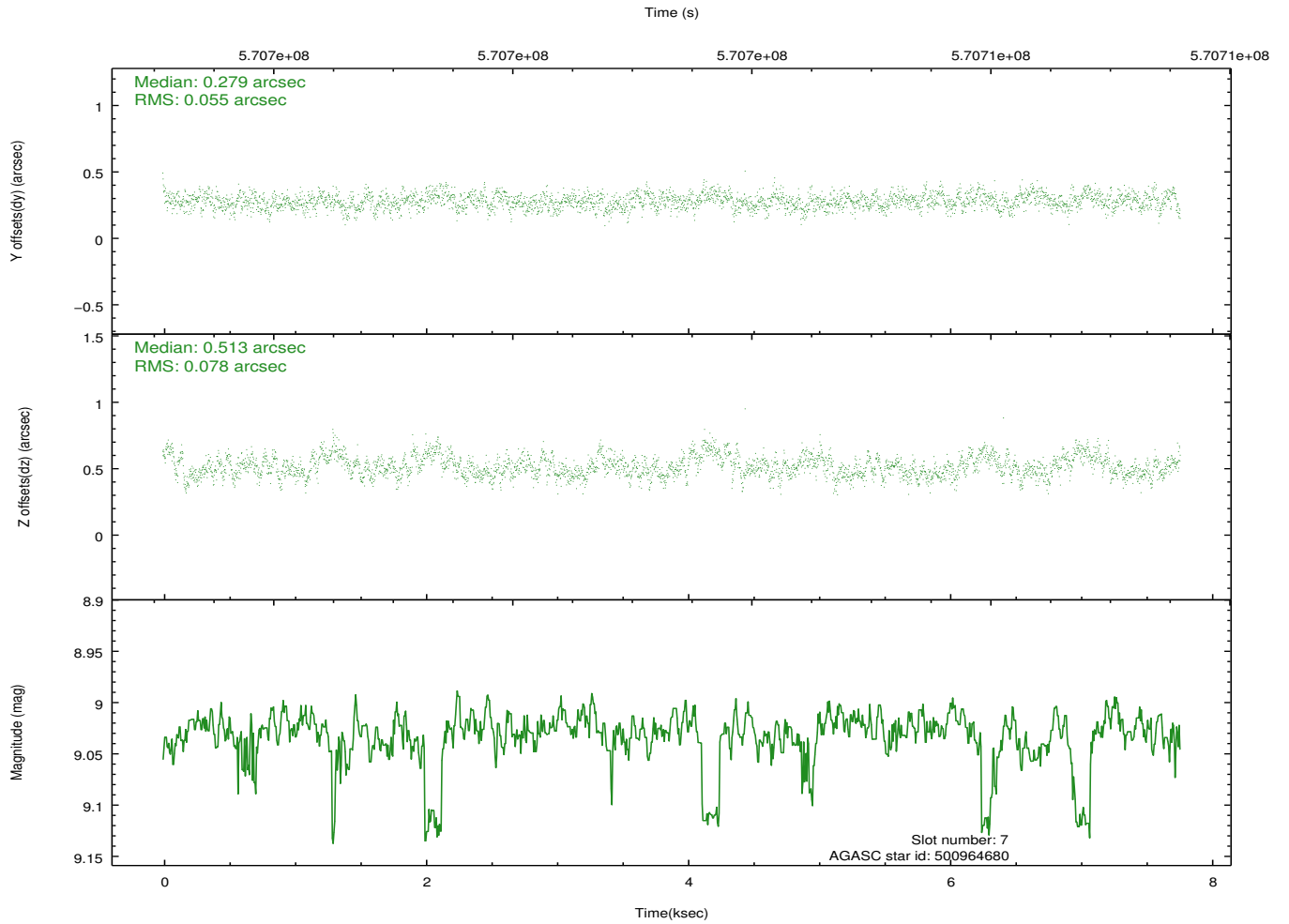
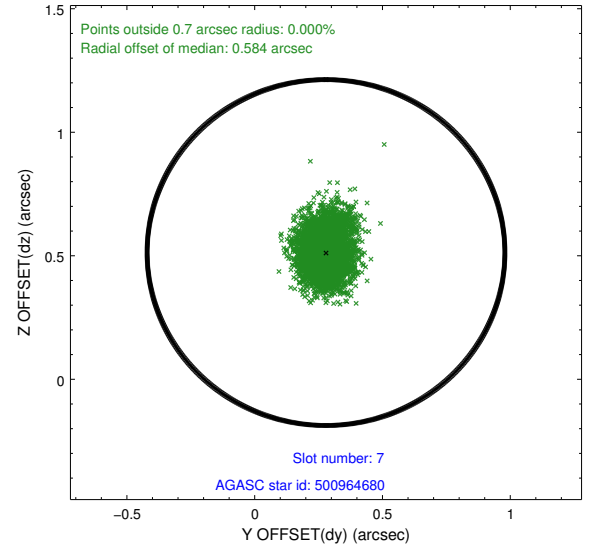
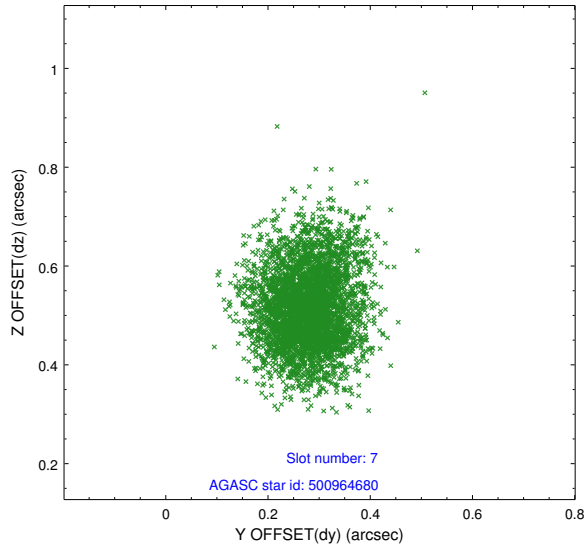


## 2.4.4 Slot 6



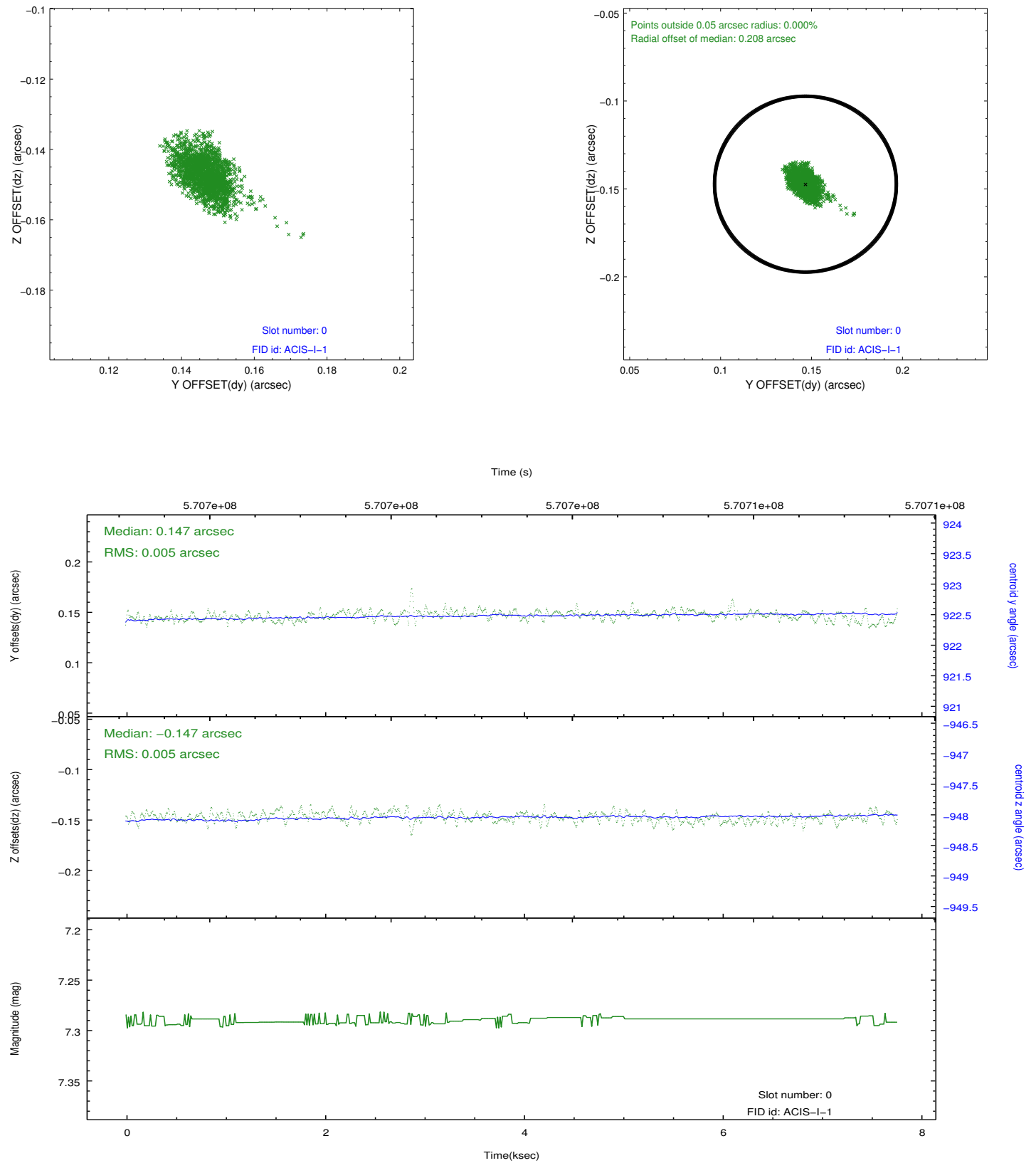


## 2.4.5 Slot 7

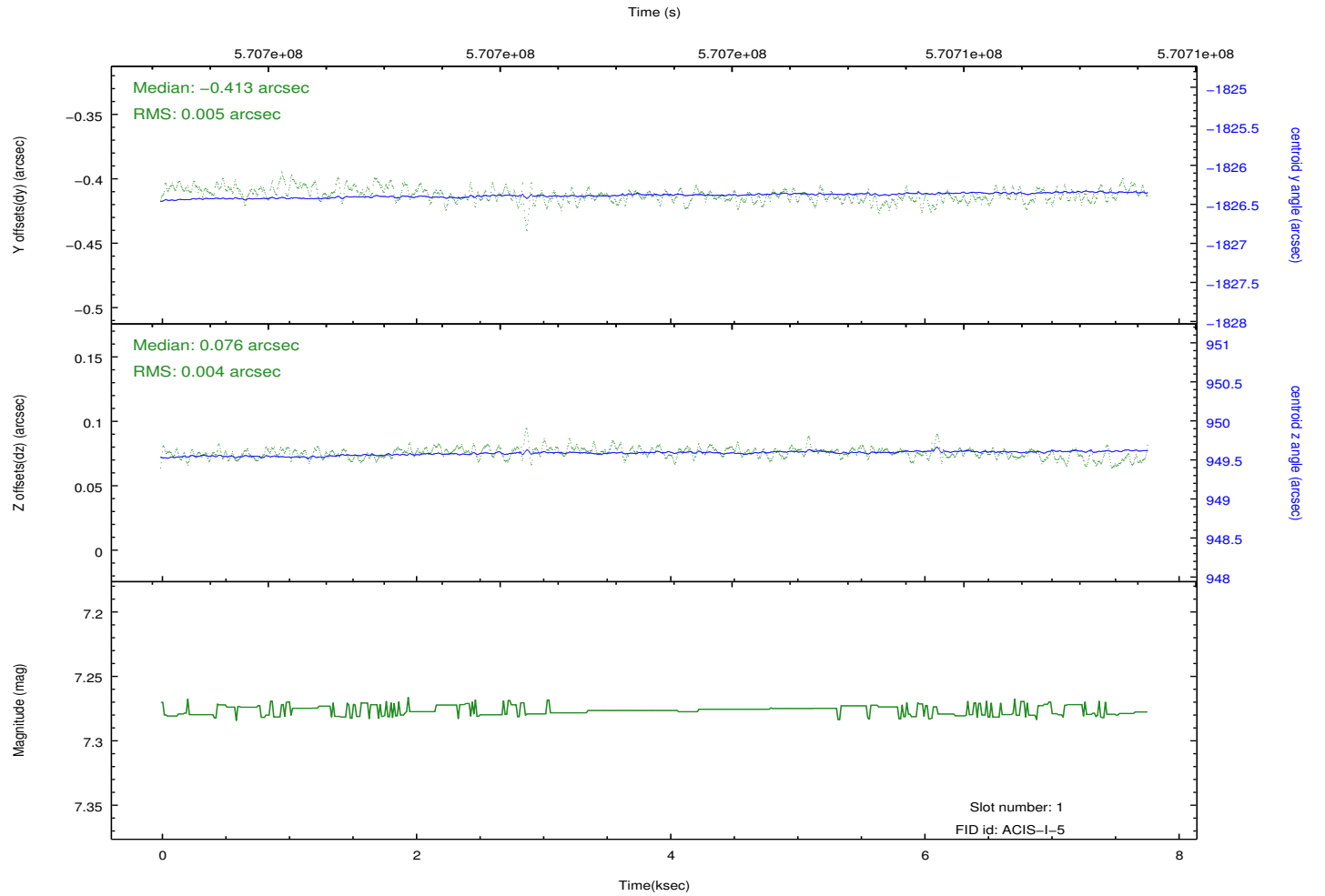
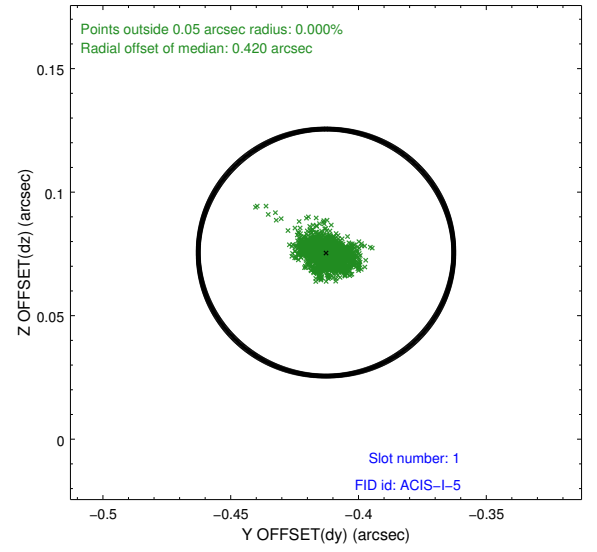
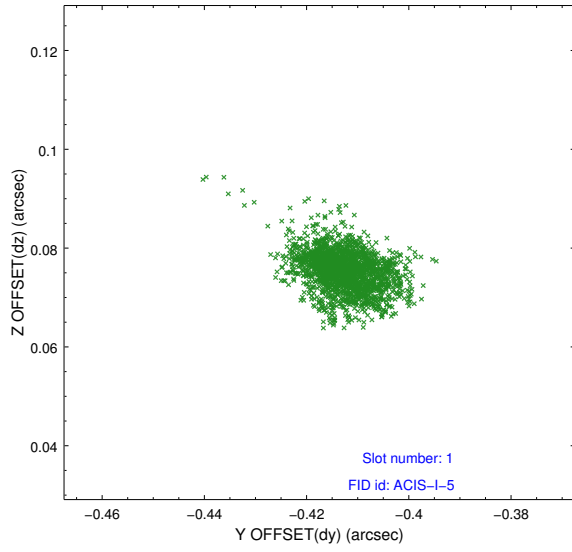


## 2.5 FID Slots

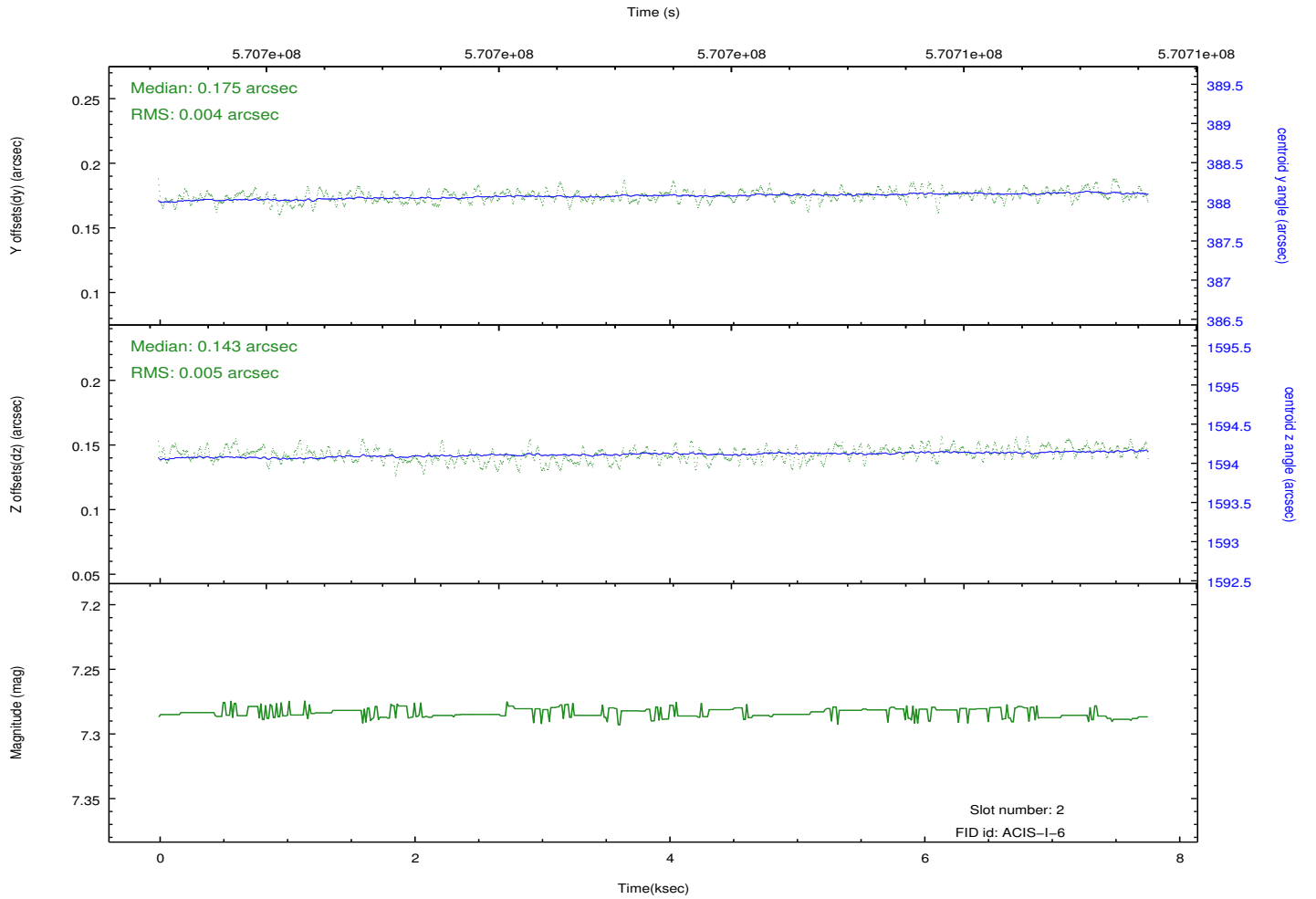
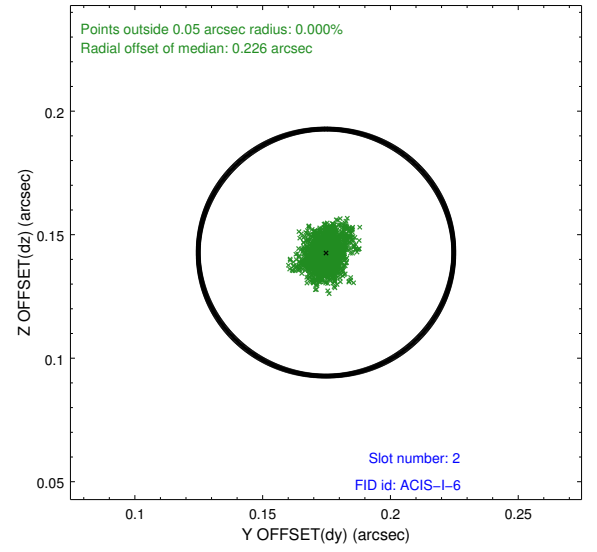
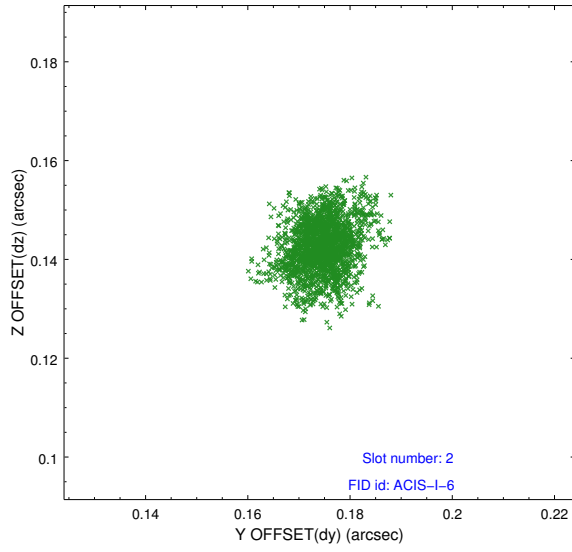
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



## A Summary

### A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2016.02.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	7.669400059104

### A.2 Comments