

# V&V Reference Report

## L2 ASCDS Version : 10.5.4

Observation 19773 - L2 Version 2  
Chandra X-Ray Center

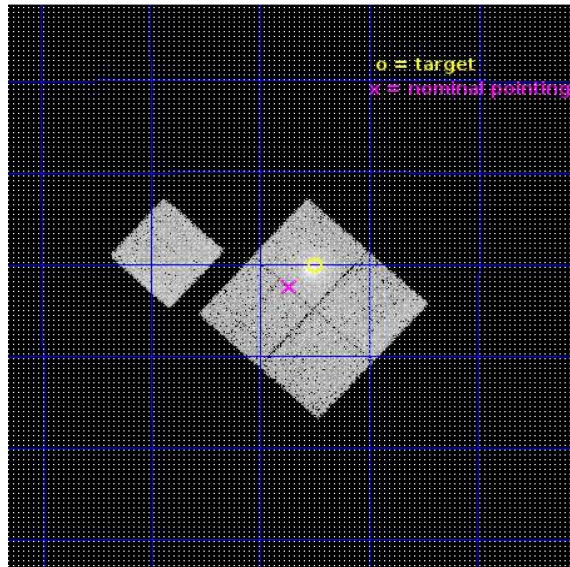
L2 Processing Date : May 23 2017

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# 1 Front

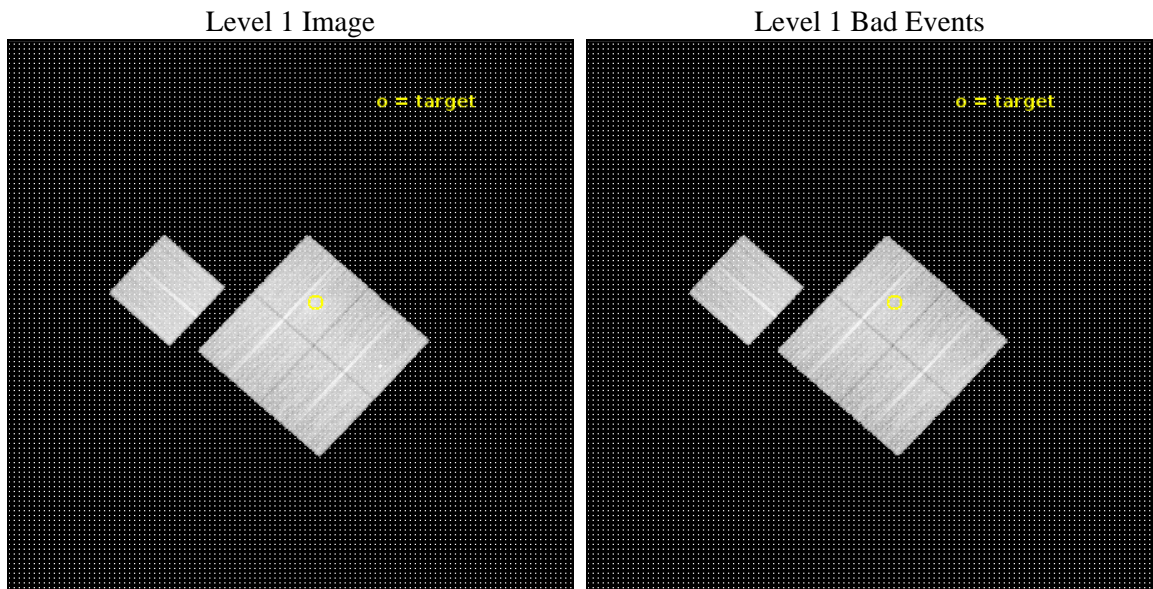
seq_num	801710	Sequence number
obs_id	19773	Observation id
title	Probing the Planck Cluster Sample	Proposal title
observer	Ralph Kraft	Principal investigator
object	G325.70	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	221.875	Observer's specified target RA [deg]
dec_targ	-40.3375	Observer's specified target Dec [deg]
ra_nom	221.93313278531	Nominal RA [deg]
dec_nom	-40.374795380769	Nominal Dec [deg]
roll_nom	312.2463167471	Nominal Roll [deg]
revision	2	Processing version of data
ontime	20069.400154471	Sum of GTIs [s]
livetime	19807.178666576	Livetime [s]
ontime0	20069.400154471	Sum of GTIs [s]
ontime1	20066.259104371	Sum of GTIs [s]
ontime2	20066.259094238	Sum of GTIs [s]
ontime3	20069.400154471	Sum of GTIs [s]
ontime6	20063.118013978	Sum of GTIs [s]
l2events	82788	Number of level 2 events



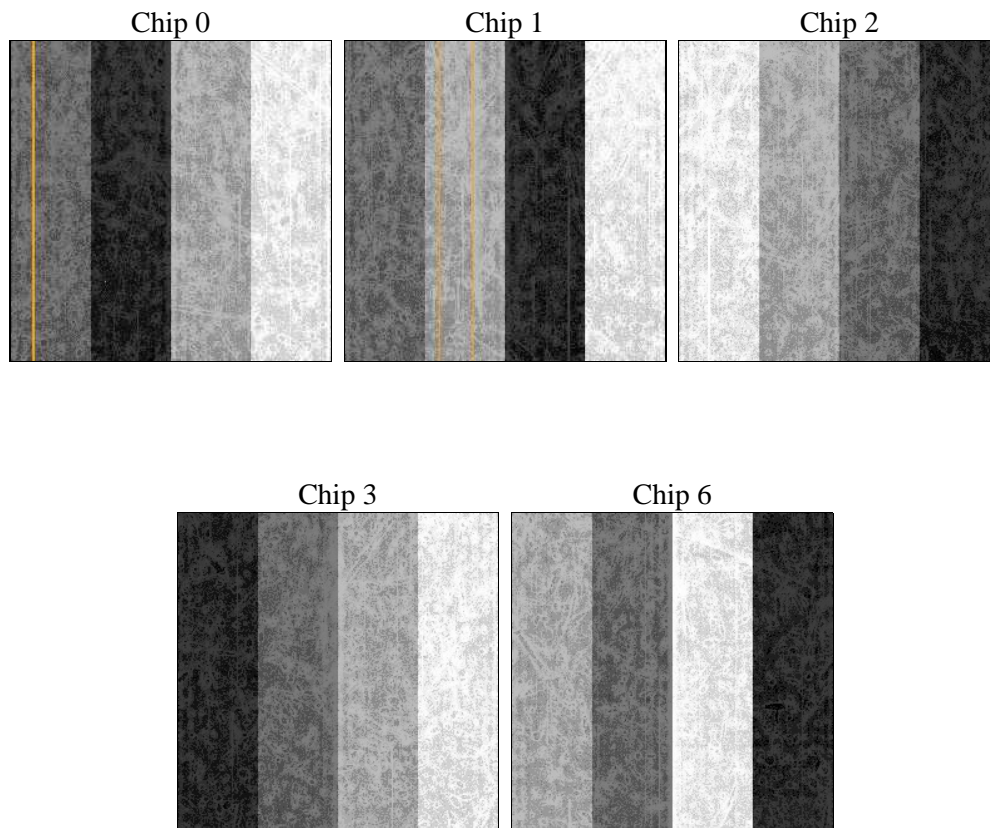
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	10.5.4	Processing system revision	ontime	20069.400154471	Sum of GTIs [s]
caldbver	4.7.4	&#160	ontime0	20069.400154471	Sum of GTIs [s]
date	2017-05-23T18:25:12	Date and time of file creation	ontime1	20066.259104371	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	20066.259094238	Sum of GTIs [s]
			ontime3	20069.400154471	Sum of GTIs [s]
			ontime6	20063.118013978	Sum of GTIs [s]
			l1events	720977	Number of level 1 events

### 2.1.4 Events

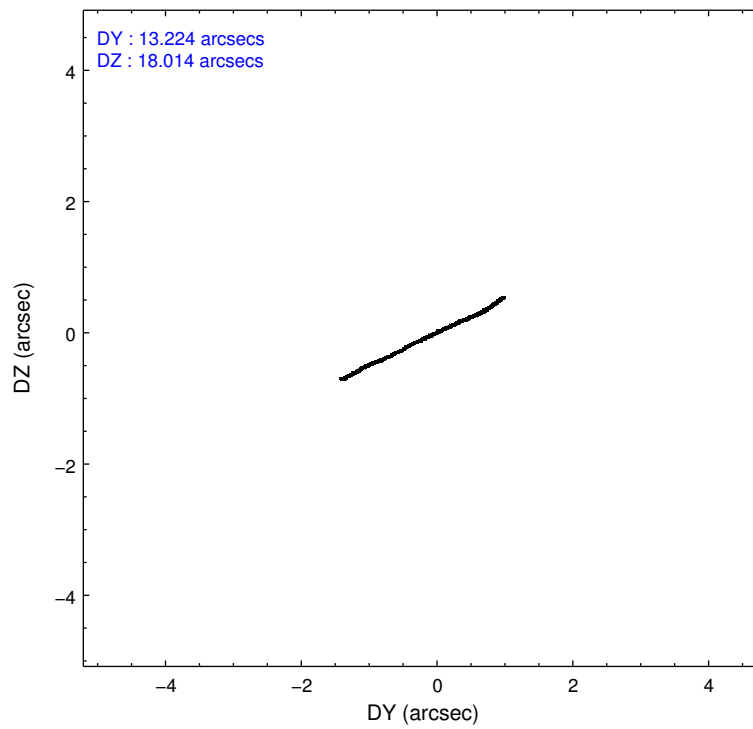
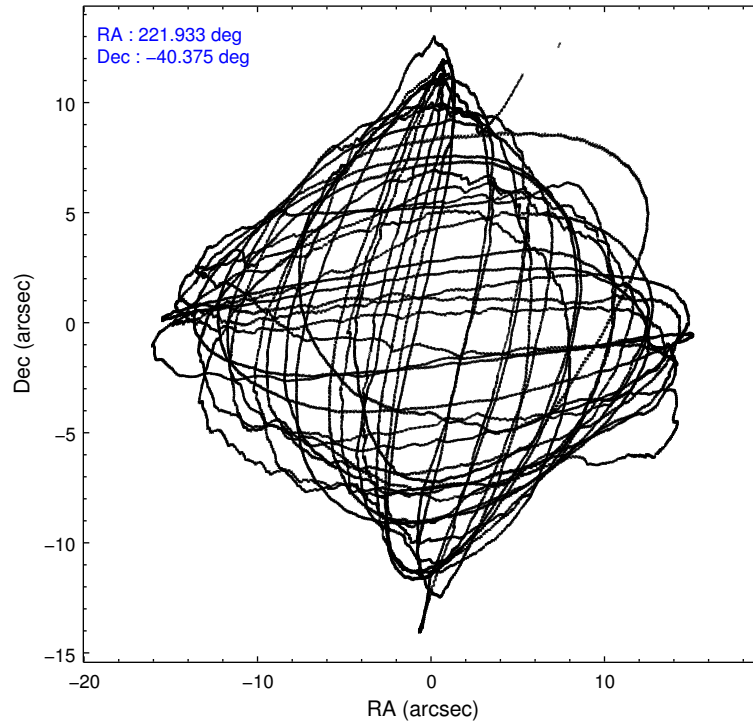
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	131174	140628	145950	152128	151097
rejected events	114126	121076	128631	129163	131378
rejected %	87%	86%	88%	84%	86%

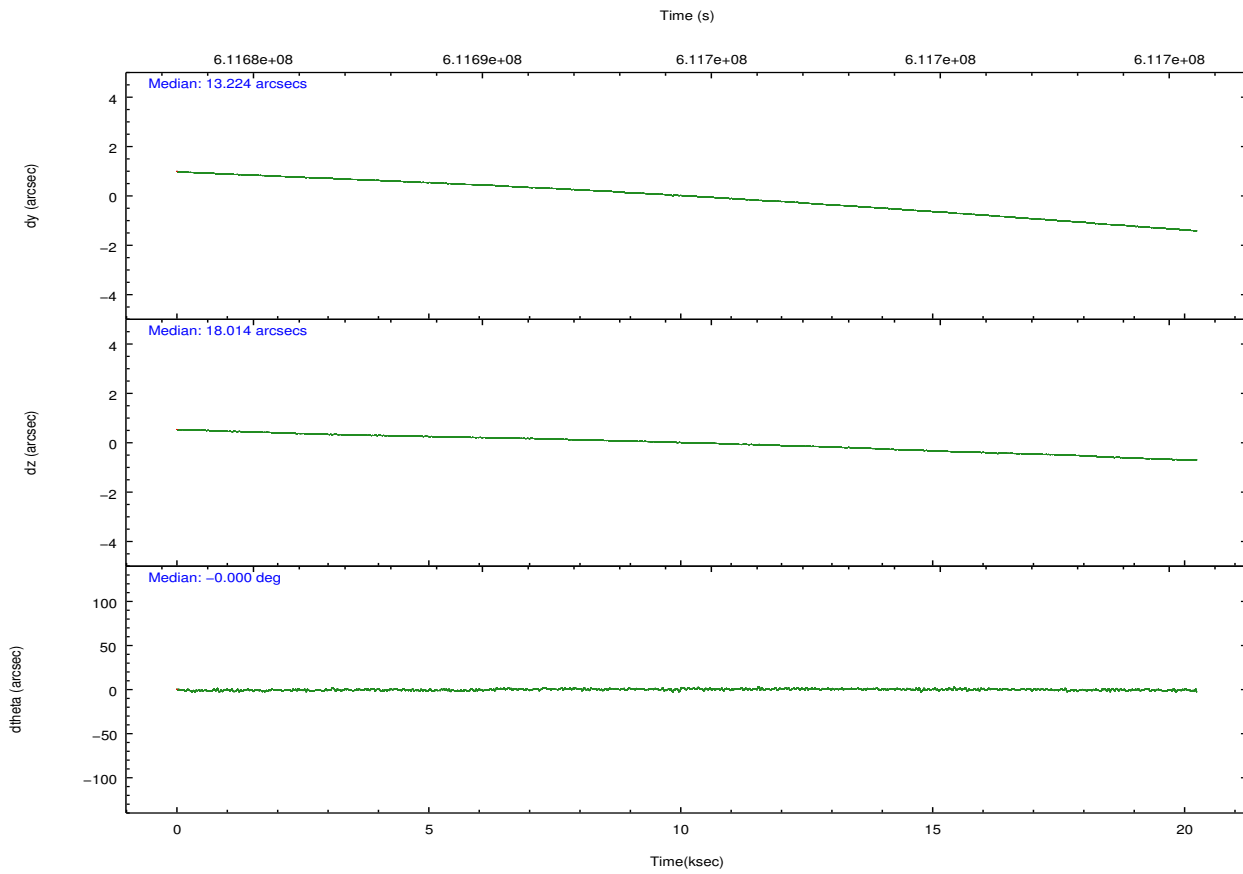
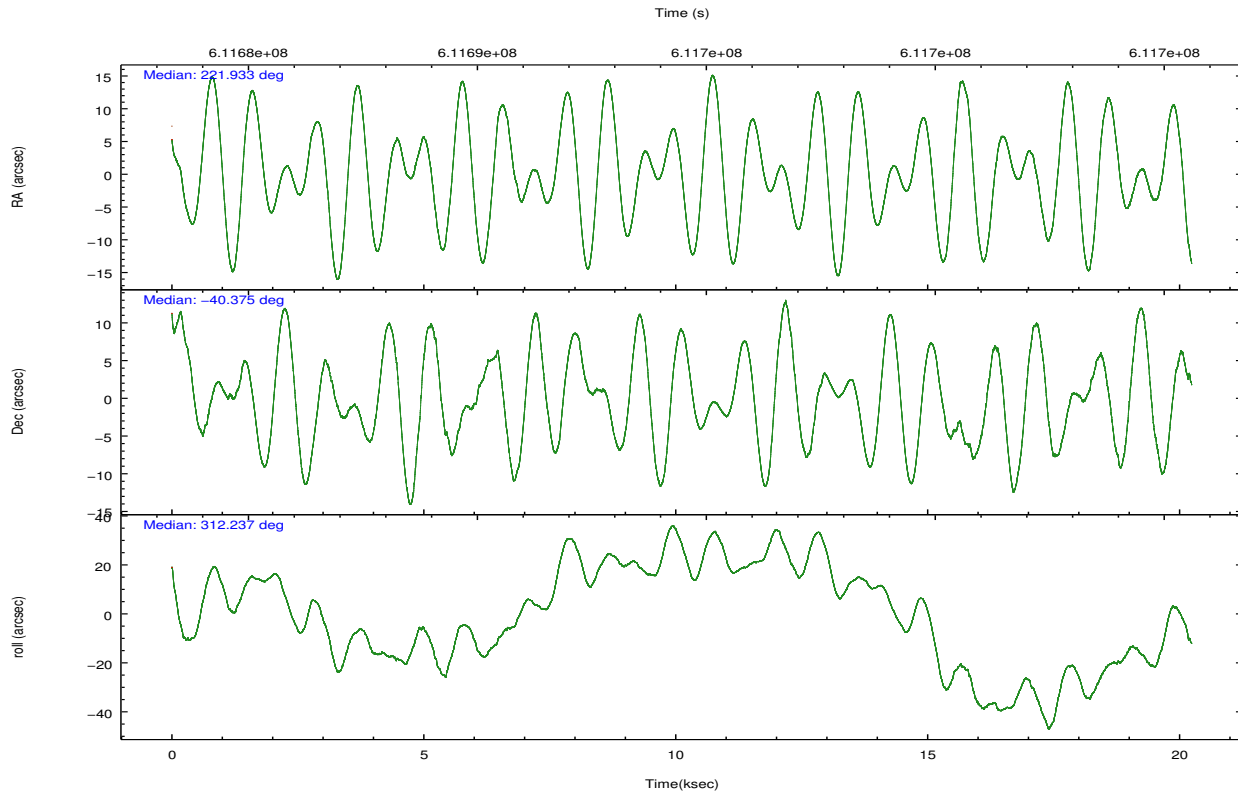
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	6127	7716	6771	11417	8190
	4%	5%	4%	7%	5%
grade 1 events	78	76	85	136	73
	0%	0%	0%	0%	0%
grade 2 events	4177	4409	4155	4313	4133
	3%	3%	2%	2%	2%
grade 3 events	1692	1698	1638	1872	1667
	1%	1%	1%	1%	1%
grade 4 events	1605	1740	1571	1878	1646
	1%	1%	1%	1%	1%
grade 5 events	6277	6589	5942	7005	6611
	4%	4%	4%	4%	4%
grade 6 events	3448	3992	3188	3489	4087
	2%	2%	2%	2%	2%
grade 7 events	107770	114408	122600	122018	124690
	82%	81%	84%	80%	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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	221.898584	221.9331327853095	Subarray requested	NONE	NONE
[deg] Pointing Dec	-40.366486	-40.37479538076884	Alternating exposures requested	N	N
[deg] Pointing Roll	312.015265	312.2463167471037	[s] Primary exposure time	0.000000	3.1
[mm] SIM focus pos	-0.782348	-0.7809083437167272			
[mm] SIM defocus	0	0.001439871863259334			
[mm] SIM translation stage pos	-225.842463	-225.8458576473255			
[mm] SIM translation stage offset	-7.75	-7.746595355604228			
[s] Observation start time (MET)	611684566.184000	611683589.9508801			
Observation start date	2017-05-20T16:21:37	2017-05-20T16:06:29			
[s] Observation end time (MET)	611704566.184000	611705666.91467			
Observation end date	2017-05-20T21:54:57	2017-05-20T22:14:26			
Read mode	TIMED	TIMED			

## 2.3 Aspect





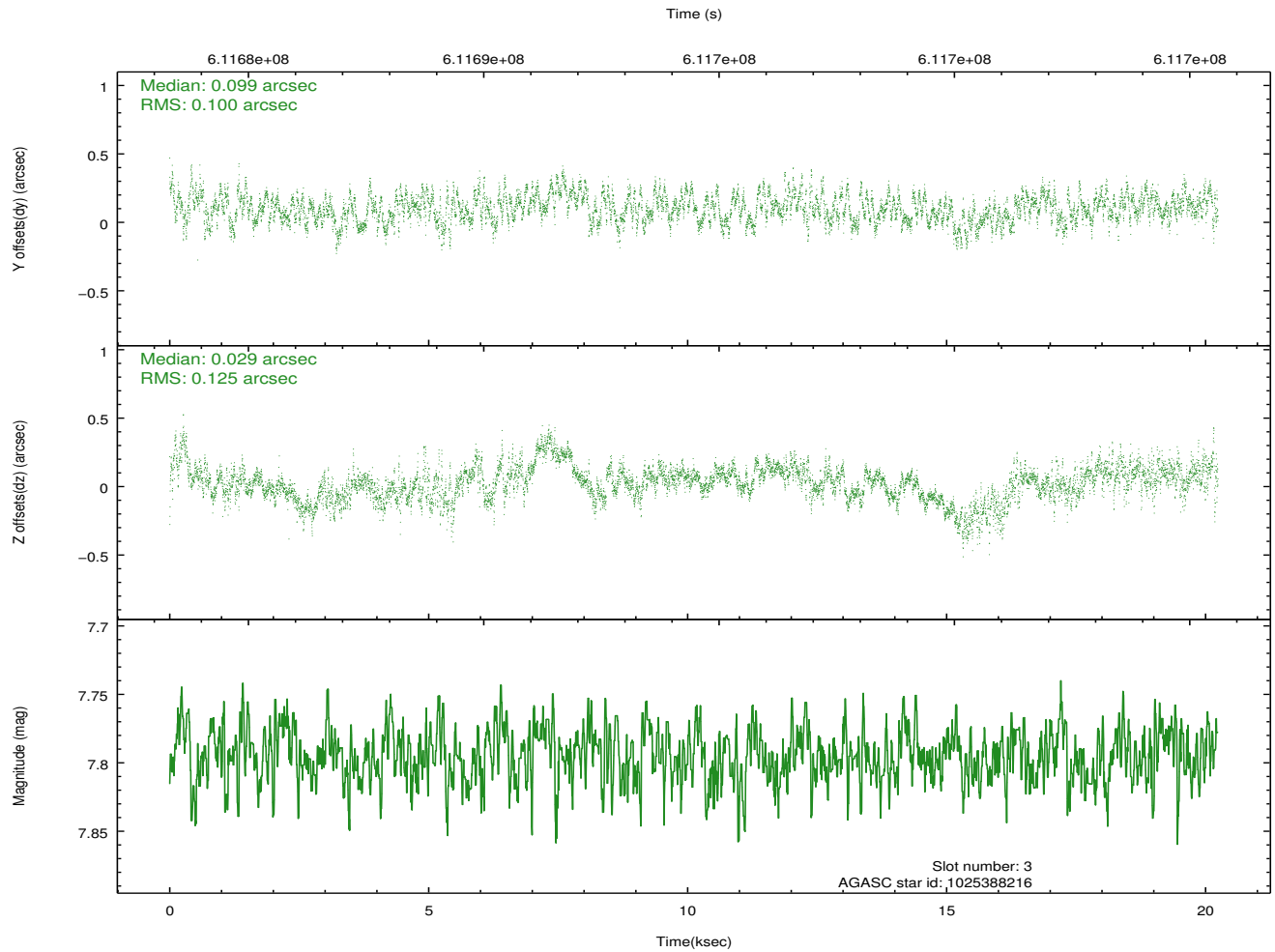
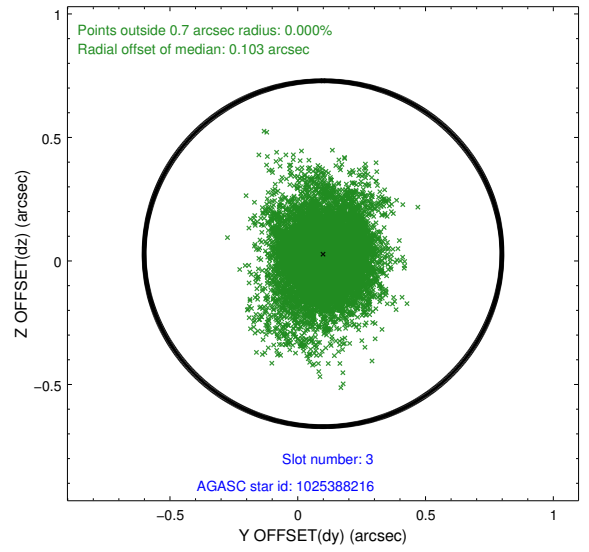
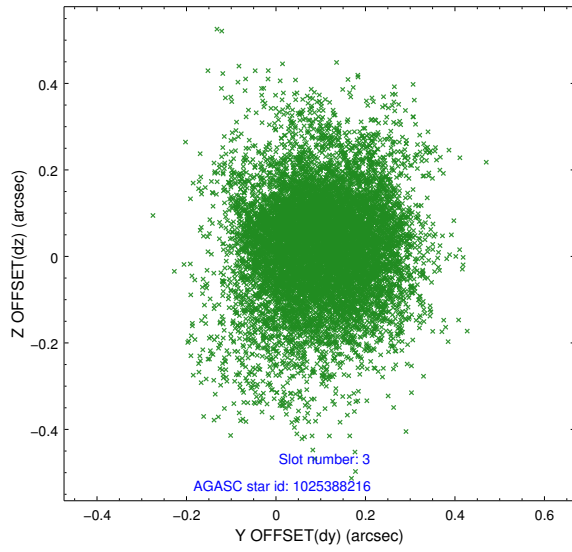
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-2	7.06	4937	-0.358	-0.199	0.019	0.029	0.000000	0.000000	-768.75	-1006.19
1	FID		ACIS-I-4	7.03	4937	0.214	0.253	0.015	0.024	0.000000	0.000000	2145.82	900.16
2	FID		ACIS-I-6	7.13	4936	0.042	0.011	0.021	0.038	0.000000	0.000000	392.45	1541.40
3	GUIDE	used	1025388216	7.80	9866	0.099	0.029	0.163	0.289	222.037579	-41.017282	1994.71	-1288.75
4	GUIDE	used	1025391800	9.07	9857	-0.226	-0.067	0.150	0.245	221.808790	-40.516699	237.85	-544.77
5	GUIDE	used	1025392744	7.06	9871	-0.207	-0.321	0.112	0.217	222.244323	-40.420933	781.23	571.08
6	GUIDE	used	1025396192	7.35	9873	-0.138	-0.065	0.136	0.246	221.945580	-39.926406	-1090.30	1156.07
7	GUIDE	used	1025382136	9.91	9857	0.464	0.429	0.257	0.407	220.889857	-40.226524	-2217.36	-1733.08

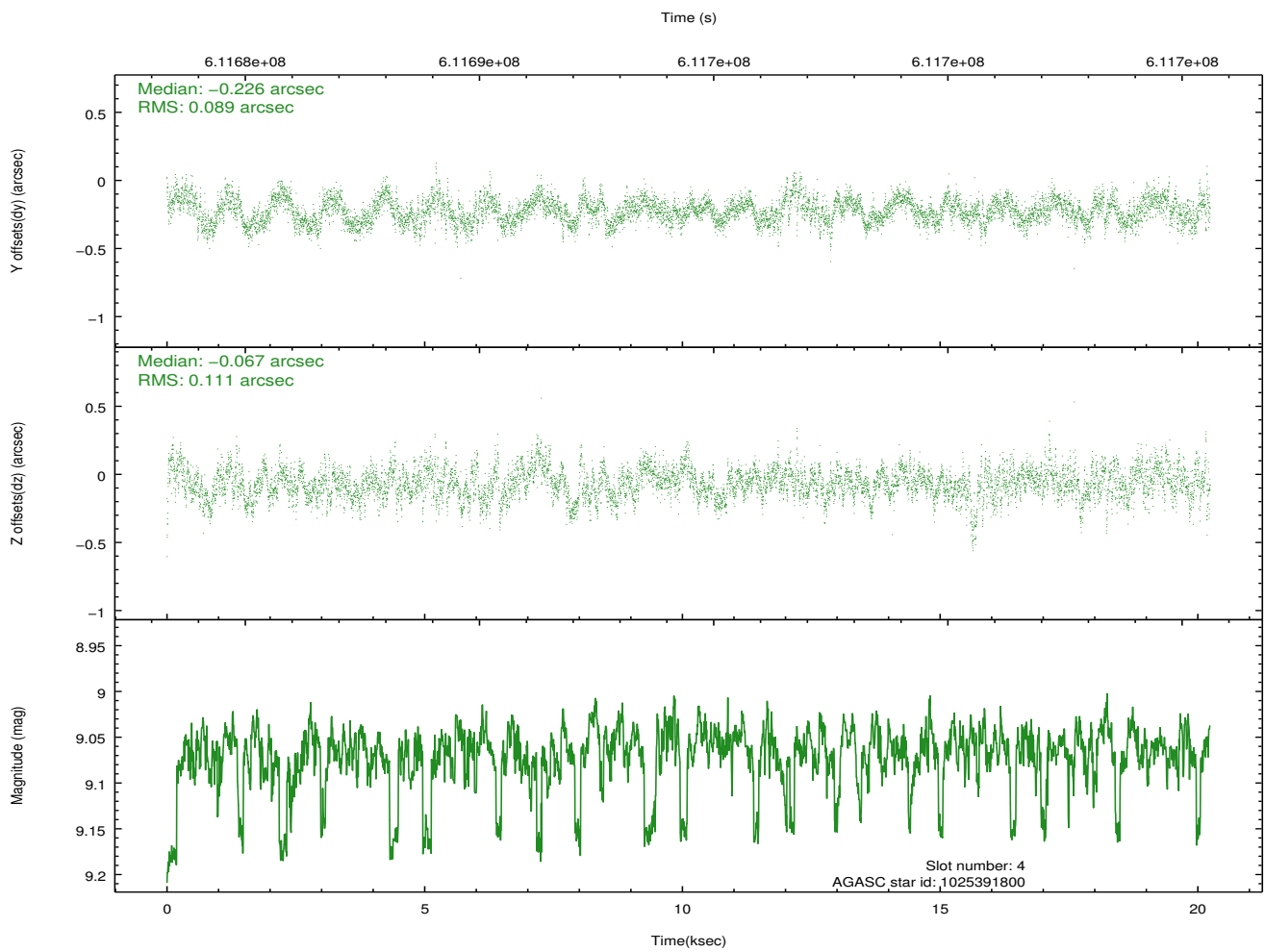
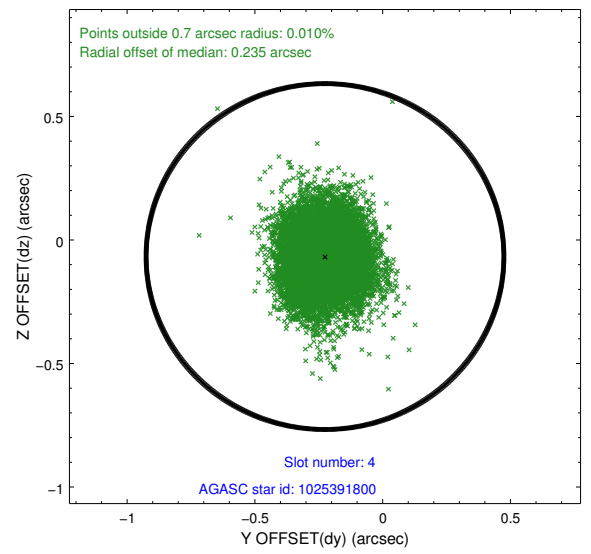
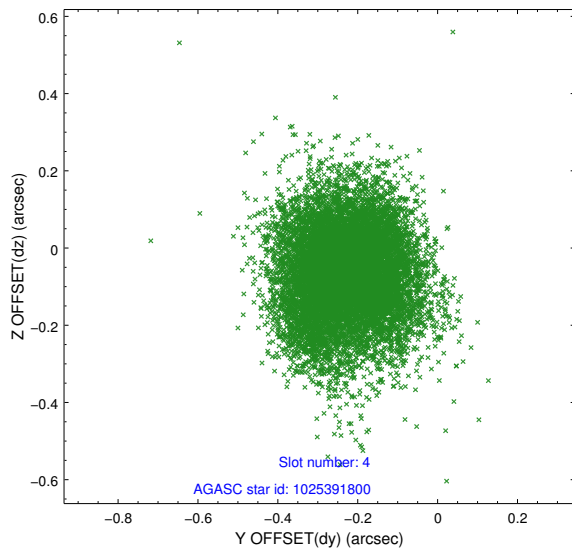
∞

## 2.4 Star Slots

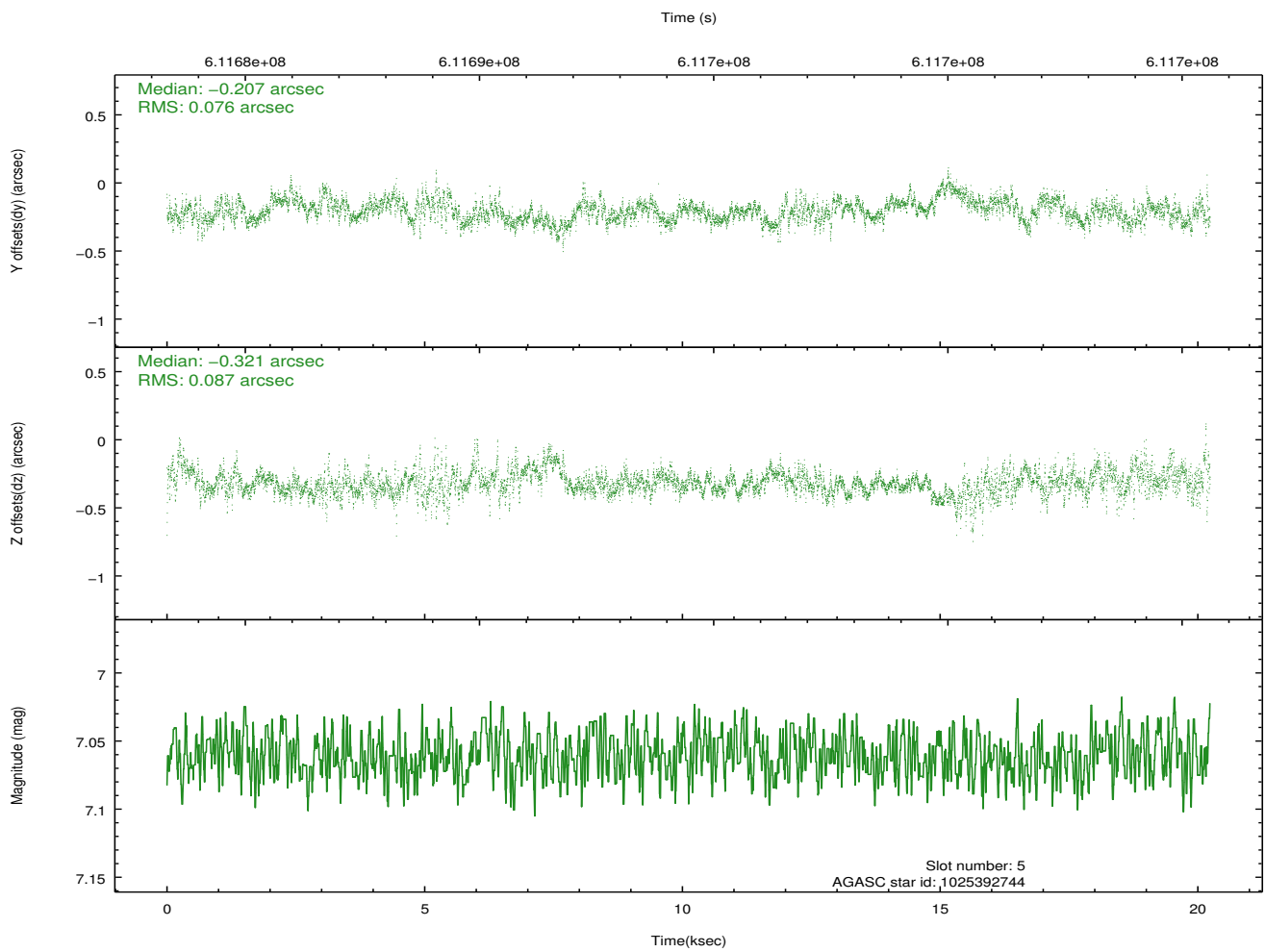
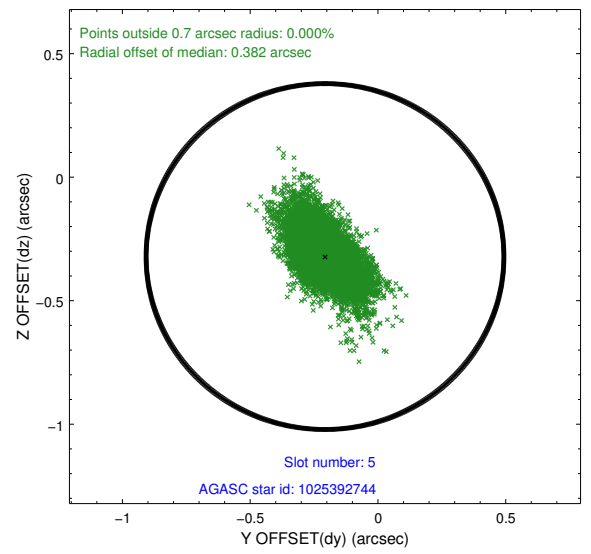
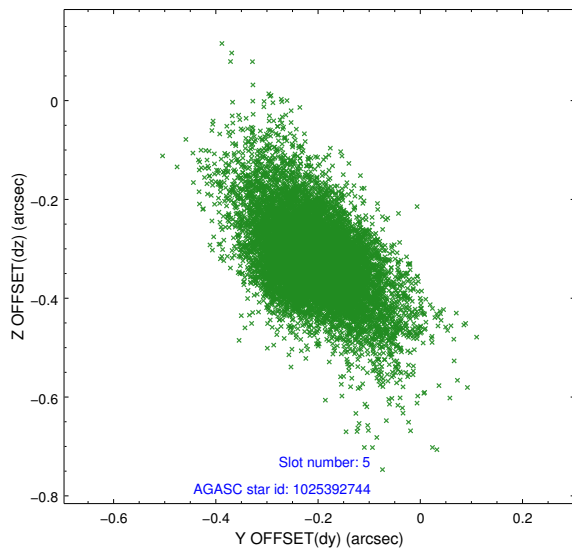
### 2.4.1 Slot 3



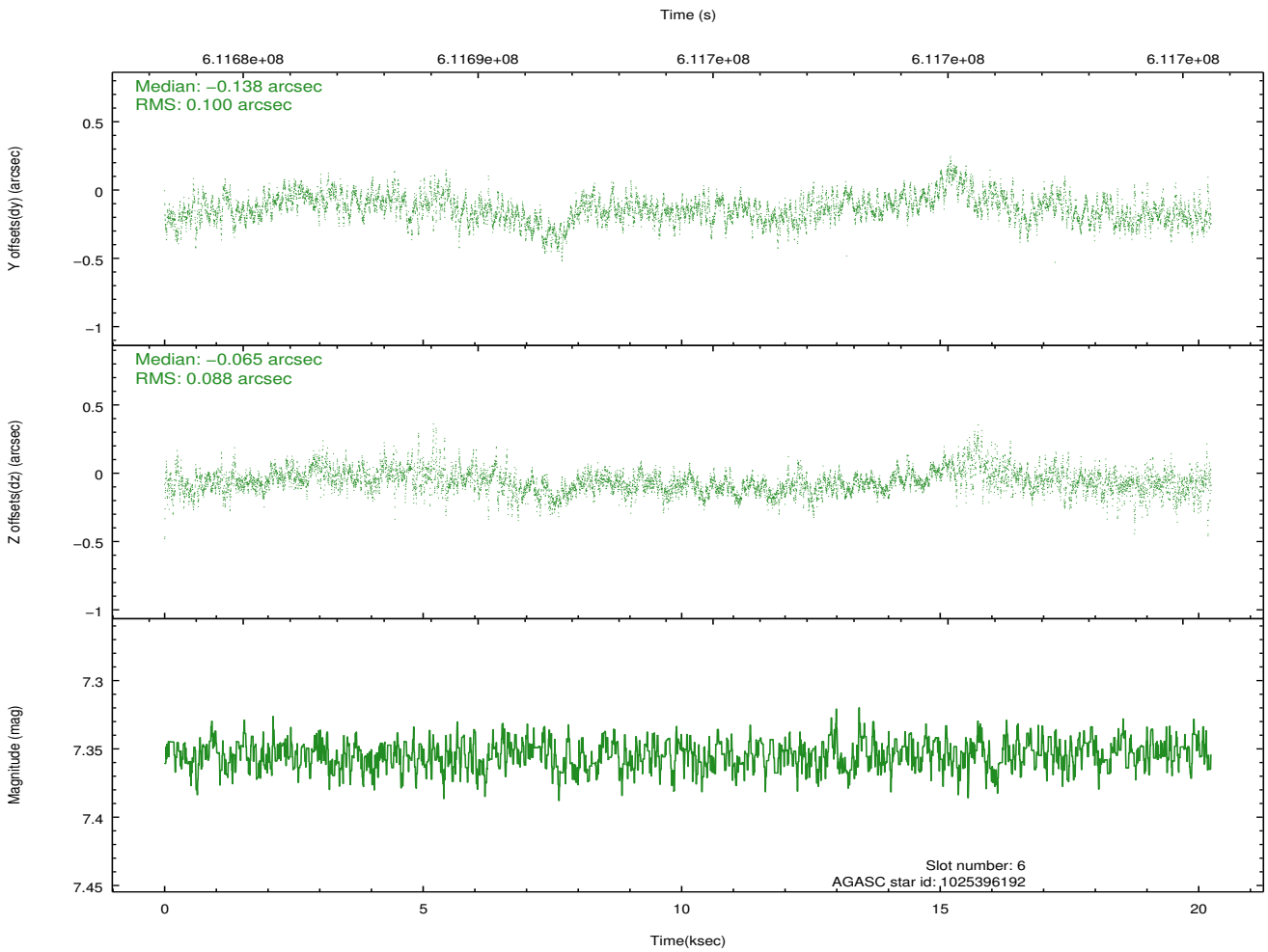
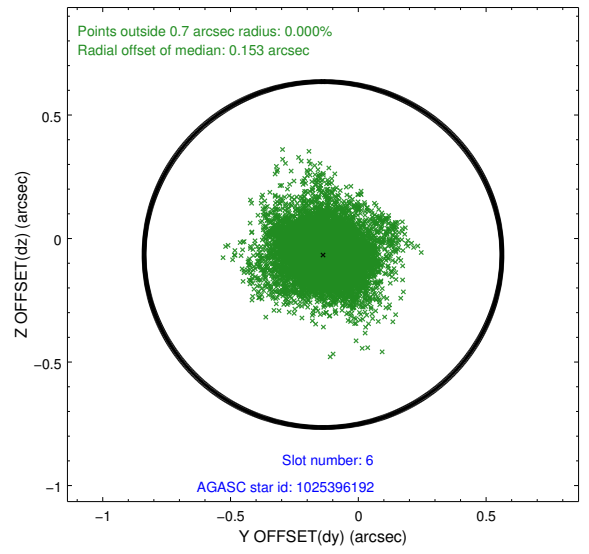
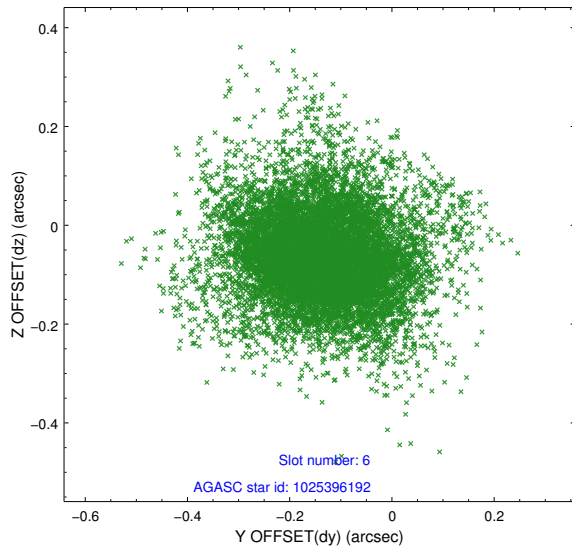
## 2.4.2 Slot 4



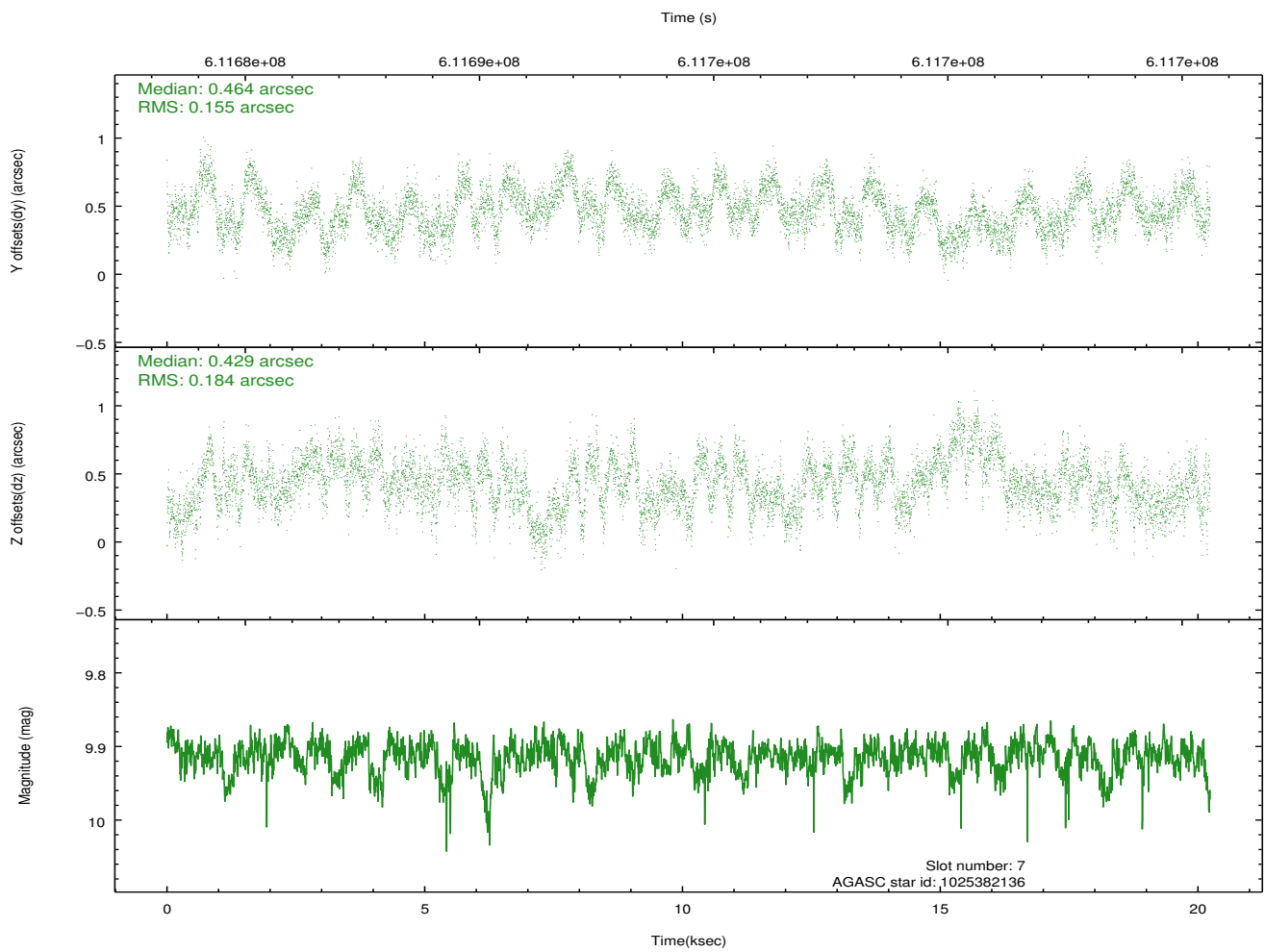
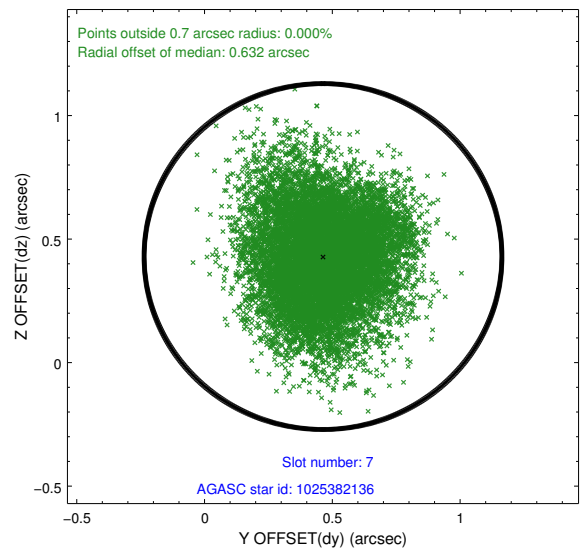
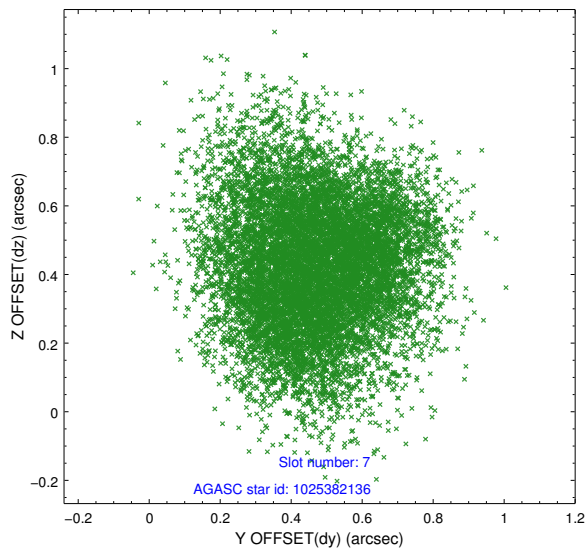
### 2.4.3 Slot 5



## 2.4.4 Slot 6

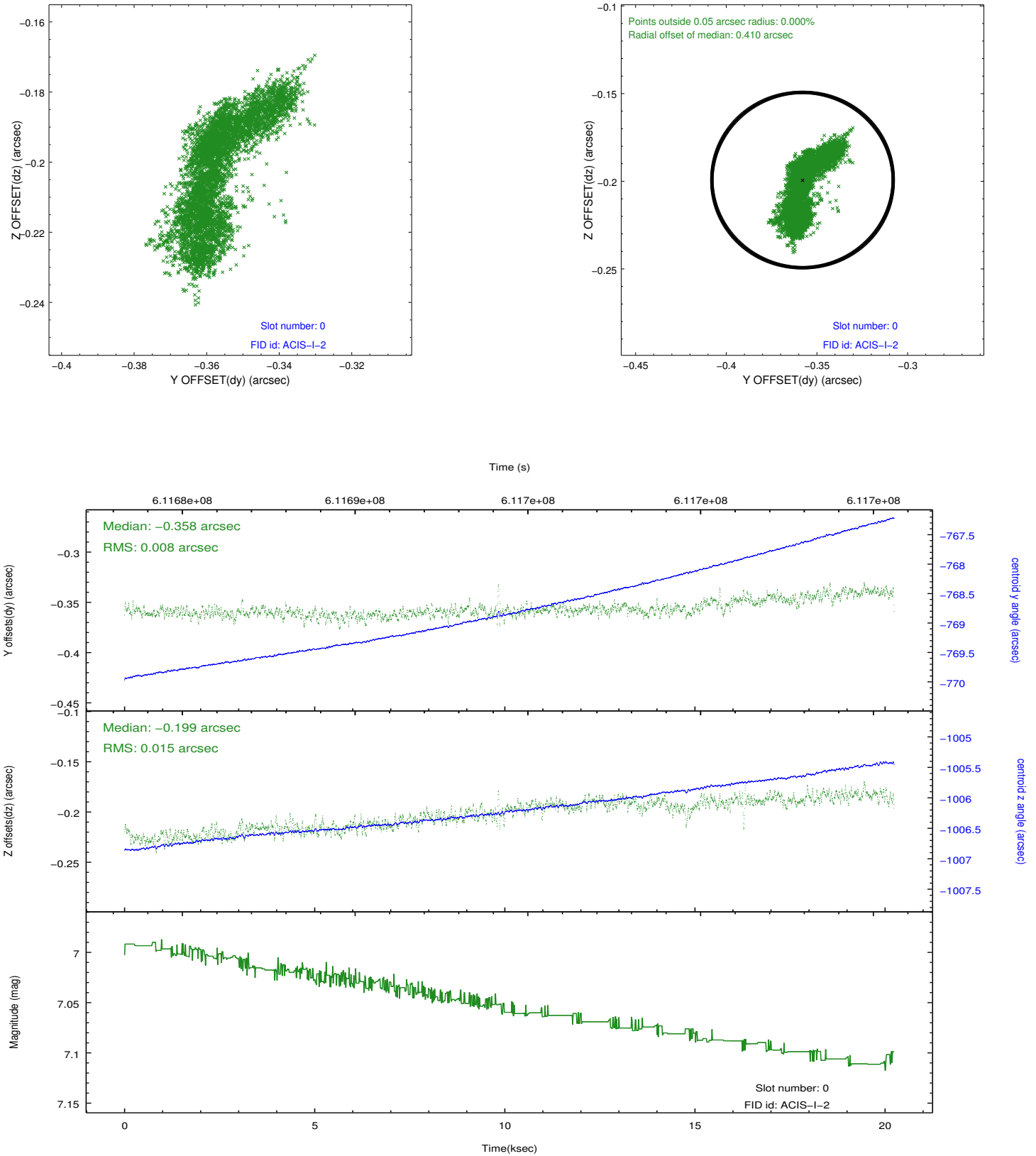


## 2.4.5 Slot 7

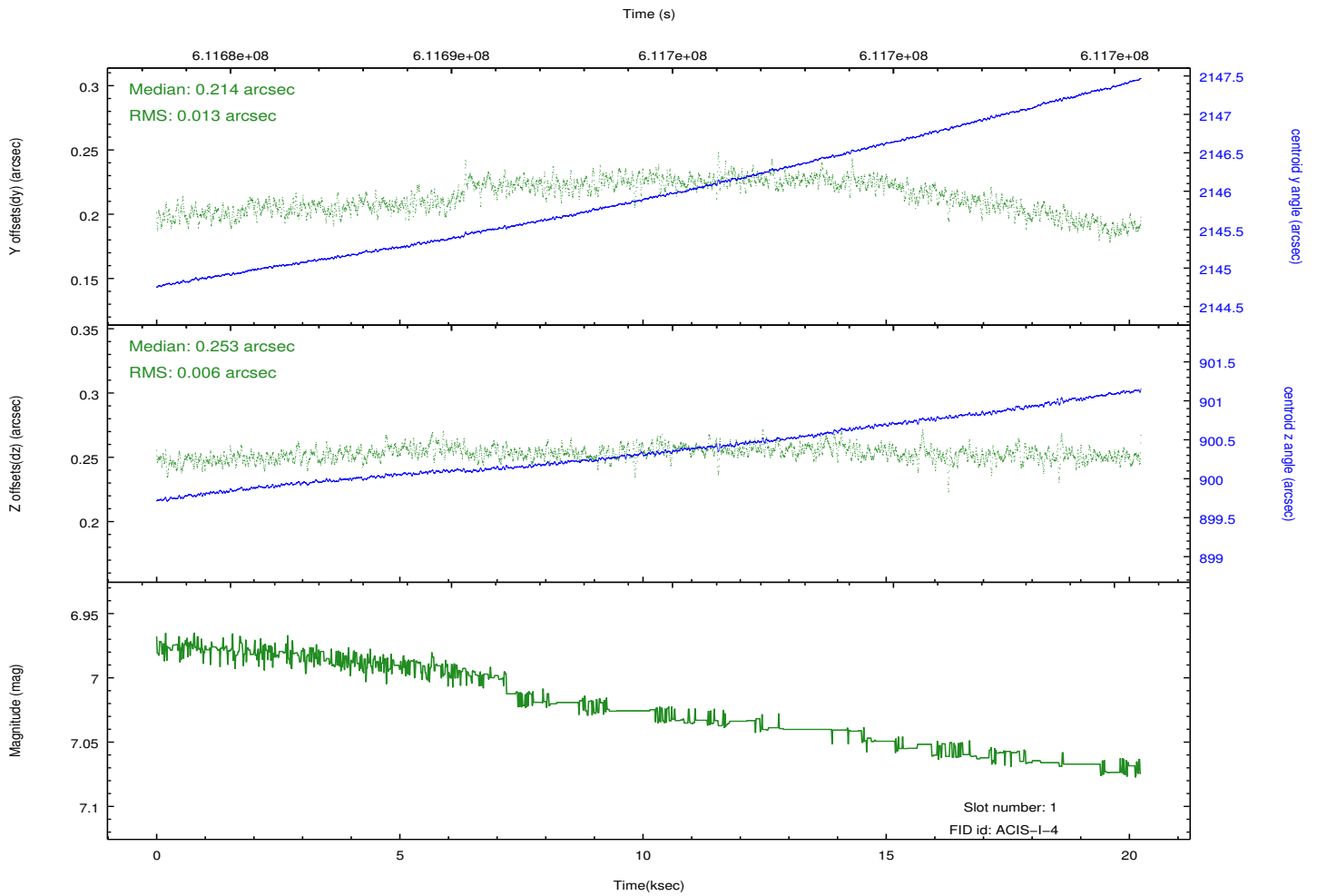
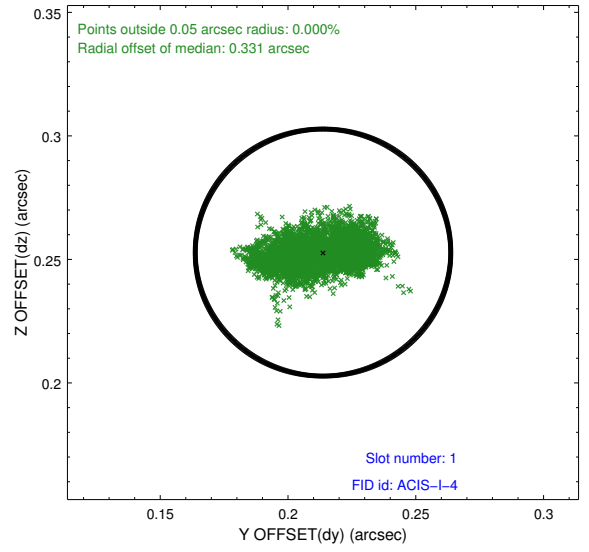
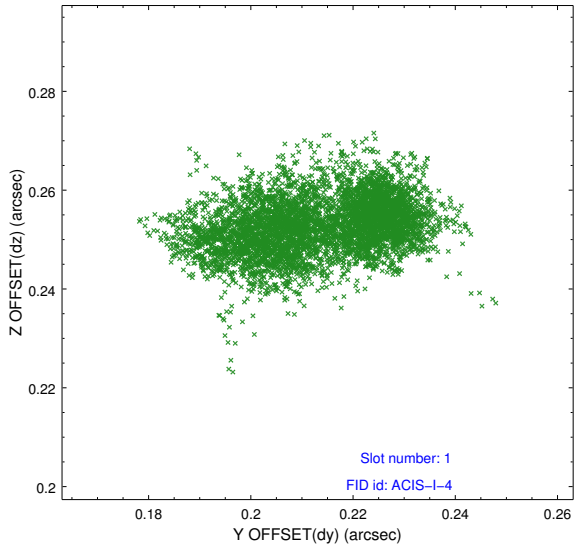


## 2.5 FID Slots

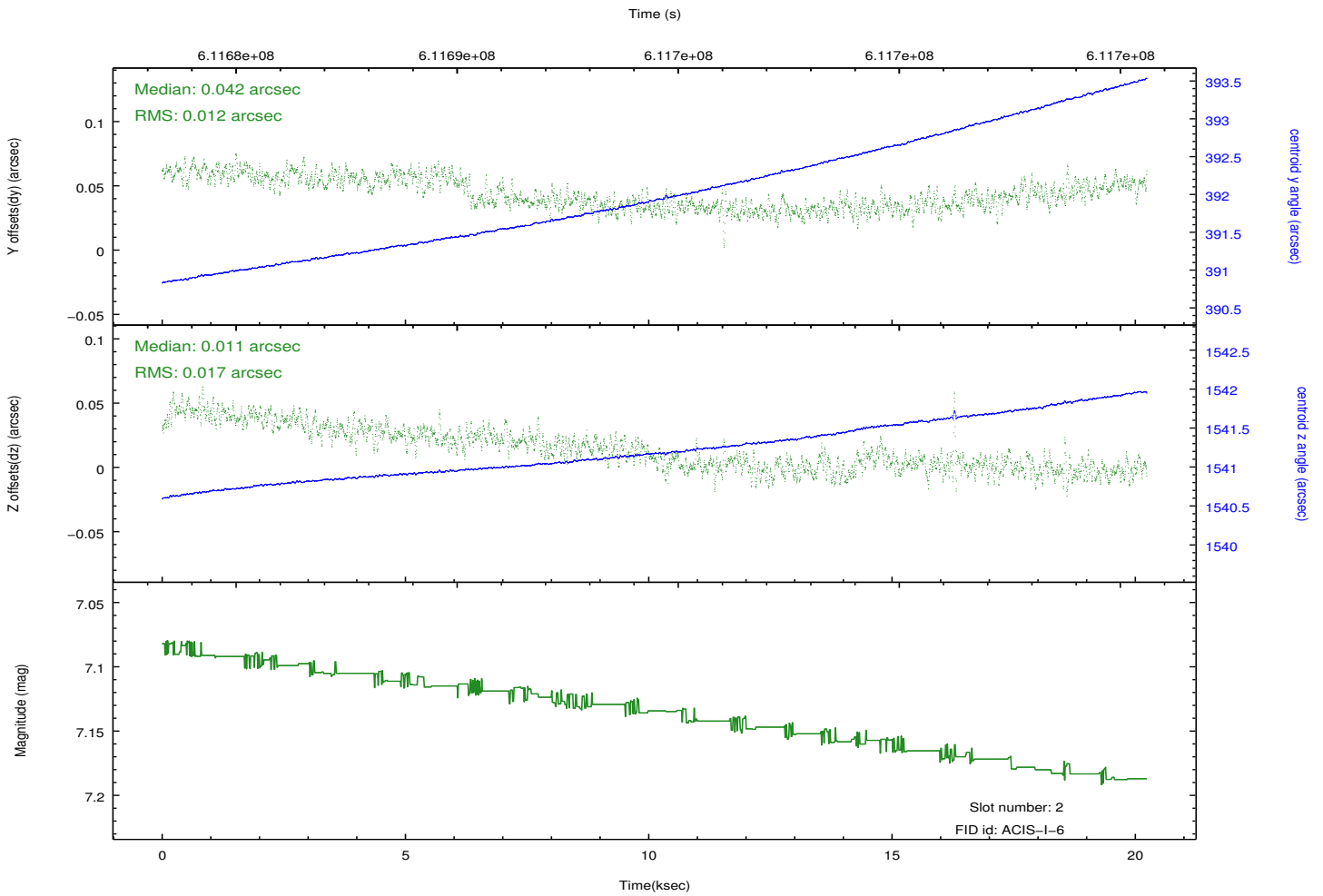
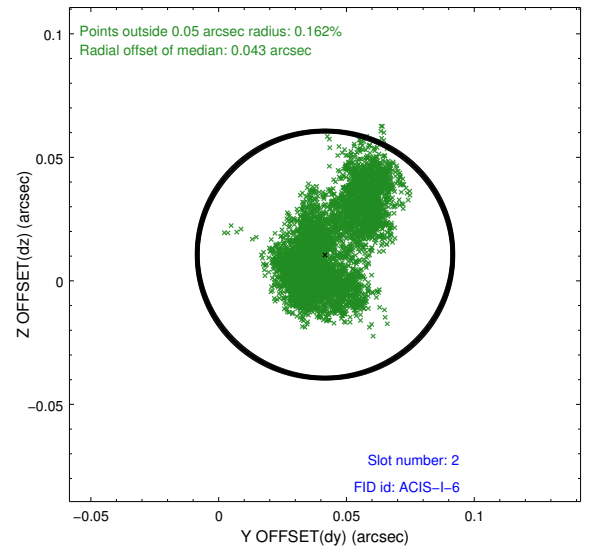
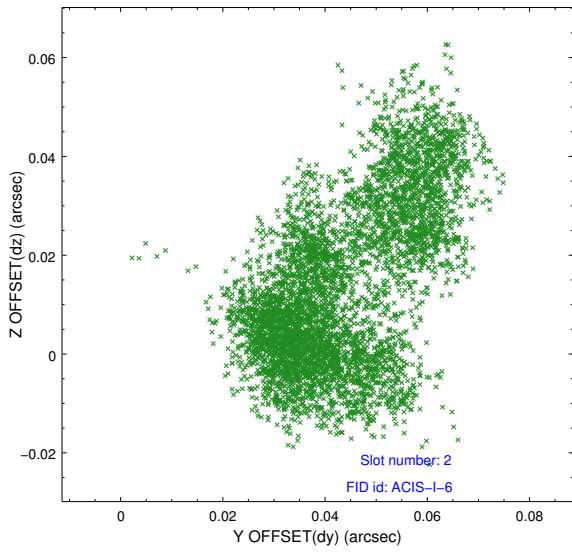
### 2.5.1 Slot 0



## 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)	2017.05.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.069400154471

## A.2 Comments

A spatial region of the original bias map for CCD = 1 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 = 1 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:  
(221.70744, -40.34284), (221.70043, -40.34770), (221.71302, -40.35832),  
(221.72340, -40.35629).