

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 13470 - L2 Version 2  
Chandra X-Ray Center

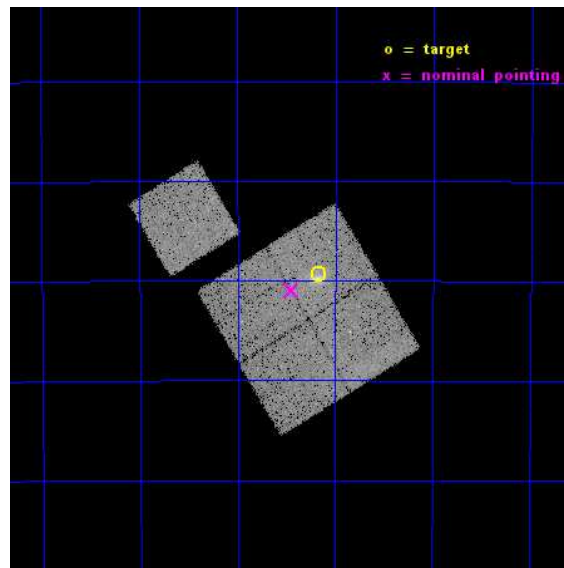
L2 Processing Date : Nov 30 2014

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# 1 Front

seq_num	801111	Sequence number
obs_id	13470	Observation id
title	Cosmology and Cluster Evolution from the 80 Most Massive Clusters in 2000 deg^2 from the South Pole Telescope Survey	Proposal title
observer	Dr. Bradford Benson	Principal investigator
object	SPT-CLJ0334-4659	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	53.5425	Observer's specified target RA [deg]
dec_targ	-46.989694	Observer's specified target Dec [deg]
ra_nom	53.612302626783	Nominal RA [deg]
dec_nom	-47.01611312963	Nominal Dec [deg]
roll_nom	328.64895454636	Nominal Roll [deg]
revision	2	Processing version of data
ontime	26077.159210265	Sum of GTIs [s]
livetime	25736.441927457	Livetime [s]
ontime0	26077.159210205	Sum of GTIs [s]
ontime1	26080.300200582	Sum of GTIs [s]
ontime2	26080.300200582	Sum of GTIs [s]
ontime3	26077.159210265	Sum of GTIs [s]
ontime6	26080.300200582	Sum of GTIs [s]
l2events	70302	Number of level 2 events

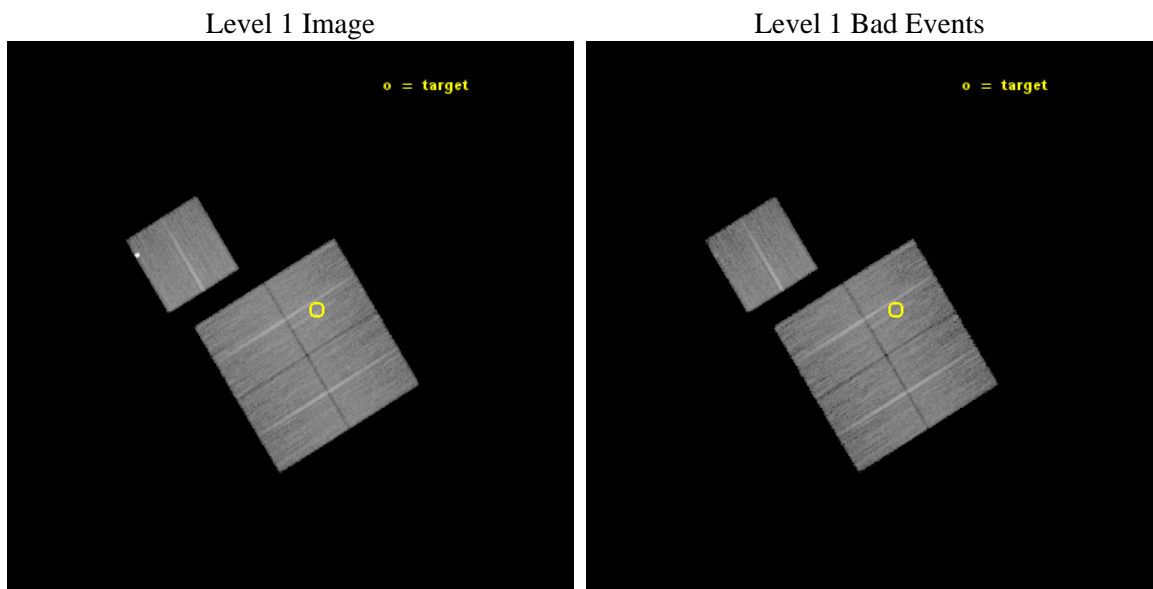




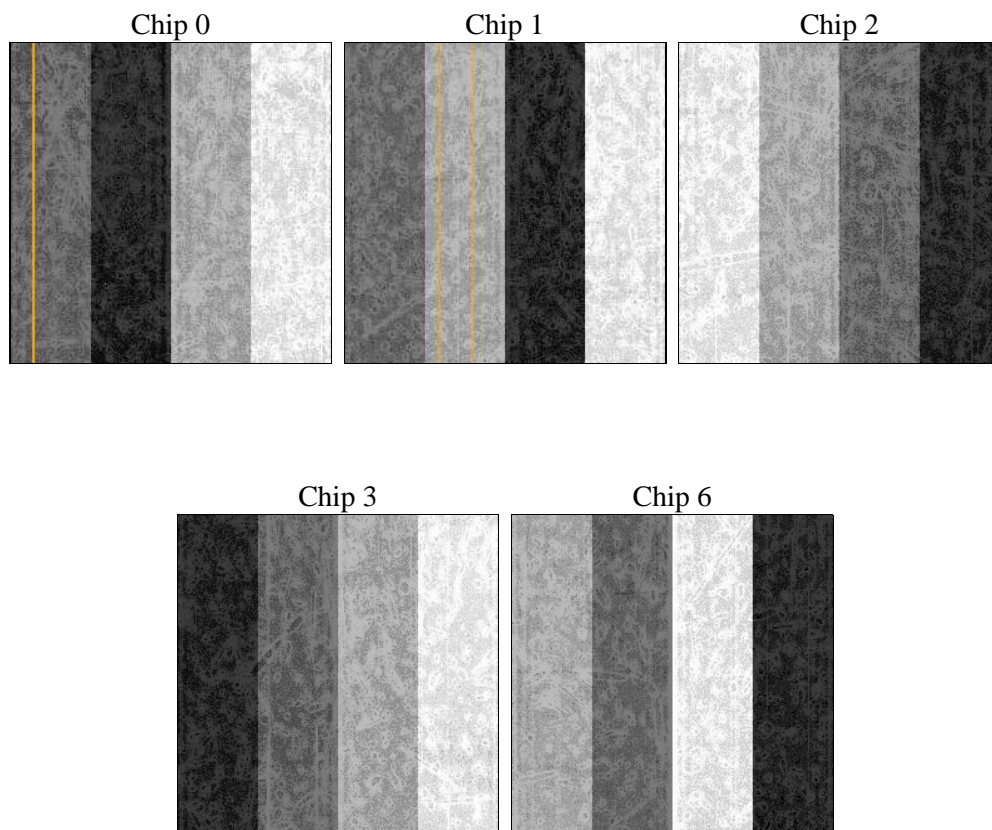
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	26000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	26077.159210265	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime0	26077.159210205	Sum of GTIs [s]
date	2014-11-30T12:34:06	Date and time of file creation	ontime1	26080.300200582	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	26080.300200582	Sum of GTIs [s]
			ontime3	26077.159210265	Sum of GTIs [s]
			ontime6	26080.300200582	Sum of GTIs [s]
			l1events	681702	Number of level 1 events

### 2.1.4 Events

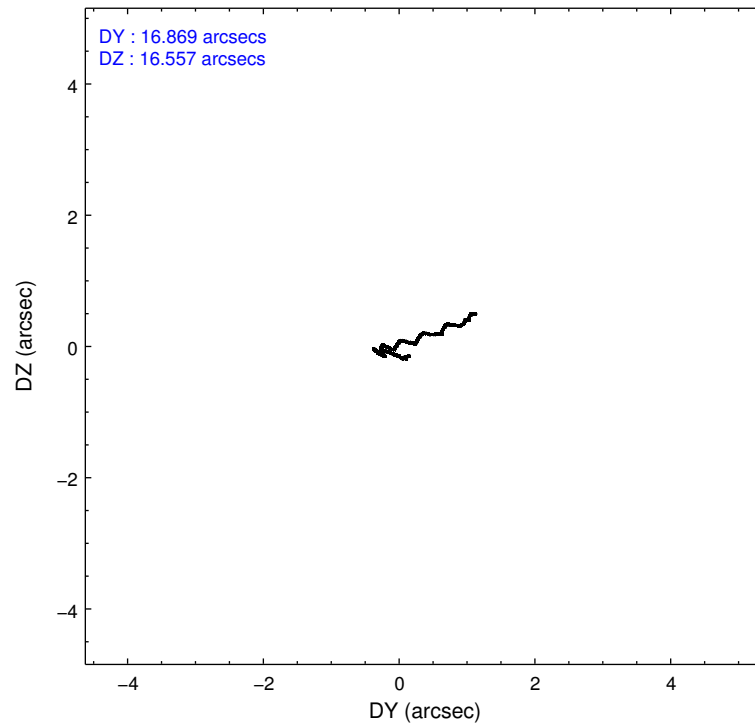
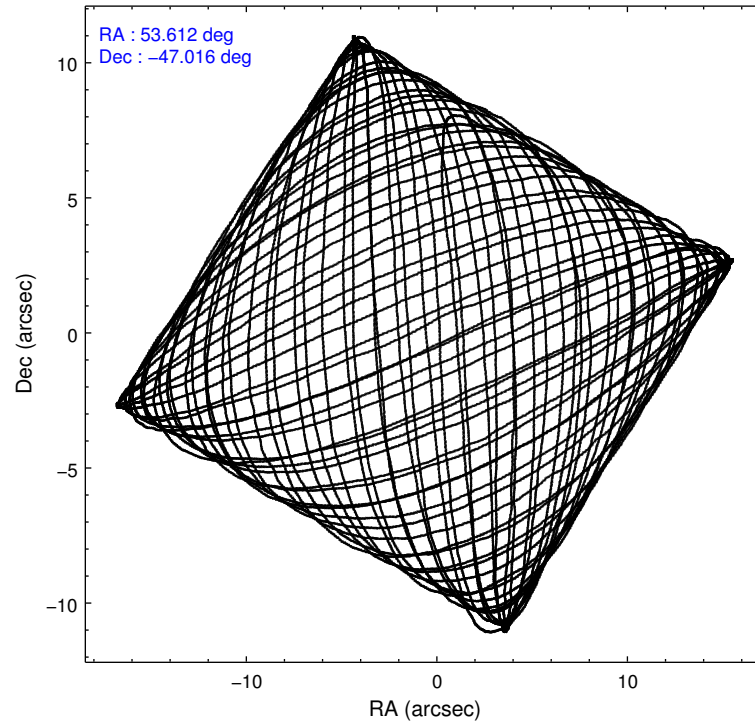
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	126047	127125	137452	138561	152517
rejected events	110306	109532	122036	120684	120143
rejected %	87%	86%	88%	87%	78%

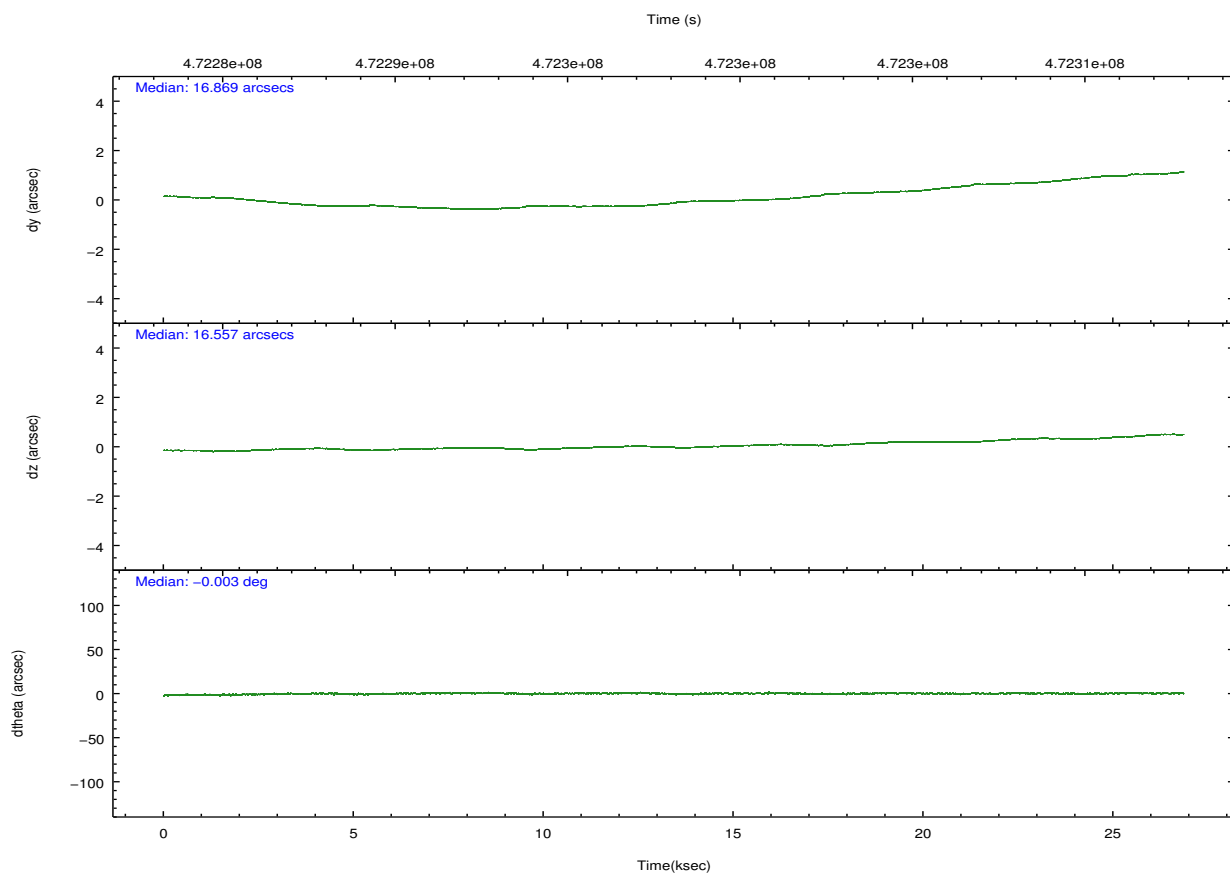
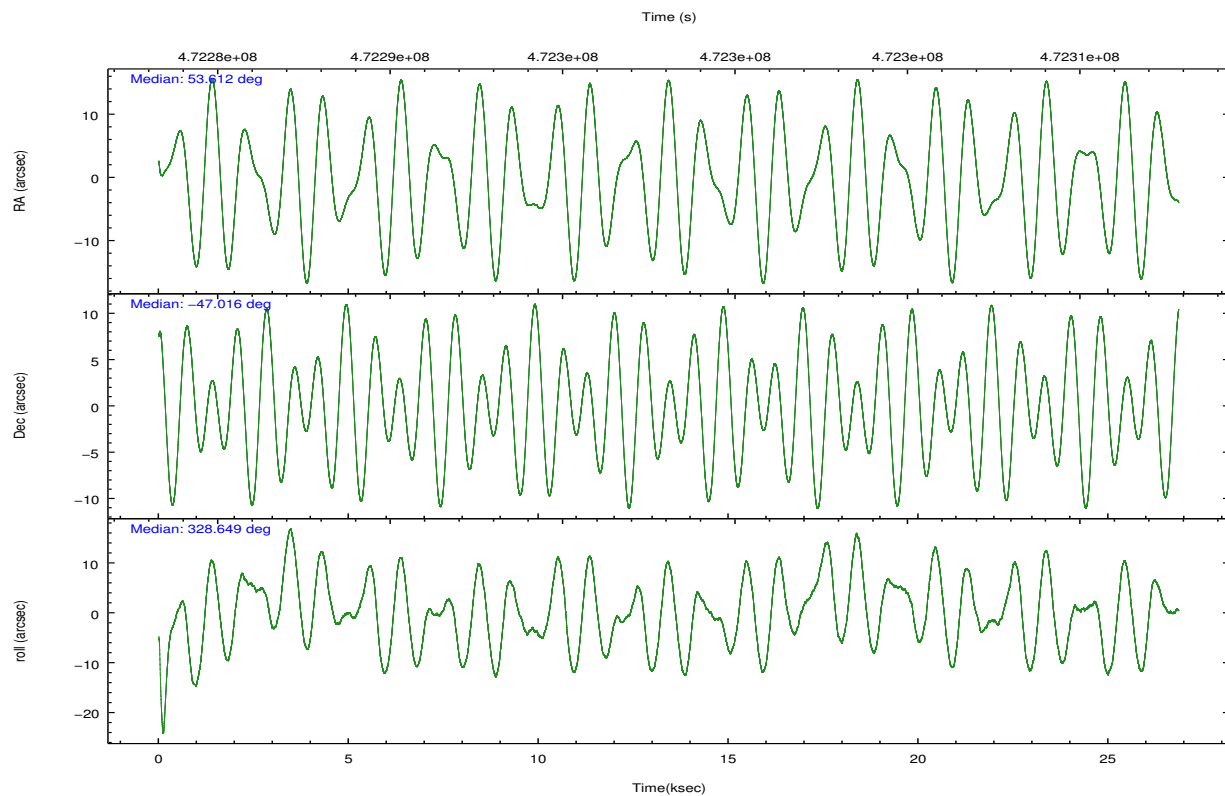
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	5391	6068	5301	7397	21562
	4%	4%	3%	5%	14%
grade 1 events	68	62	69	89	107
	0%	0%	0%	0%	0%
grade 2 events	3888	4249	3864	3686	3773
	3%	3%	2%	2%	2%
grade 3 events	1670	1767	1545	1739	1683
	1%	1%	1%	1%	1%
grade 4 events	1623	1687	1644	1771	1685
	1%	1%	1%	1%	1%
grade 5 events	6439	6629	5895	7161	6791
	5%	5%	4%	5%	4%
grade 6 events	3171	3827	3068	3290	3681
	2%	3%	2%	2%	2%
grade 7 events	103797	102836	116066	113428	113235
	82%	80%	84%	81%	74%

## 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	53.571975	53.61230262678264	CCD I2 on	Y	Y
[deg] Pointing Dec	-47.015558	-47.01611312963027	CCD I3 on	Y	Y
[deg] Pointing Roll	328.410763	328.6489545463621	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	-225.842463	-225.8433433320239	CCD S3 on	N	N
[mm] SIM translation stage offset	-7.75	-7.749109670905796	CCD S4 on	N	N
[s] Observation start time (MET)	472285507.184000	472283899.16943	CCD S5 on	N	N
Observation start date	2012-12-19T06:24:00	2012-12-19T05:58:19	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	472311507.184000	472312236.32095	On-chip summing requested	N	N
Observation end date	2012-12-19T13:37:20	2012-12-19T13:50:36	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



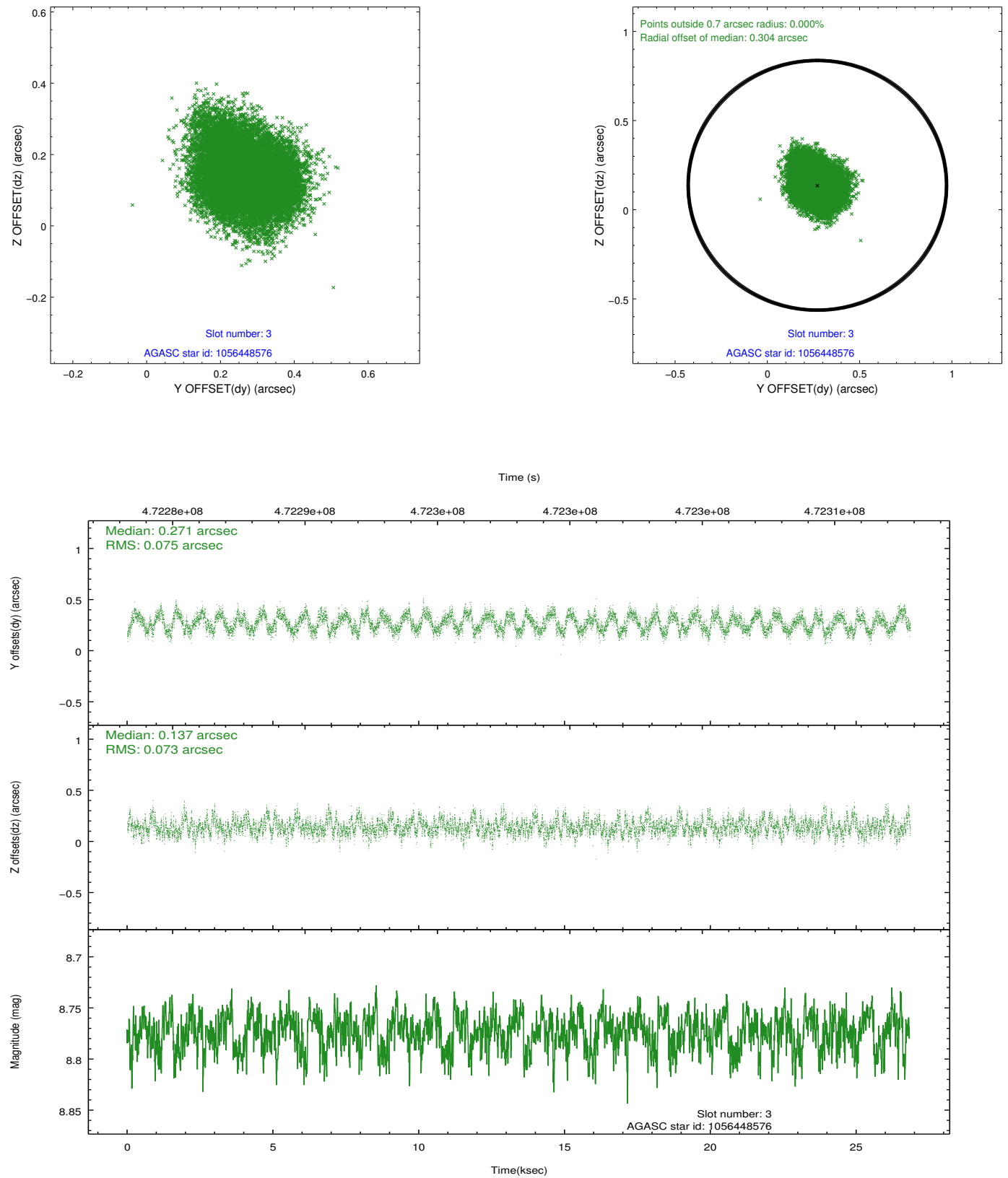


### Slot Statistics

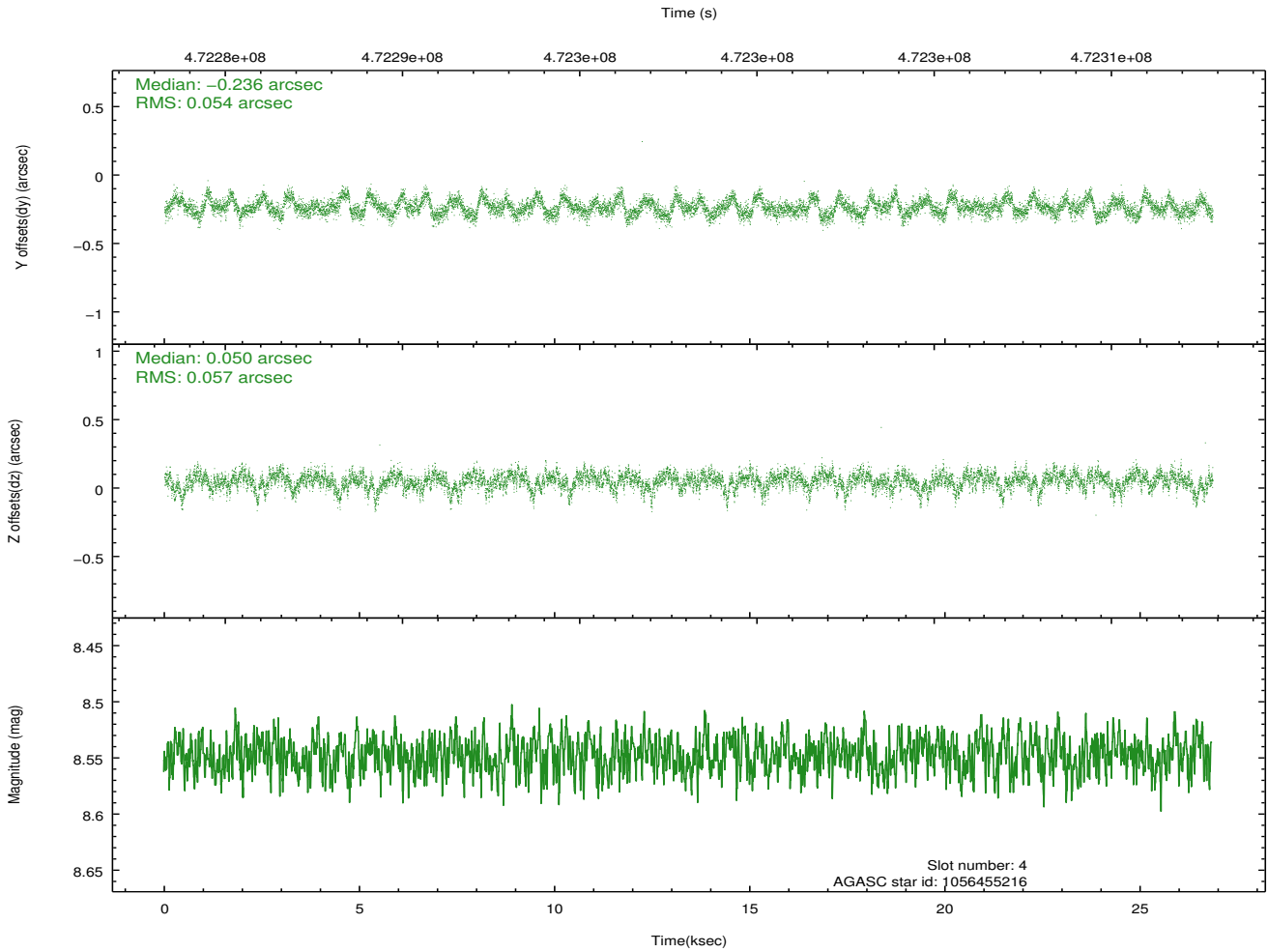
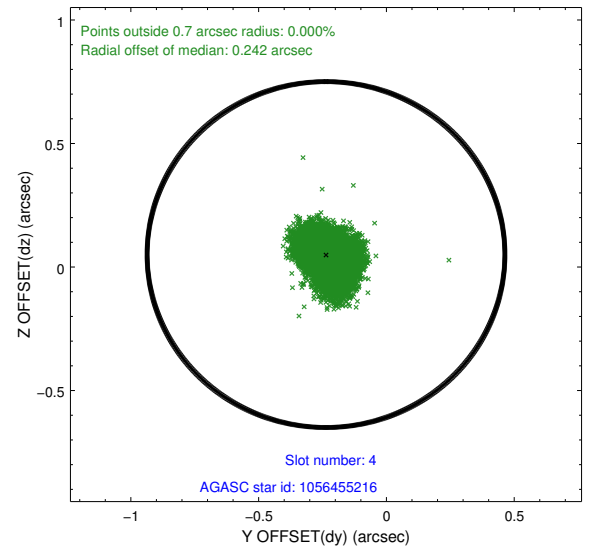
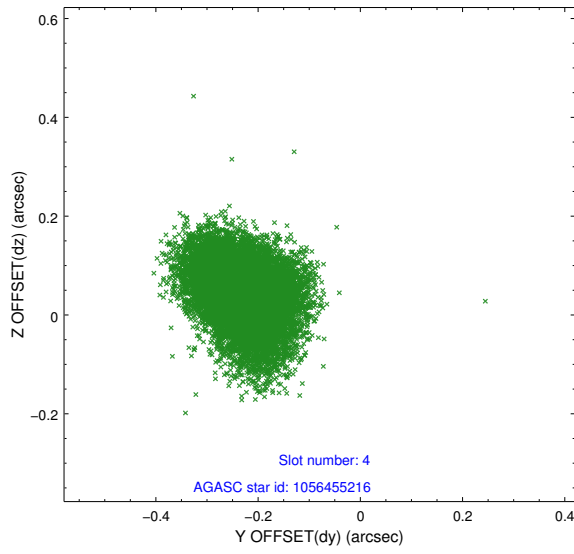
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.13	6549	0.166	-0.129	0.011	0.021	0.000000	0.000000	922.44	-999.45
1	FID		ACIS-I-5	7.13	6549	-0.303	0.134	0.011	0.027	0.000000	0.000000	-1826.12	898.18
2	FID		ACIS-I-6	7.12	6549	0.047	0.067	0.008	0.015	0.000000	0.000000	387.71	1542.78
3	GUIDE	used	1056448576	8.77	13086	0.271	0.137	0.112	0.173	53.265900	-46.722309	-1195.07	502.64
4	GUIDE	used	1056455216	8.55	13093	-0.236	0.050	0.083	0.139	54.350975	-46.979024	1566.07	1105.83
5	GUIDE	used	1056456720	7.80	13096	-0.084	-0.167	0.089	0.134	54.061768	-47.200800	1372.36	57.06
6	GUIDE	used	1056457824	6.40	13099	0.075	0.007	0.129	0.267	52.653971	-47.375128	-1220.37	-2285.36
7	GUIDE	used	1056456880	10.45	13061	-0.007	-0.020	0.331	0.534	54.229575	-47.101380	1538.28	575.15

## 2.4 Star Slots

### 2.4.1 Slot 3

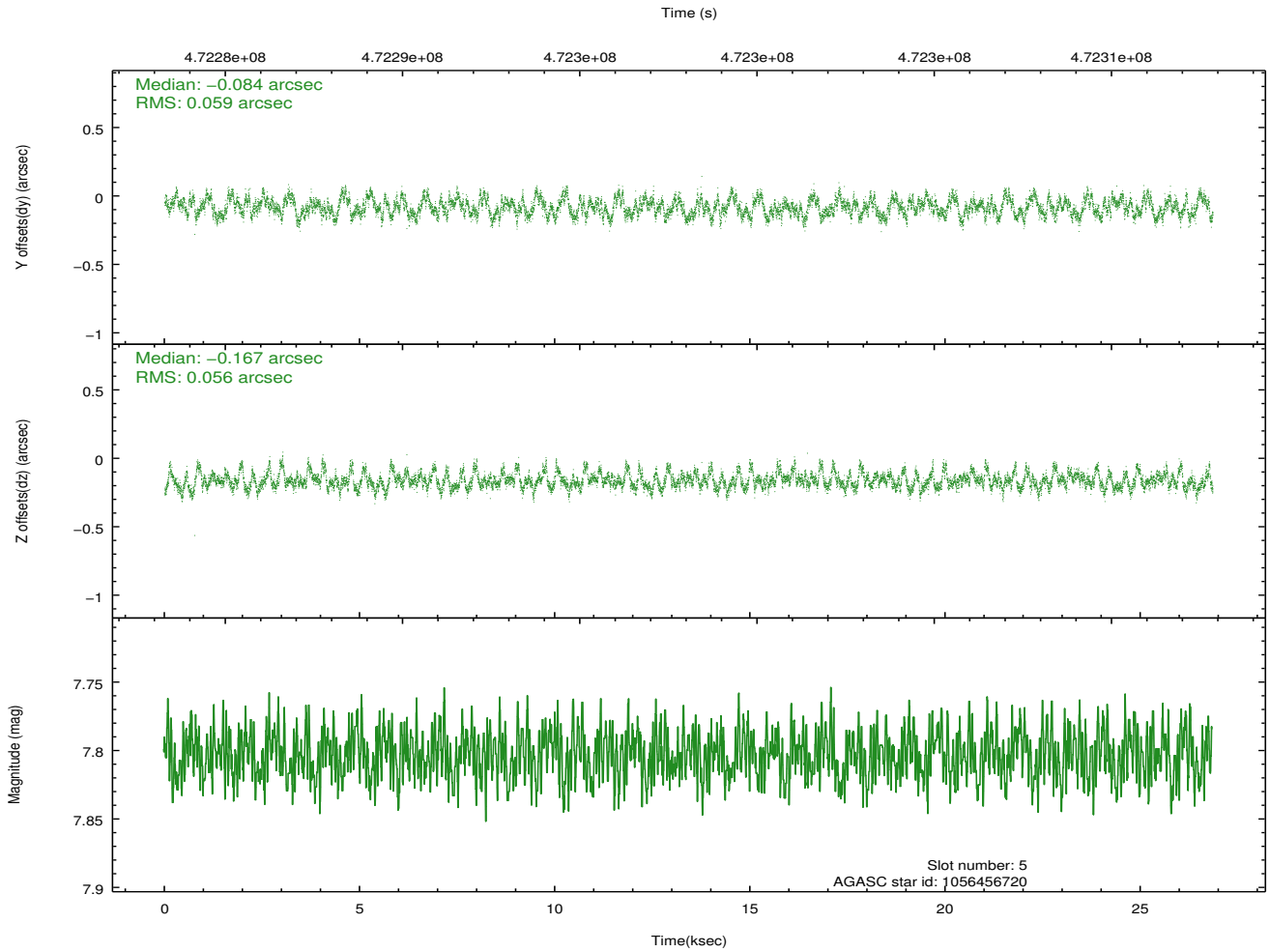
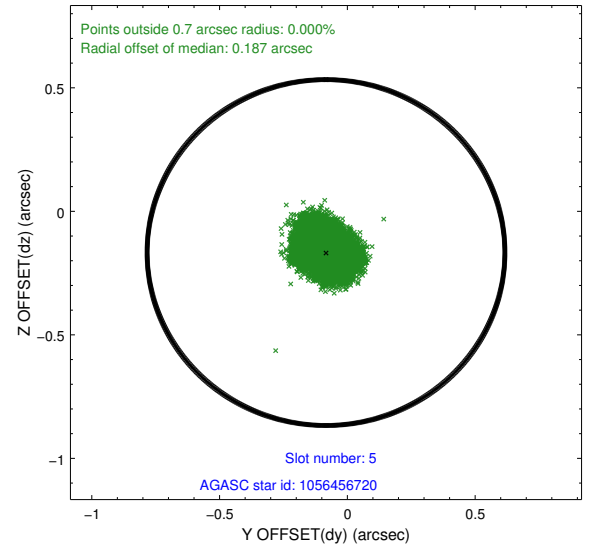
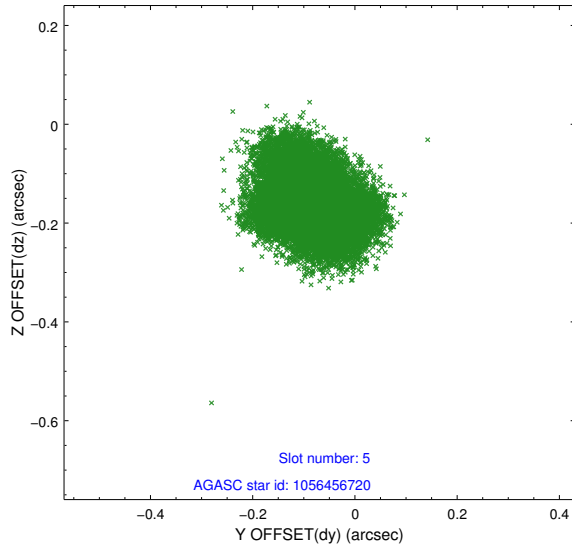


## 2.4.2 Slot 4

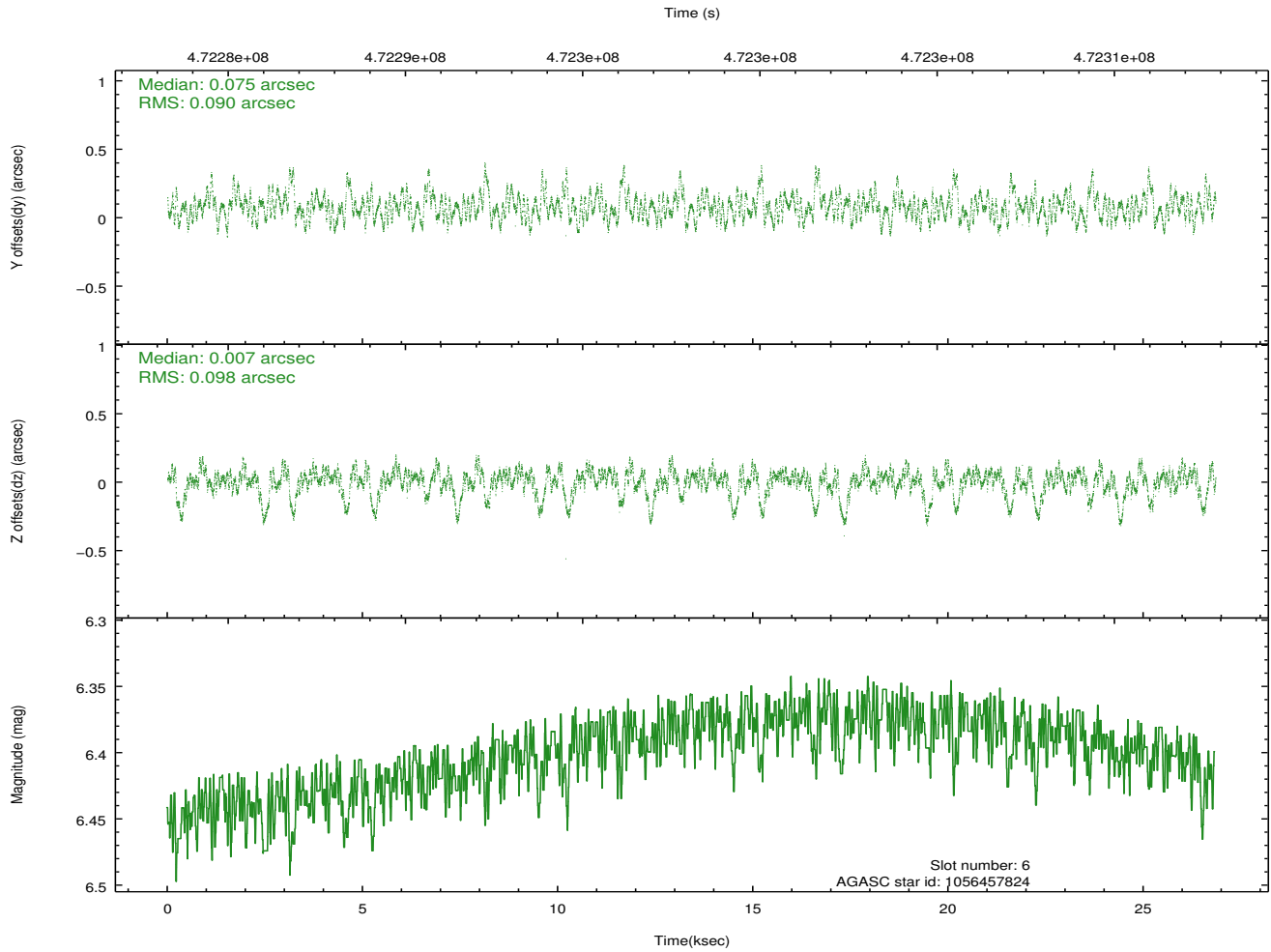
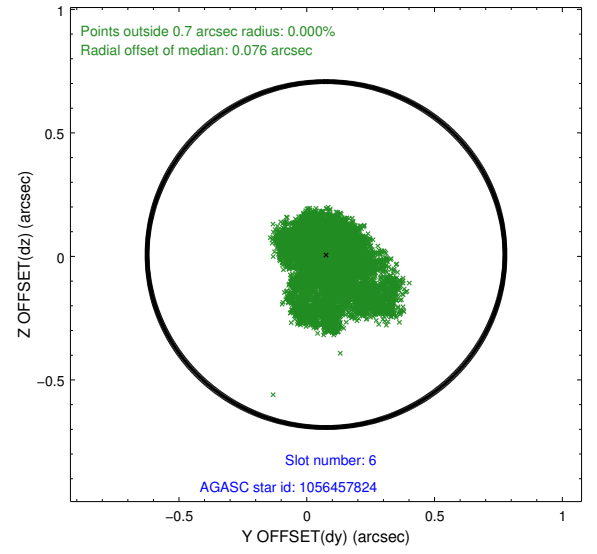
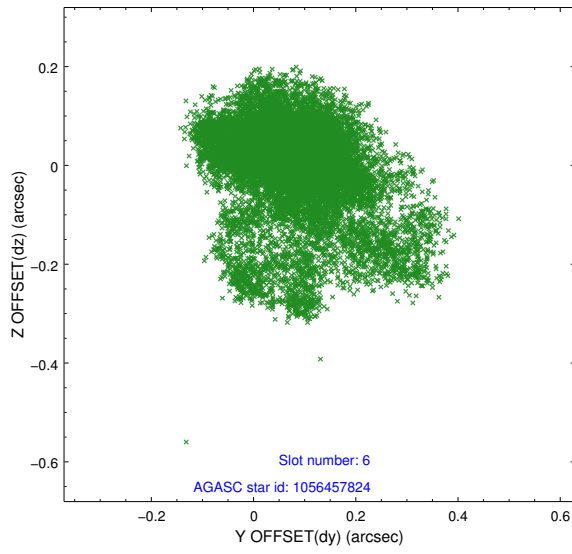




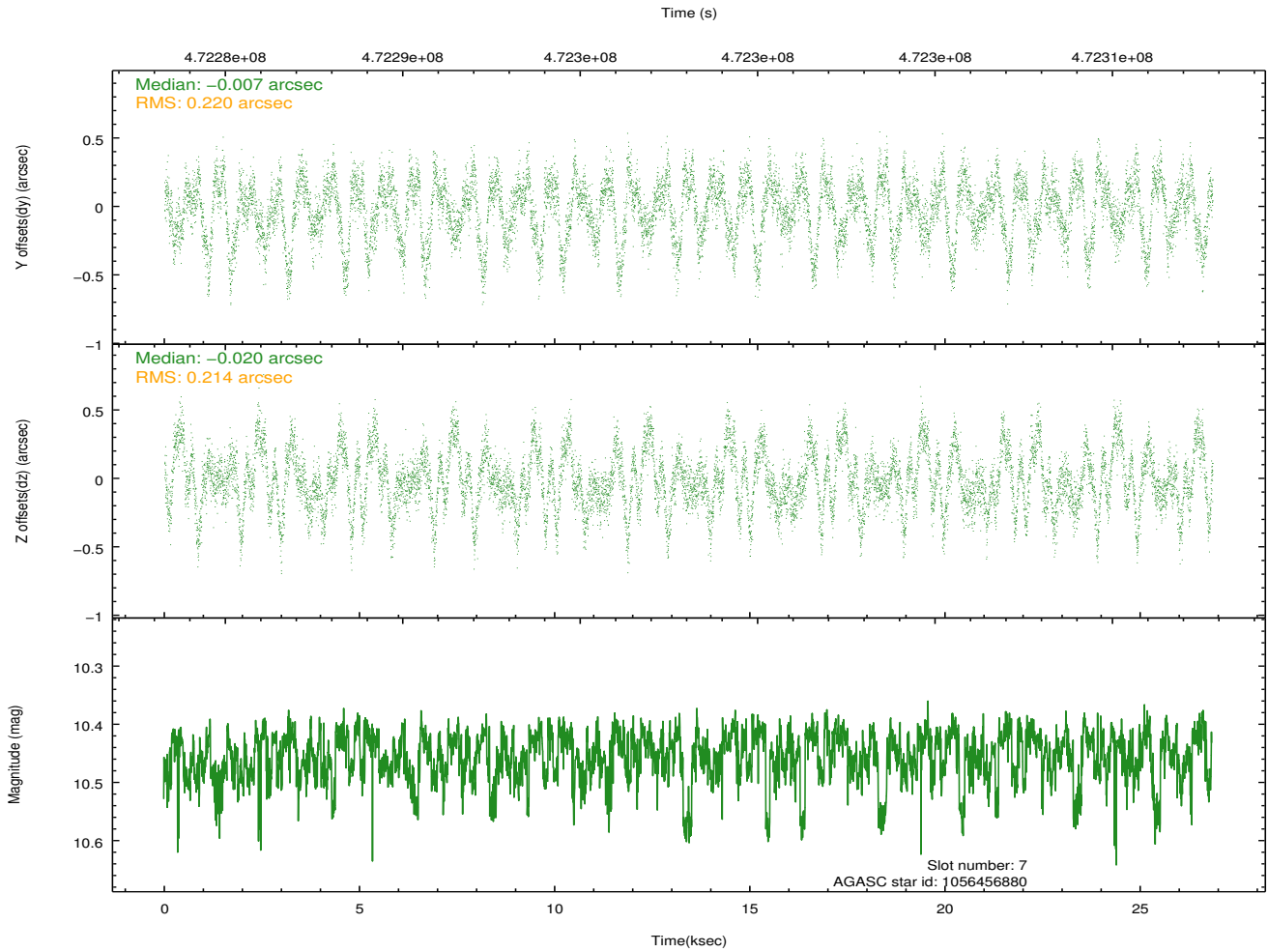
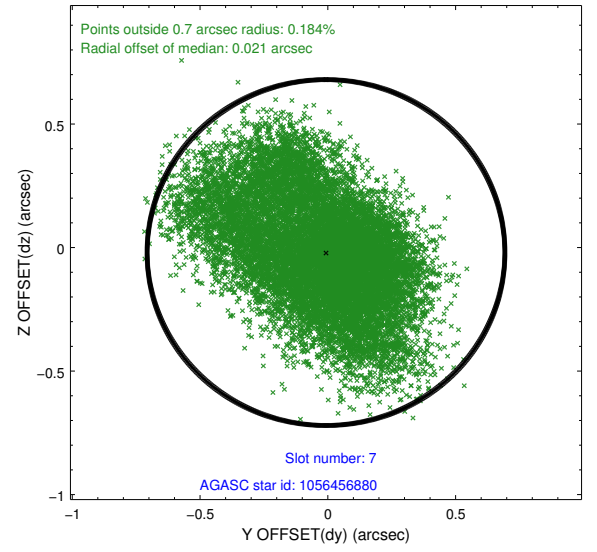
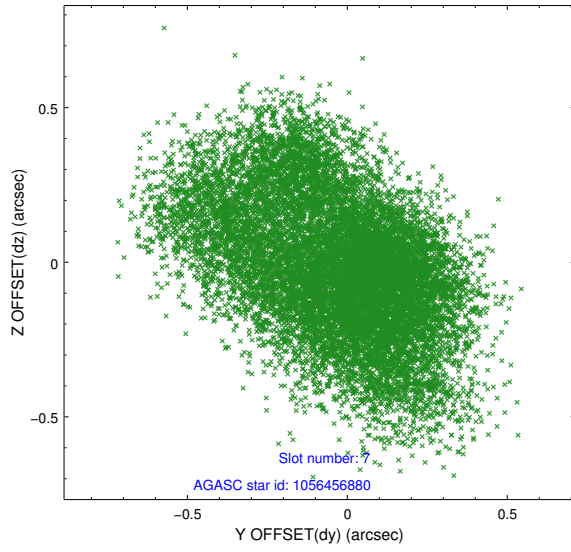
### 2.4.3 Slot 5



## 2.4.4 Slot 6

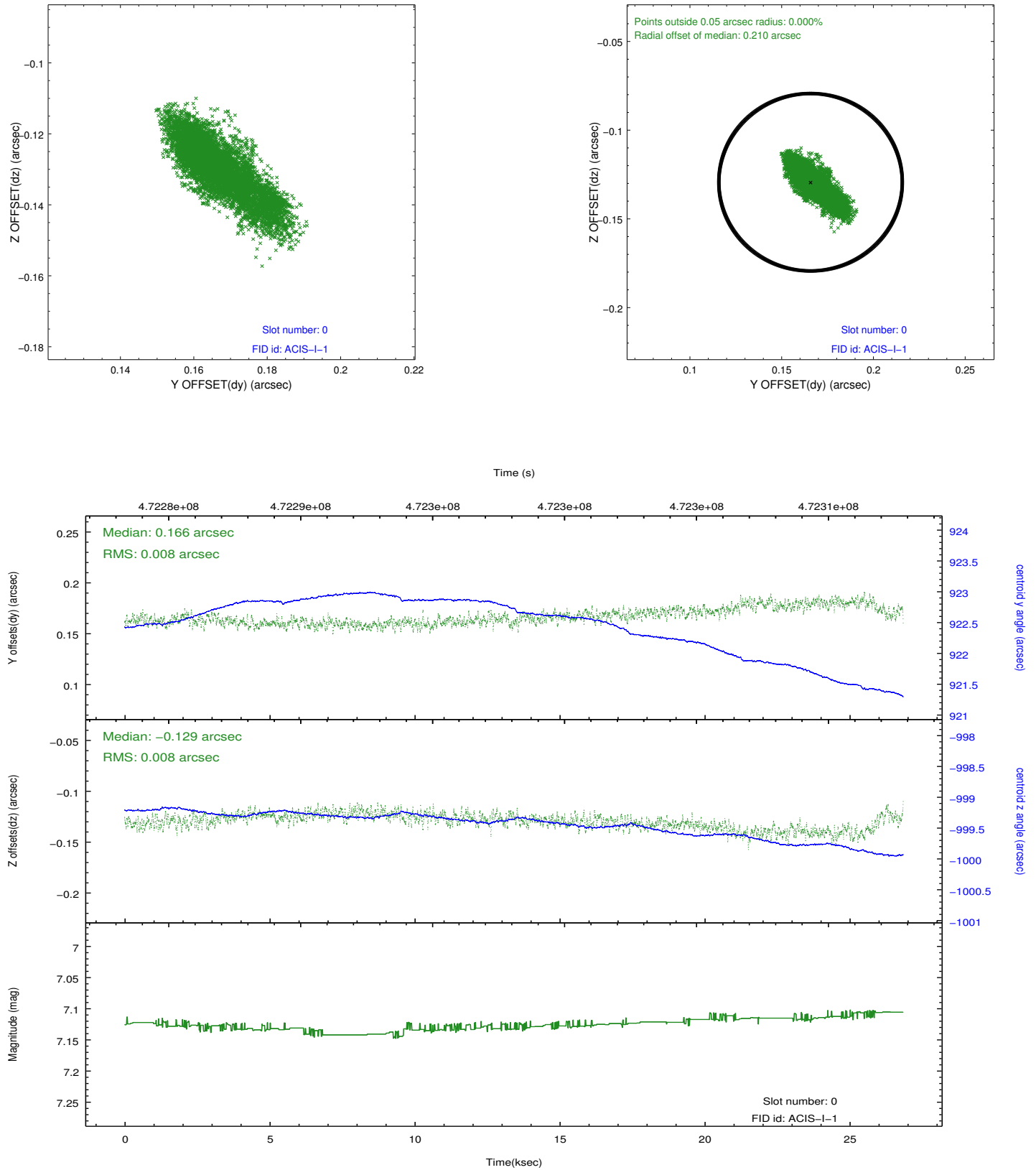


## 2.4.5 Slot 7

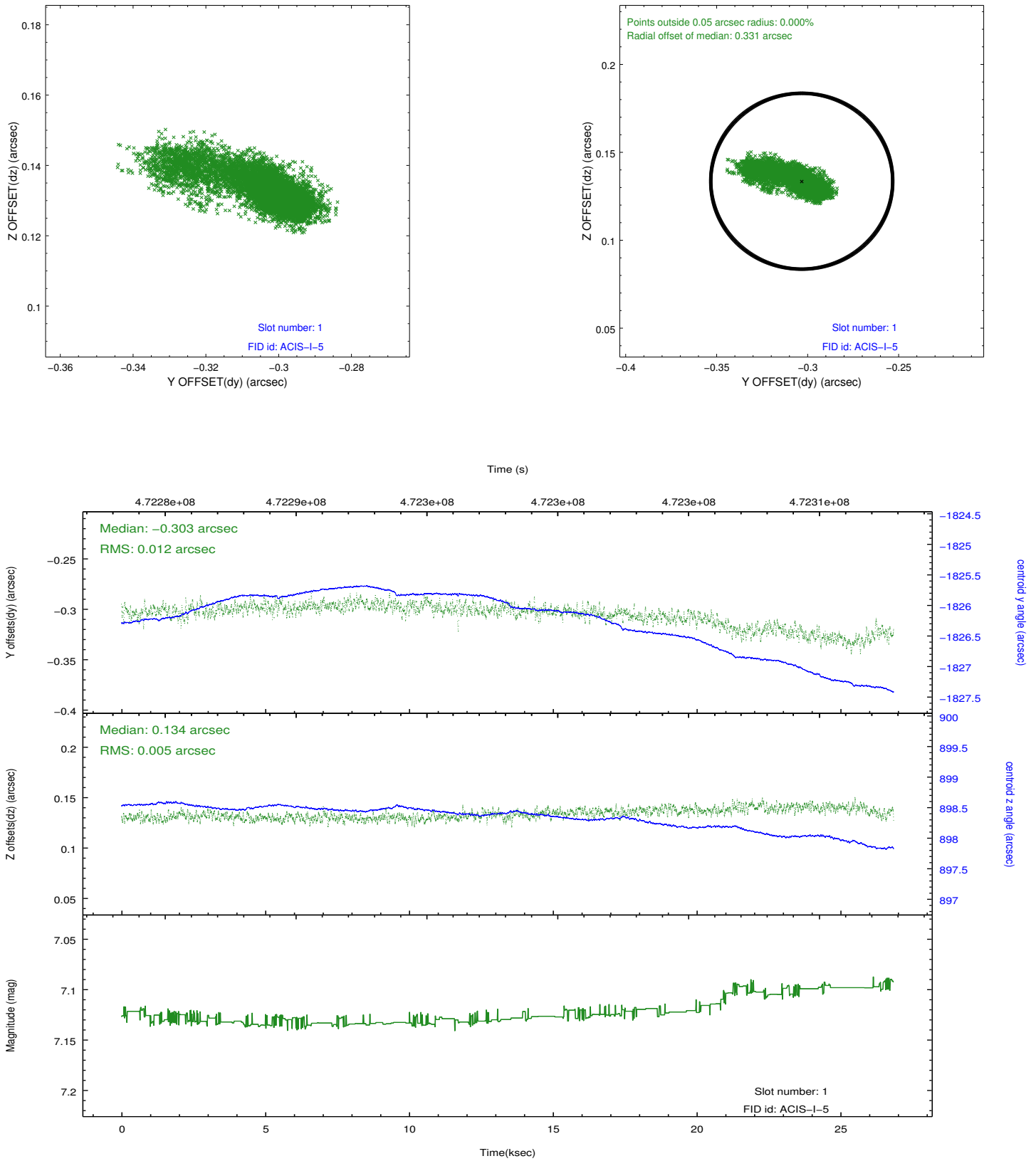


## 2.5 FID Slots

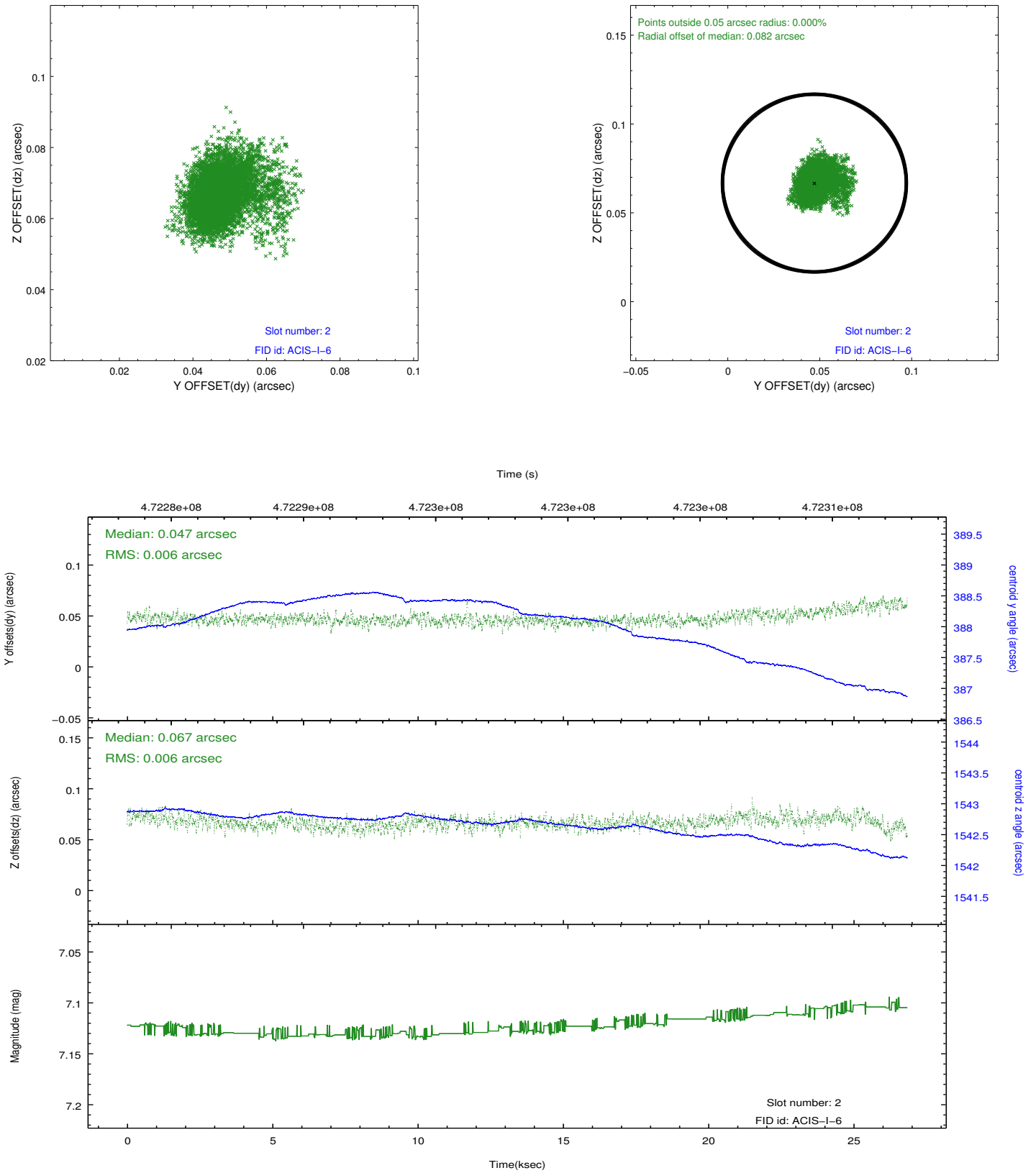
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2014.12.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	26.077159210265

## A.2 Comments

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.