

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 13404 - L2 Version 2  
Chandra X-Ray Center

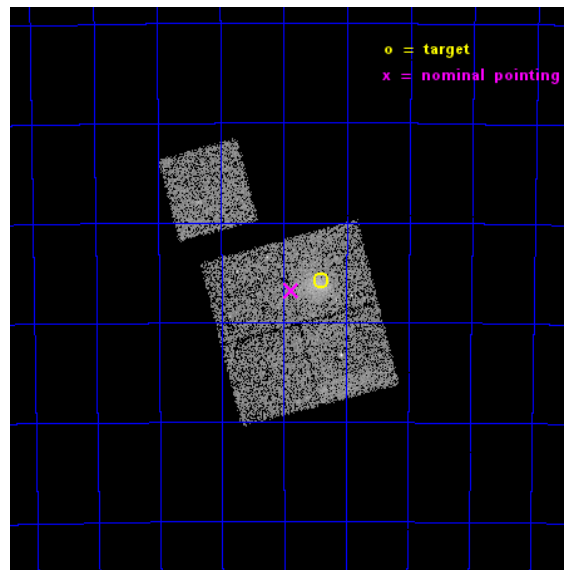
L2 Processing Date : Nov 30 2014

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# 1 Front

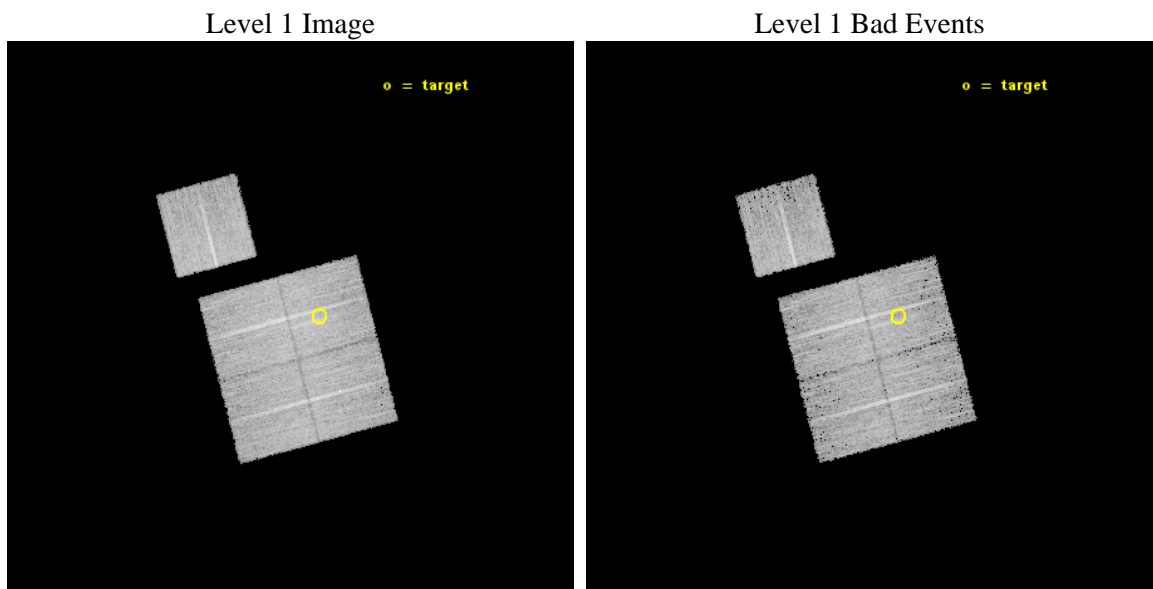
seq_num	801091	Sequence number
obs_id	13404	Observation id
title	Chandra Observation of the Most Massive Galaxy Clusters Detected in the South Pole Telescope Survey	Proposal title
observer	Professor Gordon Garmire	Principal investigator
object	SPT-CLJ0555-6405	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	88.850417	Observer's specified target RA [deg]
dec_targ	-64.097889	Observer's specified target Dec [deg]
ra_nom	88.969580805782	Nominal RA [deg]
dec_nom	-64.113703151288	Nominal Dec [deg]
roll_nom	345.18865933809	Nominal Roll [deg]
revision	2	Processing version of data
ontime	11081.636217713	Sum of GTIs [s]
livetime	10936.846482347	Livetime [s]
ontime0	11081.513097703	Sum of GTIs [s]
ontime1	11081.554137707	Sum of GTIs [s]
ontime2	11078.454207361	Sum of GTIs [s]
ontime3	11081.636217713	Sum of GTIs [s]
ontime6	11081.4720577	Sum of GTIs [s]
l2events	32772	Number of level 2 events



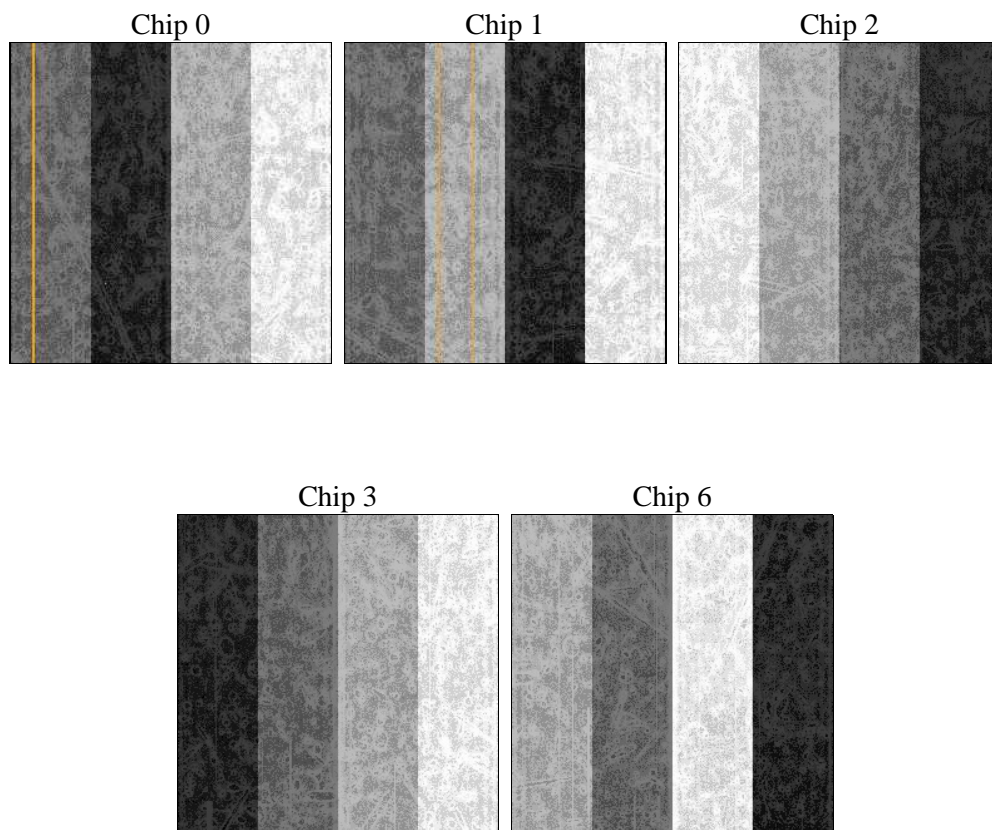
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	11000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	11081.636217713	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime0	11081.513097703	Sum of GTIs [s]
date	2014-11-30T22:16:47	Date and time of file creation	ontime1	11081.554137707	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	11078.454207361	Sum of GTIs [s]
			ontime3	11081.636217713	Sum of GTIs [s]
			ontime6	11081.4720577	Sum of GTIs [s]
			l1events	292236	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	54232	55668	62130	61164	59042
rejected events	47325	47671	54773	52084	51857
rejected %	87%	85%	88%	85%	87%

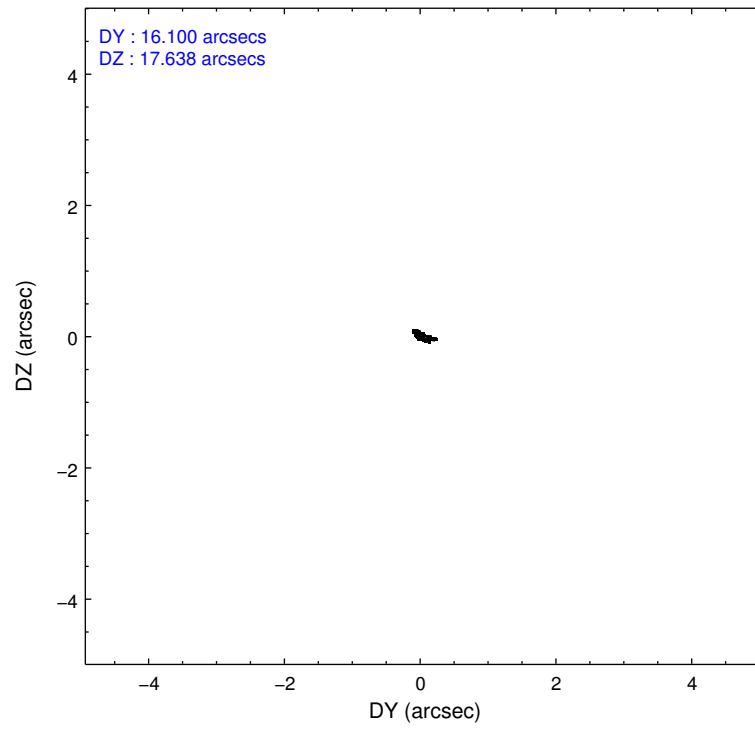
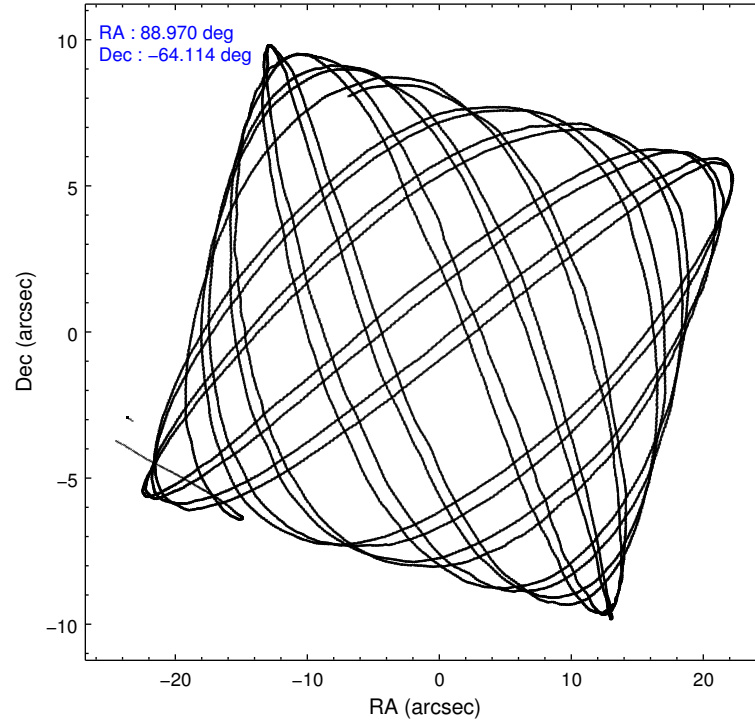
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	2405	2848	2688	4266	2474
	4%	5%	4%	6%	4%
grade 1 events	29	30	53	42	28
	0%	0%	0%	0%	0%
grade 2 events	1745	1908	1769	1805	1617
	3%	3%	2%	2%	2%
grade 3 events	697	764	713	768	718
	1%	1%	1%	1%	1%
grade 4 events	703	796	724	750	757
	1%	1%	1%	1%	1%
grade 5 events	2766	3025	2669	3109	3052
	5%	5%	4%	5%	5%
grade 6 events	1361	1689	1465	1503	1627
	2%	3%	2%	2%	2%
grade 7 events	44526	44608	52049	48921	48769
	82%	80%	83%	79%	82%

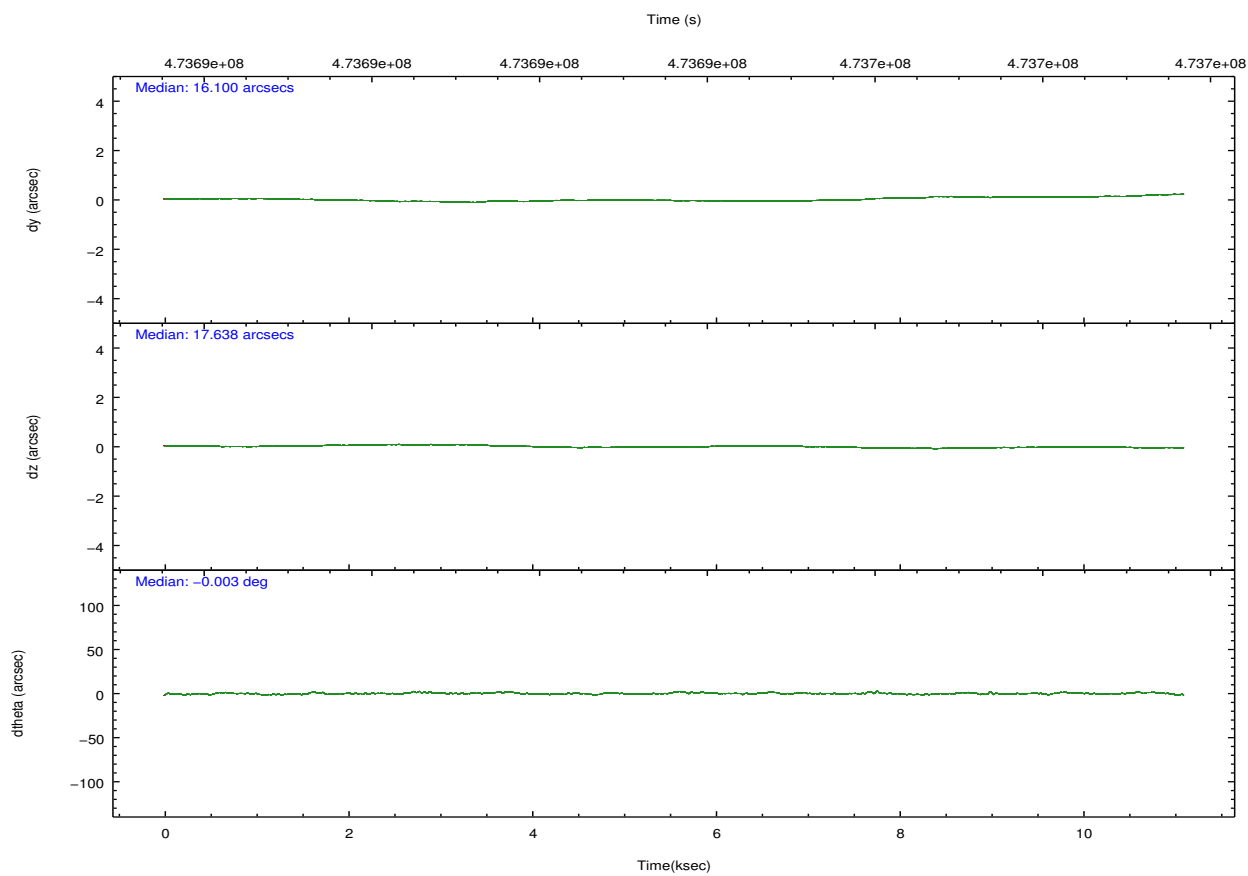
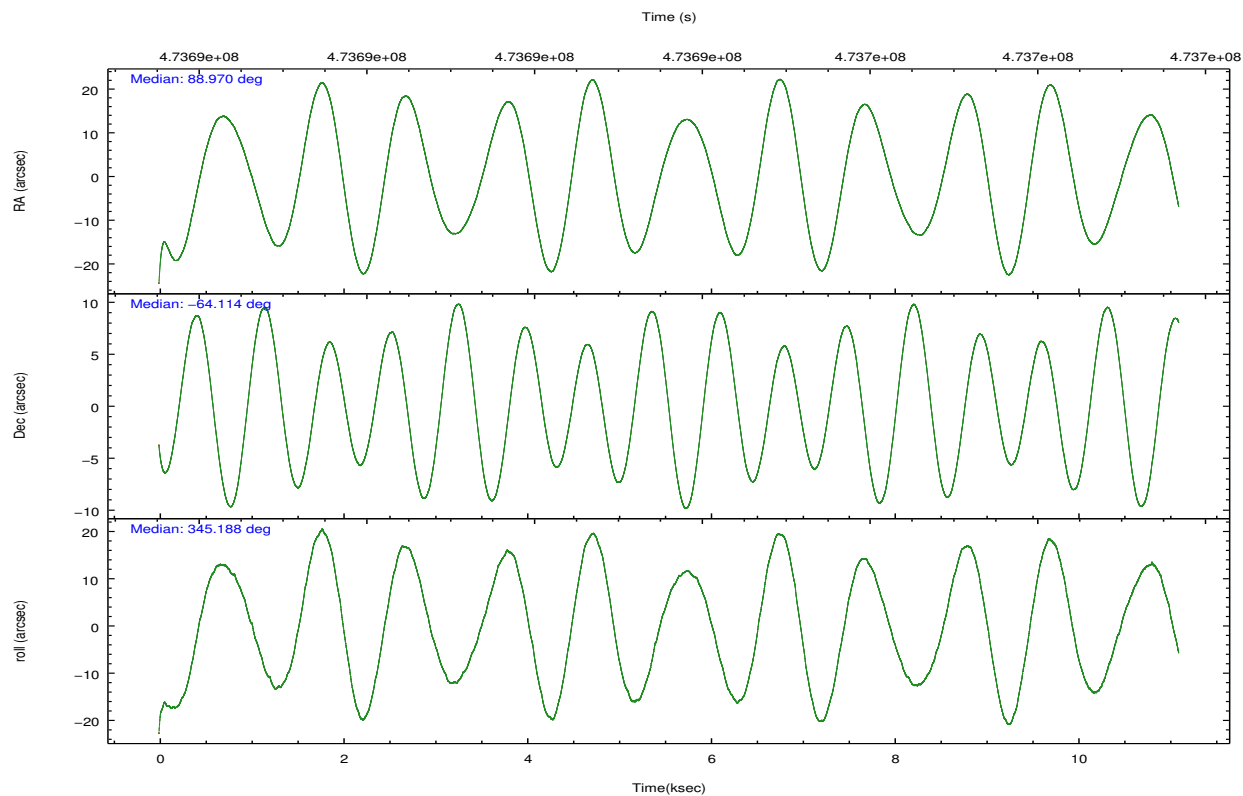


## 2.2 Compared Parameters

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	88.908877	88.9695808057822	CCD I2 on	Y	Y
[deg] Pointing Dec	-64.120999	-64.11370315128838	CCD I3 on	Y	Y
[deg] Pointing Roll	344.925363	345.1886593380862	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	-225.8458576473255	CCD S3 on	N	N
[mm] SIM translation stage offset	-7.752	-7.746595355604228	CCD S4 on	N	N
[s] Observation start time (MET)	473688151.184000	473686373.43233	CCD S5 on	N	N
Observation start date	2013-01-04T12:01:24	2013-01-04T11:32:53	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	473699151.184000	473699727.64555	On-chip summing requested	N	N
Observation end date	2013-01-04T15:04:44	2013-01-04T15:15:27	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



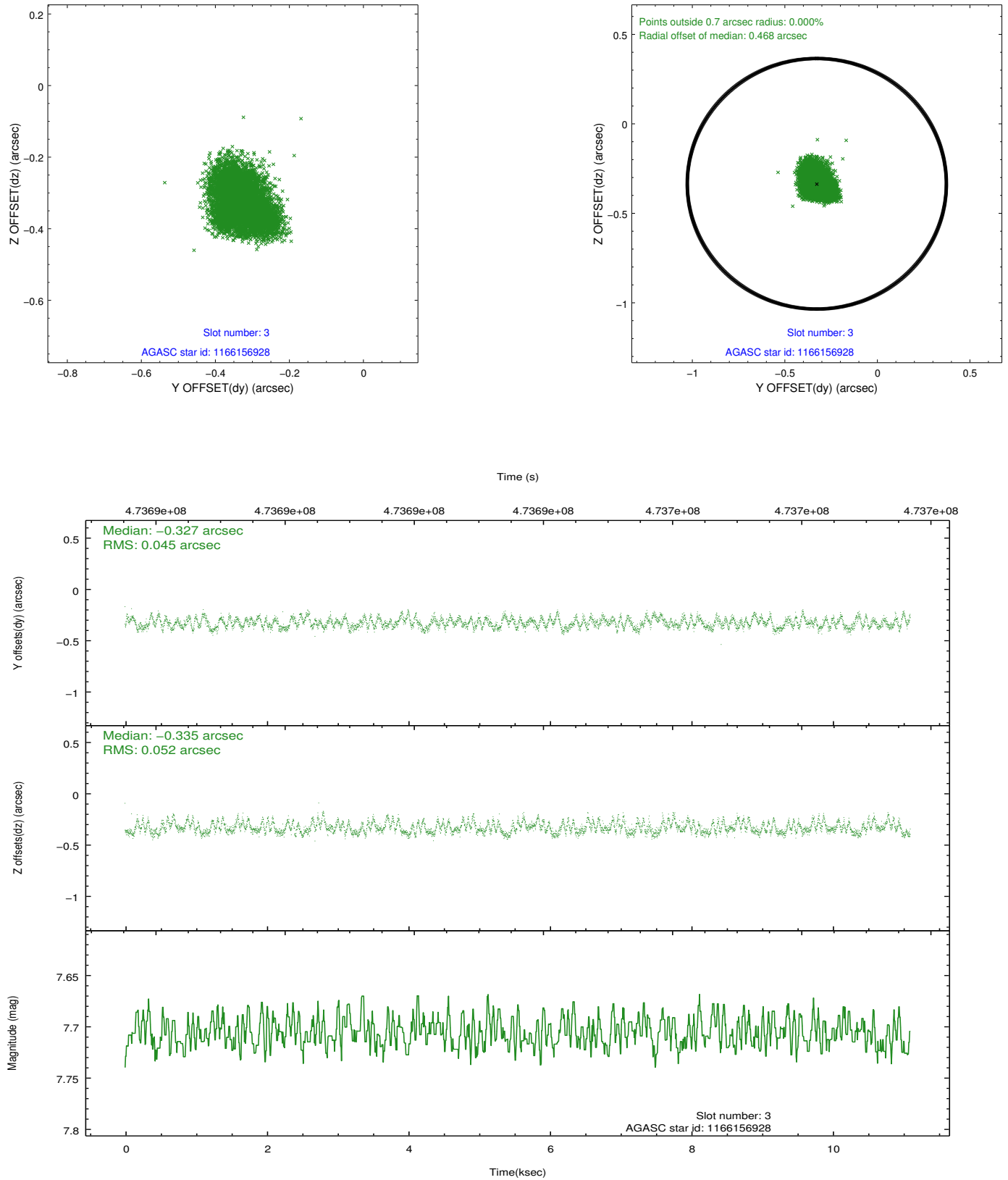


### Slot Statistics

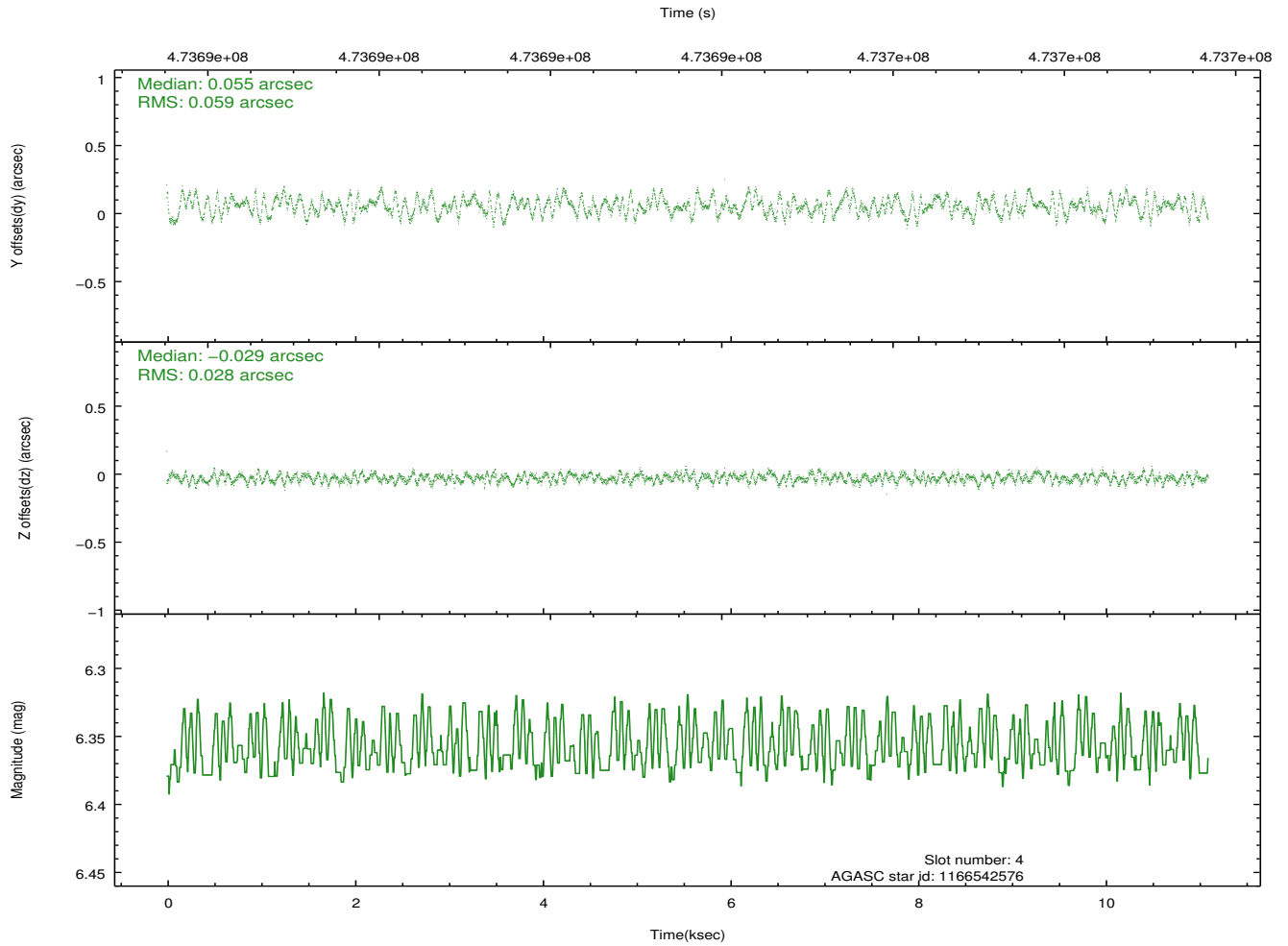
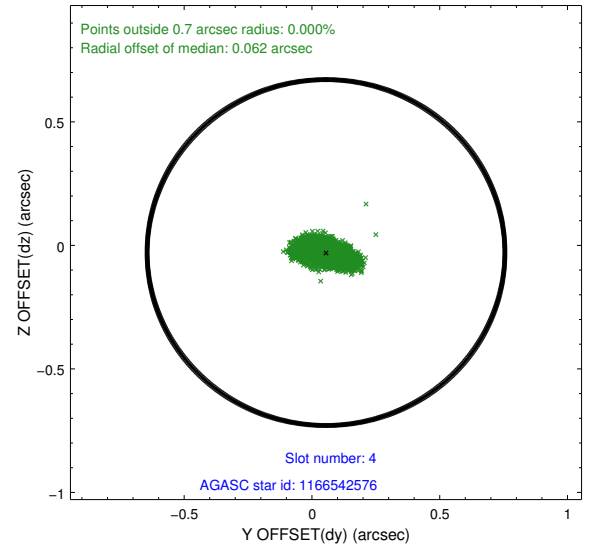
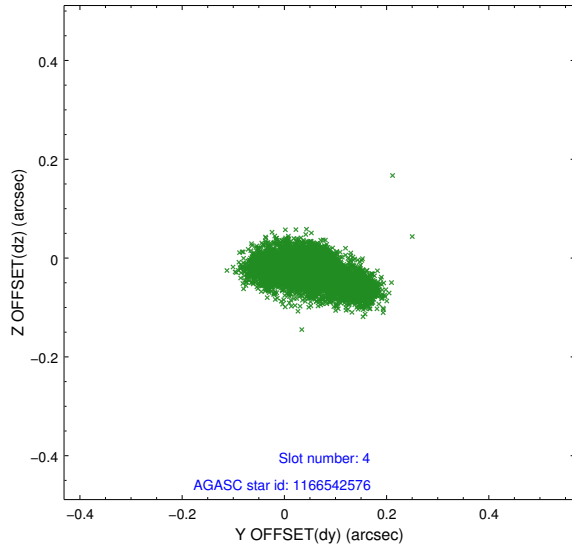
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.14	2708	0.148	-0.090	0.009	0.016	0.000000	0.000000	923.33	-1000.41
1	FID		ACIS-I-5	7.13	2707	-0.294	0.125	0.010	0.017	0.000000	0.000000	-1825.01	896.94
2	FID		ACIS-I-6	7.14	2708	0.054	0.036	0.010	0.016	0.000000	0.000000	388.21	1541.93
3	GUIDE	used	1166156928	7.71	5415	-0.327	-0.335	0.074	0.115	90.272721	-63.729998	1738.38	1902.16
4	GUIDE	used	1166542576	6.36	5416	0.055	-0.029	0.070	0.115	87.846213	-64.033565	-1695.02	-144.34
5	GUIDE	used	1166542752	8.30	5375	0.072	-0.406	0.075	0.115	89.588141	-64.161504	1068.33	132.17
6	GUIDE	used	1166550184	6.86	5416	0.142	0.637	0.081	0.133	88.549738	-64.482244	-198.52	-1401.10
7	GUIDE	used	1166682720	7.01	5415	0.048	0.128	0.062	0.101	90.032129	-64.310013	1873.69	-215.51

## 2.4 Star Slots

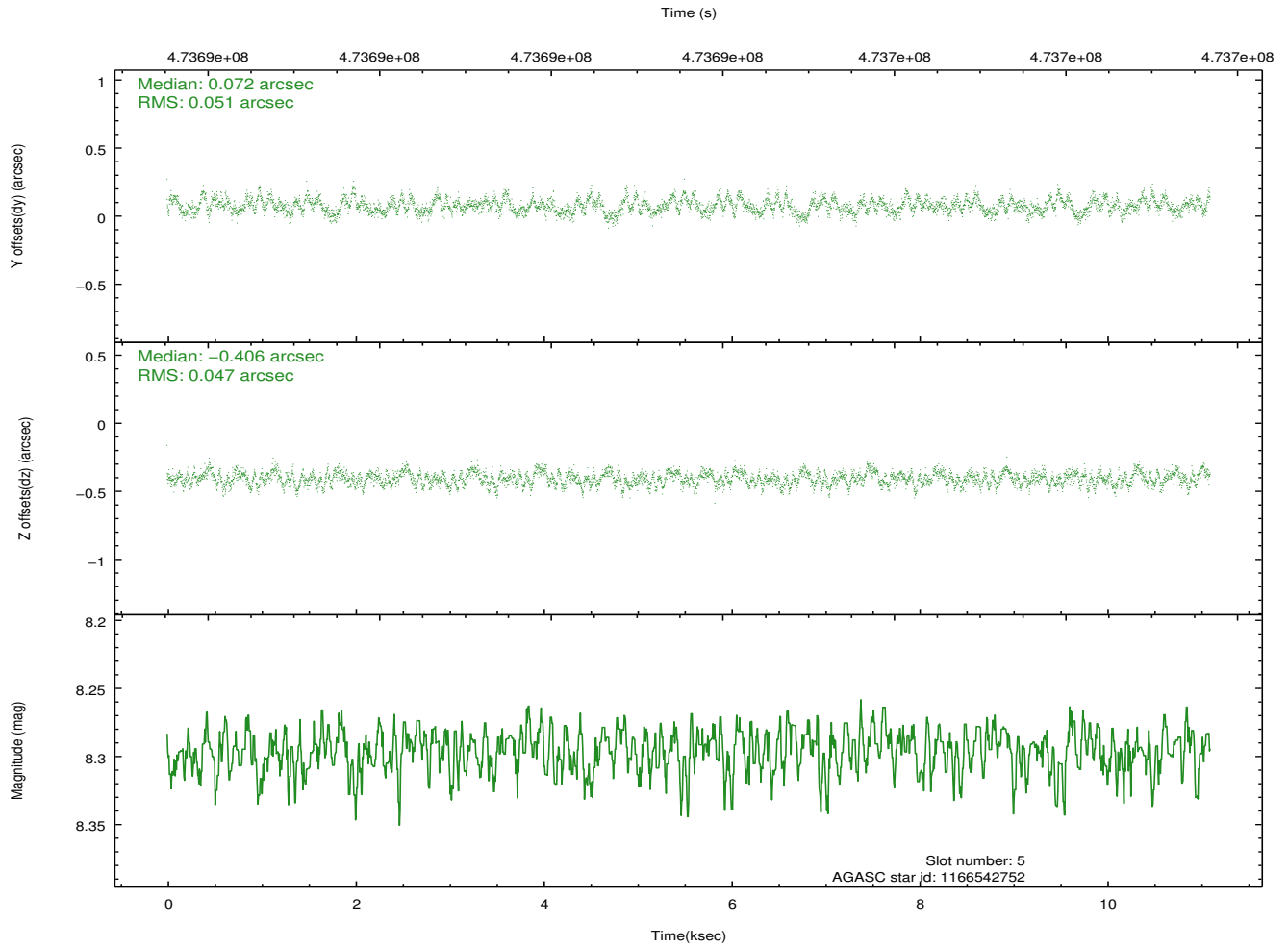
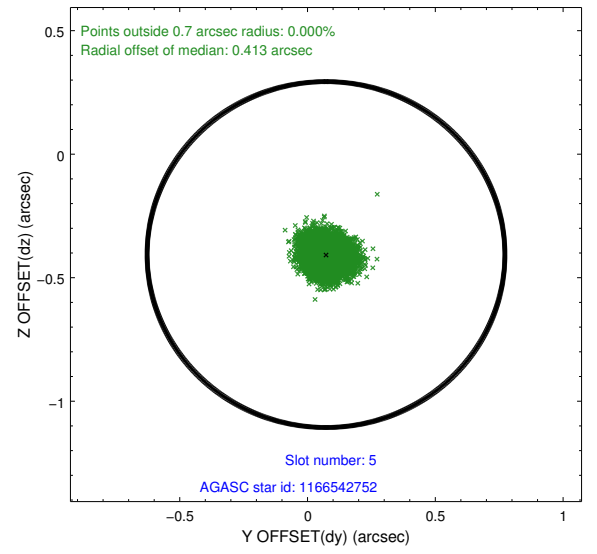
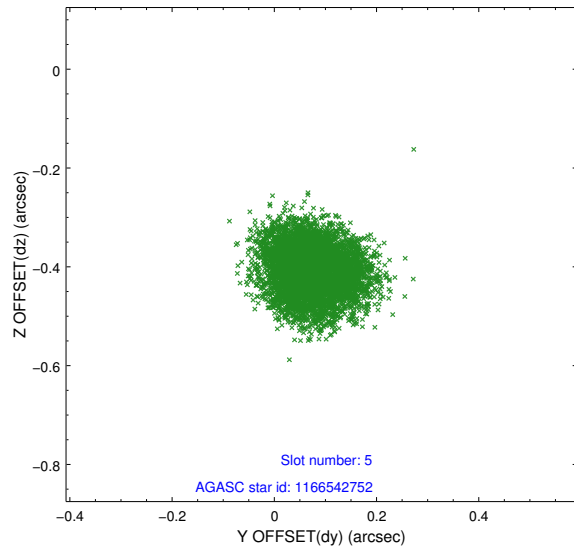
### 2.4.1 Slot 3



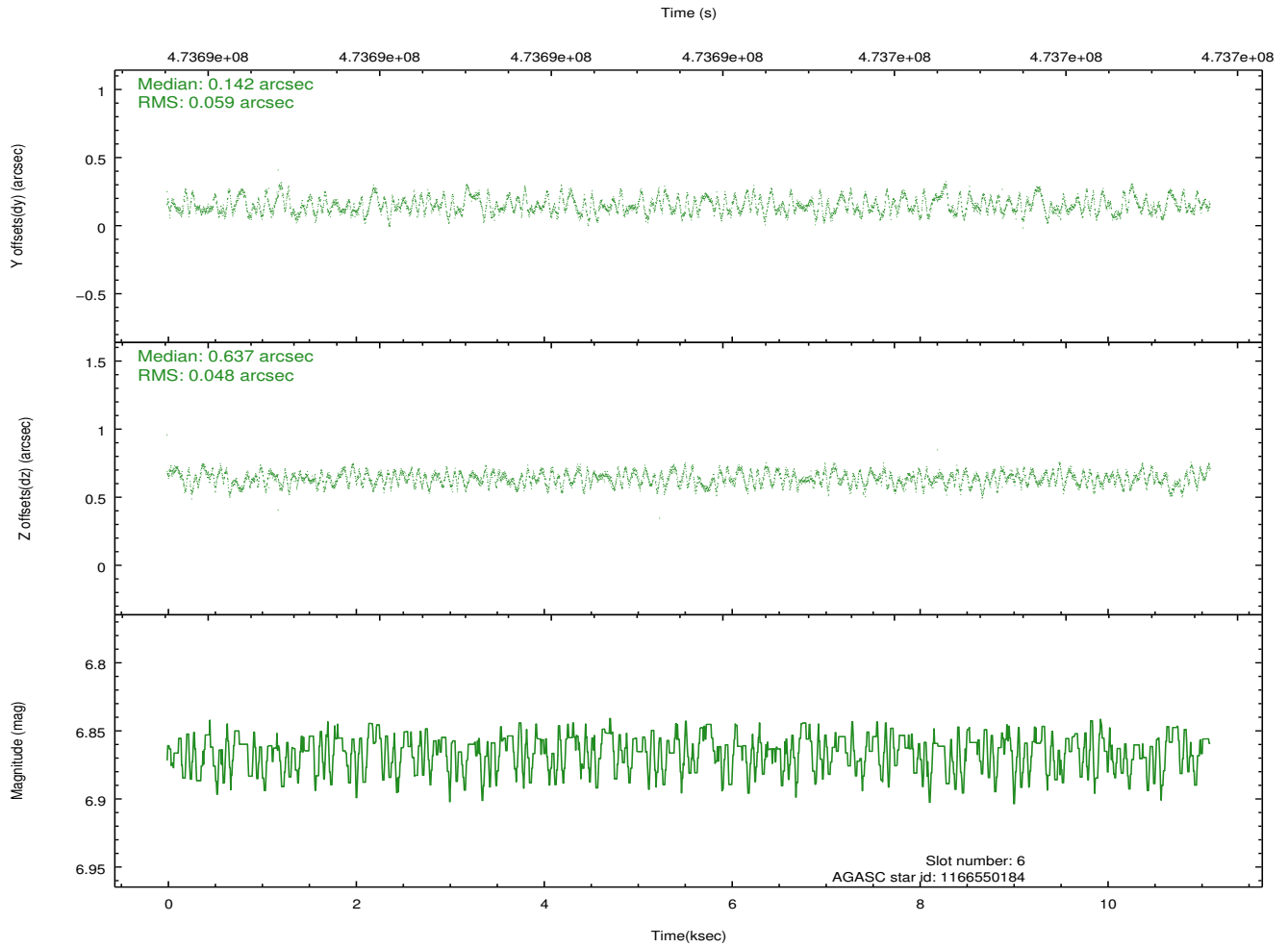
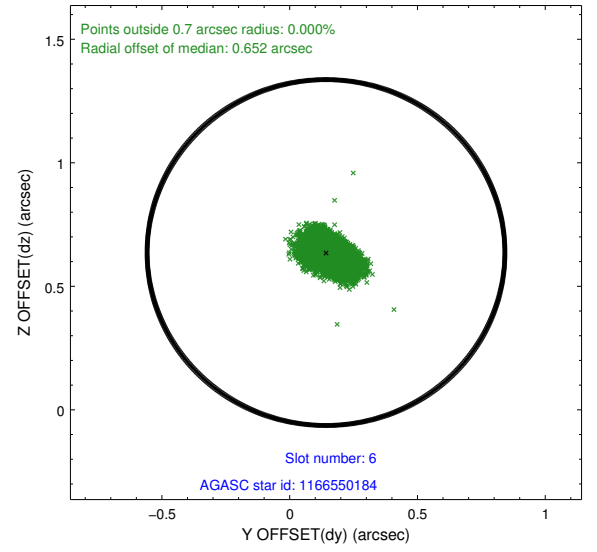
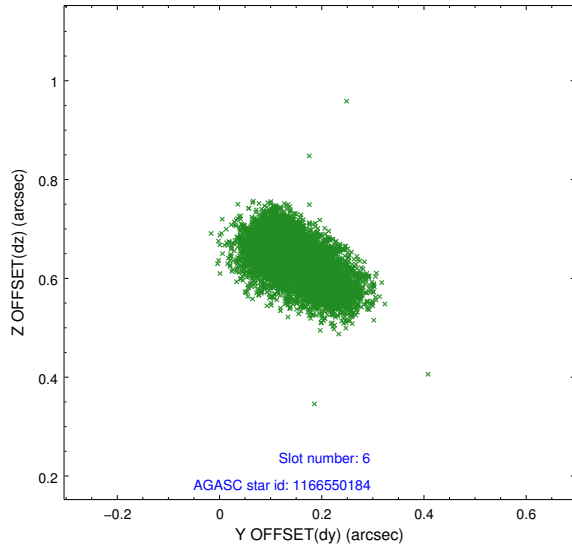
## 2.4.2 Slot 4



### 2.4.3 Slot 5

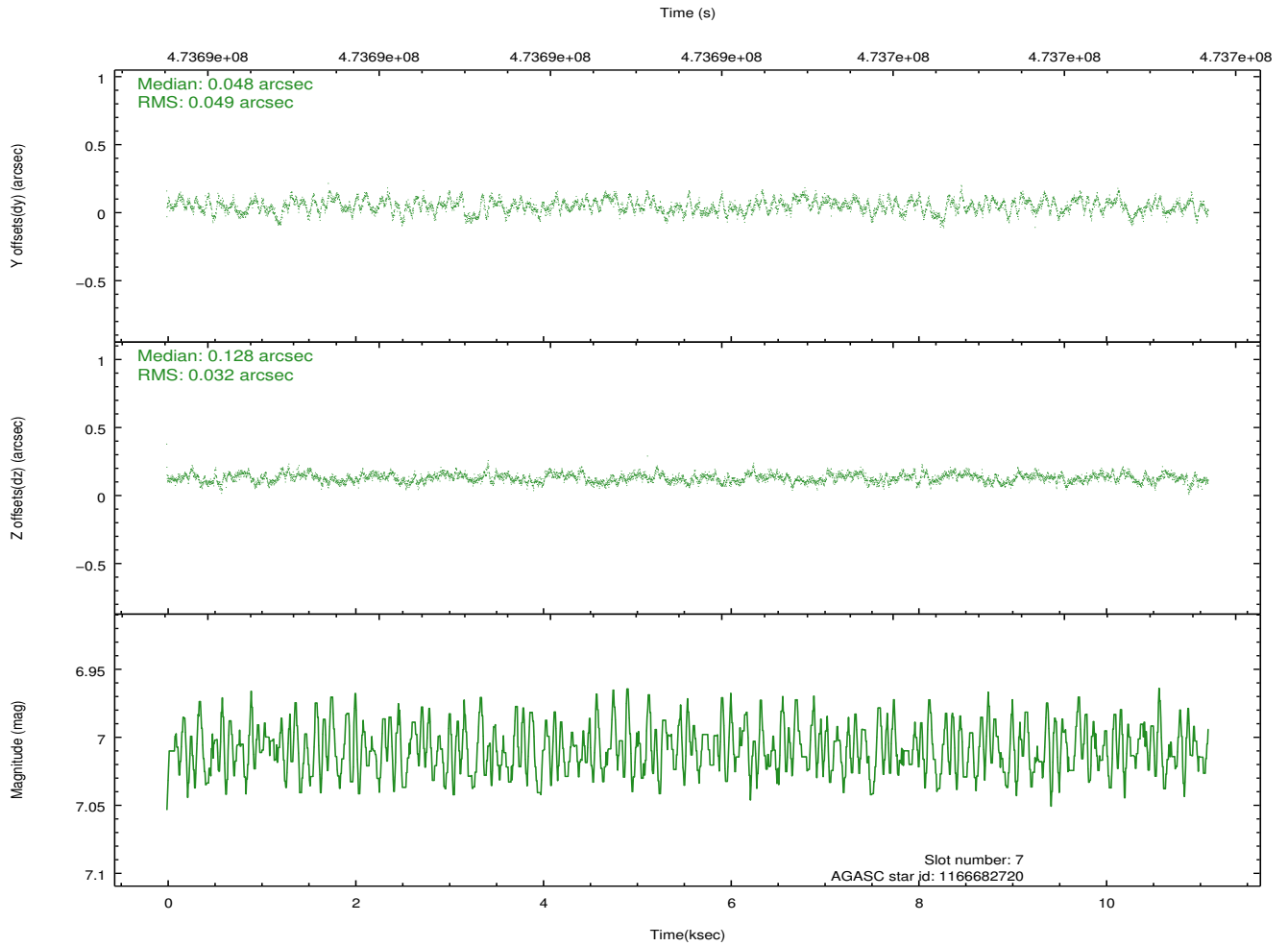
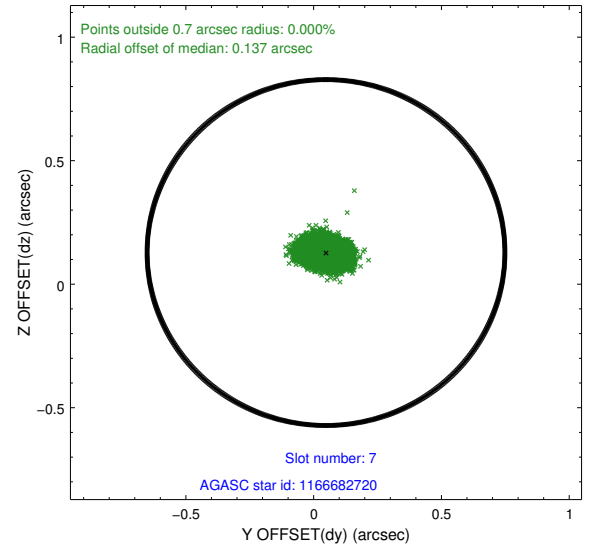
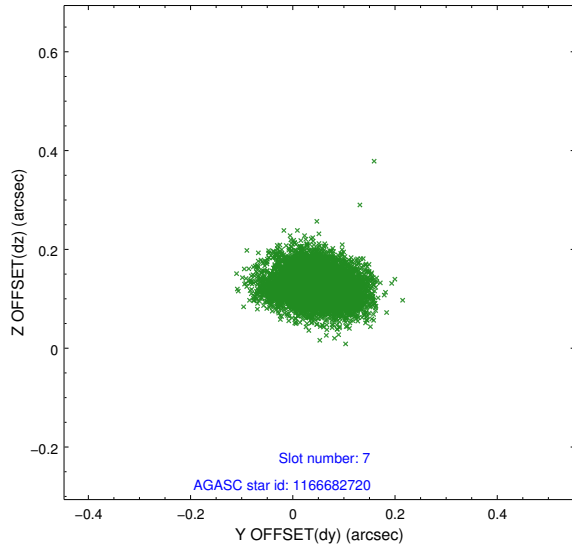


## 2.4.4 Slot 6



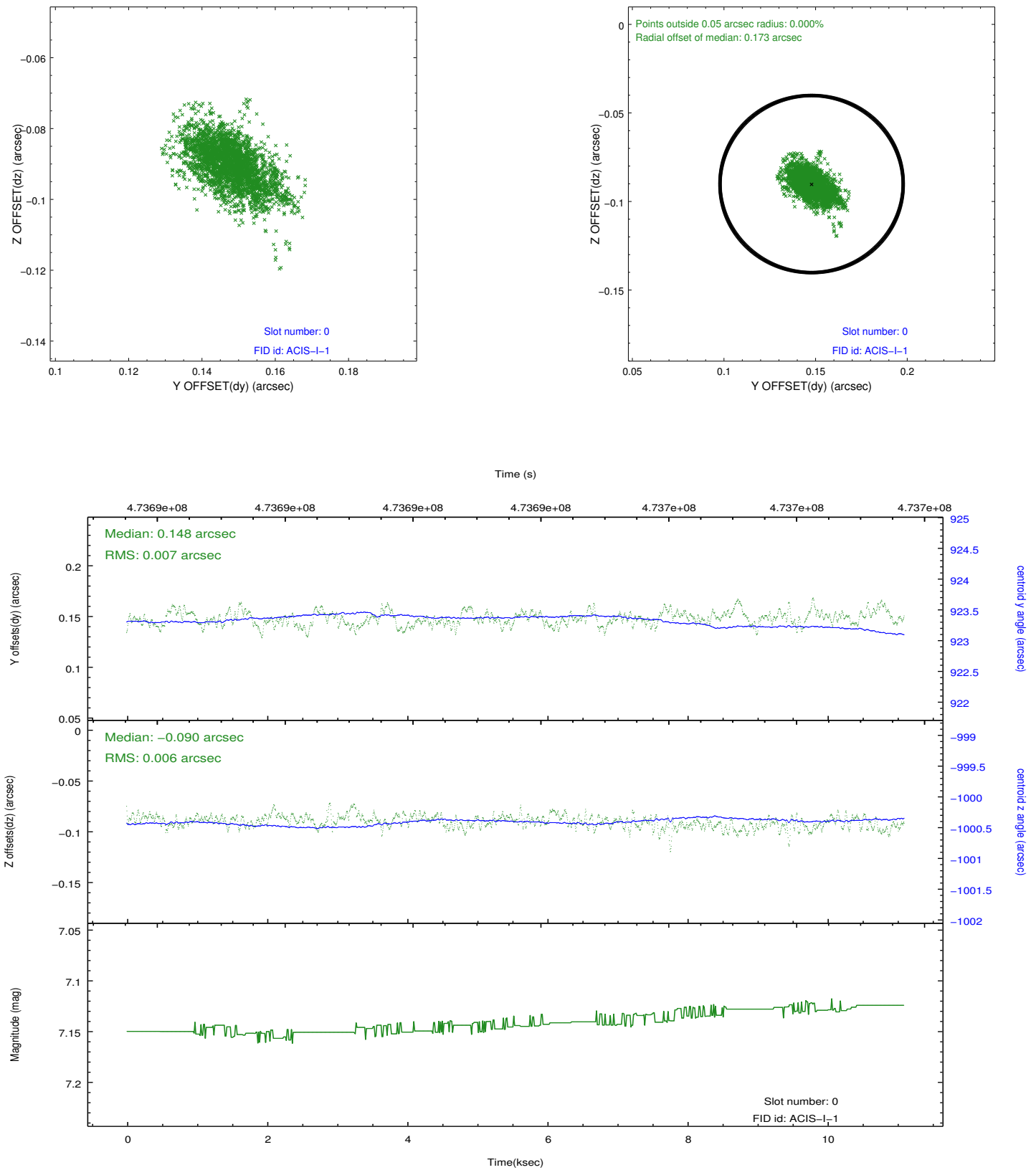


## 2.4.5 Slot 7

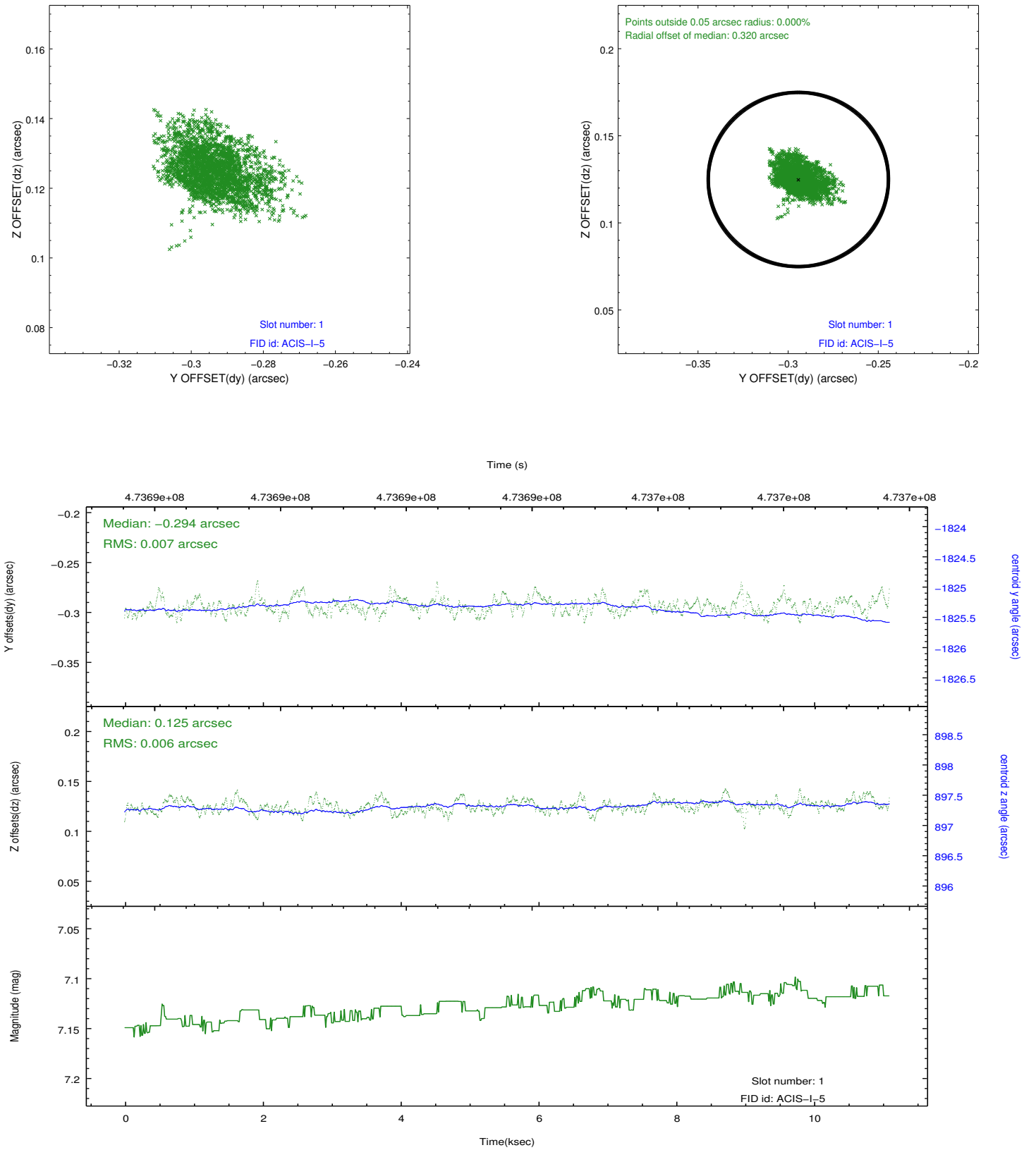


## 2.5 FID Slots

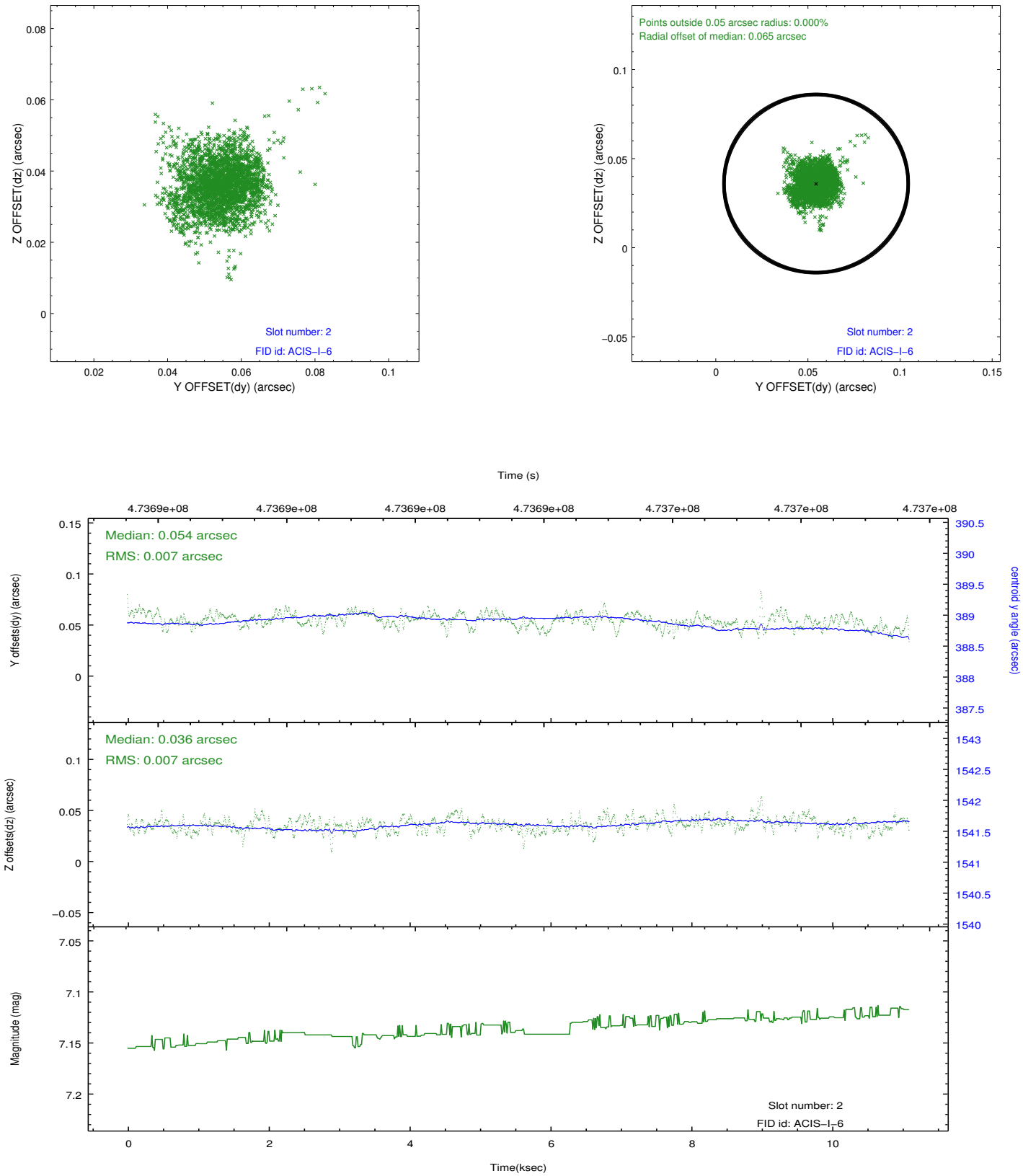
### 2.5.1 Slot 0



## 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)	2014.12.04
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	11.081636217713

## 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.