

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 13492 - L2 Version 2  
Chandra X-Ray Center

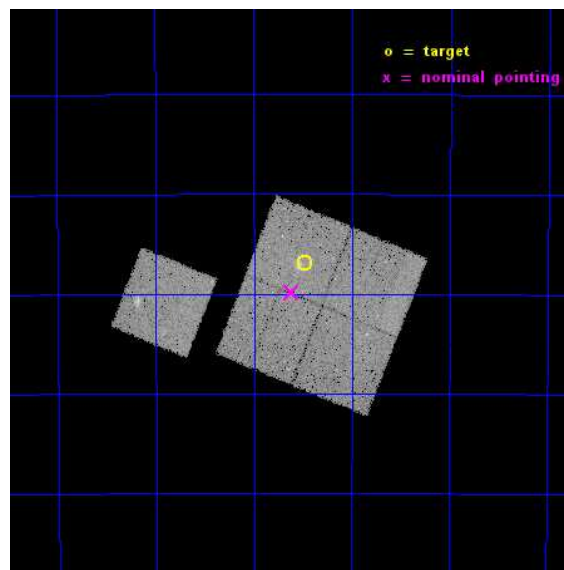
L2 Processing Date : Dec 1 2014

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# 1 Front

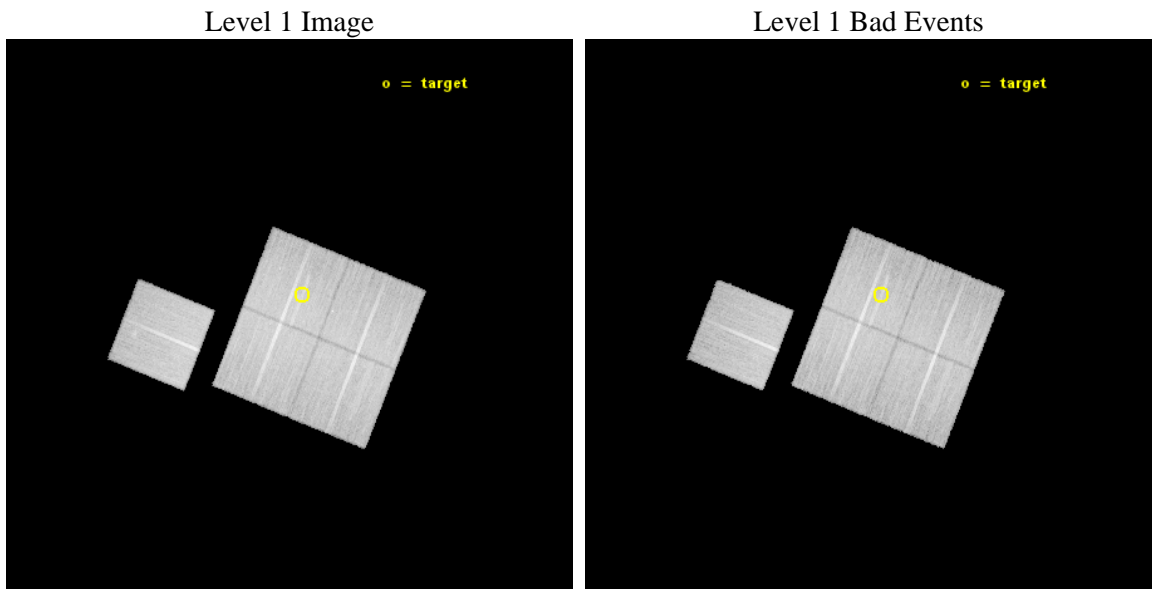
seq_num	801133	Sequence number
obs_id	13492	Observation id
title	Cosmology and Cluster Evolution from the 80 Most Massive Clusters in 2000 deg <sup>2</sup> from the South Pole Telescope Survey	Proposal title
observer	Dr. Bradford Benson	Principal investigator
object	SPT-CLJ0310-4646	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	47.621667	Observer's specified target RA [deg]
dec_targ	-46.781194	Observer's specified target Dec [deg]
ra_nom	47.654220231804	Nominal RA [deg]
dec_nom	-46.83085584678	Nominal Dec [deg]
roll_nom	291.83801676973	Nominal Roll [deg]
revision	2	Processing version of data
ontime	37181.400285959	Sum of GTIs [s]
livetime	36695.597918675	Livetime [s]
ontime0	37178.183411896	Sum of GTIs [s]
ontime1	37178.224422038	Sum of GTIs [s]
ontime2	37178.25931561	Sum of GTIs [s]
ontime3	37181.400285959	Sum of GTIs [s]
ontime6	37181.283342242	Sum of GTIs [s]
l2events	102519	Number of level 2 events



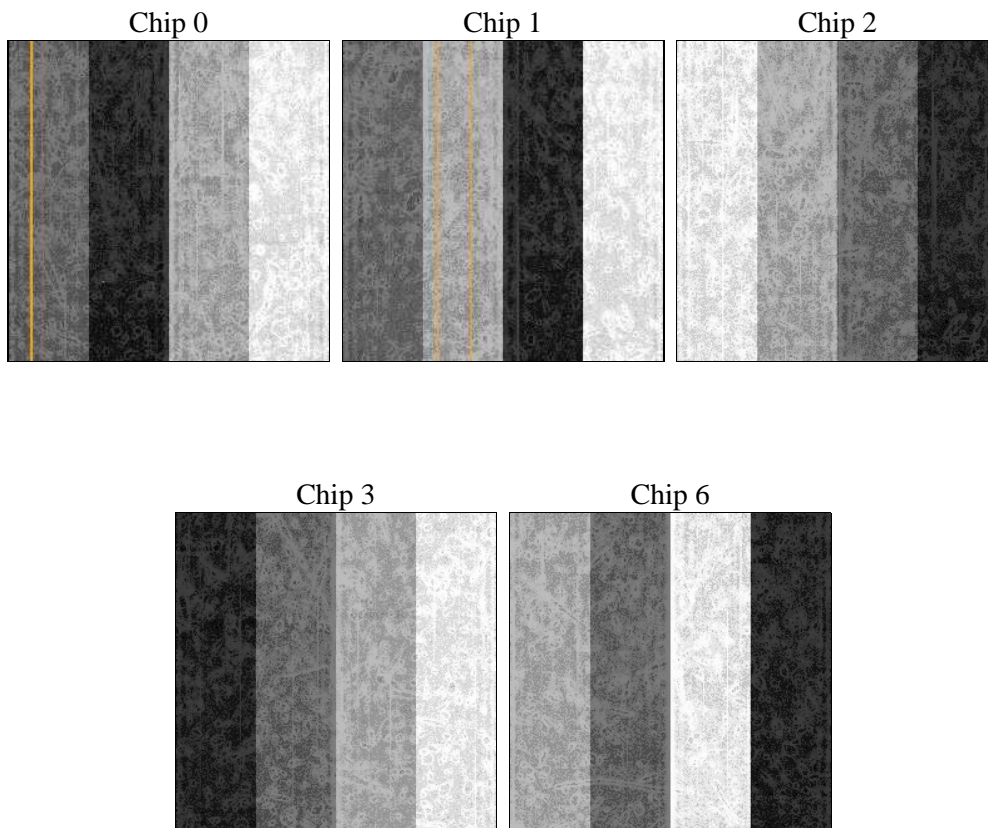
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	37100.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	37181.400285959	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime0	37178.183411896	Sum of GTIs [s]
date	2014-12-01T07:21:07	Date and time of file creation	ontime1	37178.224422038	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	37178.25931561	Sum of GTIs [s]
			ontime3	37181.400285959	Sum of GTIs [s]
			ontime6	37181.283342242	Sum of GTIs [s]
			l1events	992372	Number of level 1 events

### 2.1.4 Events

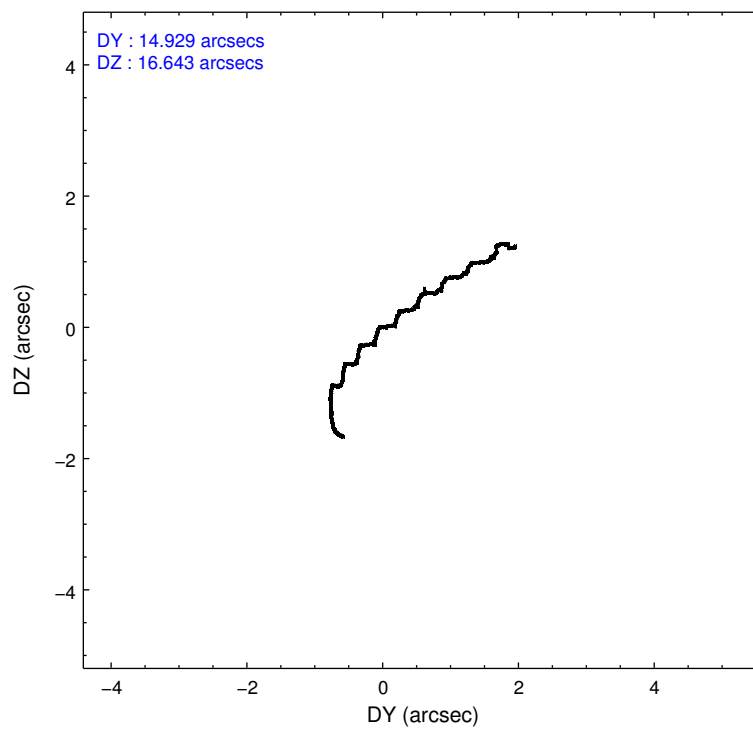
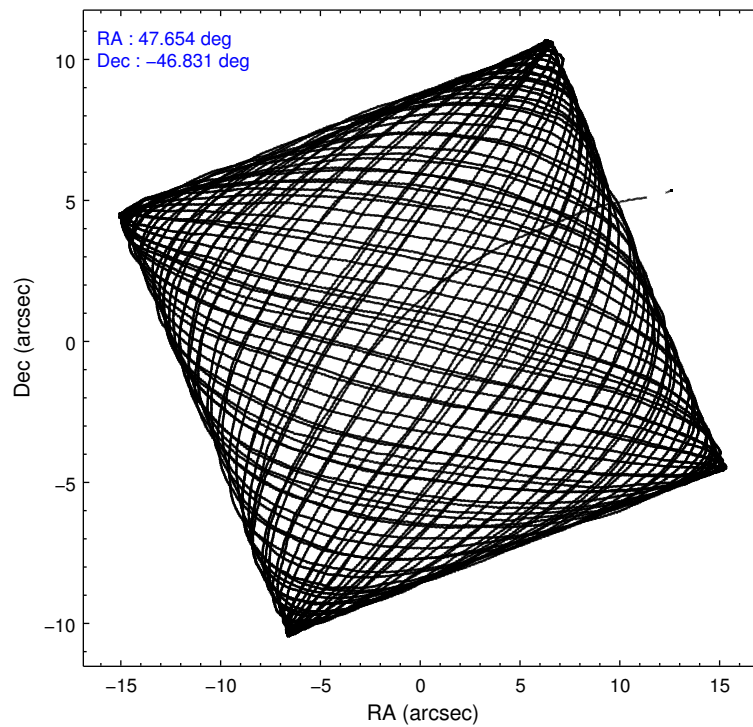
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	190803	192125	206039	201336	202069
rejected events	167690	165727	182839	177473	177478
rejected %	87%	86%	88%	88%	87%

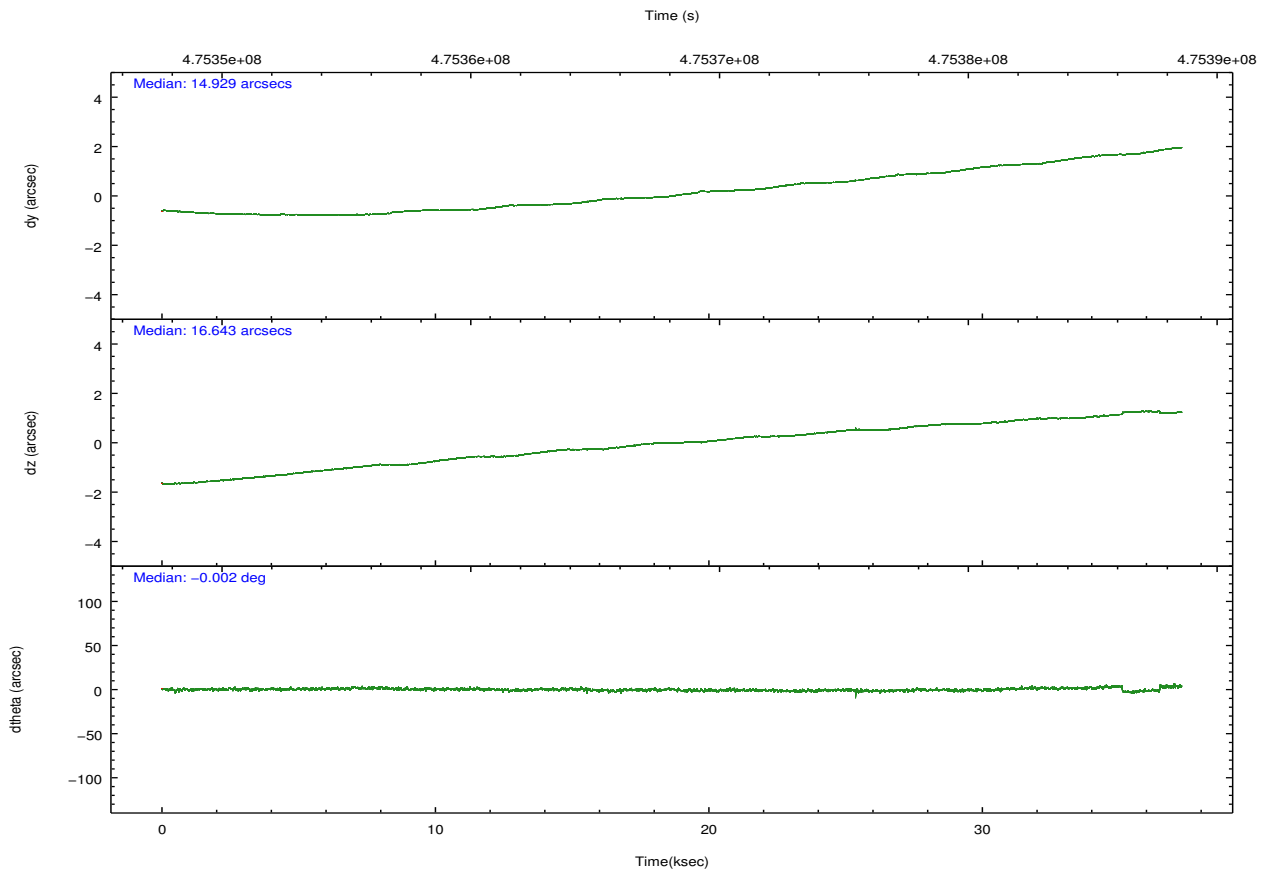
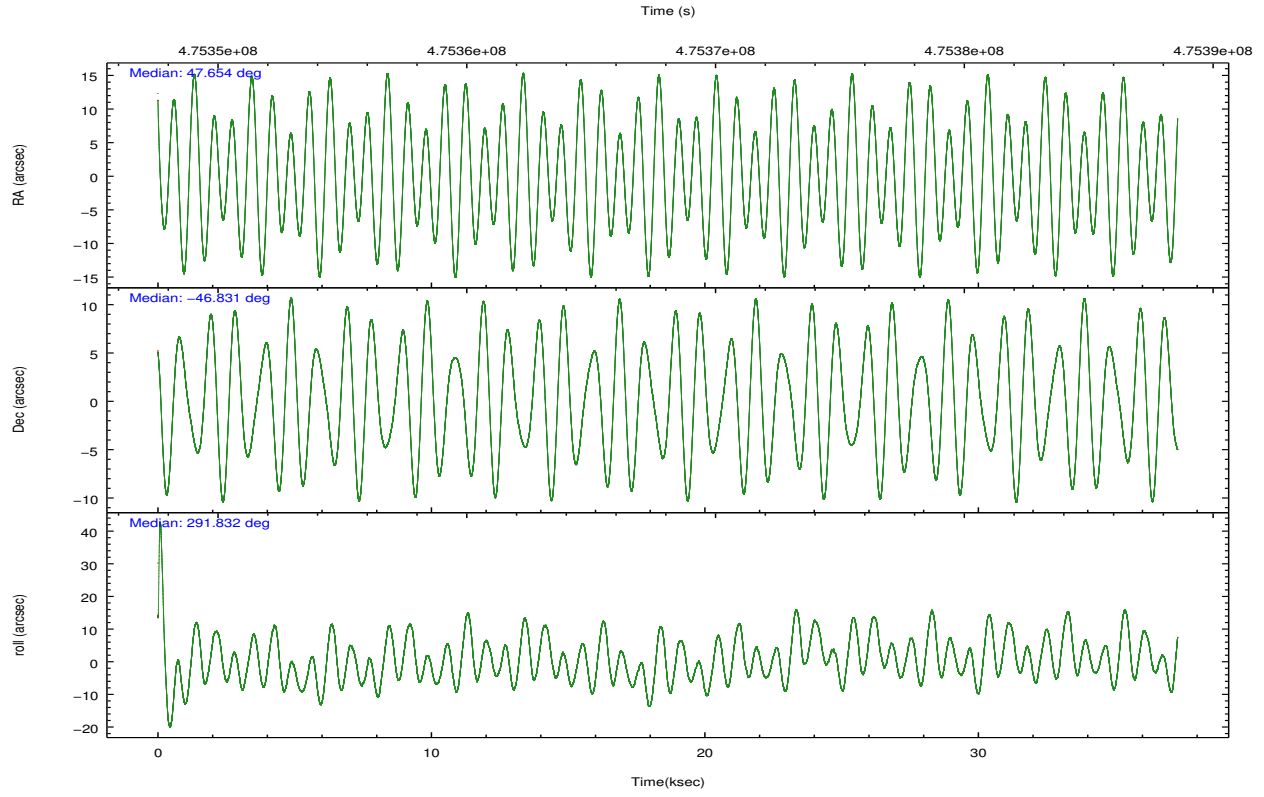
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	7791	9272	8352	9022	8608
	4%	4%	4%	4%	4%
grade 1 events	108	102	104	109	105
	0%	0%	0%	0%	0%
grade 2 events	5859	6226	5645	5127	5545
	3%	3%	2%	2%	2%
grade 3 events	2423	2659	2278	2510	2535
	1%	1%	1%	1%	1%
grade 4 events	2304	2616	2343	2350	2468
	1%	1%	1%	1%	1%
grade 5 events	9164	9789	8651	10511	10042
	4%	5%	4%	5%	4%
grade 6 events	4739	5632	4587	4857	5440
	2%	2%	2%	2%	2%
grade 7 events	158415	155829	174079	166850	167326
	83%	81%	84%	82%	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	47.622543	47.65422023180356	CCD I2 on	Y	Y
[deg] Pointing Dec	-46.813945	-46.83085584678018	CCD I3 on	Y	Y
[deg] Pointing Roll	291.606242	291.8380167697266	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	-225.8458576473255	CCD S3 on	N	N
[mm] SIM translation stage offset	-7.75	-7.746595355604228	CCD S4 on	N	N
[s] Observation start time (MET)	475349627.184000	475348092.24703	CCD S5 on	N	N
Observation start date	2013-01-23T17:32:40	2013-01-23T17:08:12	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	475386727.184000	475387262.62414	On-chip summing requested	N	N
Observation end date	2013-01-24T03:51:00	2013-01-24T04:01:02	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





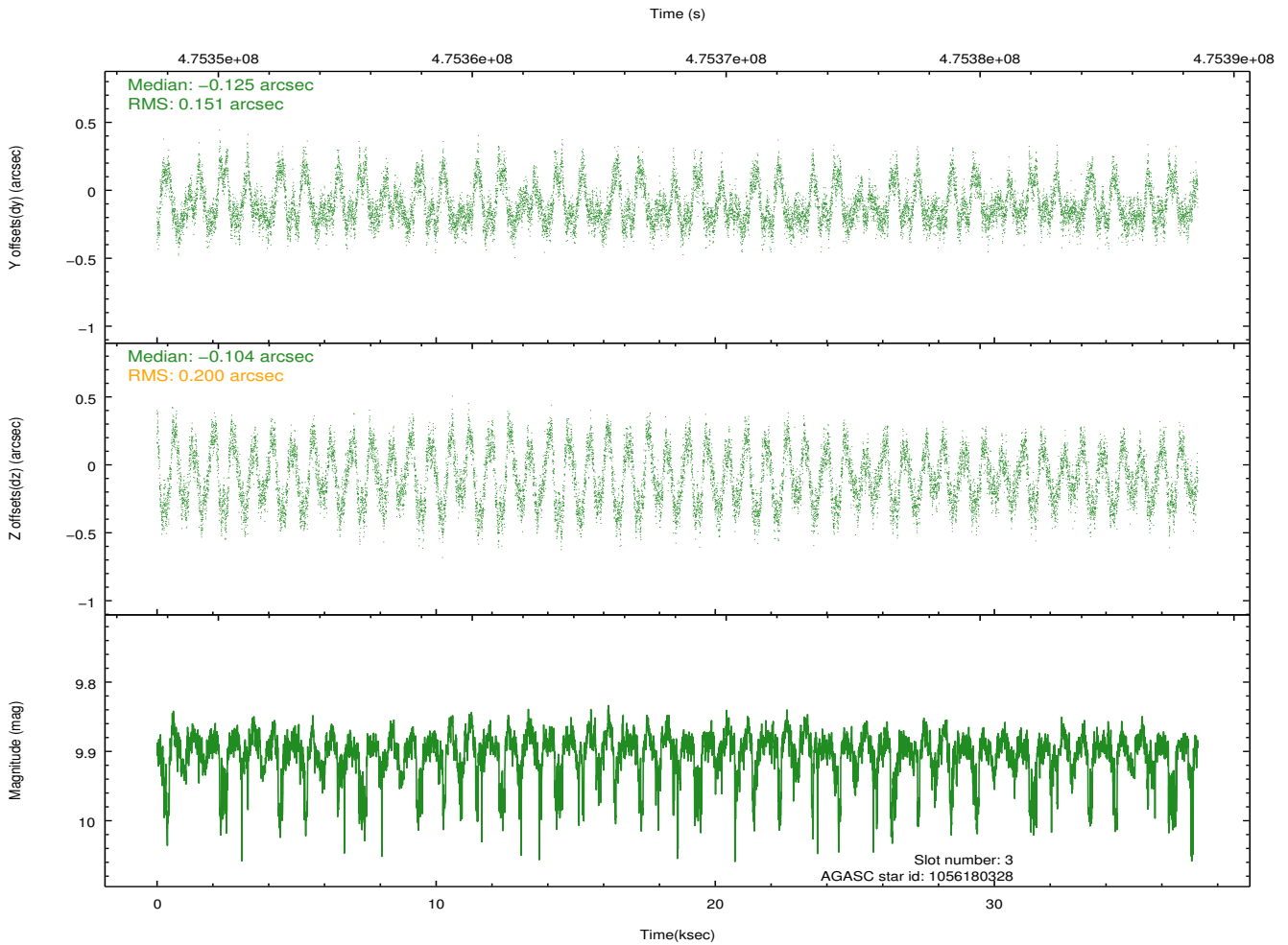
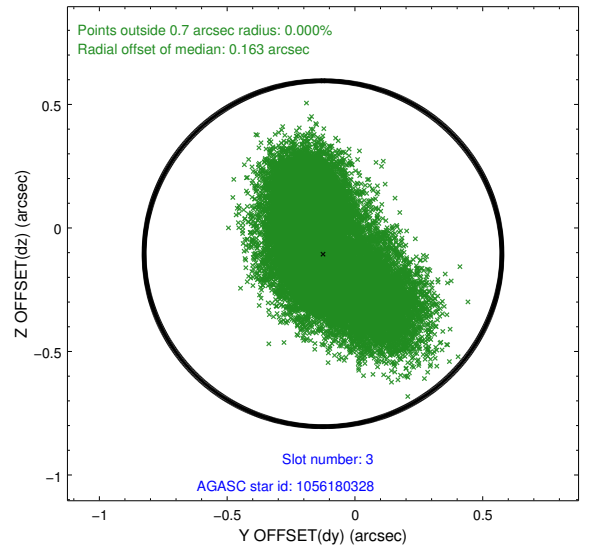
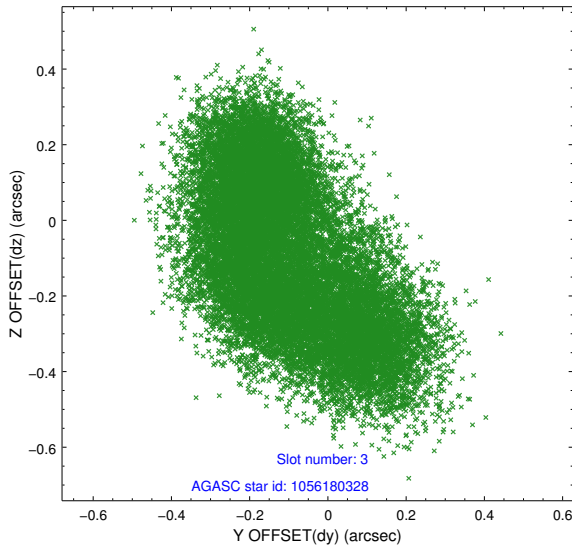
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.16	9095	0.138	-0.109	0.023	0.049	0.000000	0.000000	924.31	-999.33
1	FID		ACIS-I-2	7.09	9082	-0.286	0.017	0.017	0.031	0.000000	0.000000	-770.59	-1004.65
2	FID		ACIS-I-4	7.04	9096	0.055	0.157	0.012	0.027	0.000000	0.000000	2143.67	901.67
3	GUIDE	used	1056180328	9.90	18150	-0.125	-0.104	0.274	0.417	48.342239	-46.932169	1055.46	1484.02
4	GUIDE	used	1056184608	9.55	18172	0.124	0.081	0.141	0.251	47.567919	-46.566080	-878.93	203.27
5	GUIDE	used	1056186576	7.30	18191	-0.130	0.071	0.114	0.168	47.768072	-46.350534	-1417.64	950.82
6	GUIDE	used	1056187616	8.10	18183	0.004	0.010	0.097	0.167	48.113529	-46.490360	-630.89	1558.89
7	GUIDE	used	1056187712	9.71	18039	0.114	-0.095	0.223	0.419	47.655895	-46.344887	-1539.60	700.06

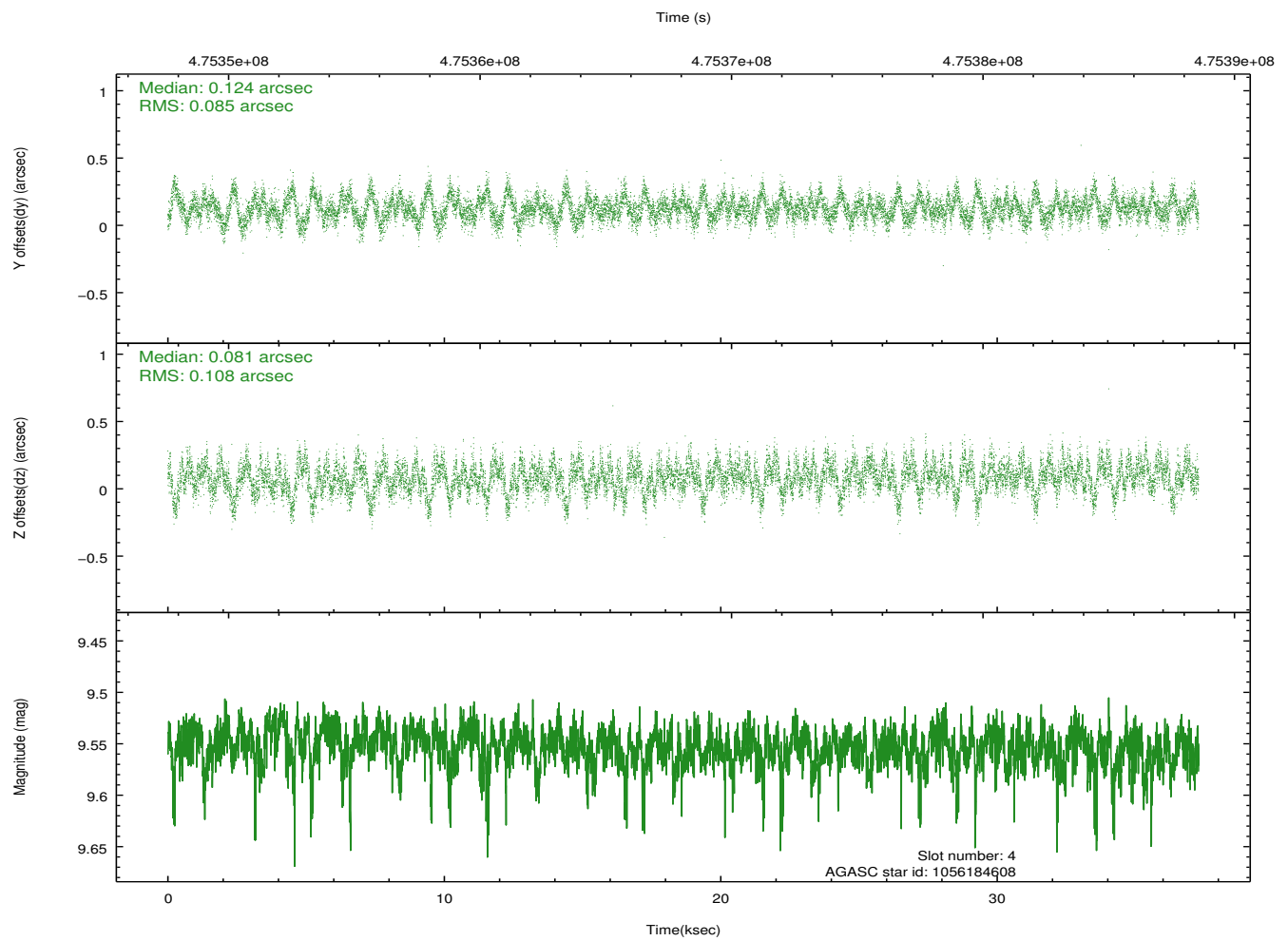
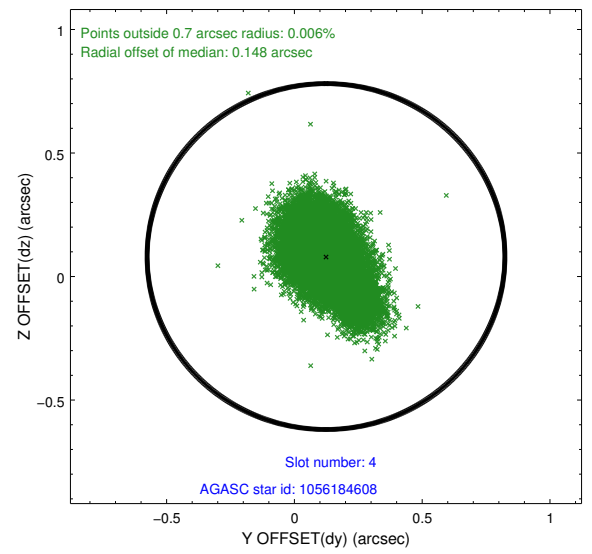
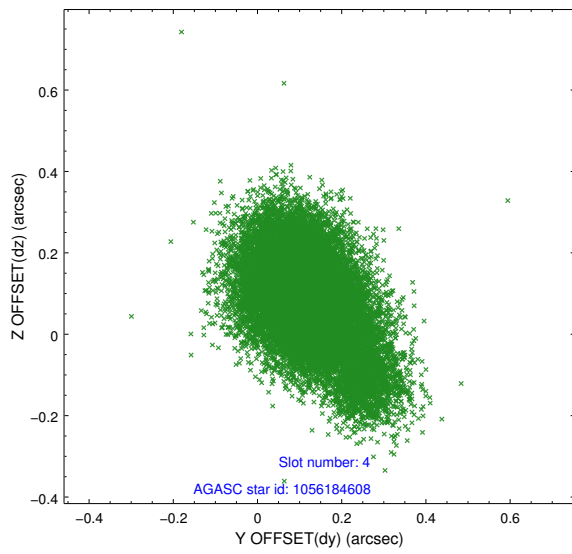
∞

## 2.4 Star Slots

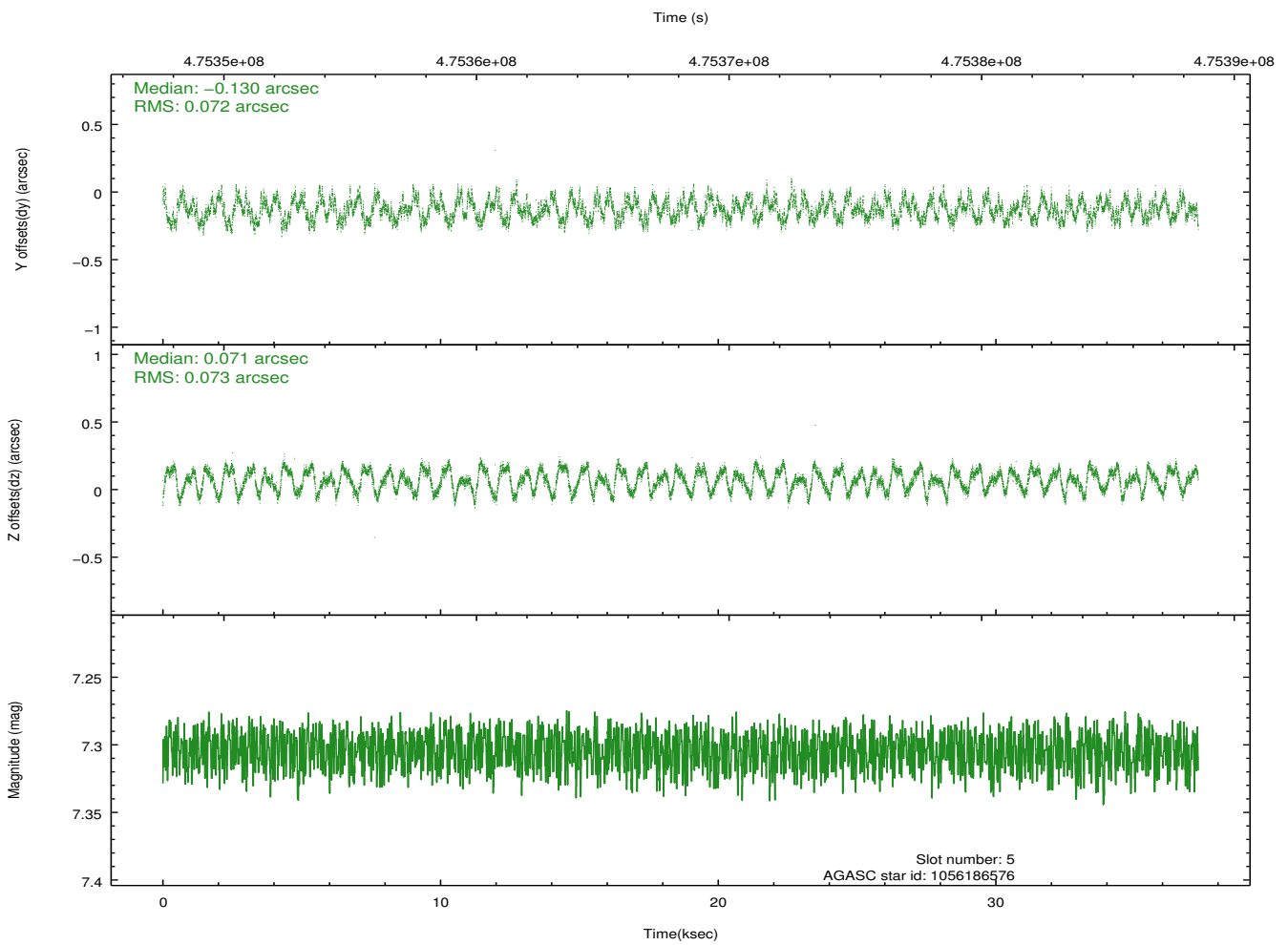
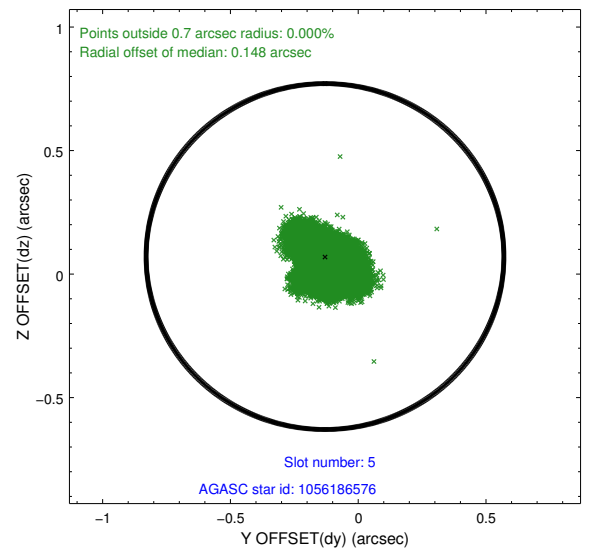
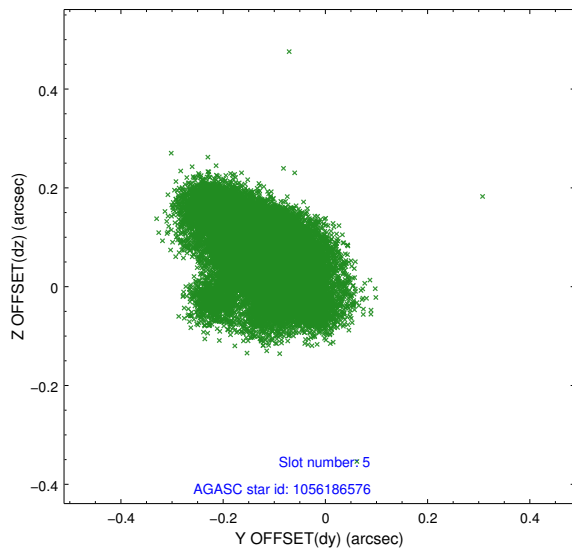
### 2.4.1 Slot 3



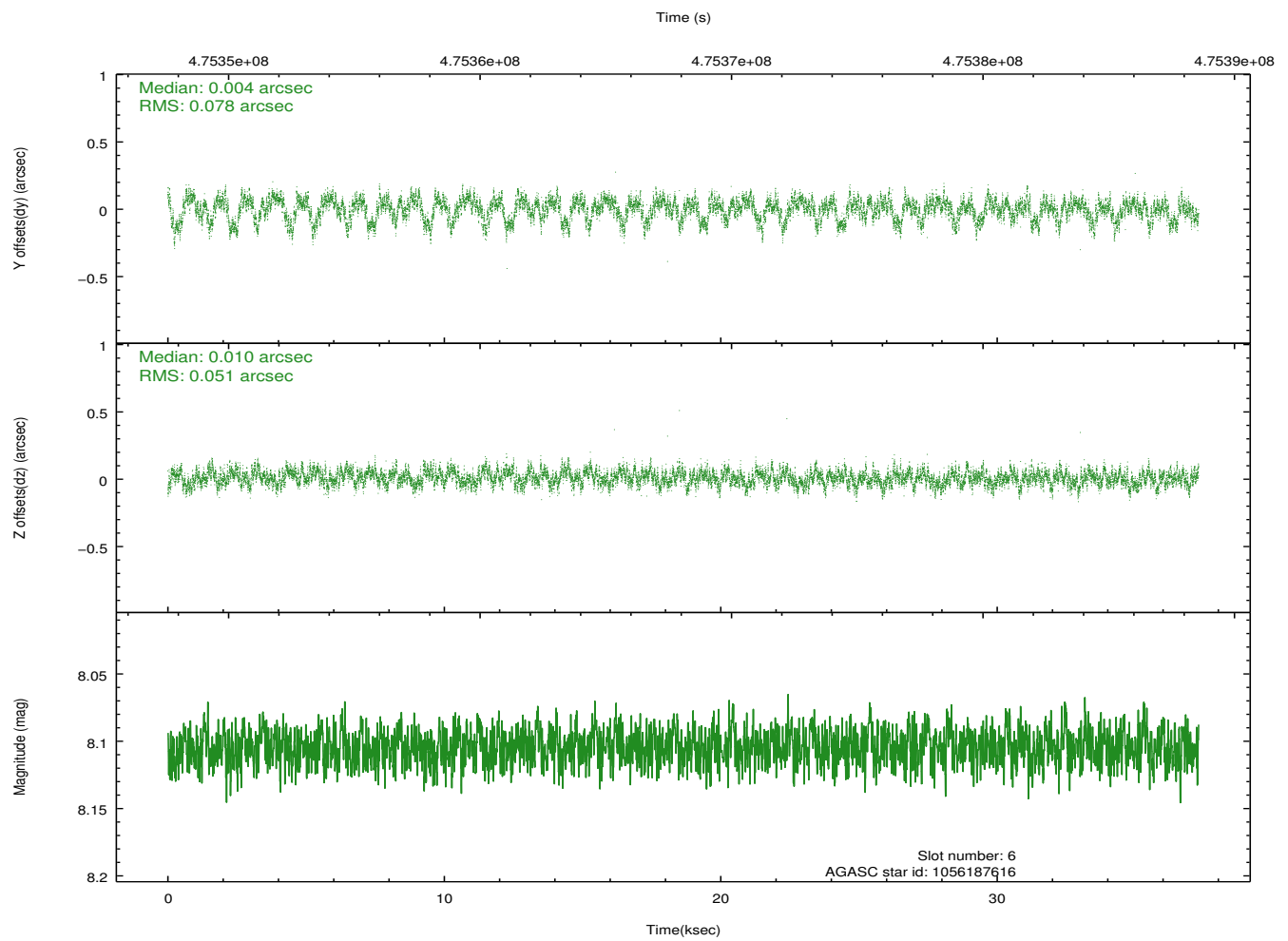
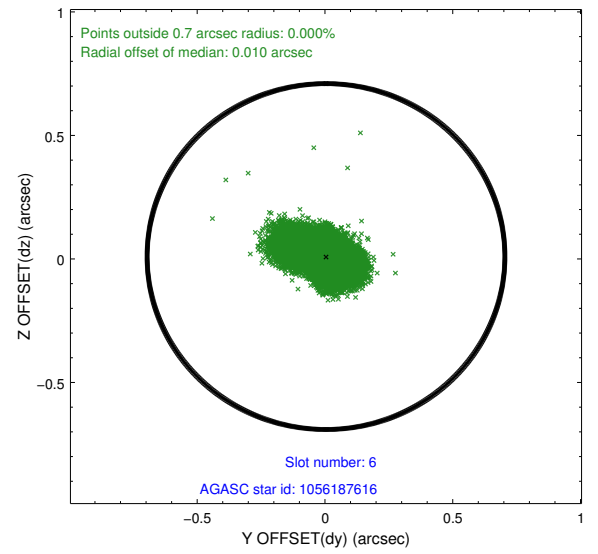
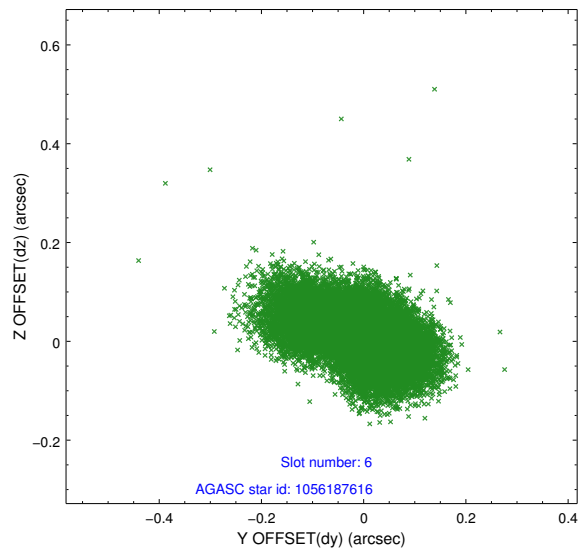
## 2.4.2 Slot 4



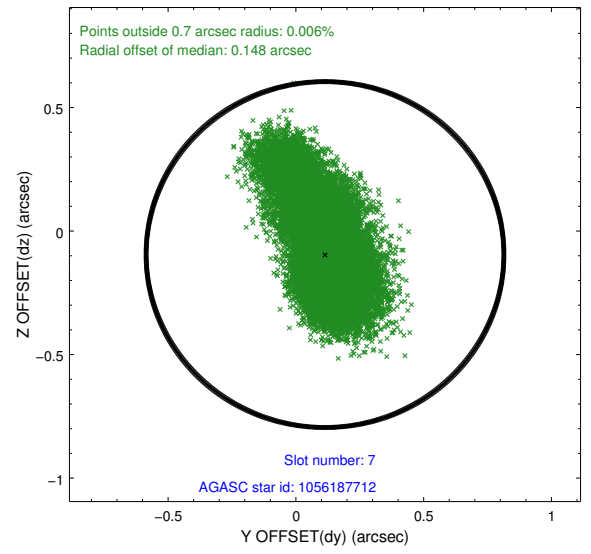
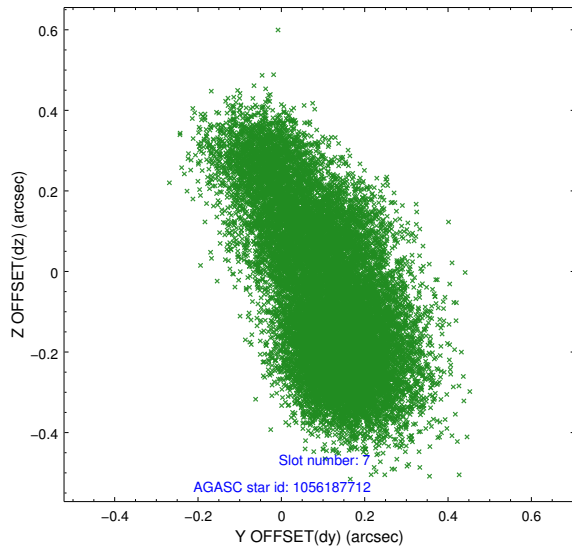
### 2.4.3 Slot 5



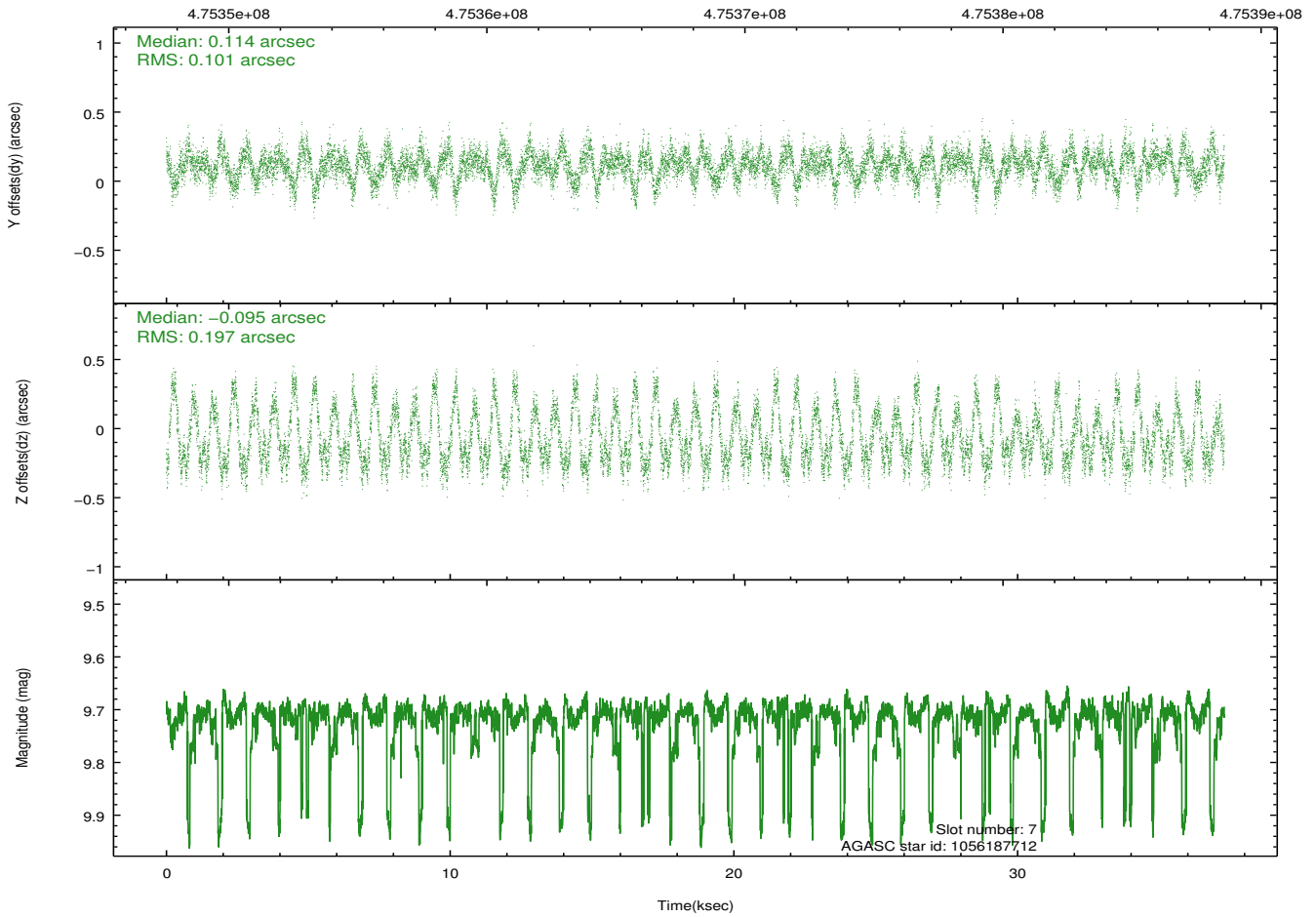
## 2.4.4 Slot 6



## 2.4.5 Slot 7

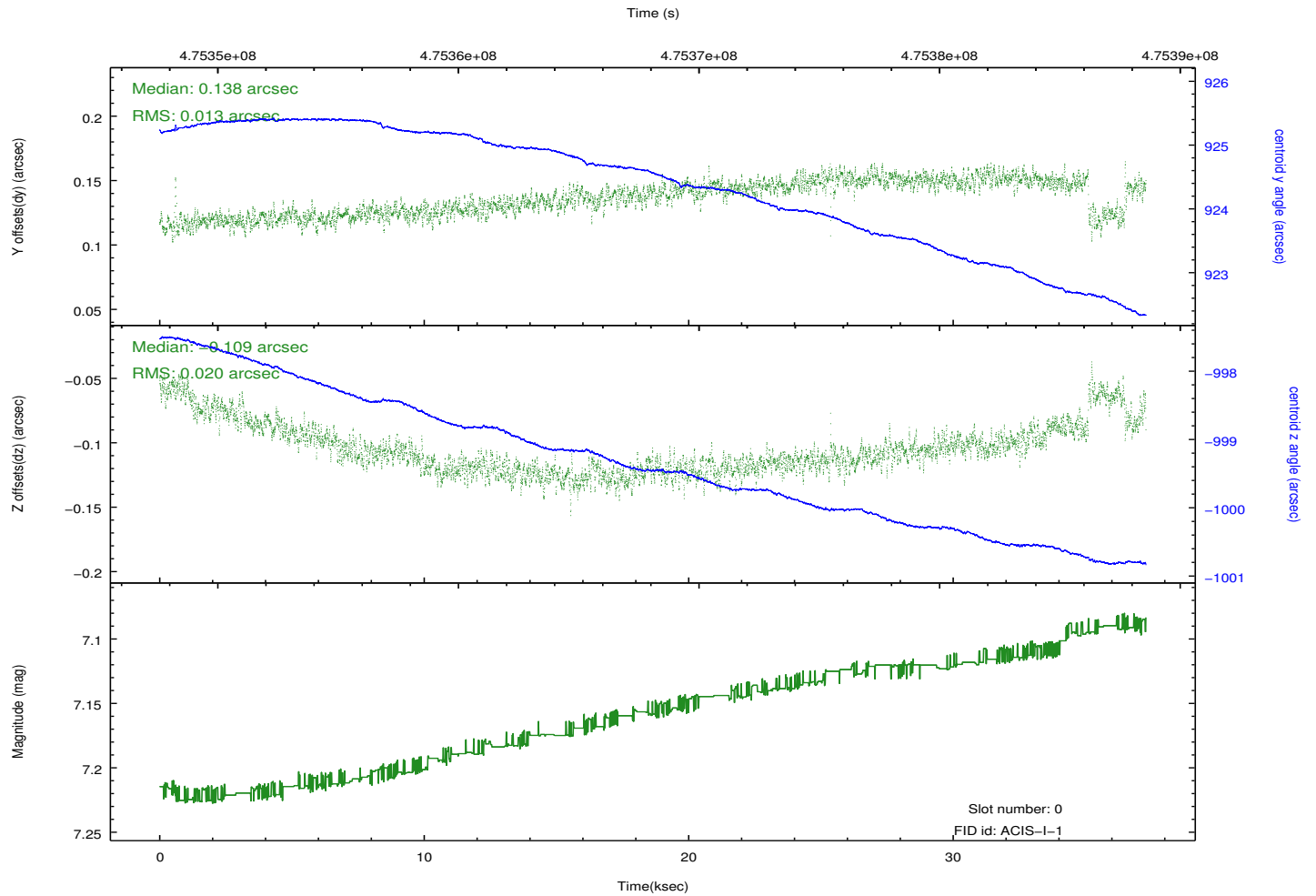
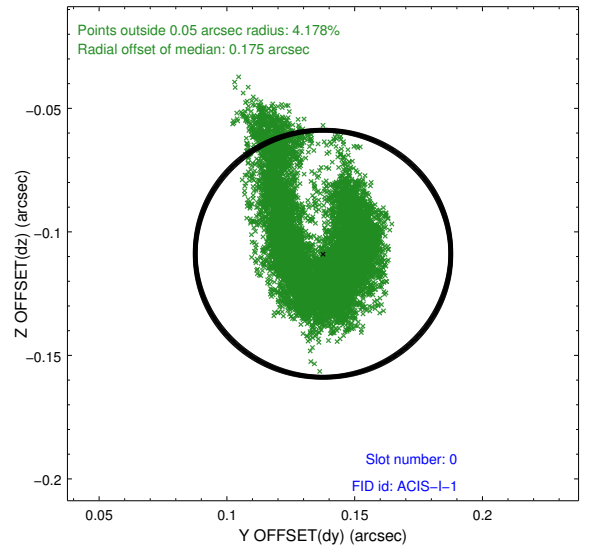
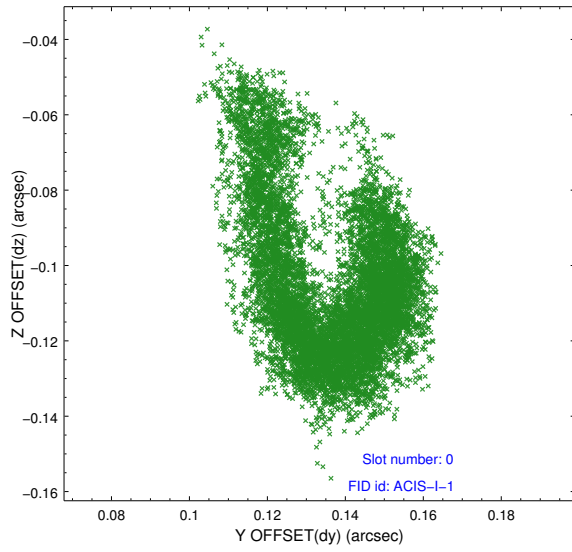


Time (s)

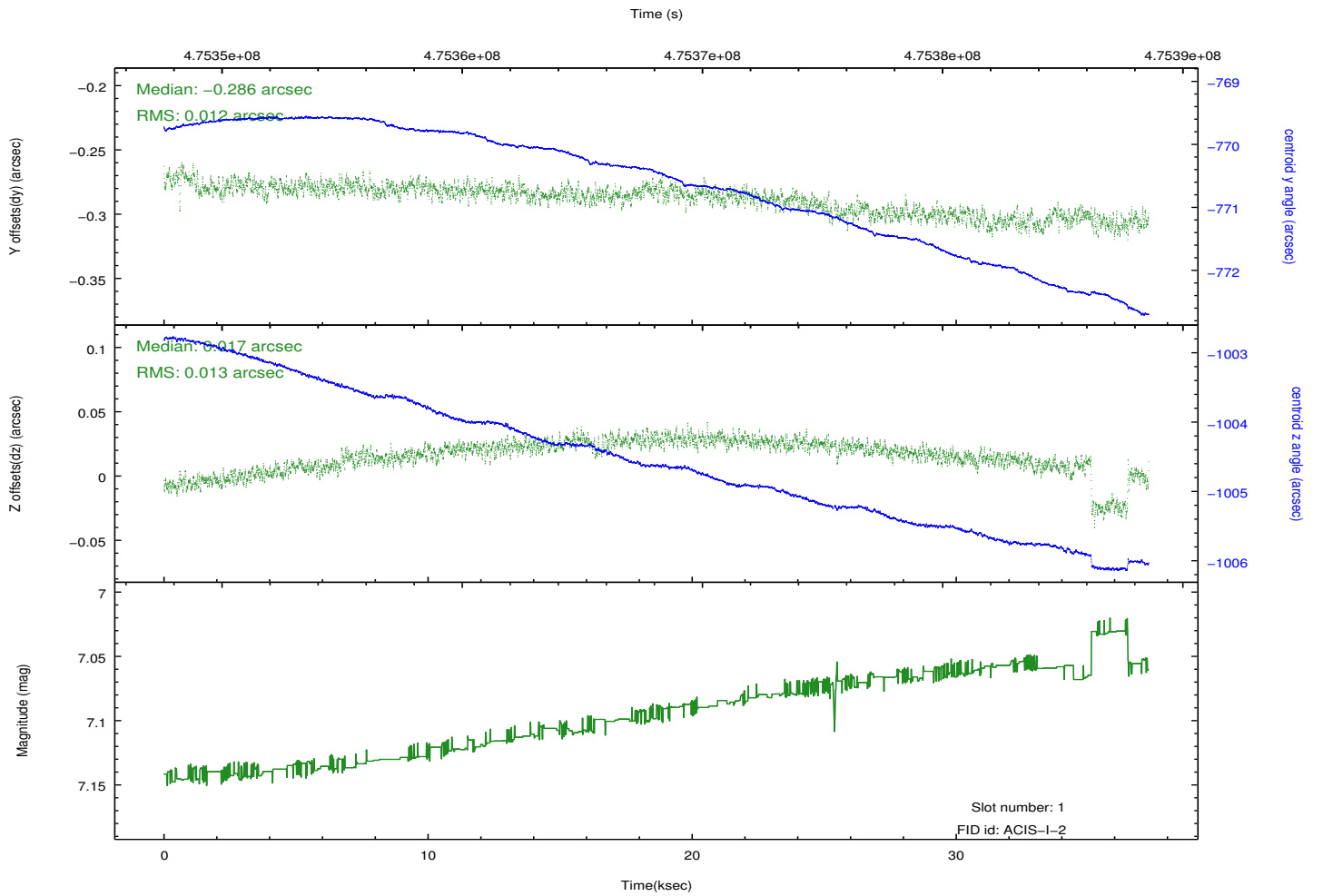
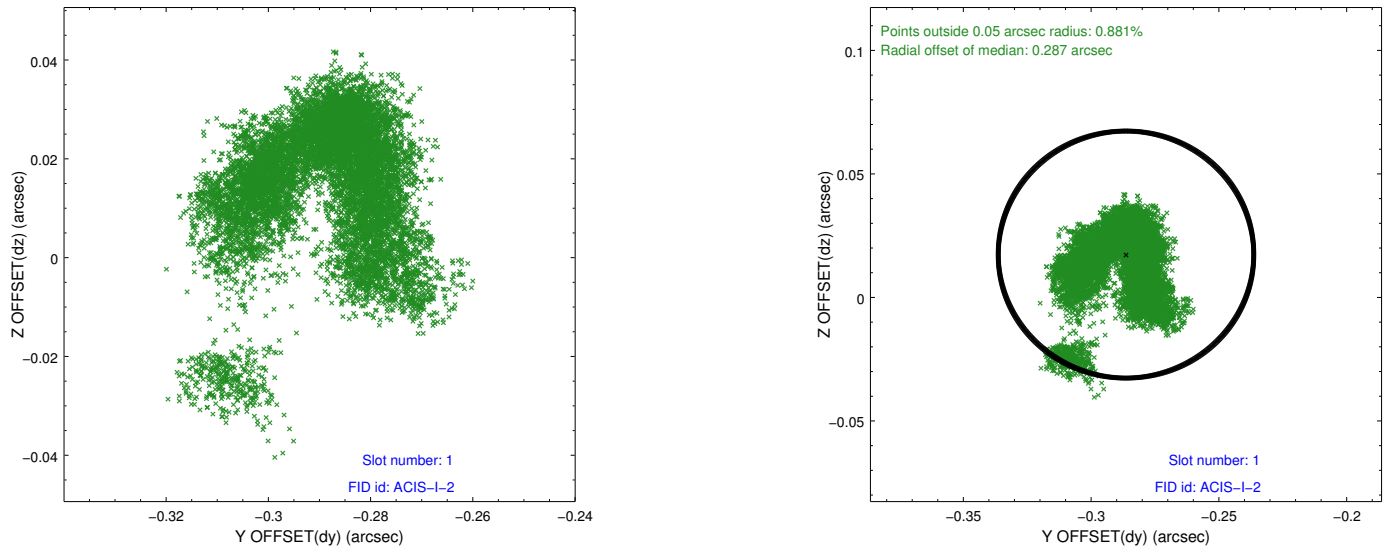


## 2.5 FID Slots

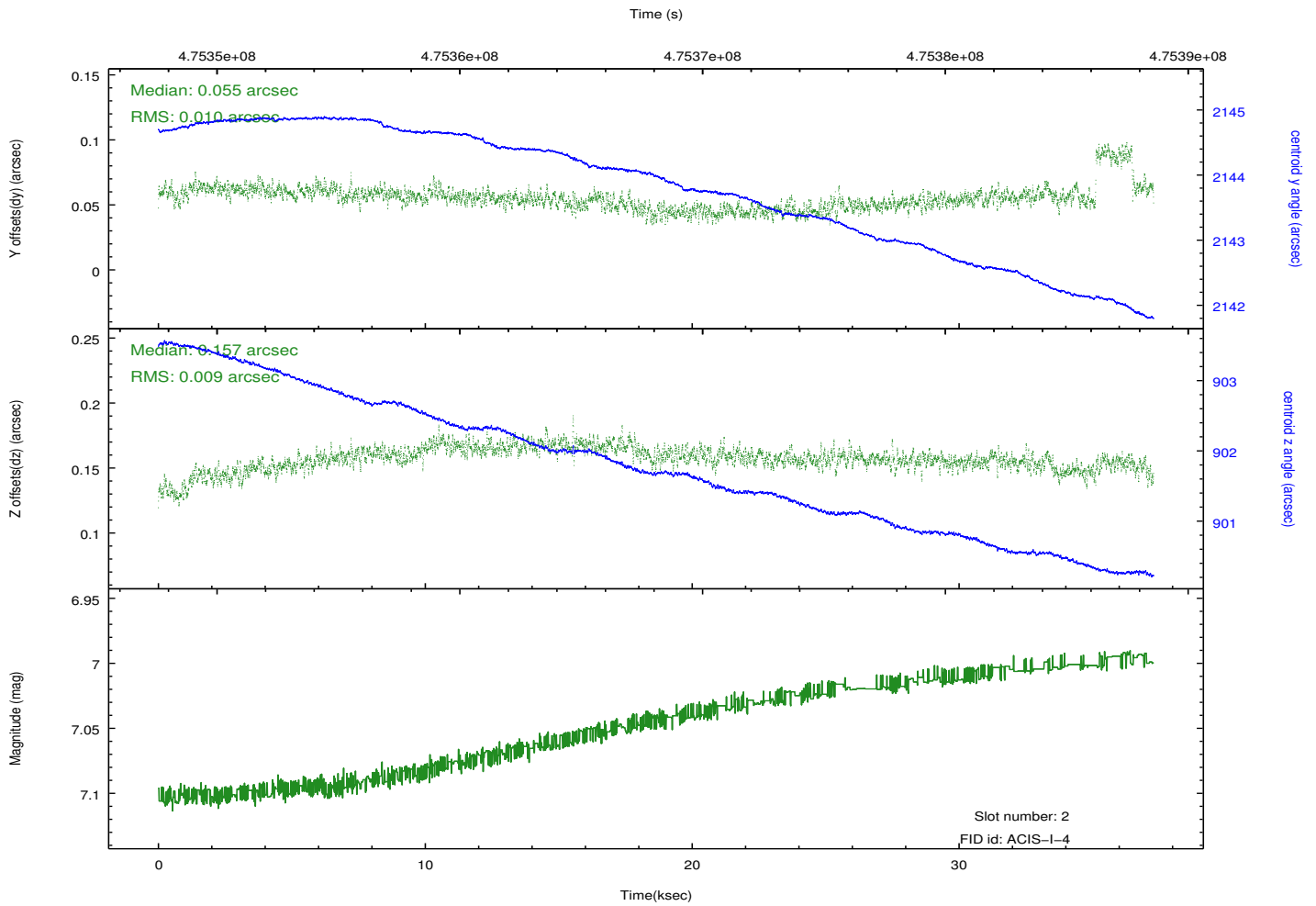
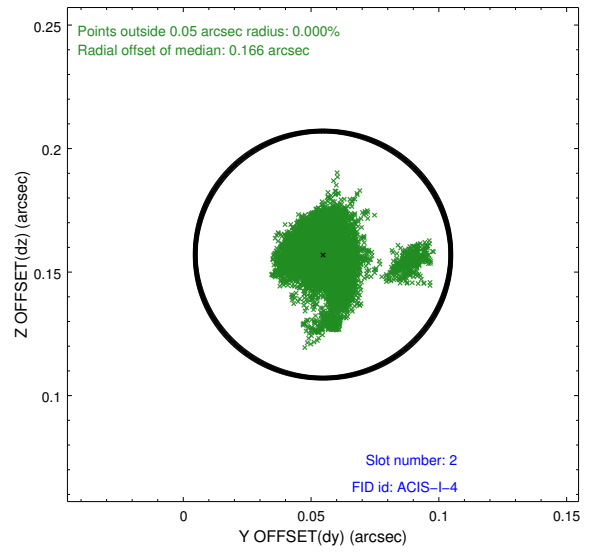
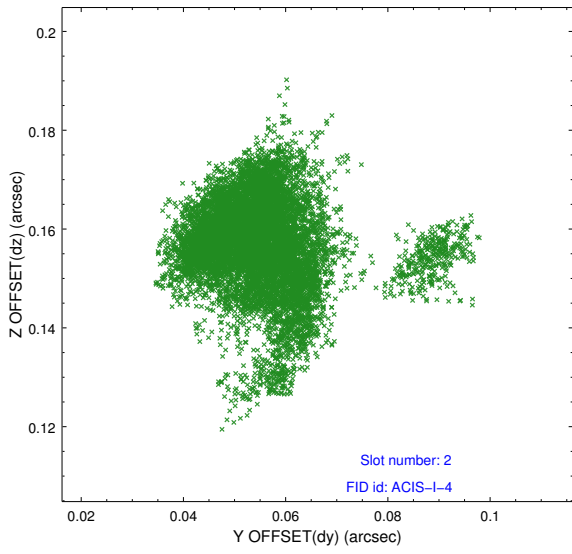
### 2.5.1 Slot 0



## 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	37.181400285959

## 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.