

# V&V Reference Report

## L2 ASCDS Version : 10.2.1

Observation 15113 - L2 Version 2  
Chandra X-Ray Center

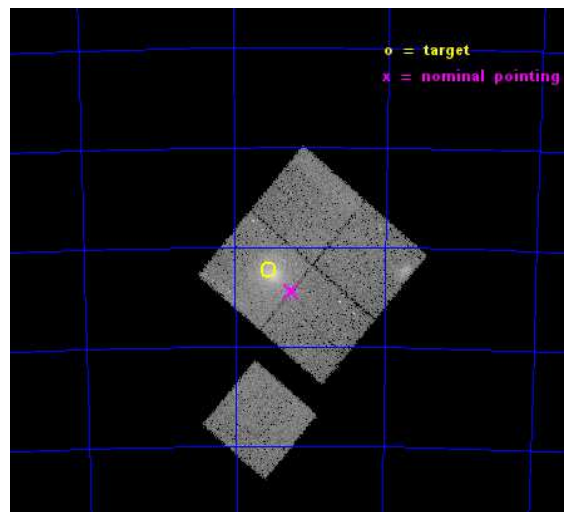
L2 Processing Date : Dec 10 2014

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# 1 Front

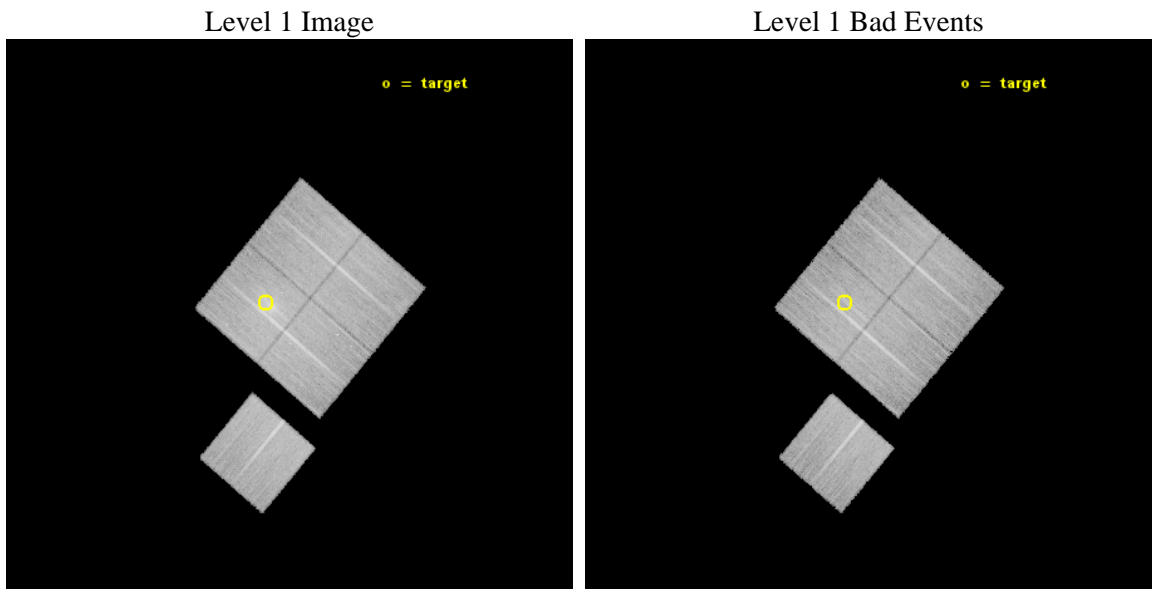
seq_num	801242	Sequence number
obs_id	15113	Observation id
title	A Chandra-Planck Legacy Program for Massive Clusters of Galaxies	P
observer	Dr. Christine Jones	Principal investigator
object	G294.66-37.02	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	45.97125	Observer's specified target RA [deg]
dec_targ	-77.870667	Observer's specified target Dec [deg]
ra_nom	45.780493853062	Nominal RA [deg]
dec_nom	-77.90755541358	Nominal Dec [deg]
roll_nom	220.23616771807	Nominal Roll [deg]
revision	2	Processing version of data
ontime	34087.600262165	Sum of GTIs [s]
livetime	33642.220669814	Livetime [s]
ontime0	34087.600262165	Sum of GTIs [s]
ontime1	34084.459291756	Sum of GTIs [s]
ontime2	34084.459271848	Sum of GTIs [s]
ontime3	34087.600262165	Sum of GTIs [s]
ontime6	34087.600262165	Sum of GTIs [s]
l2events	98307	Number of level 2 events



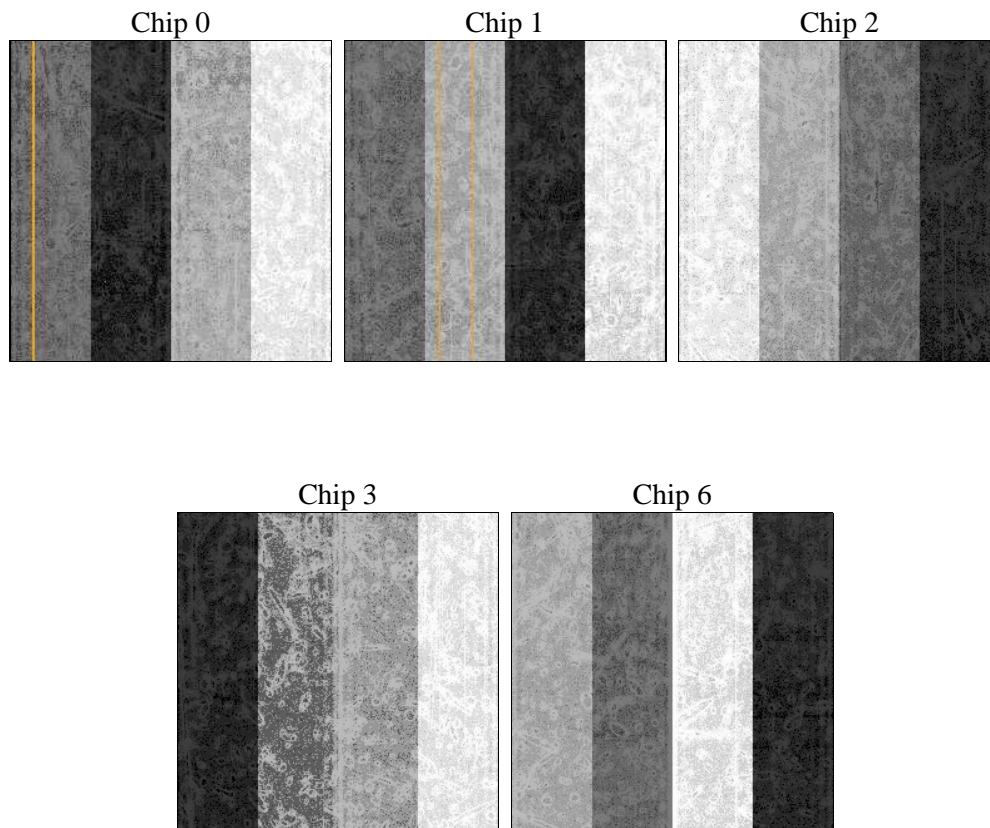
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	34000.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	34087.600262165	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime0	34087.600262165	Sum of GTIs [s]
date	2014-12-10T20:03:18	Date and time of file creation	ontime1	34084.459291756	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	34084.459271848	Sum of GTIs [s]
			ontime3	34087.600262165	Sum of GTIs [s]
			ontime6	34087.600262165	Sum of GTIs [s]
			l1events	754163	Number of level 1 events

### 2.1.4 Events

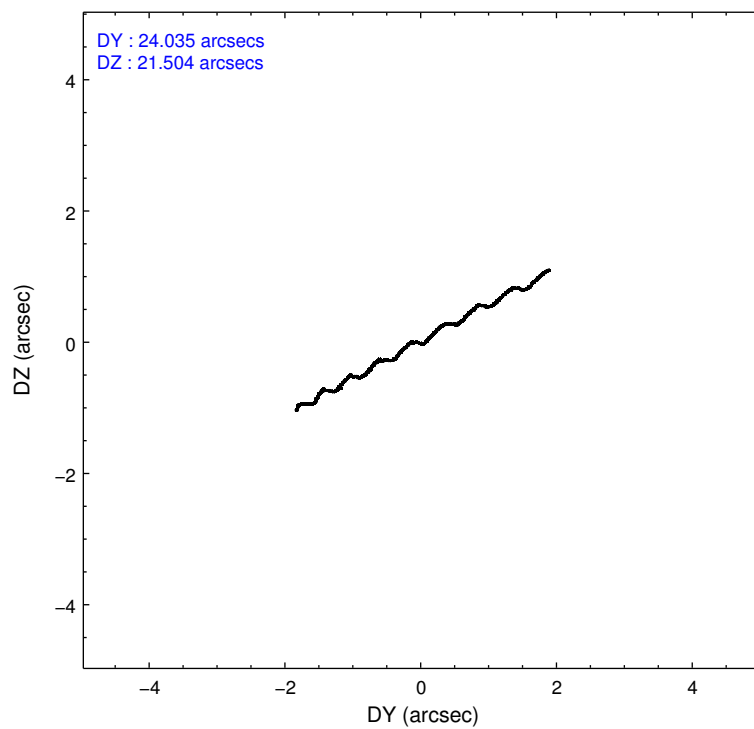
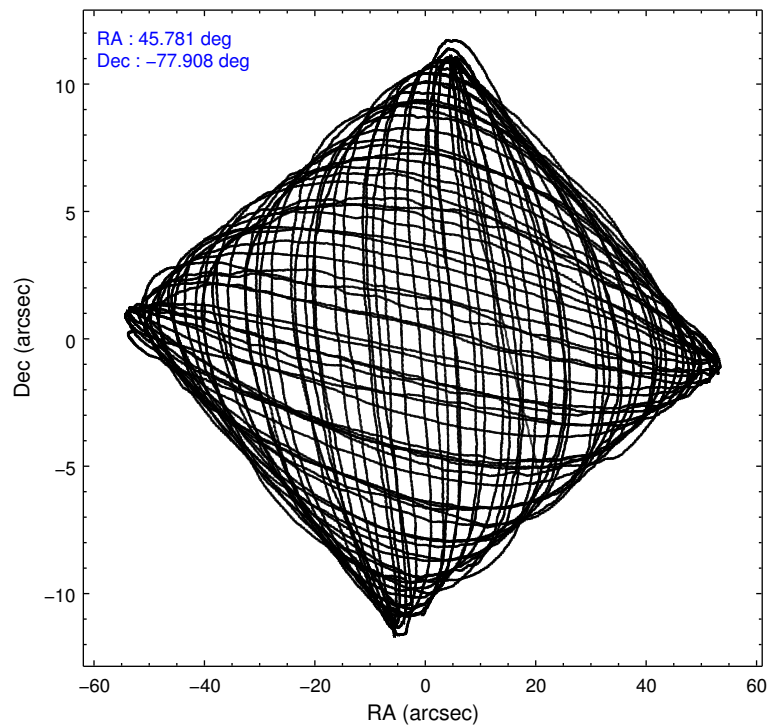
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	139850	139483	151171	168924	154735
rejected events	120113	118756	131155	134683	135673
rejected %	85%	85%	86%	79%	87%

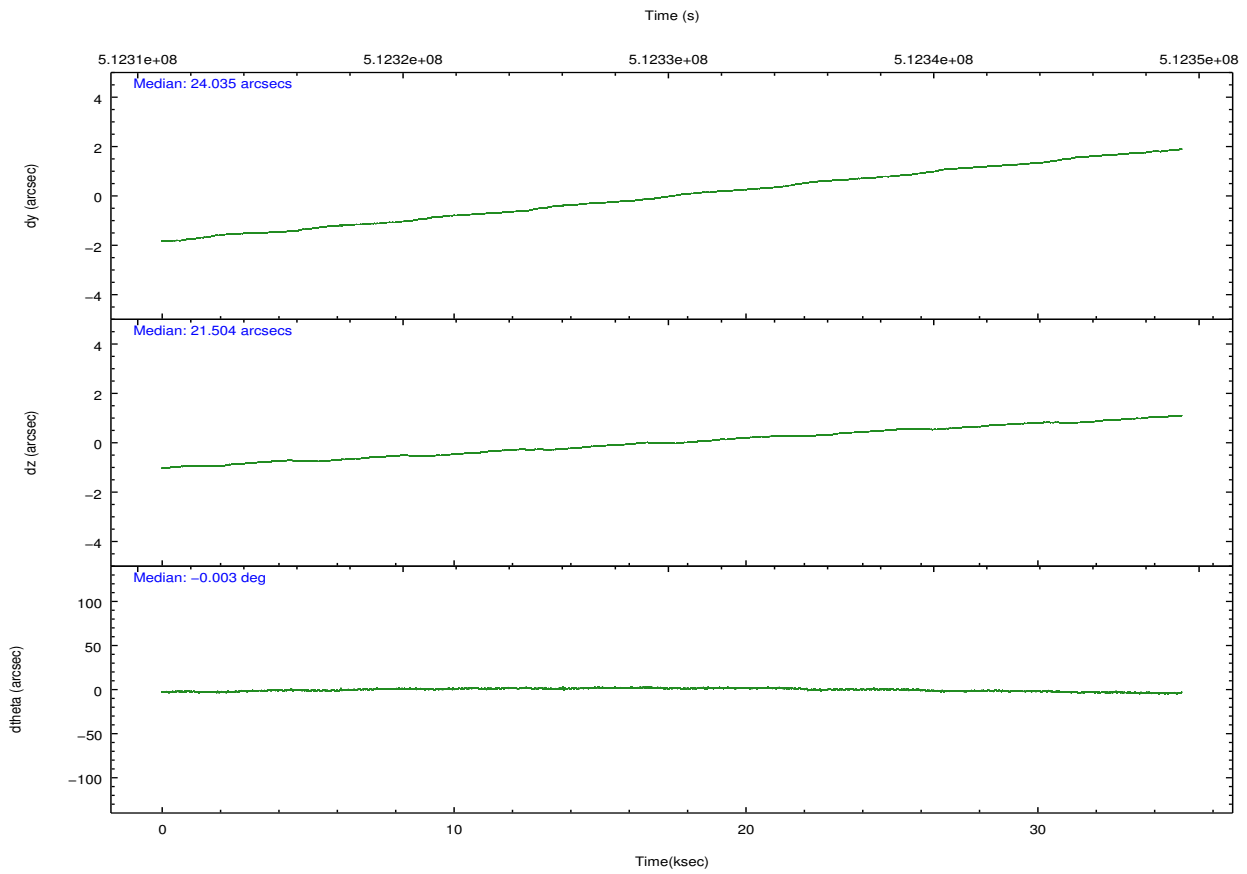
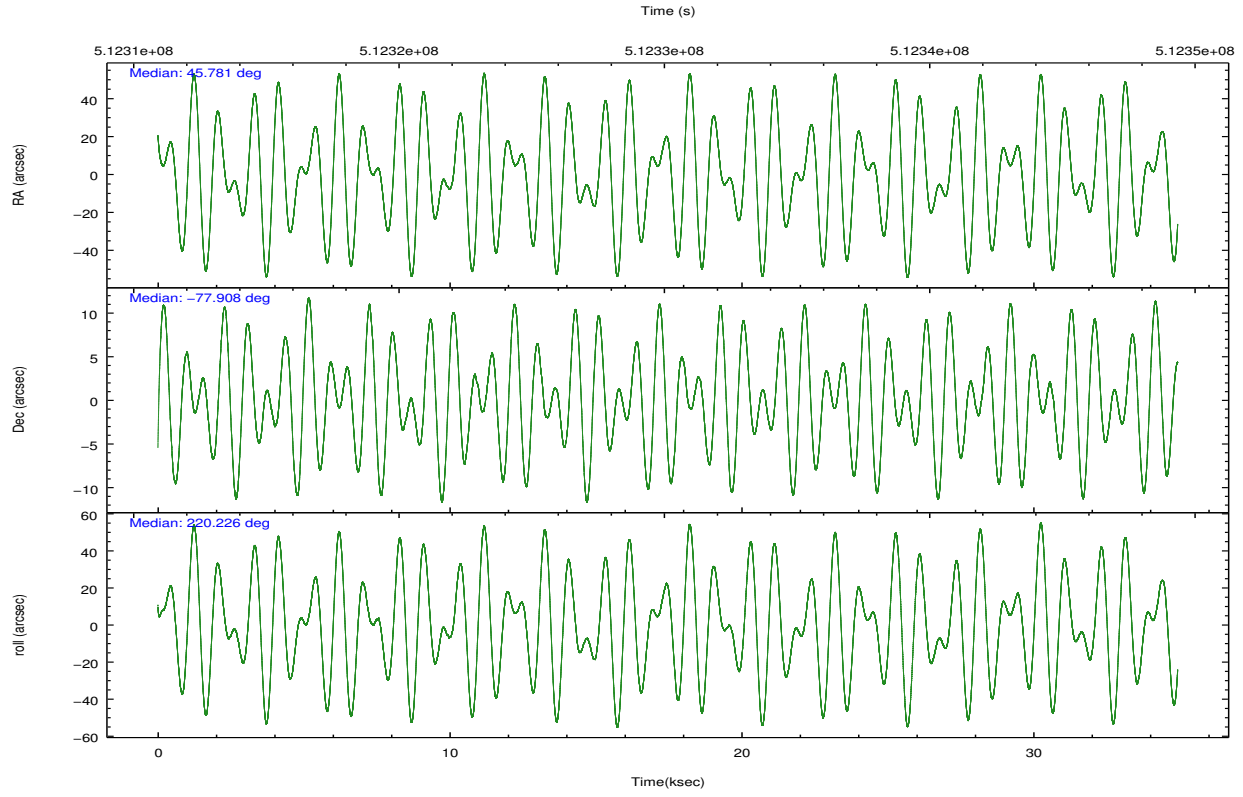
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	7526	7125	8002	19495	6476
	5%	5%	5%	11%	4%
grade 1 events	80	74	91	132	71
	0%	0%	0%	0%	0%
grade 2 events	4721	5055	4682	5685	4265
	3%	3%	3%	3%	2%
grade 3 events	1907	1990	1885	2418	1934
	1%	1%	1%	1%	1%
grade 4 events	1798	2056	1865	2433	1940
	1%	1%	1%	1%	1%
grade 5 events	7414	7703	7012	8217	7997
	5%	5%	4%	4%	5%
grade 6 events	3786	4502	3585	4212	4449
	2%	3%	2%	2%	2%
grade 7 events	112618	110978	124049	126332	127603
	80%	79%	82%	74%	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	45.824354	45.78049385306205	CCD I2 on	Y	Y
[deg] Pointing Dec	-77.881648	-77.90755541357983	CCD I3 on	Y	Y
[deg] Pointing Roll	220.070370	220.2361677180724	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)	512313598.184000	512312283.35071	CCD S5 on	N	N
Observation start date	2014-03-27T13:18:51	2014-03-27T12:58:03	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	512347598.184000	512348712.87772	On-chip summing requested	N	N
Observation end date	2014-03-27T22:45:31	2014-03-27T23:05:12	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





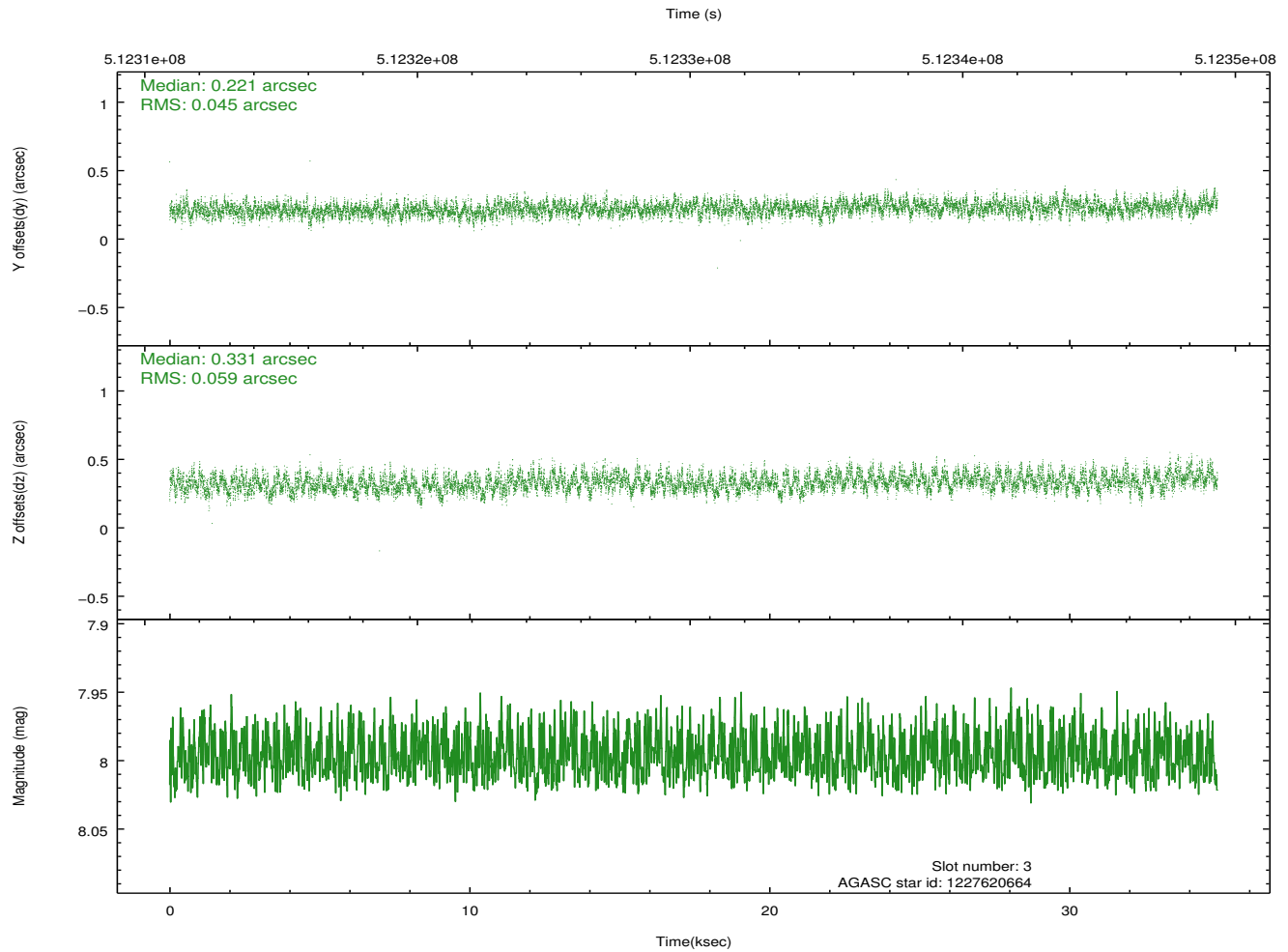
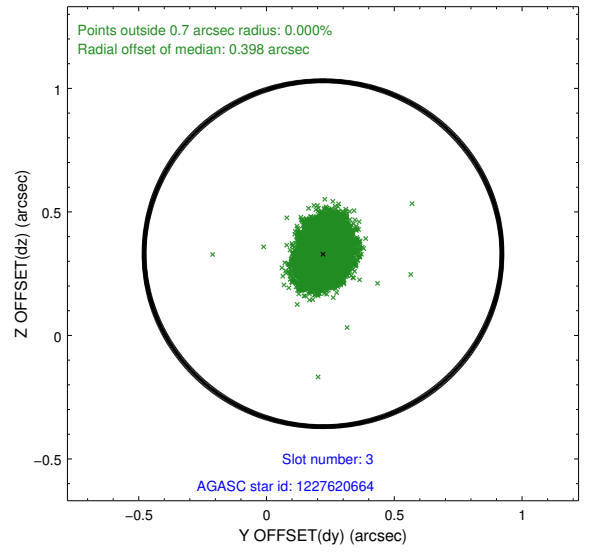
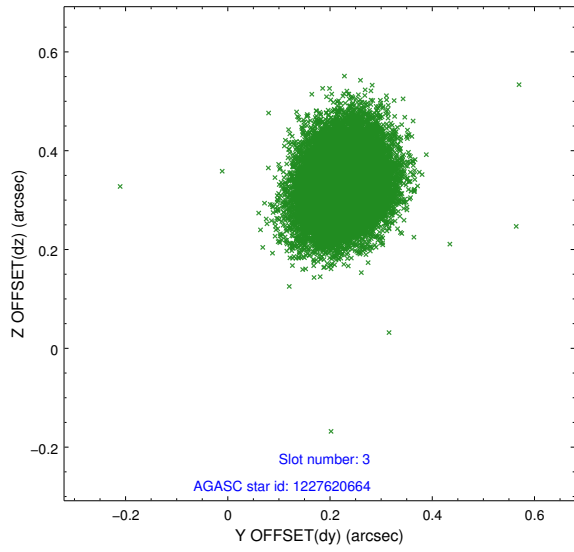
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.04	8521	0.150	-0.115	0.025	0.049	0.000000	0.000000	915.19	-1004.46
1	FID		ACIS-I-5	7.03	8521	-0.377	0.099	0.015	0.033	0.000000	0.000000	-1833.45	893.14
2	FID		ACIS-I-6	7.04	8521	0.138	0.085	0.028	0.037	0.000000	0.000000	380.62	1537.72
3	GUIDE	used	1227620664	8.00	17035	0.221	0.331	0.079	0.127	46.150563	-77.166043	-1856.76	-1801.38
4	GUIDE	used	1227621120	8.29	17038	-0.169	-0.069	0.084	0.133	43.864109	-77.656510	649.17	-1571.67
5	GUIDE	used	1227622752	7.97	17040	0.173	0.098	0.121	0.182	46.609451	-77.610764	-1088.67	-352.81
6	GUIDE	used	1227623496	9.01	17036	0.192	-0.168	0.109	0.198	47.806592	-77.805488	-1313.61	779.69
7	GUIDE	used	1228146688	9.04	17036	-0.416	-0.206	0.119	0.192	45.492936	-78.778105	2255.21	2321.28

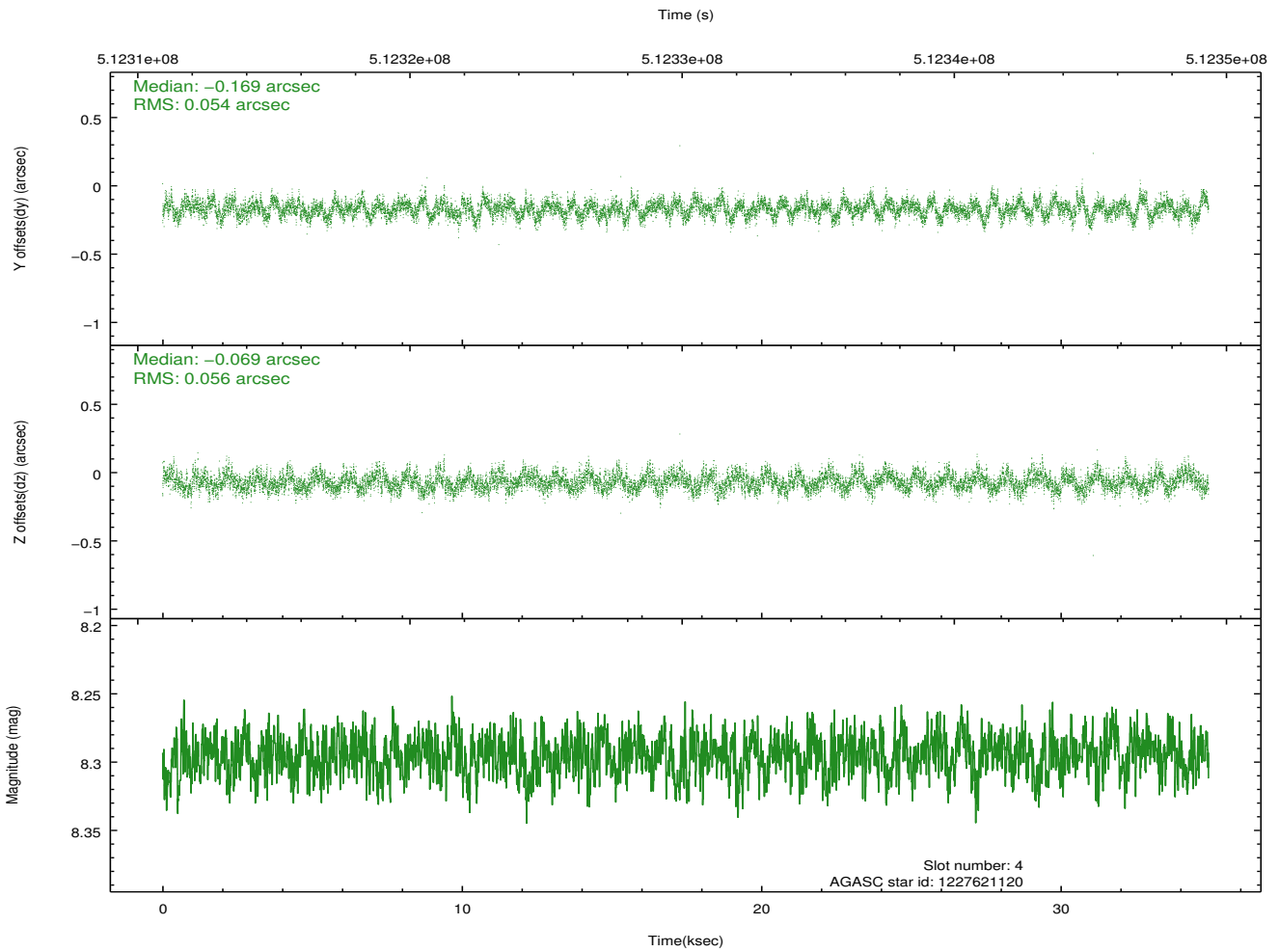
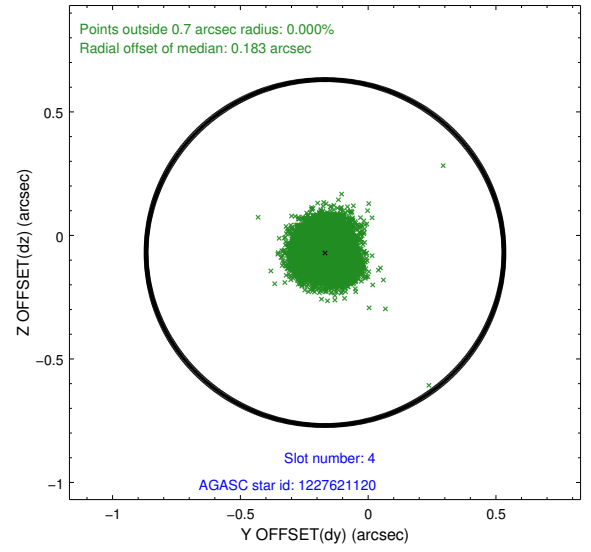
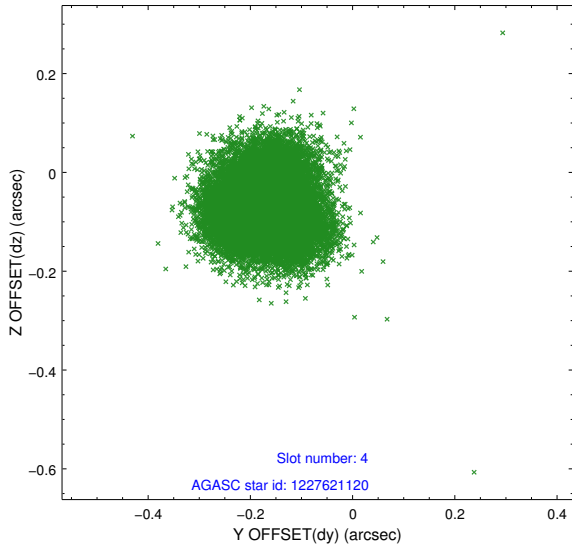
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## 2.4 Star Slots

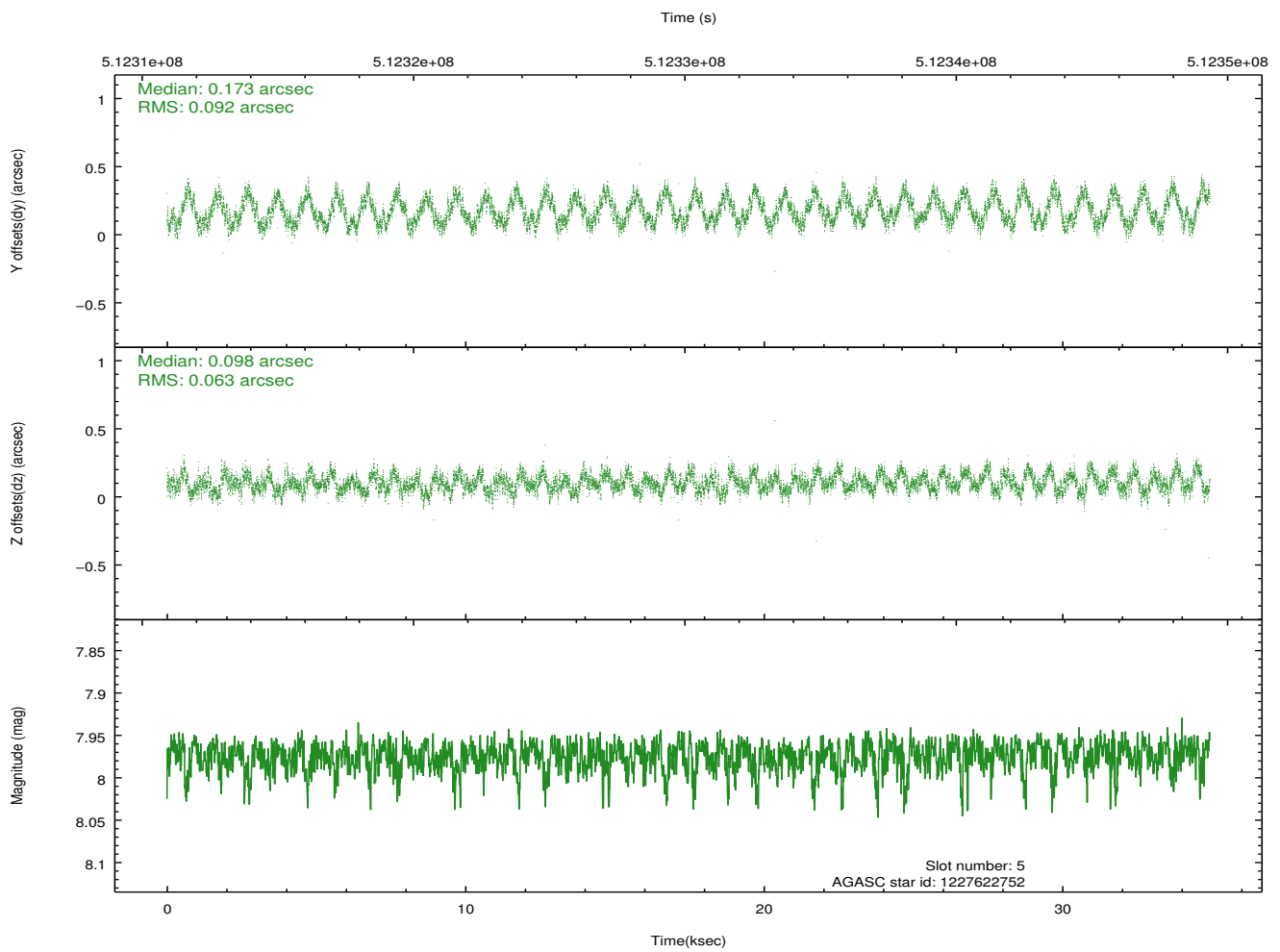
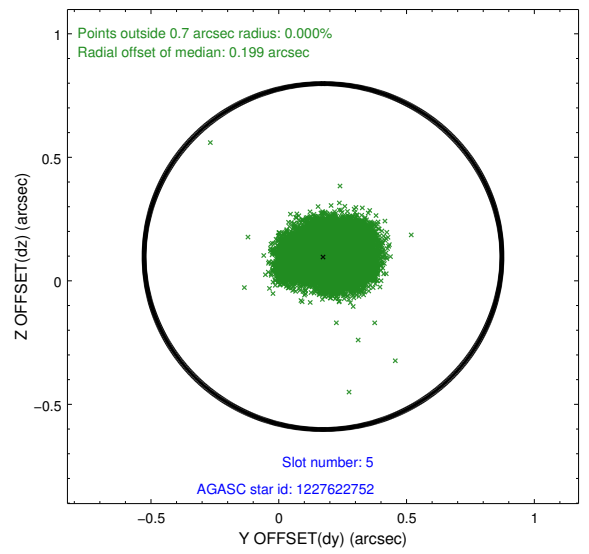
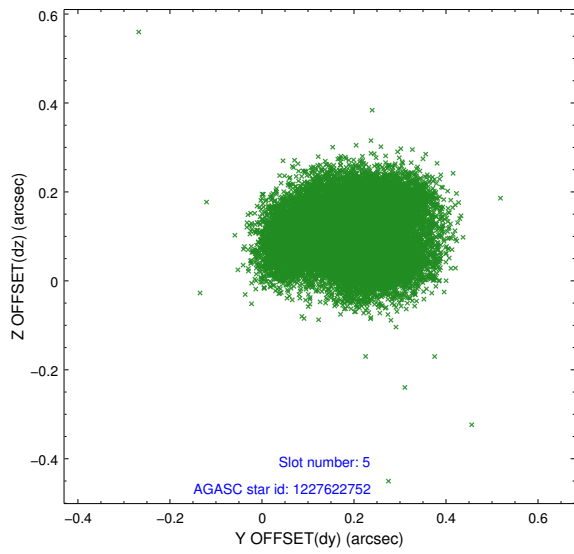
### 2.4.1 Slot 3



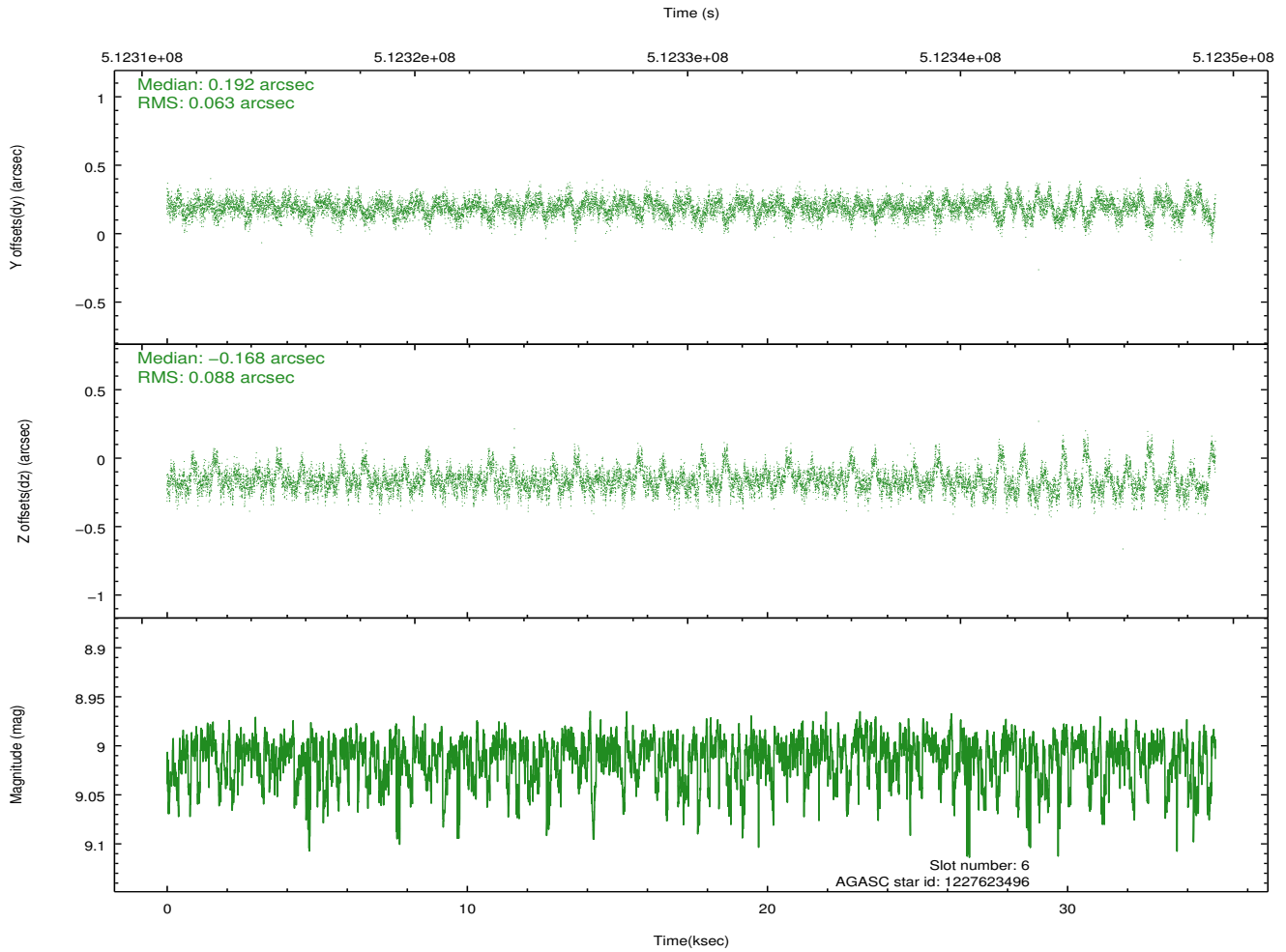
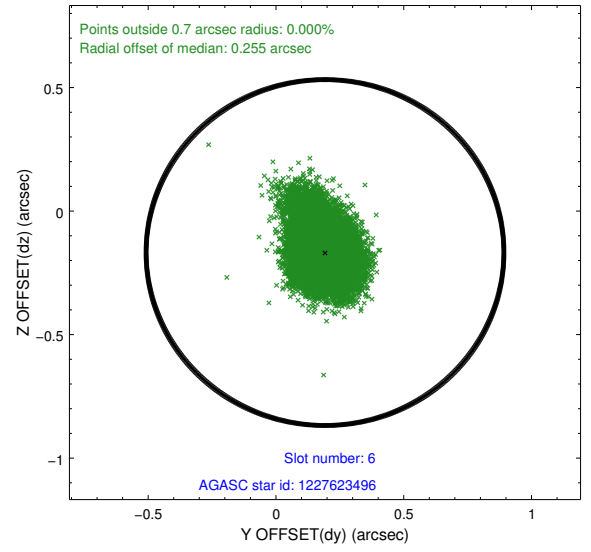
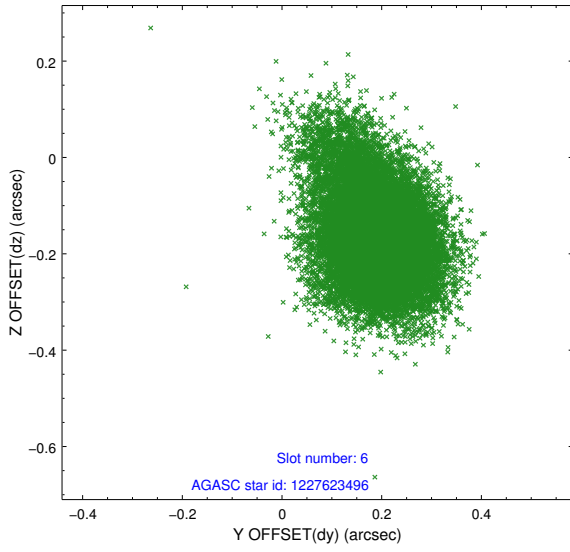
## 2.4.2 Slot 4



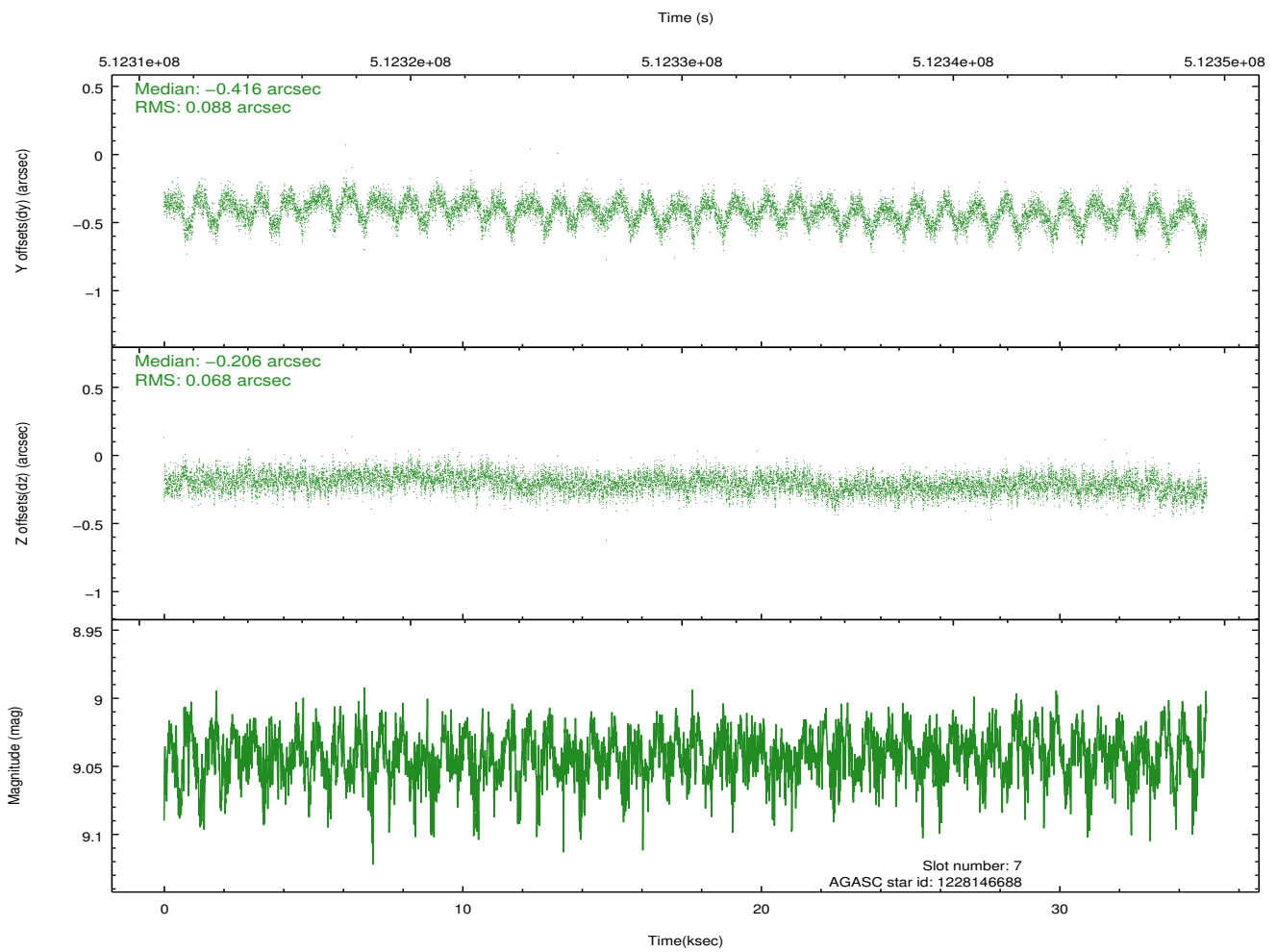
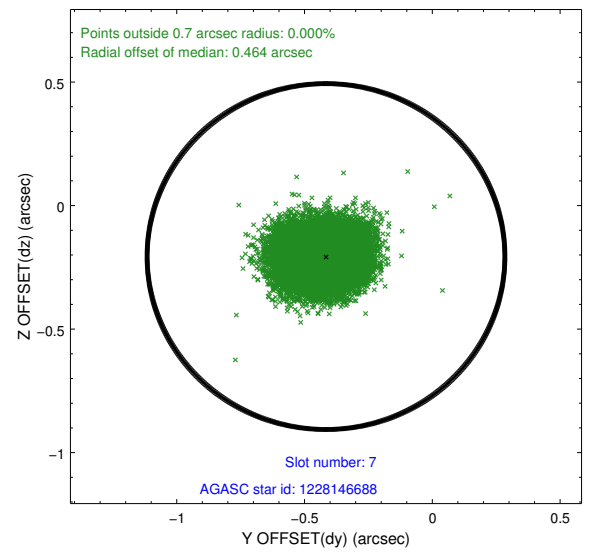
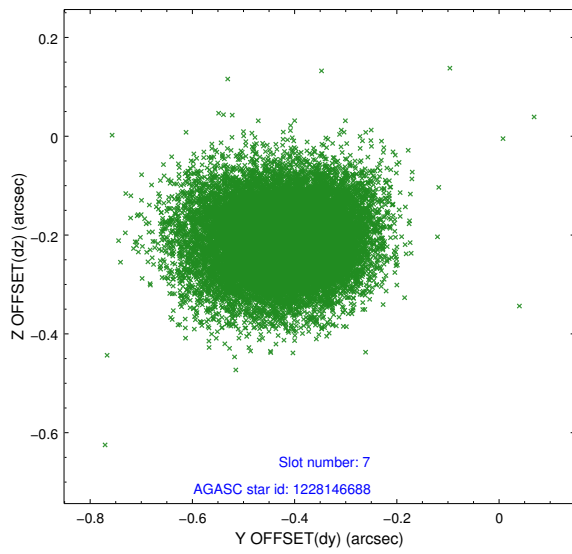
### 2.4.3 Slot 5



### 2.4.4 Slot 6

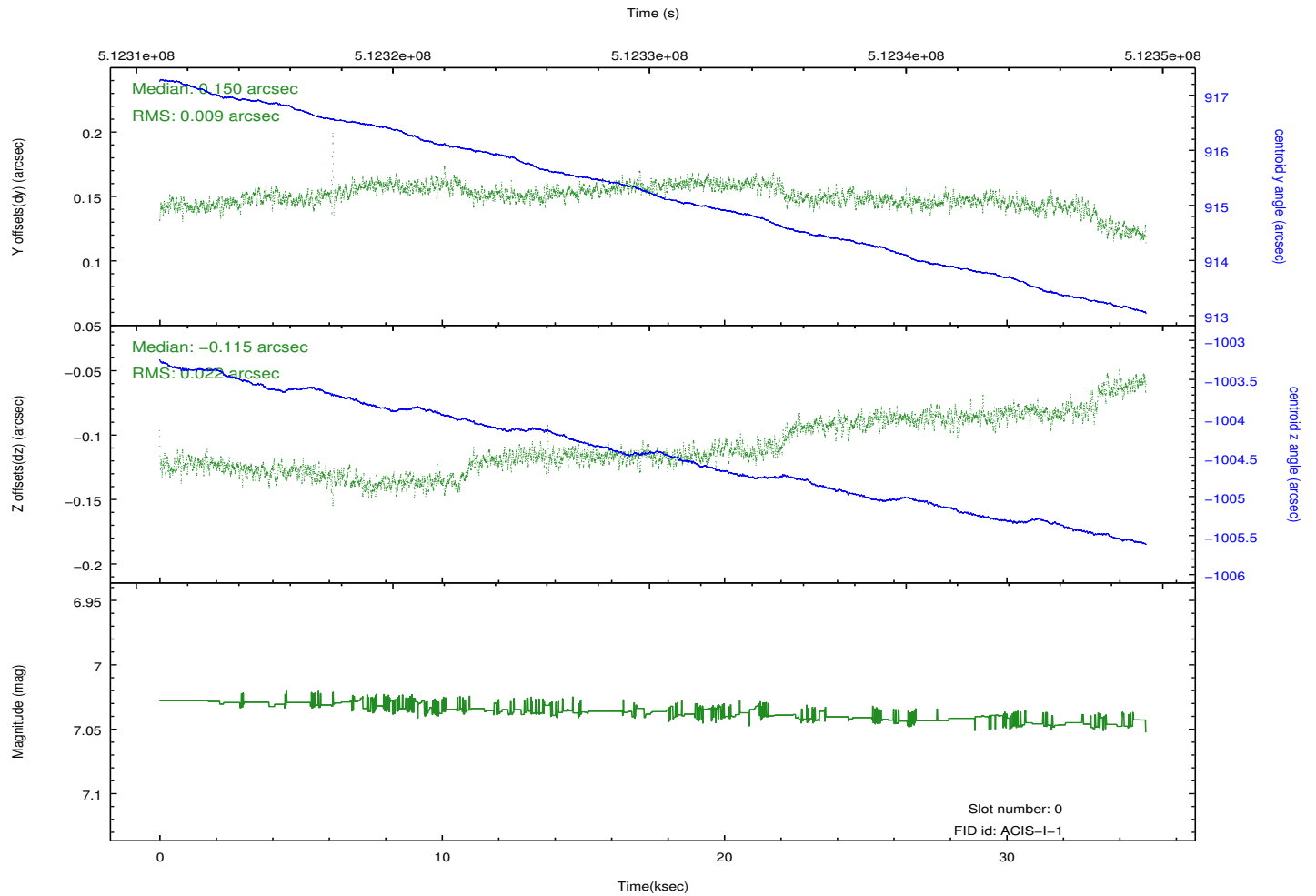
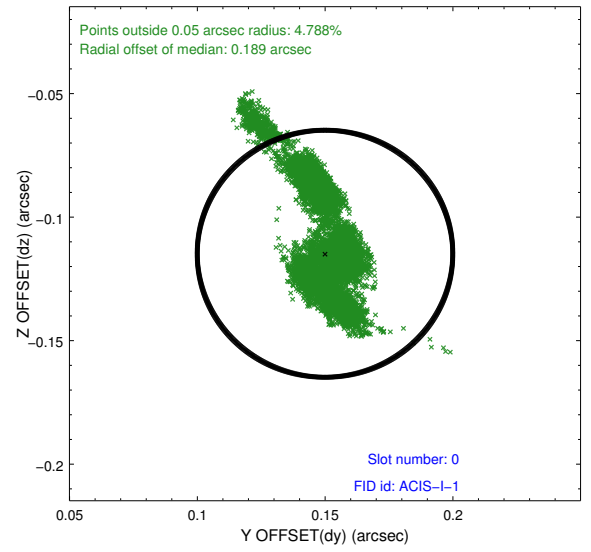
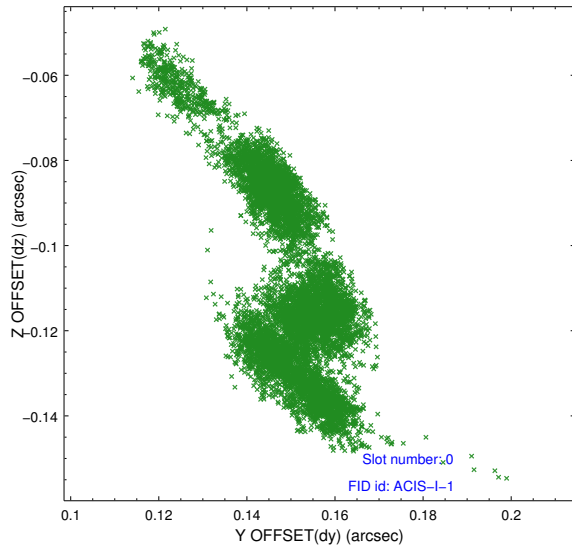


## 2.4.5 Slot 7

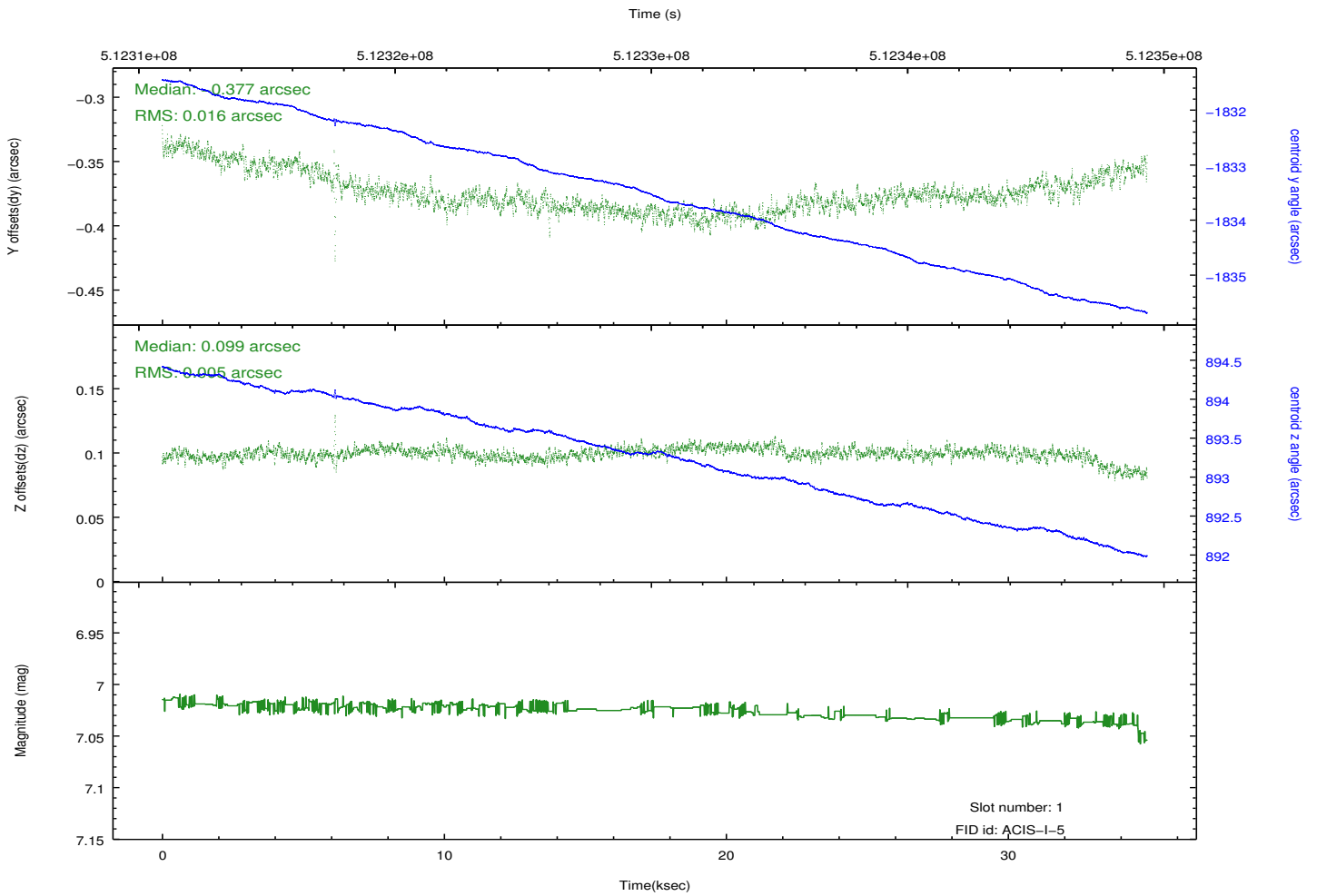
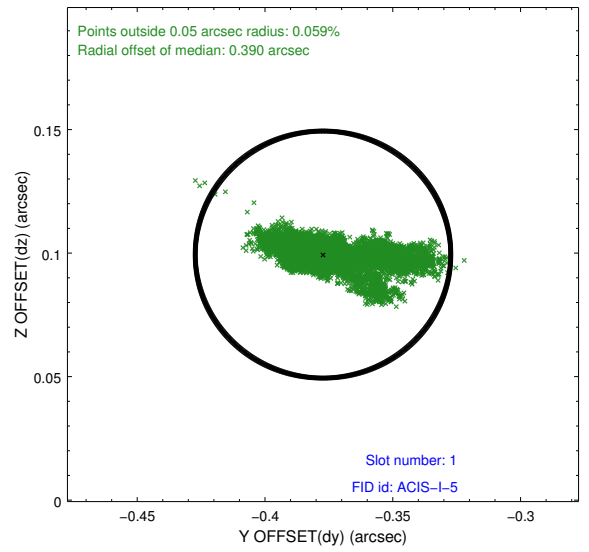
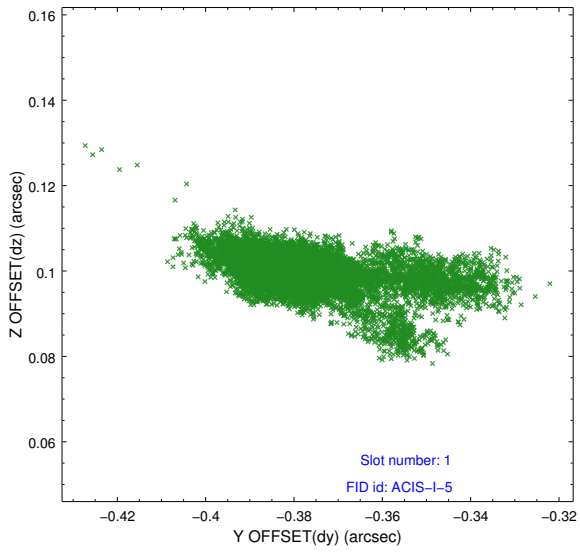


## 2.5 FID Slots

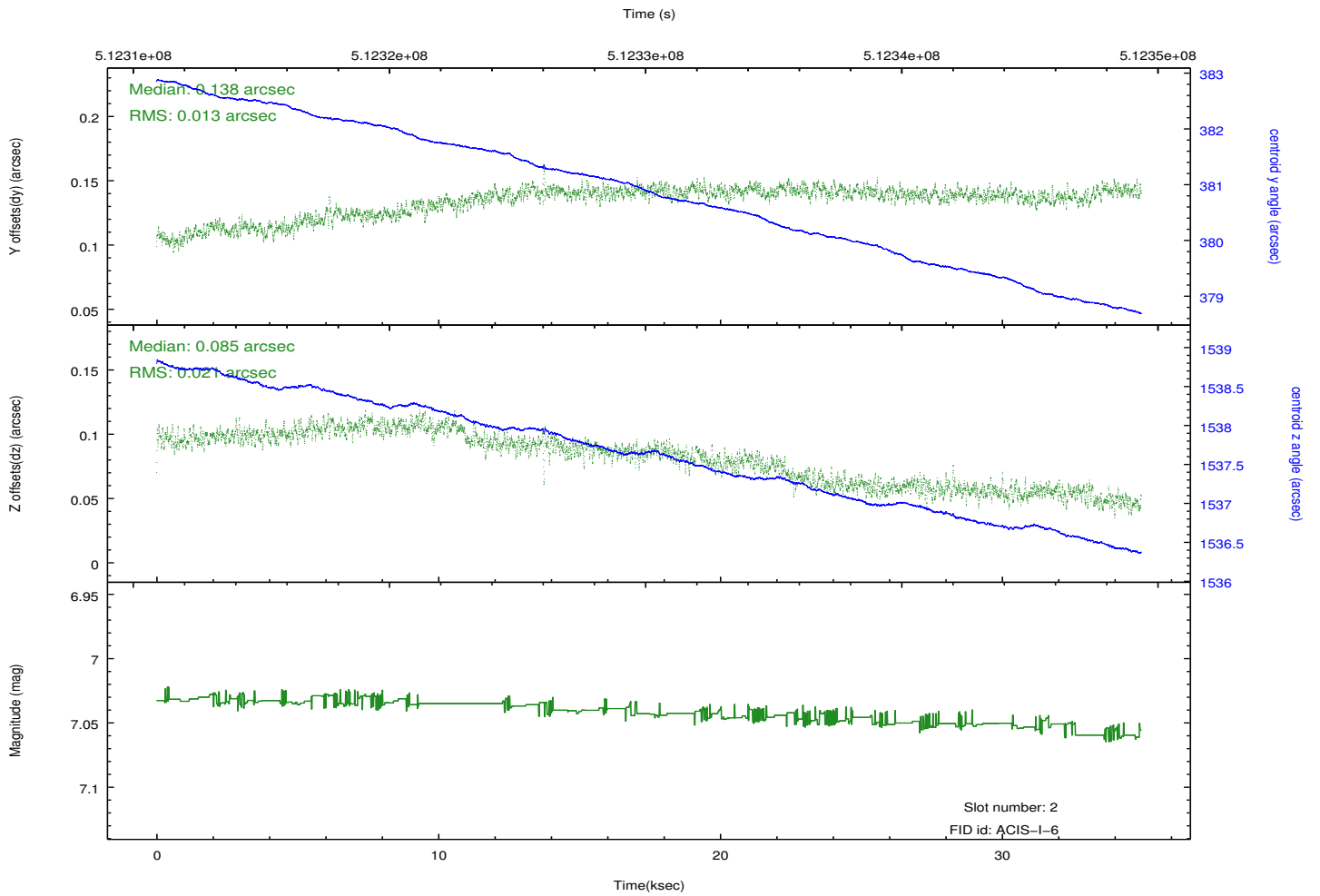
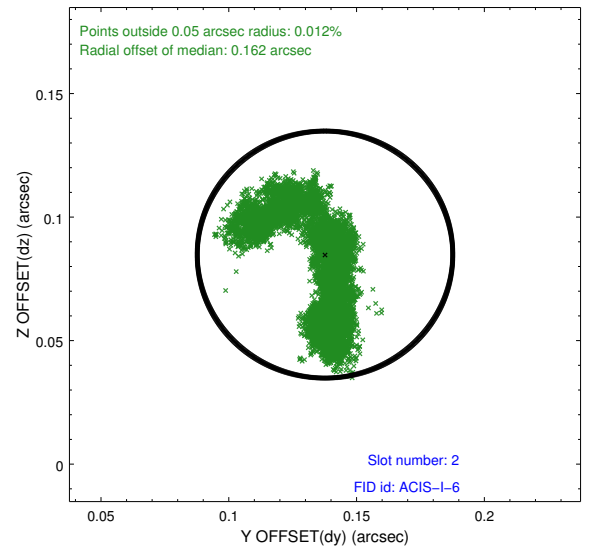
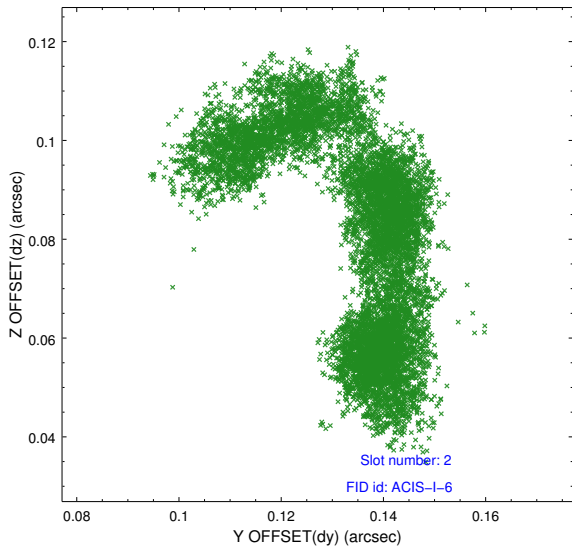
### 2.5.1 Slot 0



## 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)	2014.12.18
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	34.087600262165

## 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.