

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 9331 - L2 Version 3  
Chandra X-Ray Center

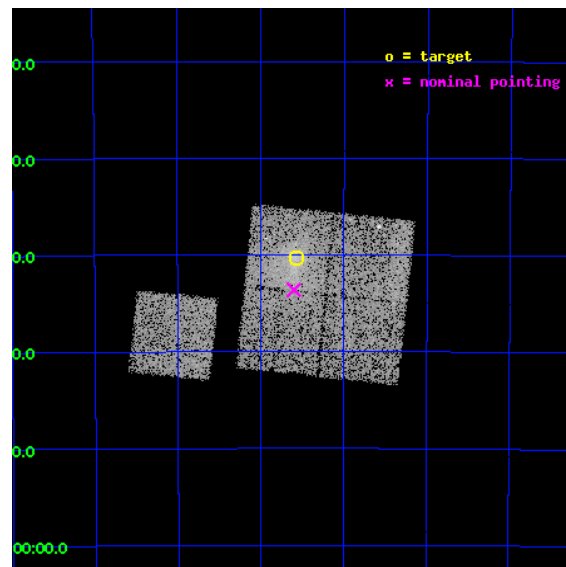
L2 Processing Date : Jun 2 2012

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# 1 Front

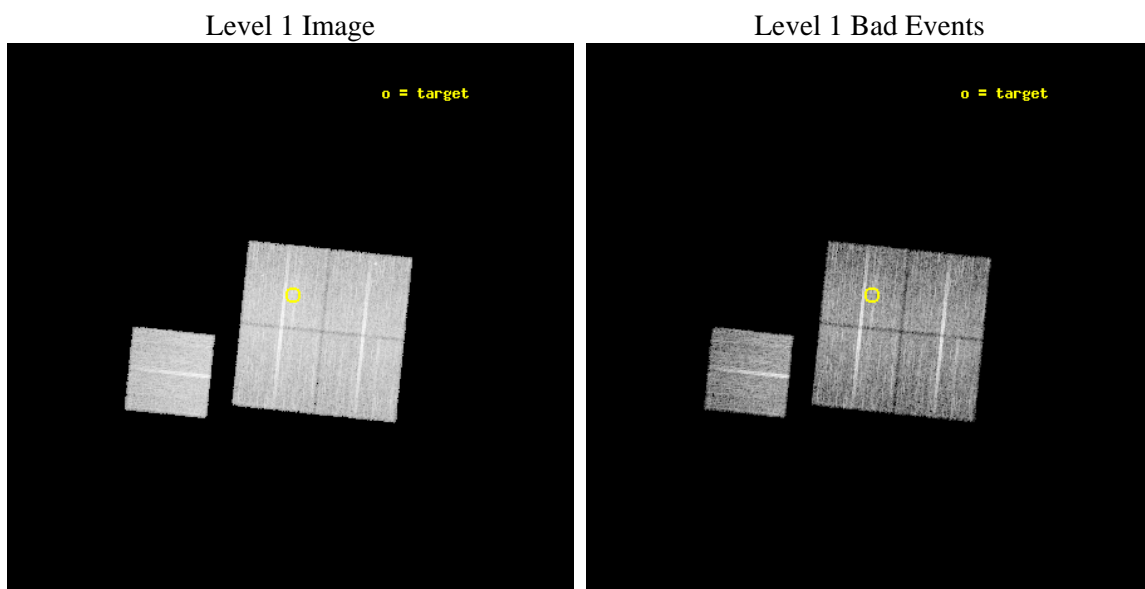
seq_num	800668	Sequence number
obs_id	9331	Observation id
title	Chandra Observations of SZ-selected Galaxy Clusters Detected by the South Pole Telescope	Proposal title
observer	Professor Gordon Garmire	Principal investigator
object	SPT-CL 0517-5430	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	79.144	Observer's specified target RA [deg]
dec_targ	-54.506	Observer's specified target Dec [deg]
ra_nom	79.150300138278	Nominal RA [deg]
dec_nom	-54.560289797013	Nominal Dec [deg]
roll_nom	275.87654613049	Nominal Roll [deg]
revision	3	Processing version of data
ontime	9637.7163173556	Sum of GTIs [s]
livetime	9511.7924584858	Livetime [s]
ontime0	9637.5931873918	Sum of GTIs [s]
ontime1	9637.6342074275	Sum of GTIs [s]
ontime2	9640.8162376881	Sum of GTIs [s]
ontime3	9637.7163173556	Sum of GTIs [s]
ontime6	9640.6931176782	Sum of GTIs [s]
l2events	40263	Number of level 2 events



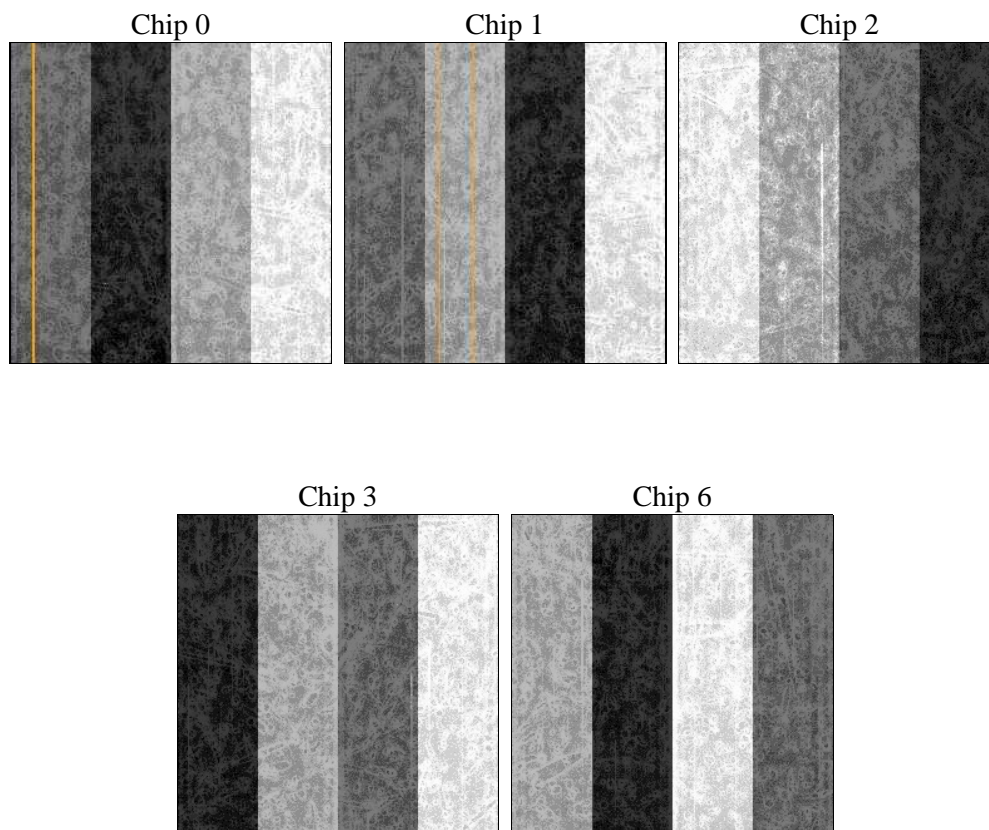
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	9600.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	9637.7163173556	Sum of GTIs [s]
caldsver	4.4.9	&#160	ontime0	9637.5931873918	Sum of GTIs [s]
date	2012-06-02T02:03:04	Date and time of file creation	ontime1	9637.6342074275	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	9640.8162376881	Sum of GTIs [s]
			ontime3	9637.7163173556	Sum of GTIs [s]
			ontime6	9640.6931176782	Sum of GTIs [s]
			l1events	409642	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	75887	79968	83810	85998	83979
rejected events	67277	70075	74870	74004	75396
rejected %	88%	87%	89%	86%	89%

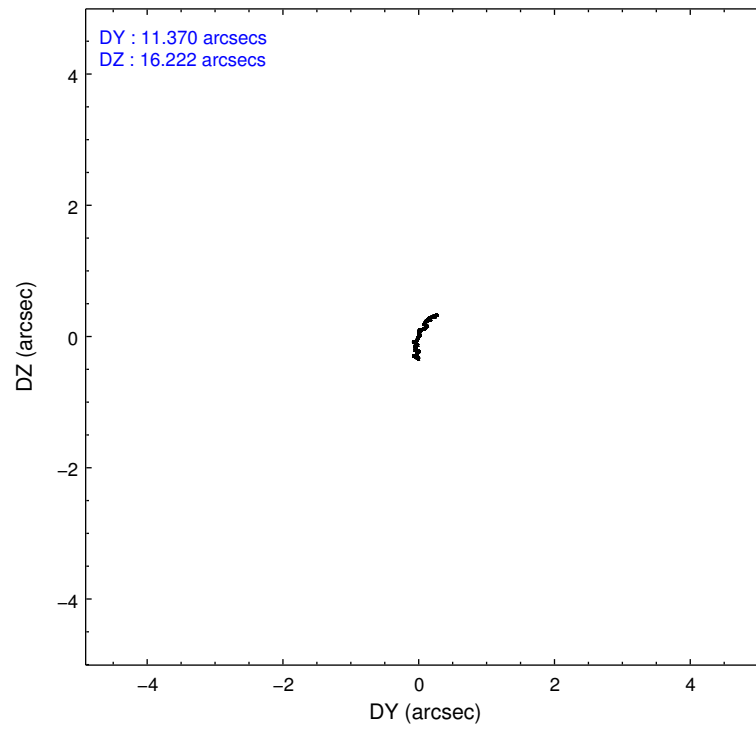
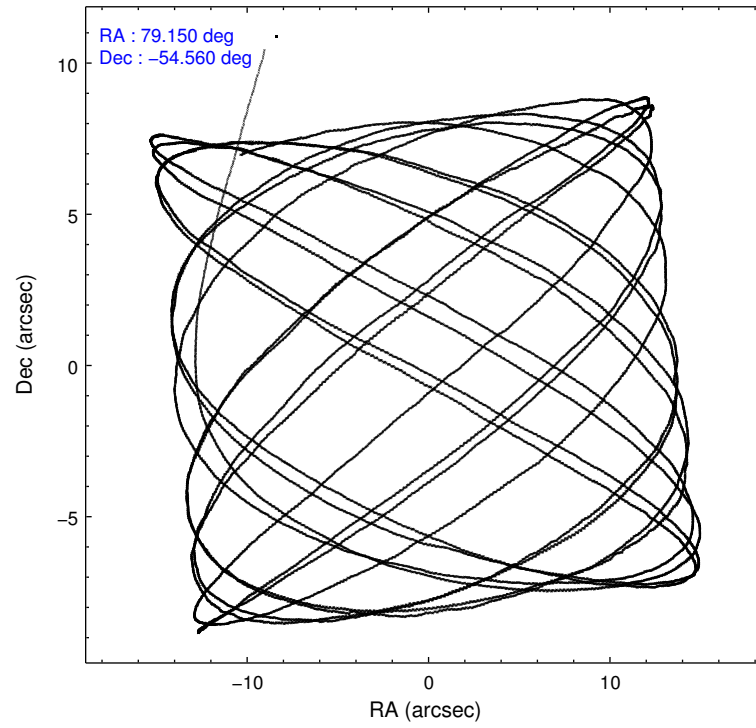
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	2916	3780	3406	6070	3016
	3%	4%	4%	7%	3%
grade 1 events	50	57	61	76	48
	0%	0%	0%	0%	0%
grade 2 events	2087	2152	2096	2149	1877
	2%	2%	2%	2%	2%
grade 3 events	1040	1038	932	1012	931
	1%	1%	1%	1%	1%
grade 4 events	872	1006	906	1060	927
	1%	1%	1%	1%	1%
grade 5 events	3126	3316	2993	3414	3353
	4%	4%	3%	3%	3%
grade 6 events	1699	1923	1611	1711	1842
	2%	2%	1%	1%	2%
grade 7 events	64097	66696	71805	70506	71985
	84%	83%	85%	81%	85%

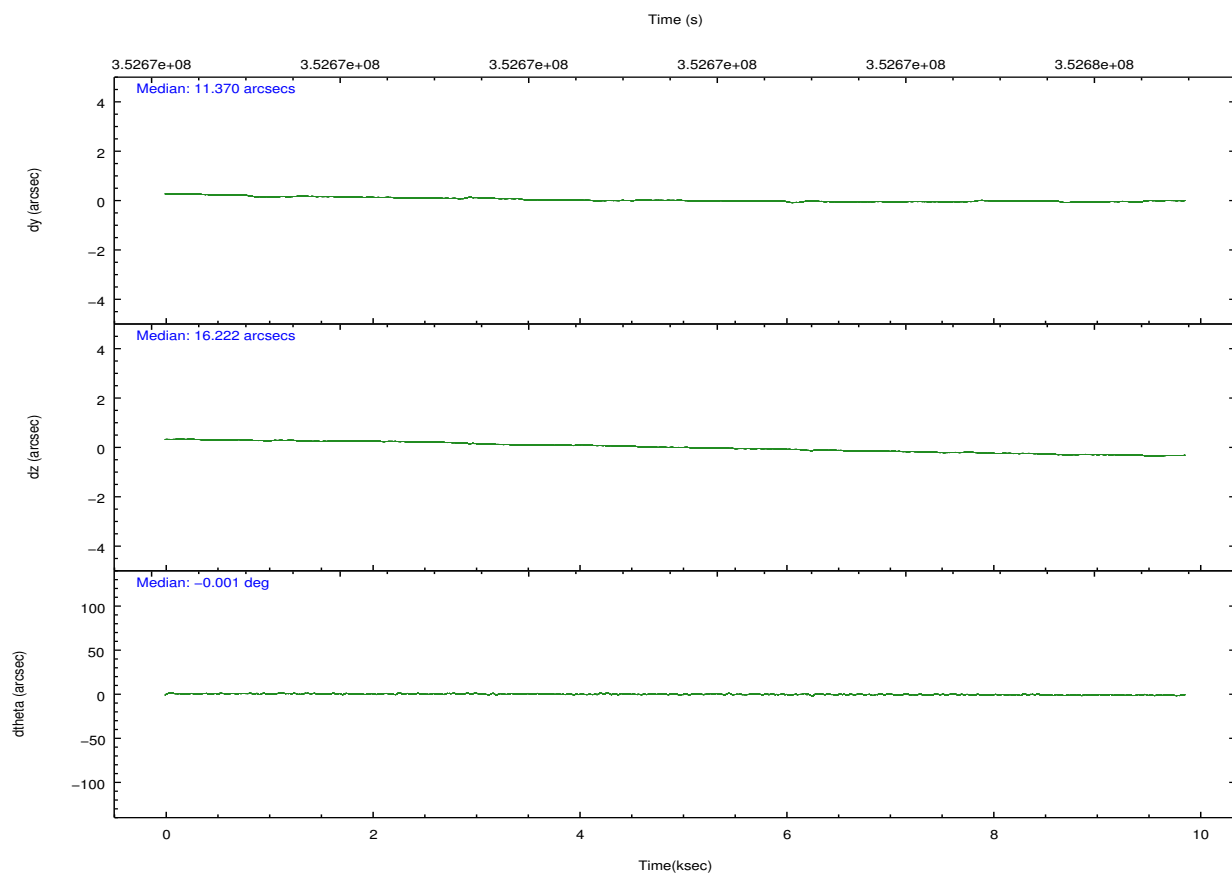
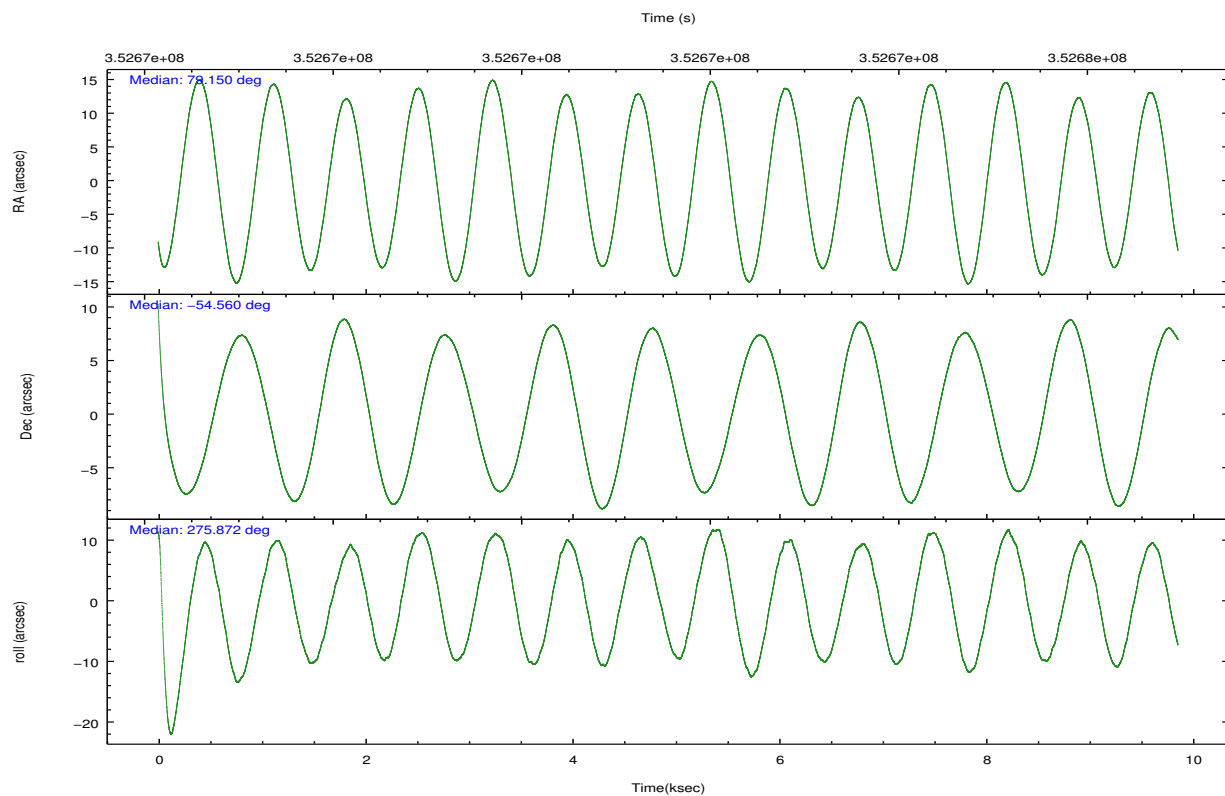


## 2.2 Compared Parameters

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	79.122345	79.15030013827766	CCD I2 on	Y	Y
[deg] Pointing Dec	-54.538055	-54.5602897970134	CCD I3 on	Y	Y
[deg] Pointing Roll	275.645042	275.8765461304933	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	-225.840463	-225.8433433320239	CCD S3 on	N	N
[mm] SIM translation stage offset	-7.752	-7.749109670905796	CCD S4 on	N	N
[s] Observation start time (MET)	352666871.184000	352665891.32073	CCD S5 on	N	N
Observation start date	2009-03-05T19:00:05	2009-03-05T18:44:51	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	352676471.184000	352677228.33379	On-chip summing requested	N	N
Observation end date	2009-03-05T21:40:05	2009-03-05T21:53:48	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



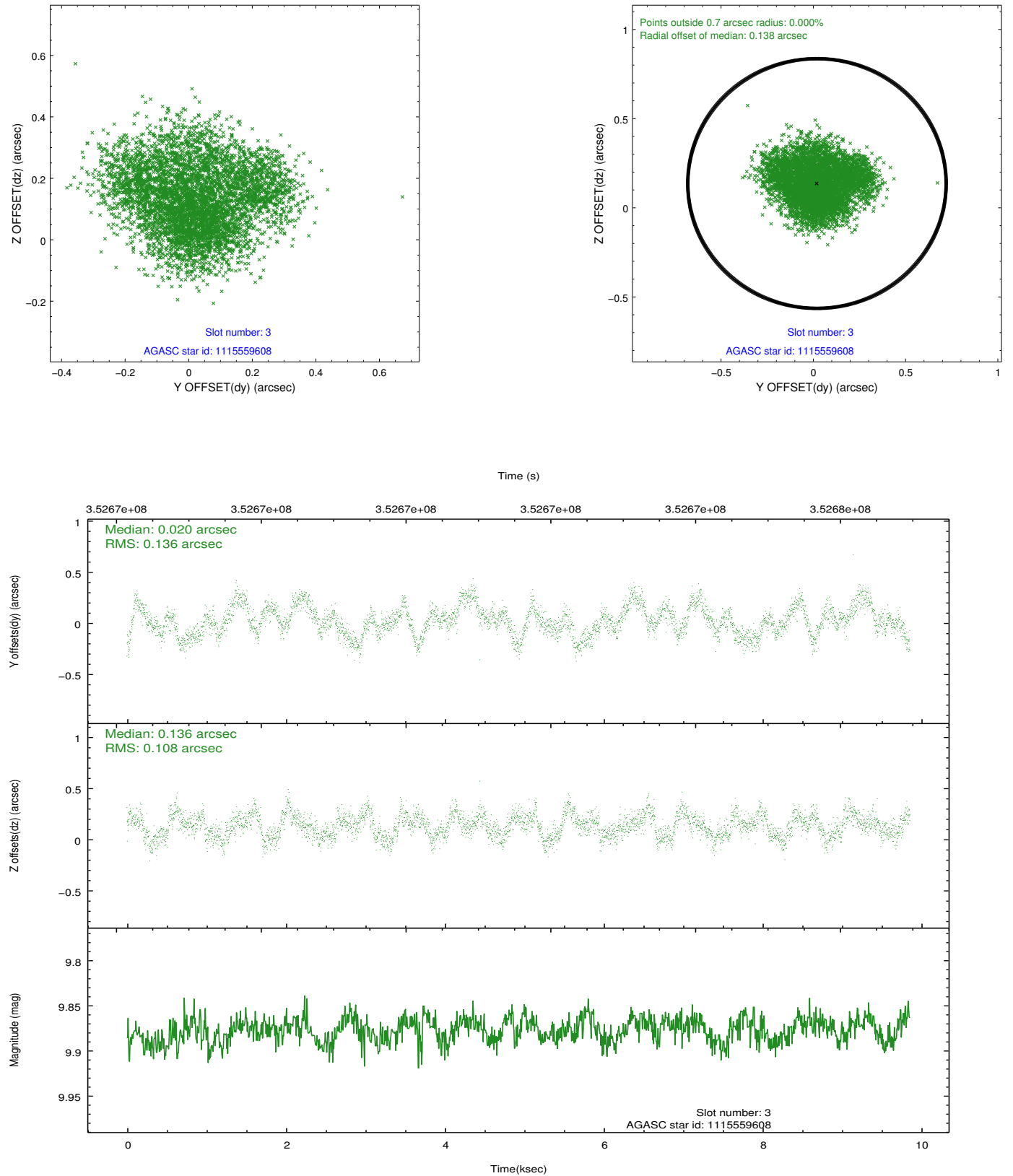


### Slot Statistics

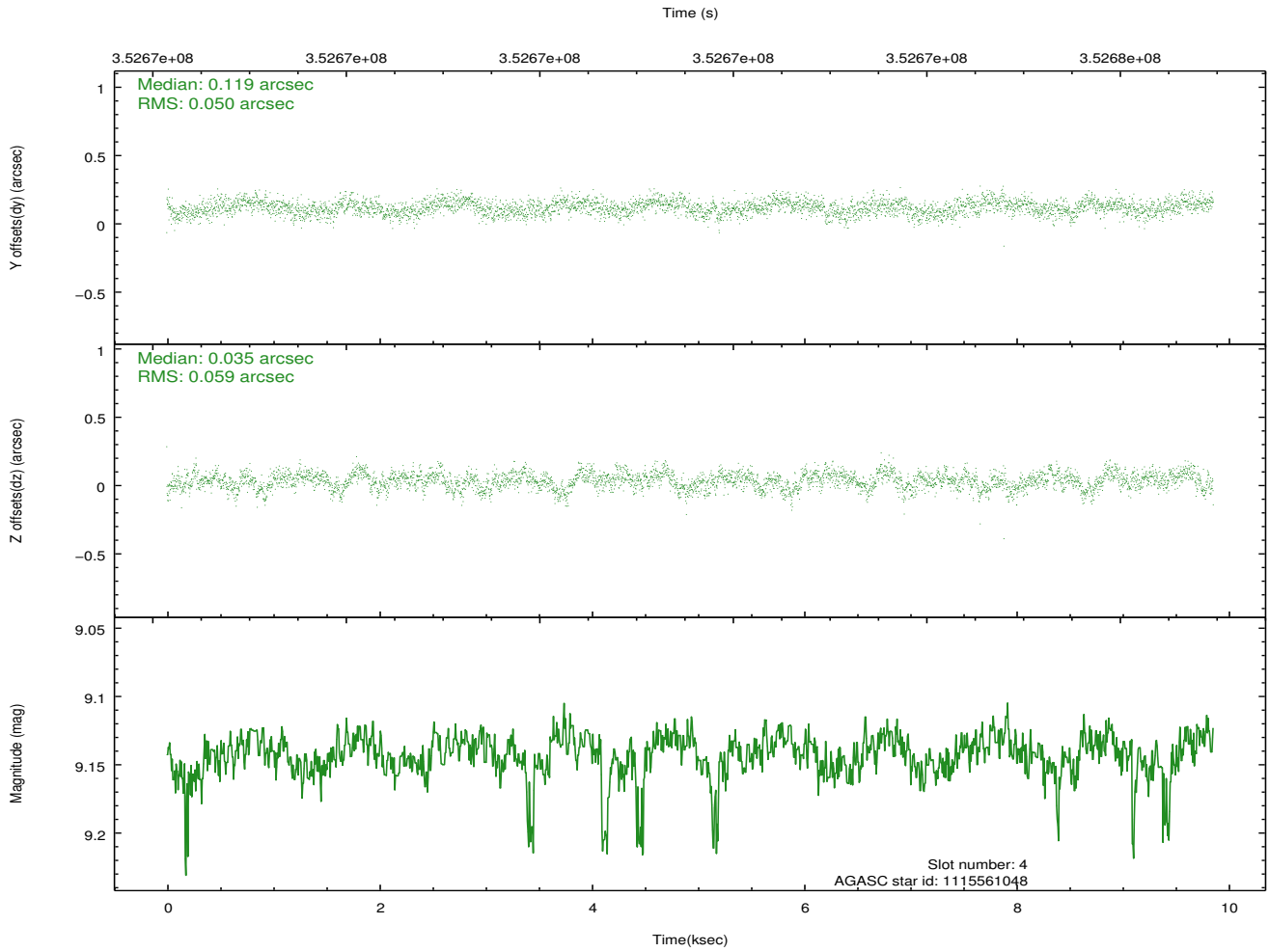
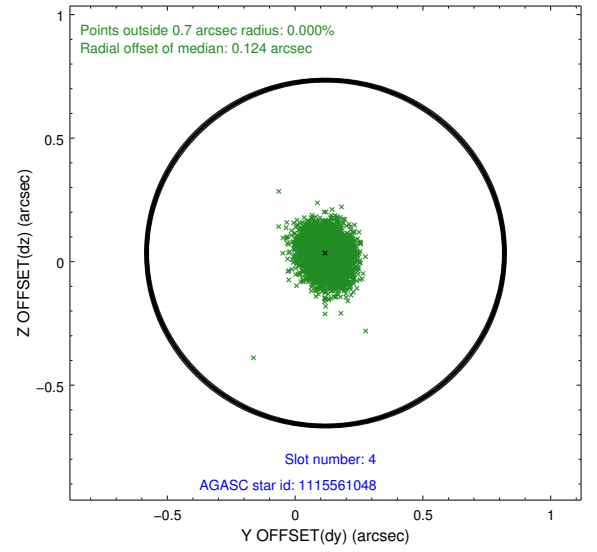
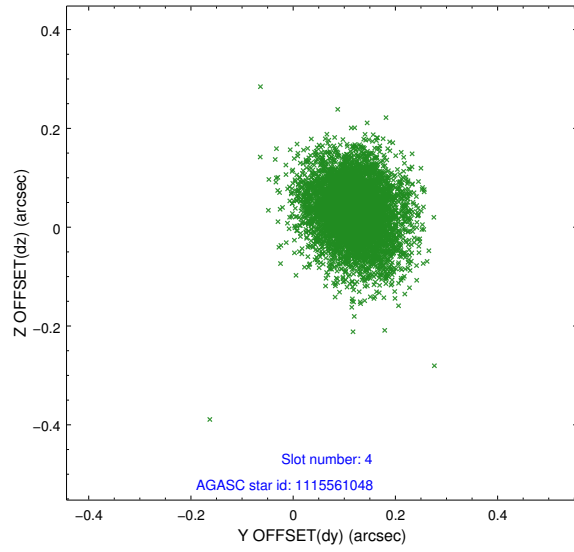
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.00	2405	0.138	-0.105	0.007	0.013	0.000000	0.000000	928.13	-999.05
1	FID	ACIS-I-5	6.98	2405	-0.238	0.126	0.008	0.012	0.000000	0.000000	-1820.03	898.36
2	FID	ACIS-I-6	7.01	2404	0.009	0.050	0.009	0.015	0.000000	0.000000	392.98	1543.38
3	GUIDE	1115559608	9.88	4804	0.020	0.136	0.190	0.286	78.472164	-54.228768	-1235.98	-1252.56
4	GUIDE	1115561048	9.14	4805	0.119	0.035	0.082	0.134	79.669489	-54.329081	-631.22	1216.40
5	GUIDE	1115952784	9.38	4801	0.096	-0.184	0.113	0.176	79.513034	-55.014560	1788.83	633.87
6	GUIDE	1116995592	9.21	4793	-0.154	0.065	0.124	0.198	80.281931	-54.976068	1824.93	2227.55
7	GUIDE	1116998624	9.39	4801	-0.087	-0.055	0.101	0.166	80.238496	-54.391114	-278.62	2379.07

## 2.4 Star Slots

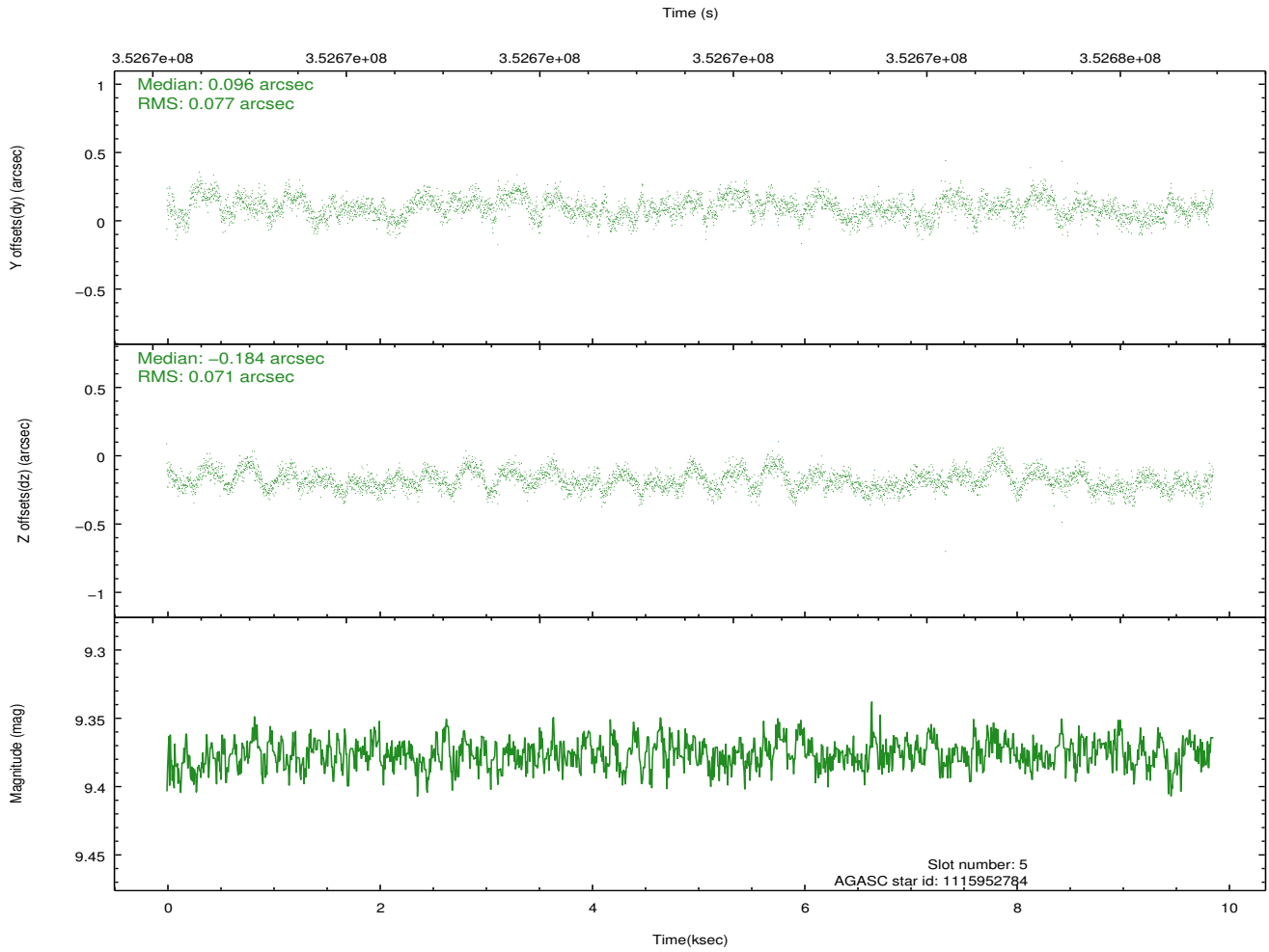
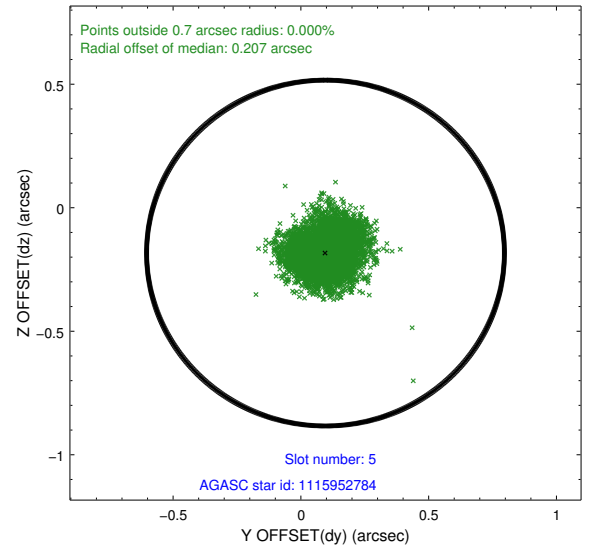
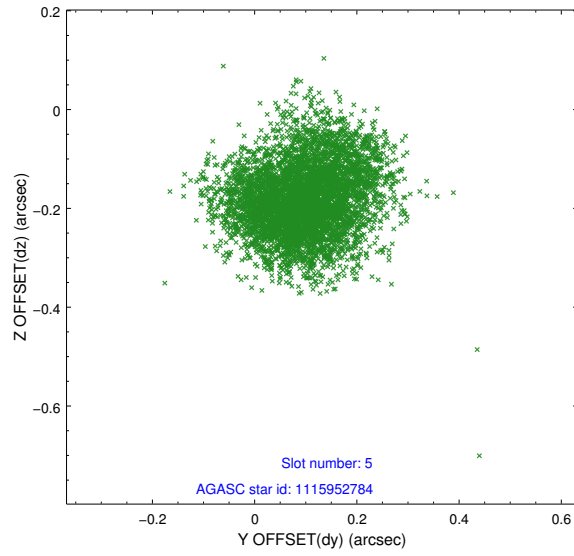
### 2.4.1 Slot 3



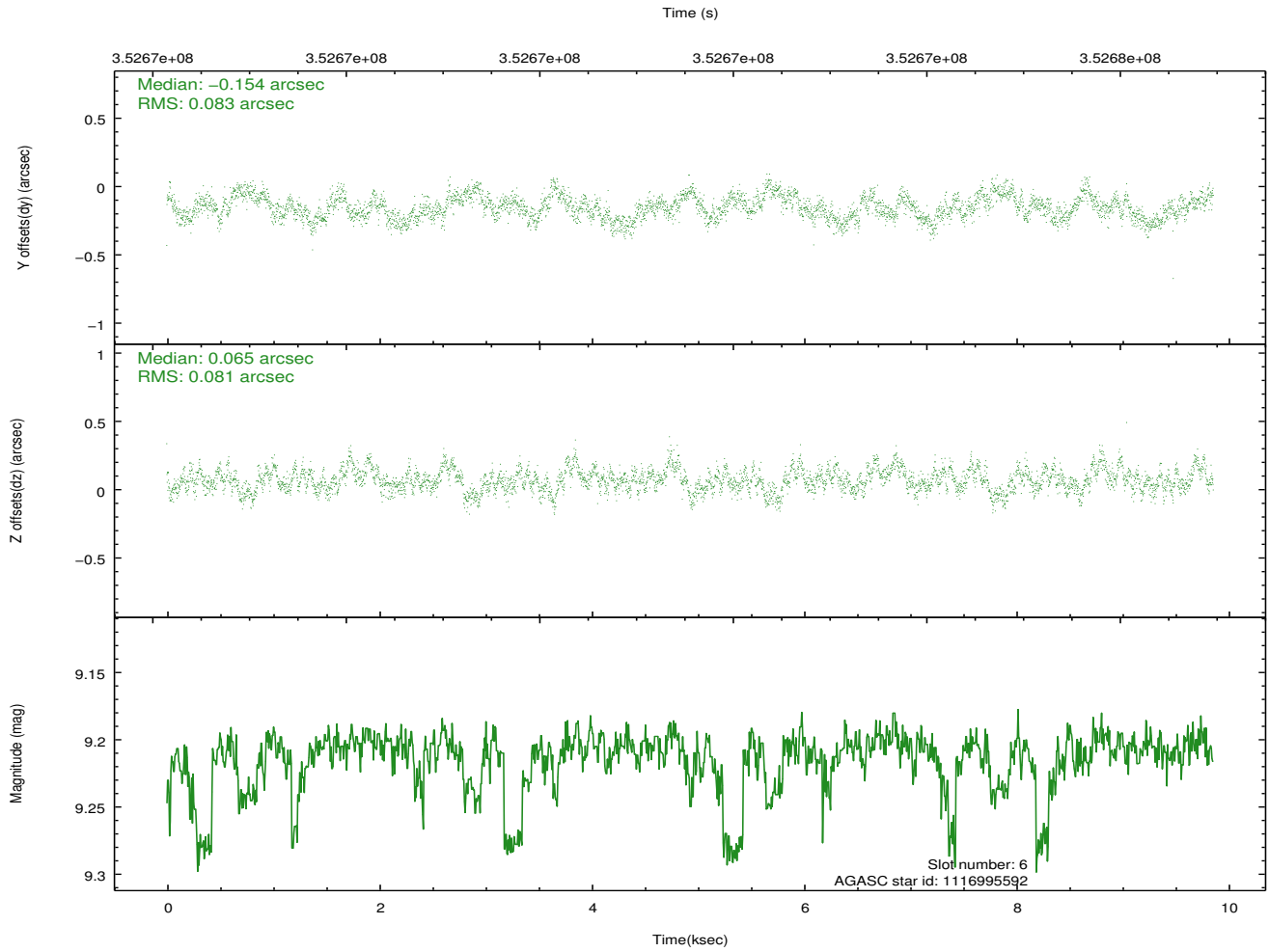
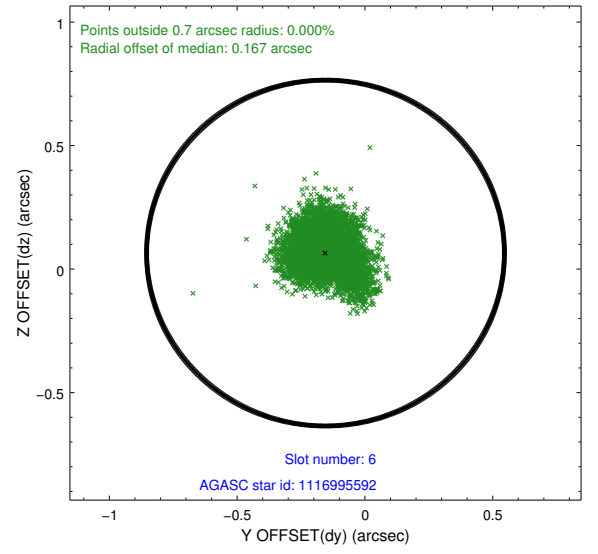
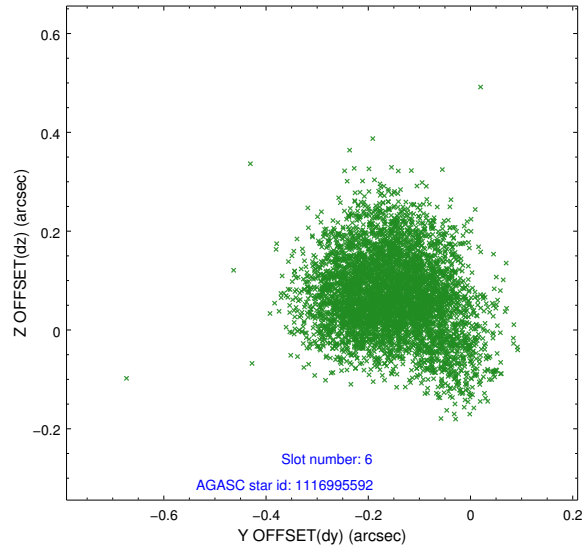
## 2.4.2 Slot 4



### 2.4.3 Slot 5

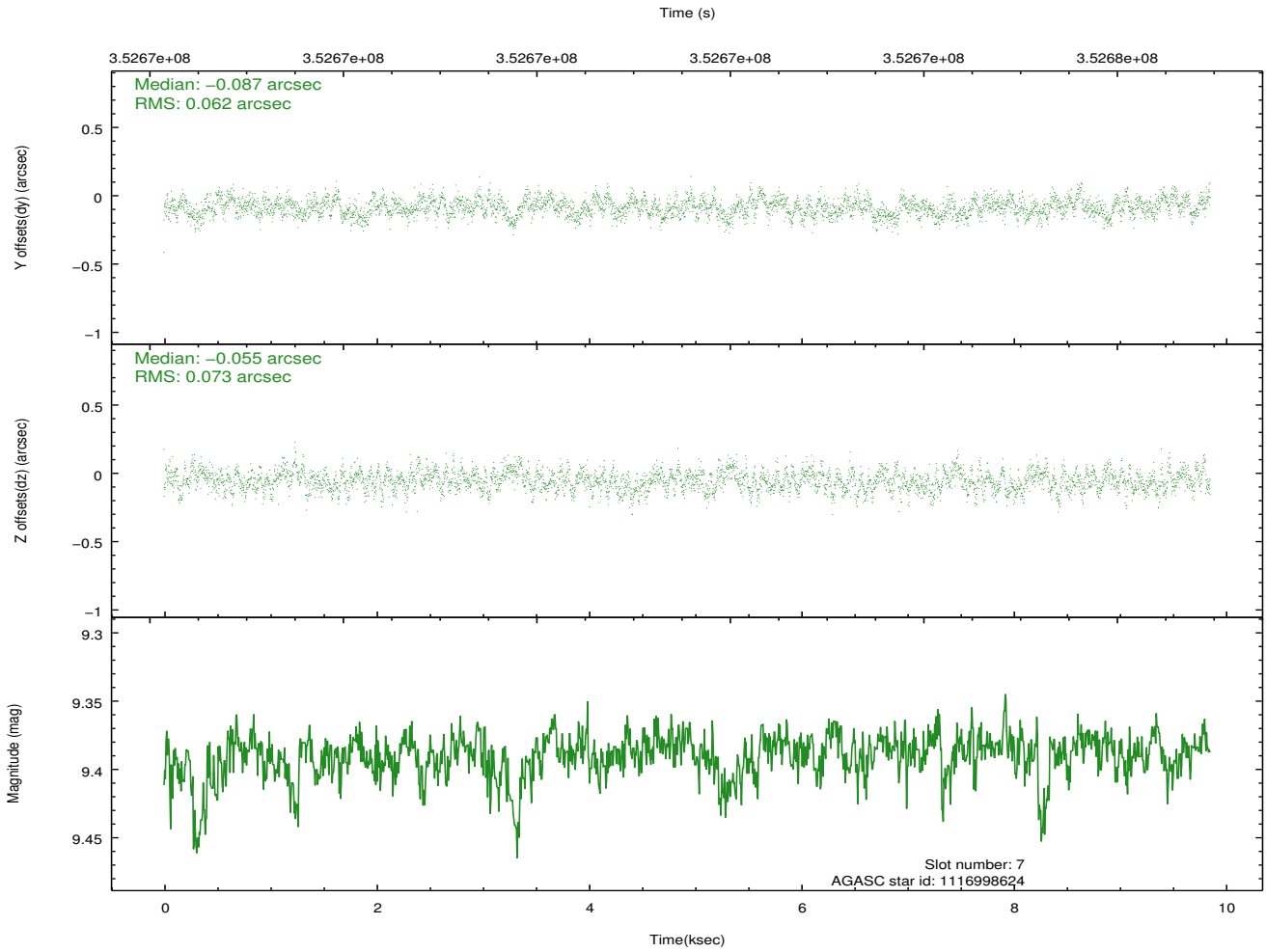
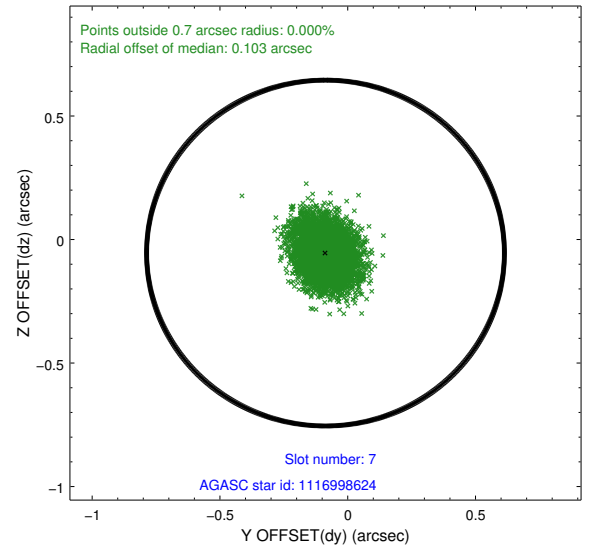
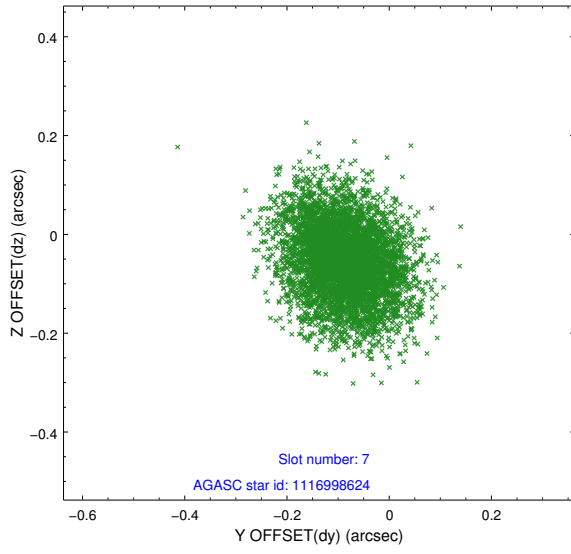


## 2.4.4 Slot 6



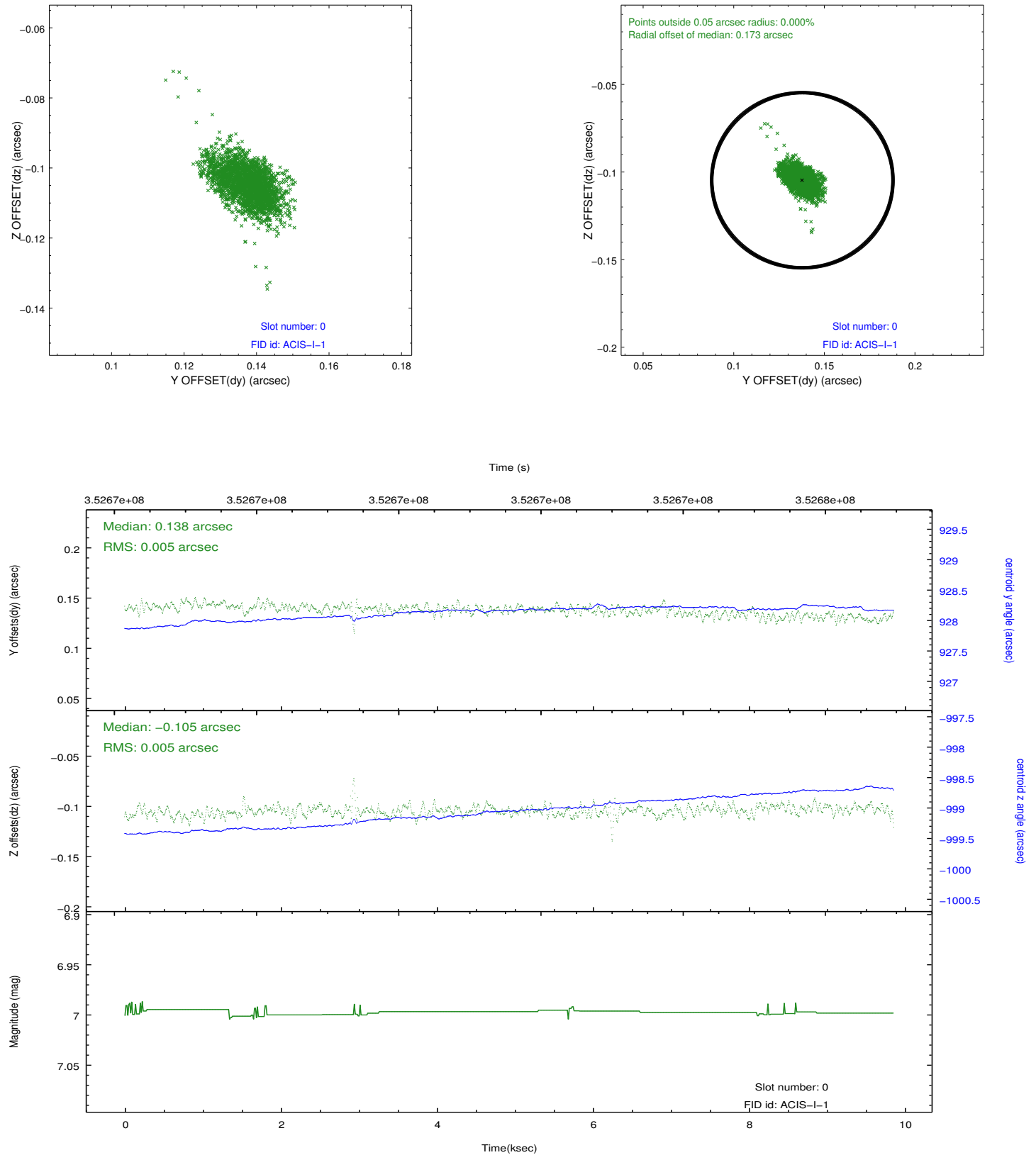


## 2.4.5 Slot 7

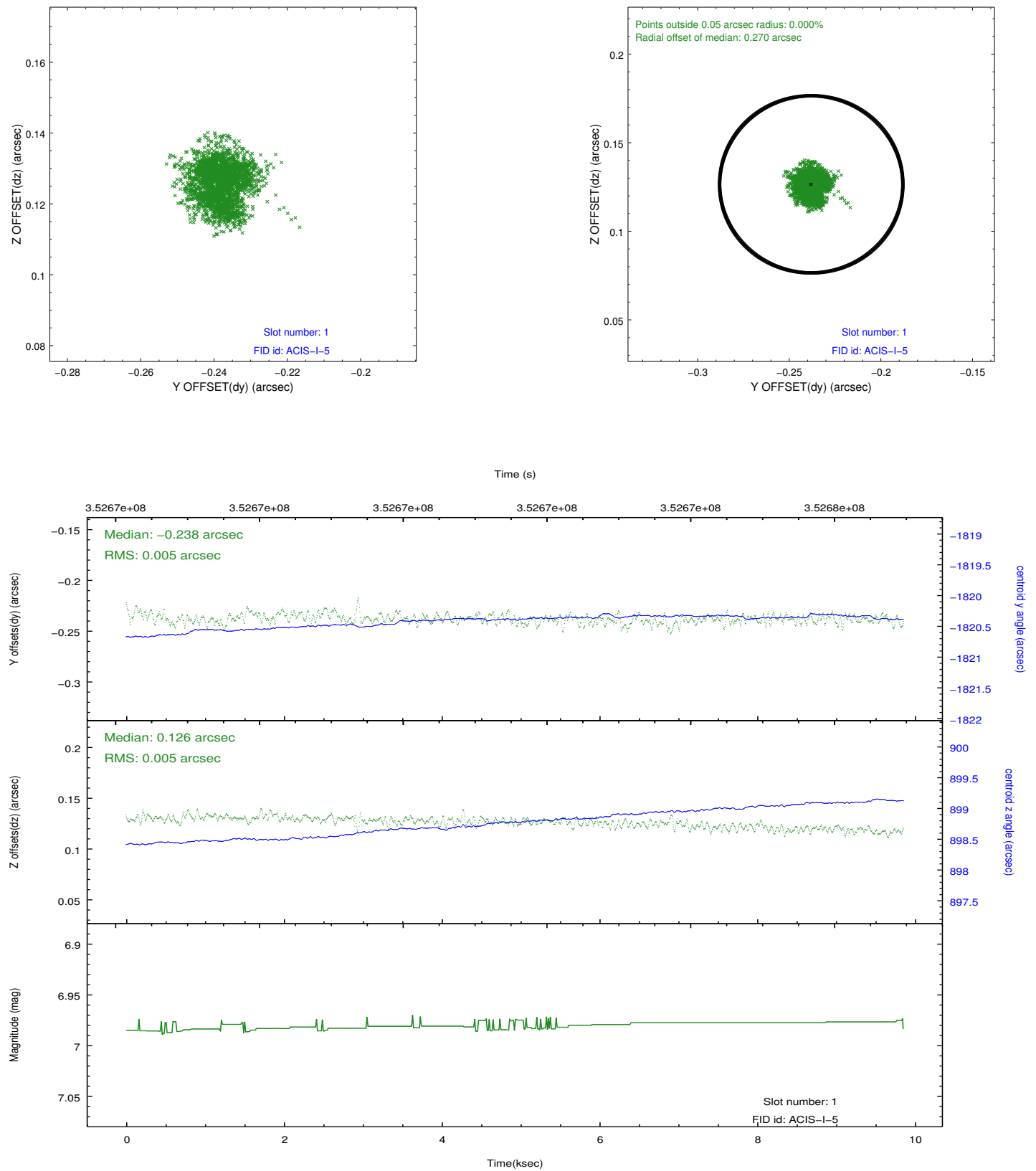


## 2.5 FID Slots

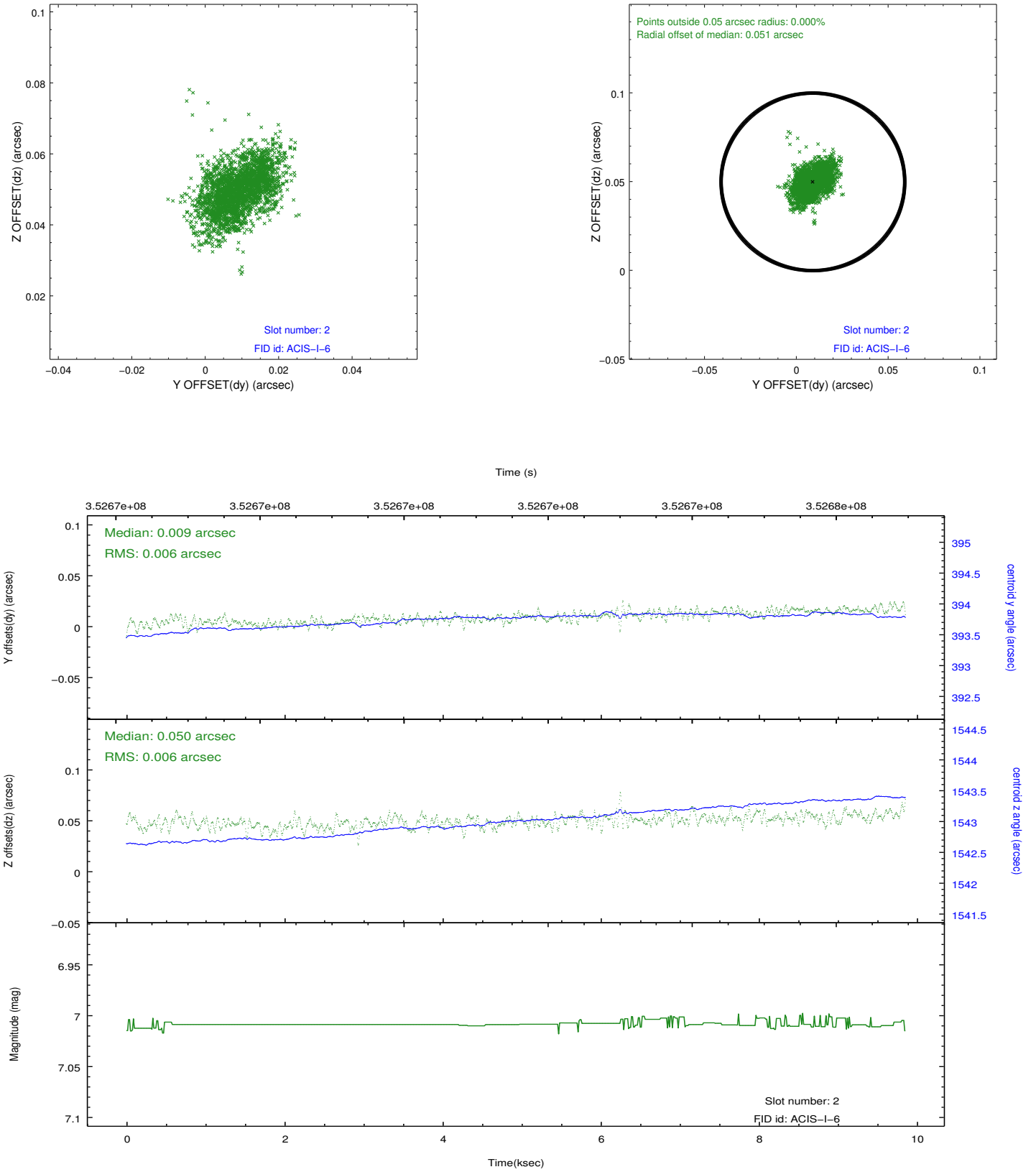
### 2.5.1 Slot 0



## 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)	2012.06.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.63785911

## A.2 Comments

A spatial region of the original bias map for CCD = 6 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small ( $\sim 20$  eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 6 has been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels affected by the anomaly are bounded by sky coords:  
(79.62225,-54.57044),(79.62163,-54.56719),(79.50181,-54.57481),(79.50827,-54.57770)