

# V&V Reference Report

## L2 ASCDS Version : 10.4.3.1

Observation 16962 - L2 Version 2  
Chandra X-Ray Center

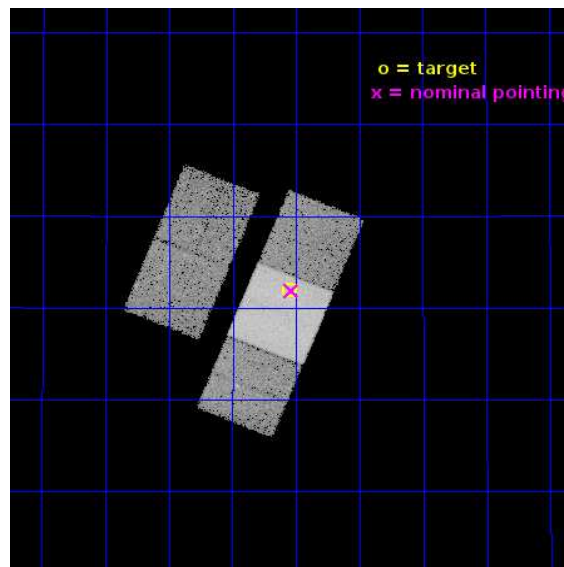
L2 Processing Date : Feb 17 2016

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# 1 Front

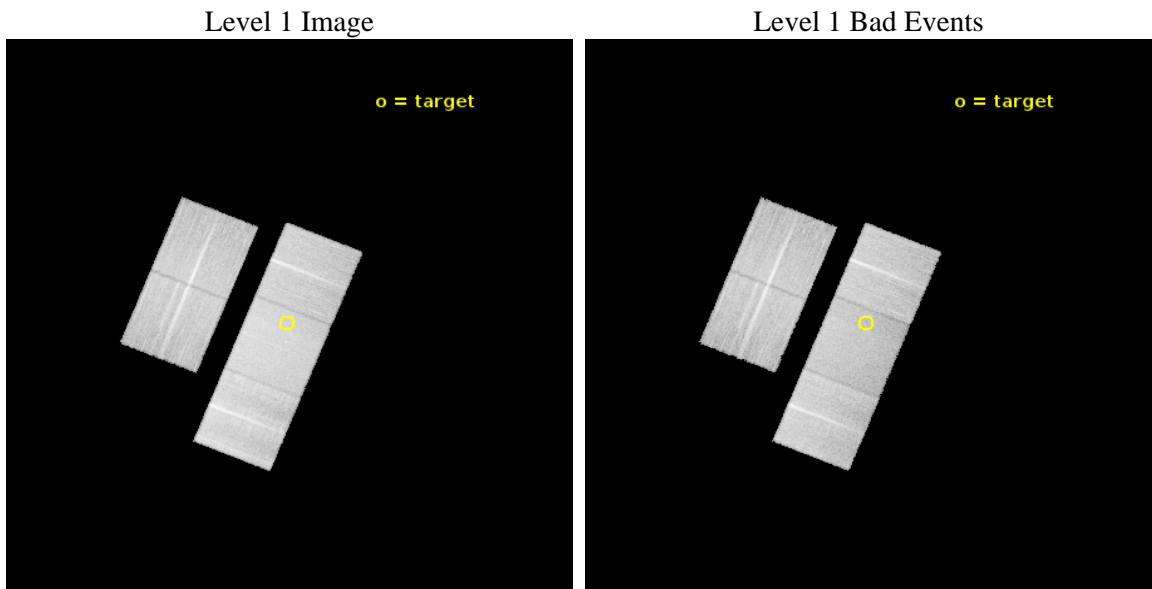
seq_num	502478	Sequence number
obs_id	16962	Observation id
title	The Burst of the Century	Proposal title
observer	Dr. Andrew Fruchter	Principal investigator
object	GRB 130427A	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	173.136667	Observer's specified target RA [deg]
dec_targ	27.698944	Observer's specified target Dec [deg]
ra_nom	173.13409605508	Nominal RA [deg]
dec_nom	27.698206272871	Nominal Dec [deg]
roll_nom	112.15782868313	Nominal Roll [deg]
revision	2	Processing version of data
ontime	25555.867972374	Sum of GTIs [s]
livetime	25221.961743359	Livetime [s]
ontime2	25555.703812361	Sum of GTIs [s]
ontime3	25555.785892367	Sum of GTIs [s]
ontime6	25546.403711557	Sum of GTIs [s]
ontime7	25555.867972374	Sum of GTIs [s]
ontime8	25555.744852424	Sum of GTIs [s]
l2events	144044	Number of level 2 events



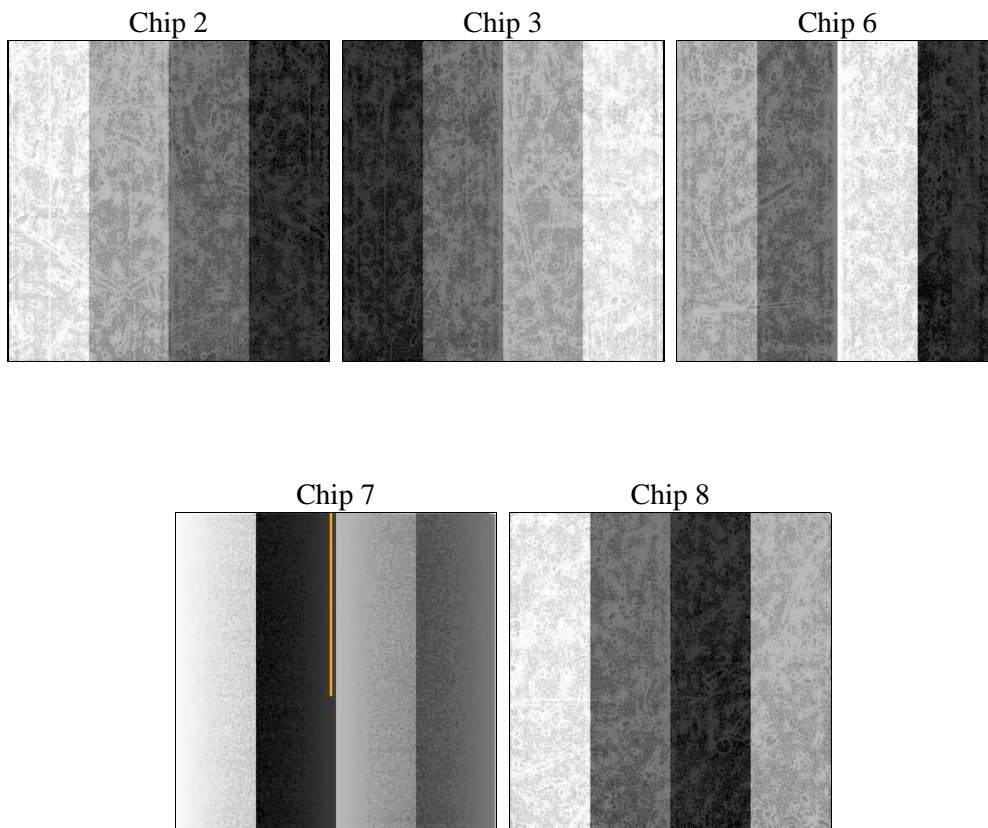
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	25500.000000	[s] Scheduled observation exposure time
ascdsver	10.4.3.1	Processing system revision	ontime	25555.867972374	Sum of GTIs [s]
caldbver	4.7.0	&#160	ontime2	25555.703812361	Sum of GTIs [s]
date	2016-02-17T21:52:46	Date and time of file creation	ontime3	25555.785892367	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	25546.403711557	Sum of GTIs [s]
			ontime7	25555.867972374	Sum of GTIs [s]
			ontime8	25555.744852424	Sum of GTIs [s]
			l1events	876228	Number of level 1 events

### 2.1.4 Events

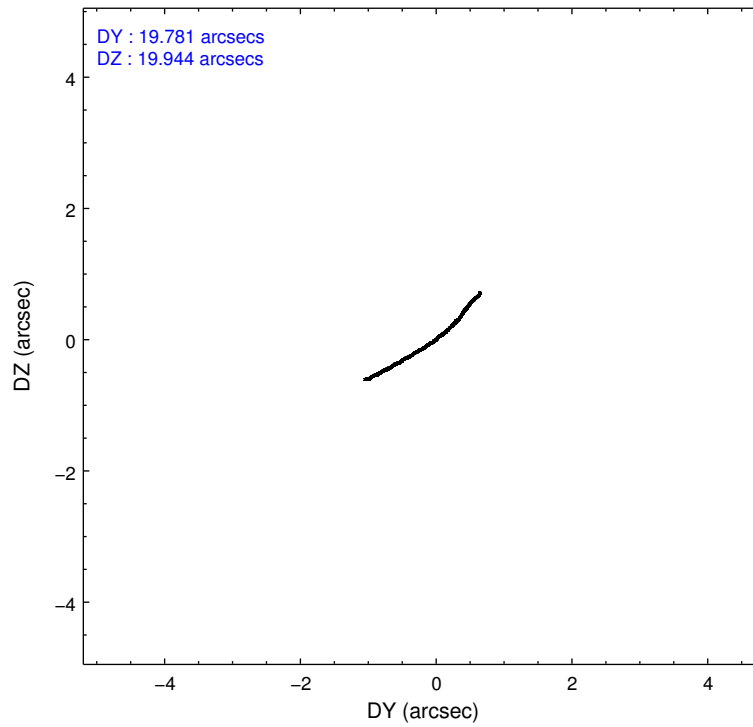
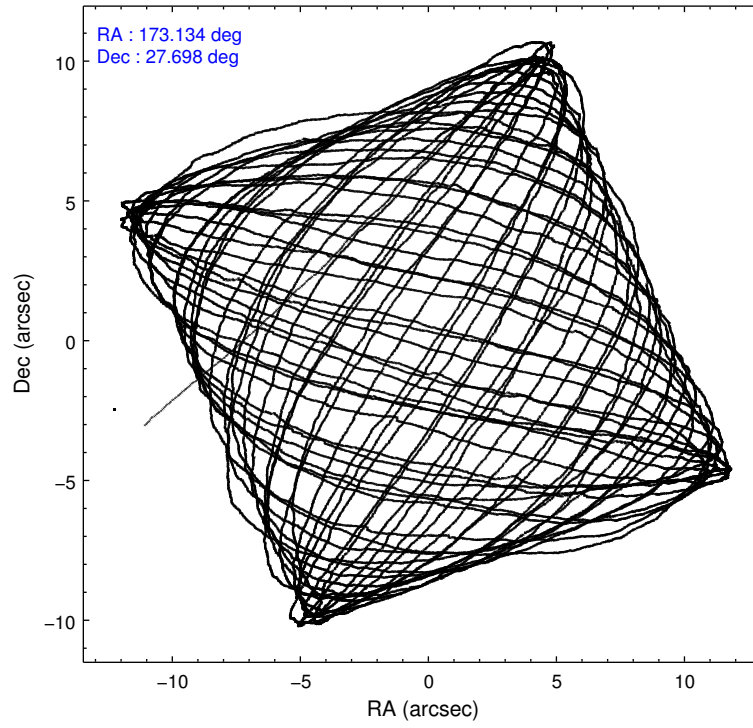
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	151723	152924	163598	203509	204474
rejected events	136153	137195	146076	117349	153904
rejected %	89%	89%	89%	57%	75%

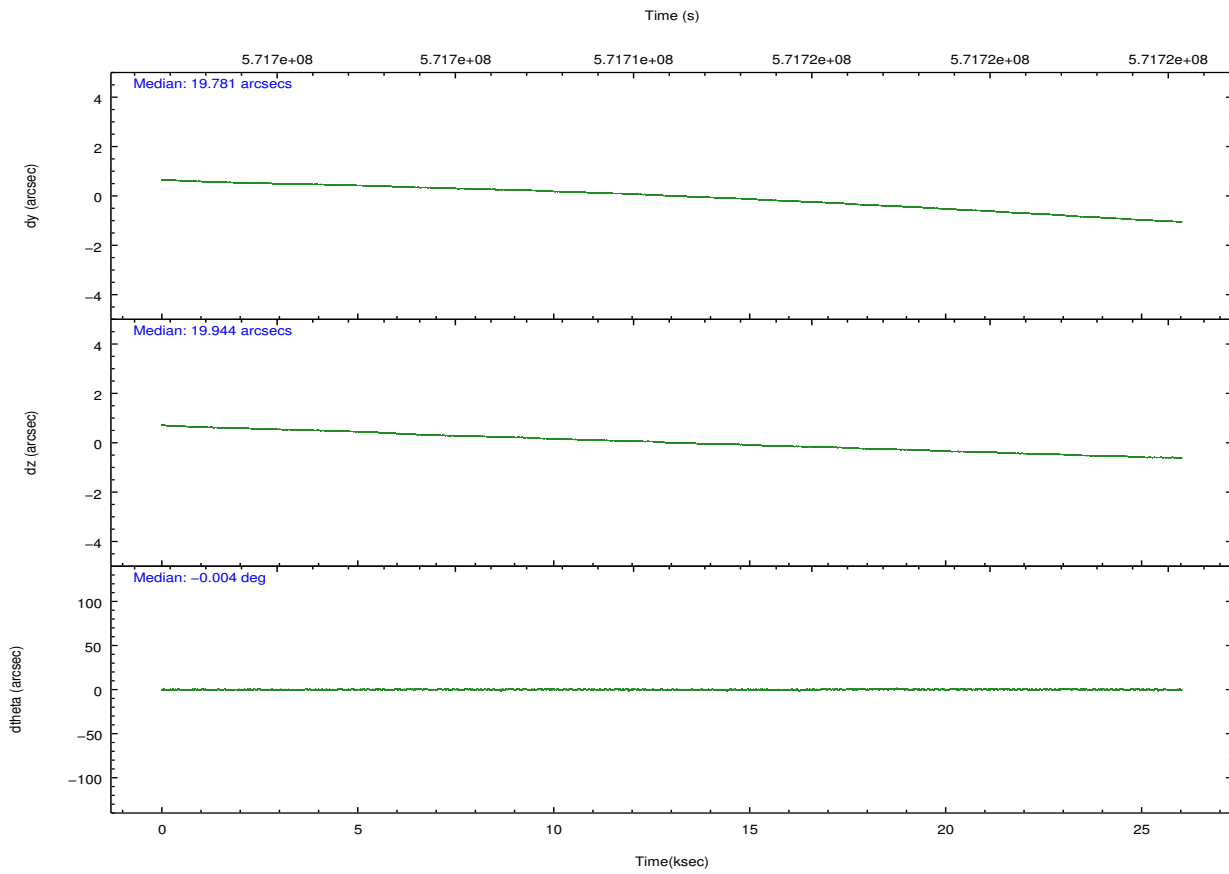
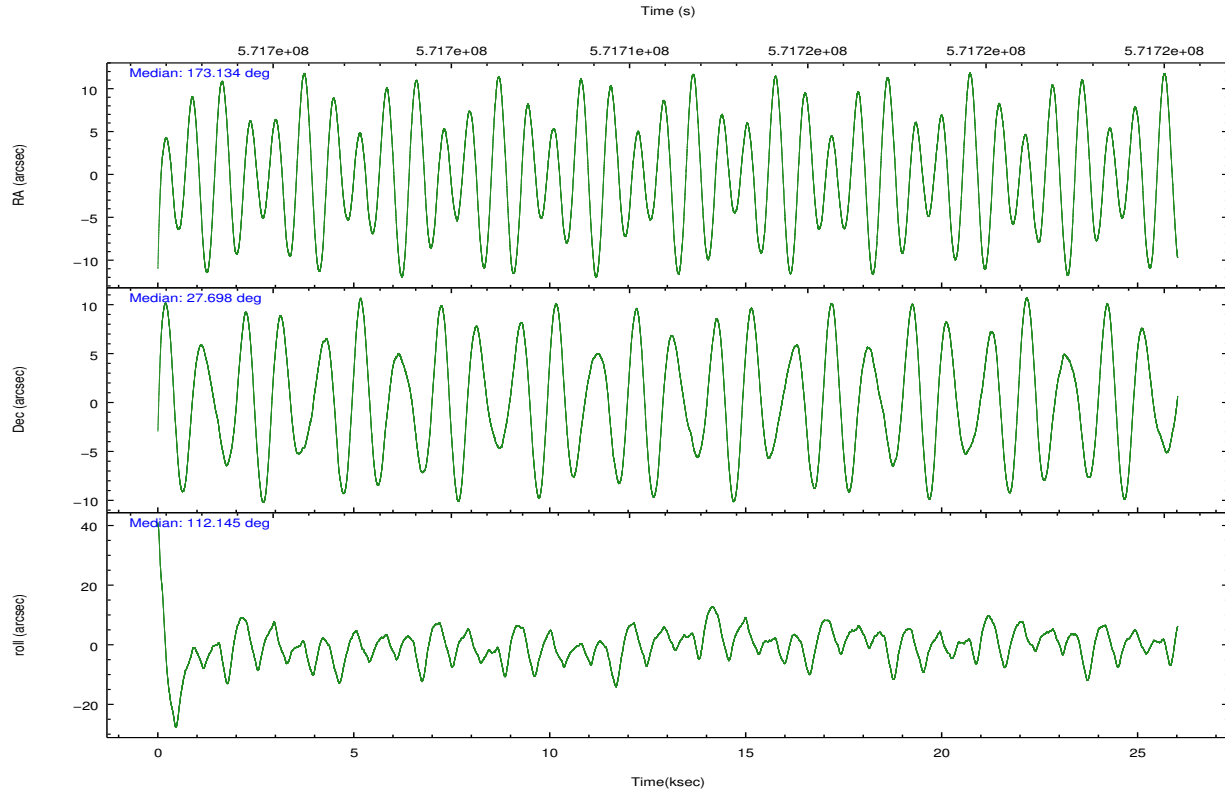
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	5463	5459	5502	6934	13544
	3%	3%	3%	3%	6%
grade 1 events	71	86	74	259	136
	0%	0%	0%	0%	0%
grade 2 events	3589	3349	4247	18138	12681
	2%	2%	2%	8%	6%
grade 3 events	1636	1763	1609	6645	5088
	1%	1%	0%	3%	2%
grade 4 events	1654	1701	1654	6500	4753
	1%	1%	1%	3%	2%
grade 5 events	6009	7433	7357	19351	11210
	3%	4%	4%	9%	5%
grade 6 events	3235	3461	4514	47965	14513
	2%	2%	2%	23%	7%
grade 7 events	130066	129672	138641	97717	142549
	85%	84%	84%	48%	69%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-23678	ACIS-23678	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	173.158818	173.1340960550787	Subarray requested	NONE	NONE
[deg] Pointing Dec	27.681663	27.69820627287062	Alternating exposures requested	N	N
[deg] Pointing Roll	111.989706	112.1578286831321	[s] Primary exposure time	0.000000	3.1
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
[s] Observation start time (MET)	571698571.184000	571697463.3877			
Observation start date	2016-02-12T21:08:23	2016-02-12T20:51:03			
[s] Observation end time (MET)	571724071.184000	571724542.35174			
Observation end date	2016-02-13T04:13:23	2016-02-13T04:22:22			
Read mode	TIMED	TIMED			

## 2.3 Aspect





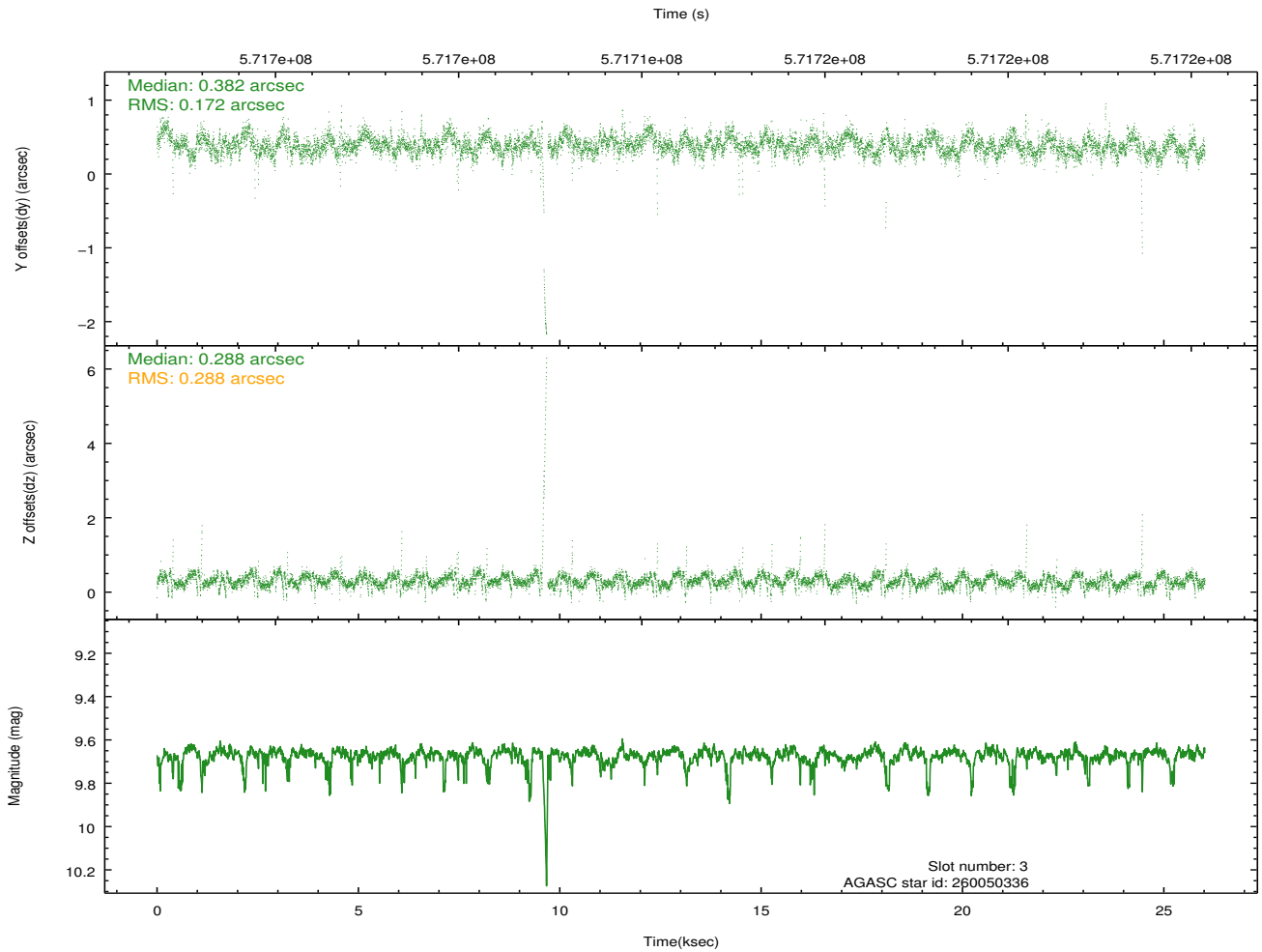
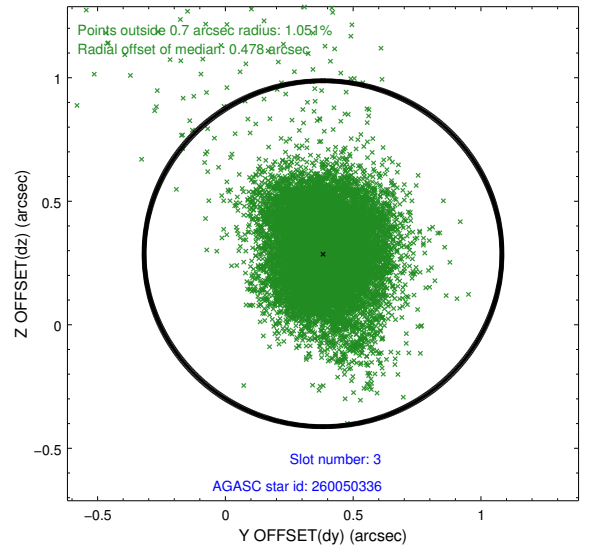
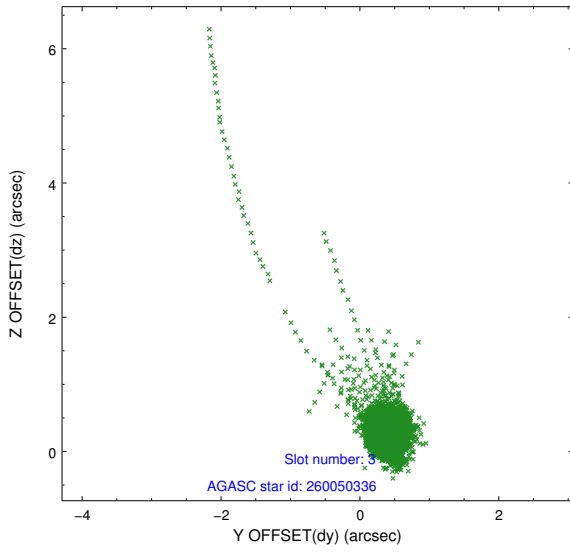
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.12	6347	-0.229	-0.118	0.013	0.025	0.000000	0.000000	-773.02	-1741.60
1	FID		ACIS-S-4	7.23	6347	0.477	0.142	0.013	0.023	0.000000	0.000000	2140.90	167.05
2	FID		ACIS-S-5	7.24	6347	-0.279	-0.017	0.020	0.029	0.000000	0.000000	-1825.78	160.66
3	GUIDE	used	260050336	9.67	12560	0.382	0.288	0.208	0.360	173.719338	27.205891	-2254.98	-1023.87
4	GUIDE	used	260054584	9.47	12670	0.396	0.152	0.204	0.307	173.745505	27.752896	-456.99	-1830.25
5	GUIDE	used	260055088	8.19	12687	0.029	0.149	0.097	0.155	173.495126	27.260186	-1808.05	-430.37
6	GUIDE	used	260055768	8.99	12682	-0.024	-0.001	0.141	0.225	172.801335	27.536211	-56.69	1253.76
7	GUIDE	used	260060264	7.77	12692	-0.746	-0.600	0.090	0.146	172.398353	28.089889	2273.40	1687.22

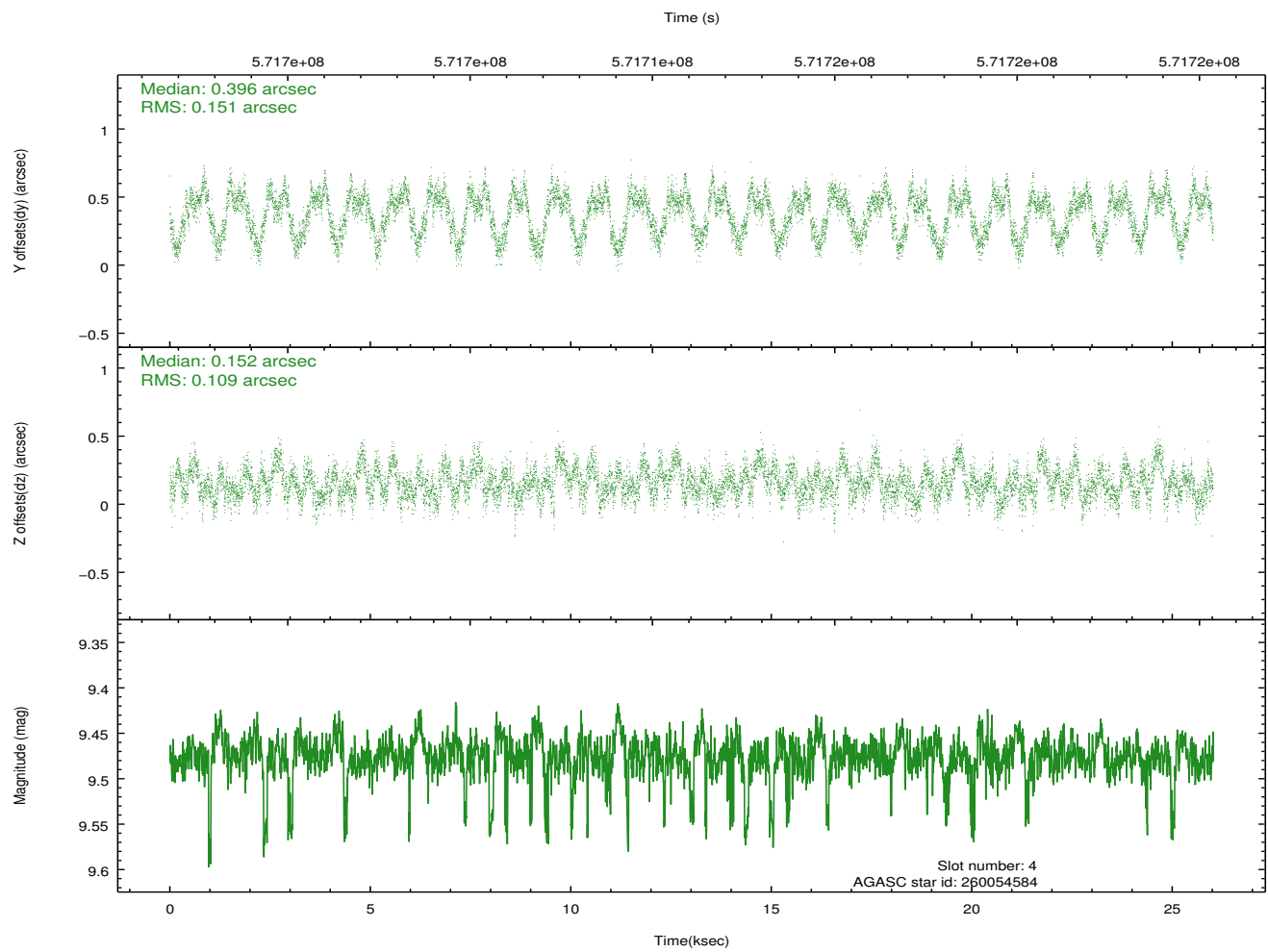
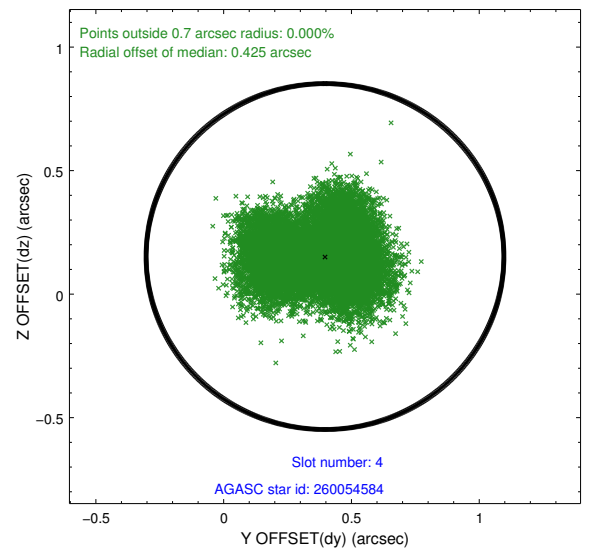
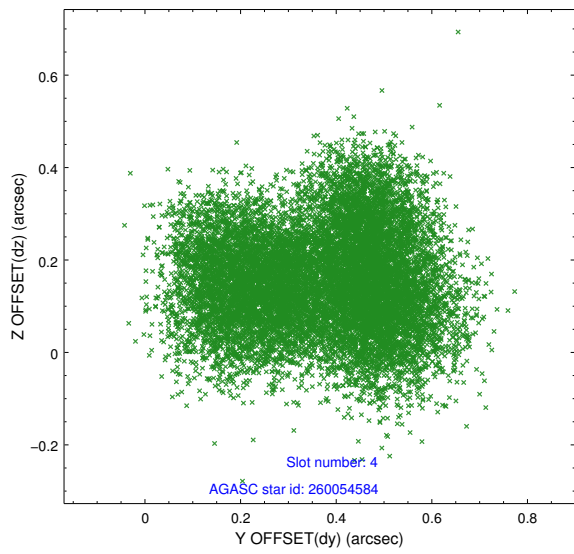
∞

## 2.4 Star Slots

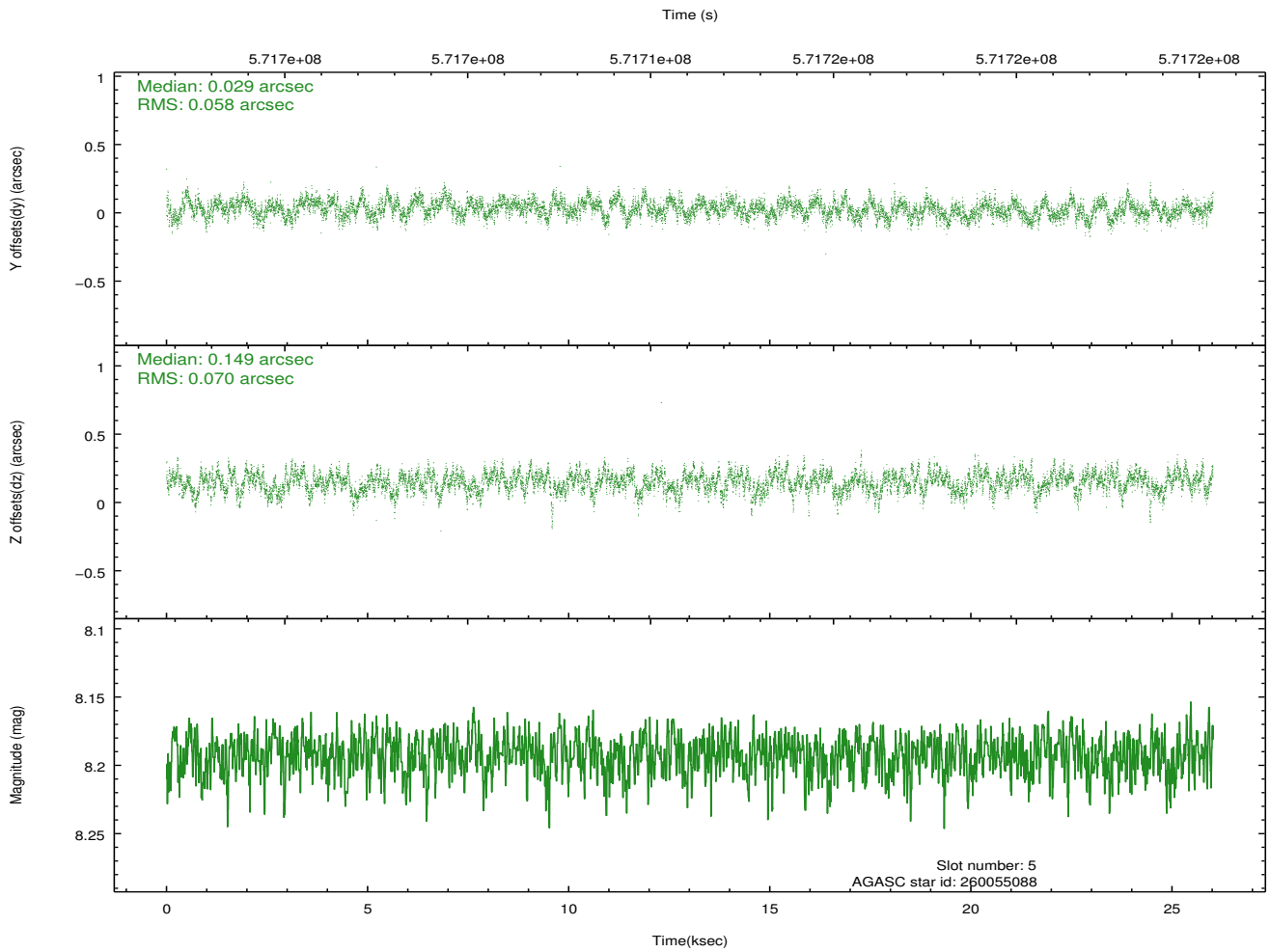
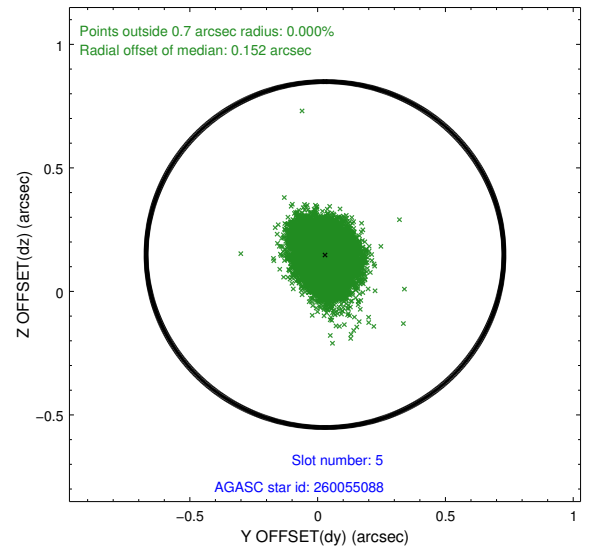
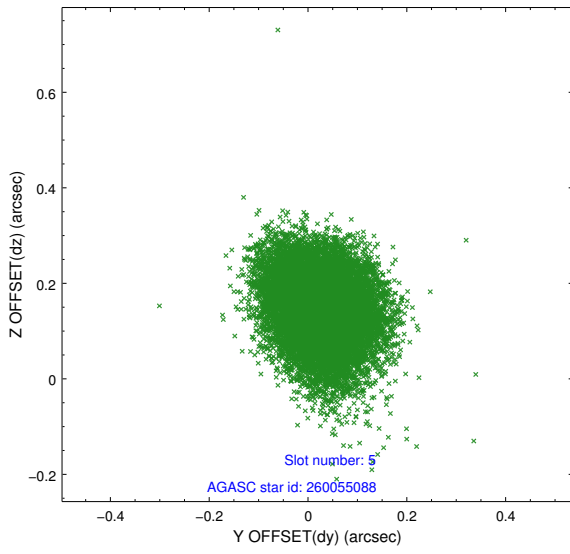
### 2.4.1 Slot 3



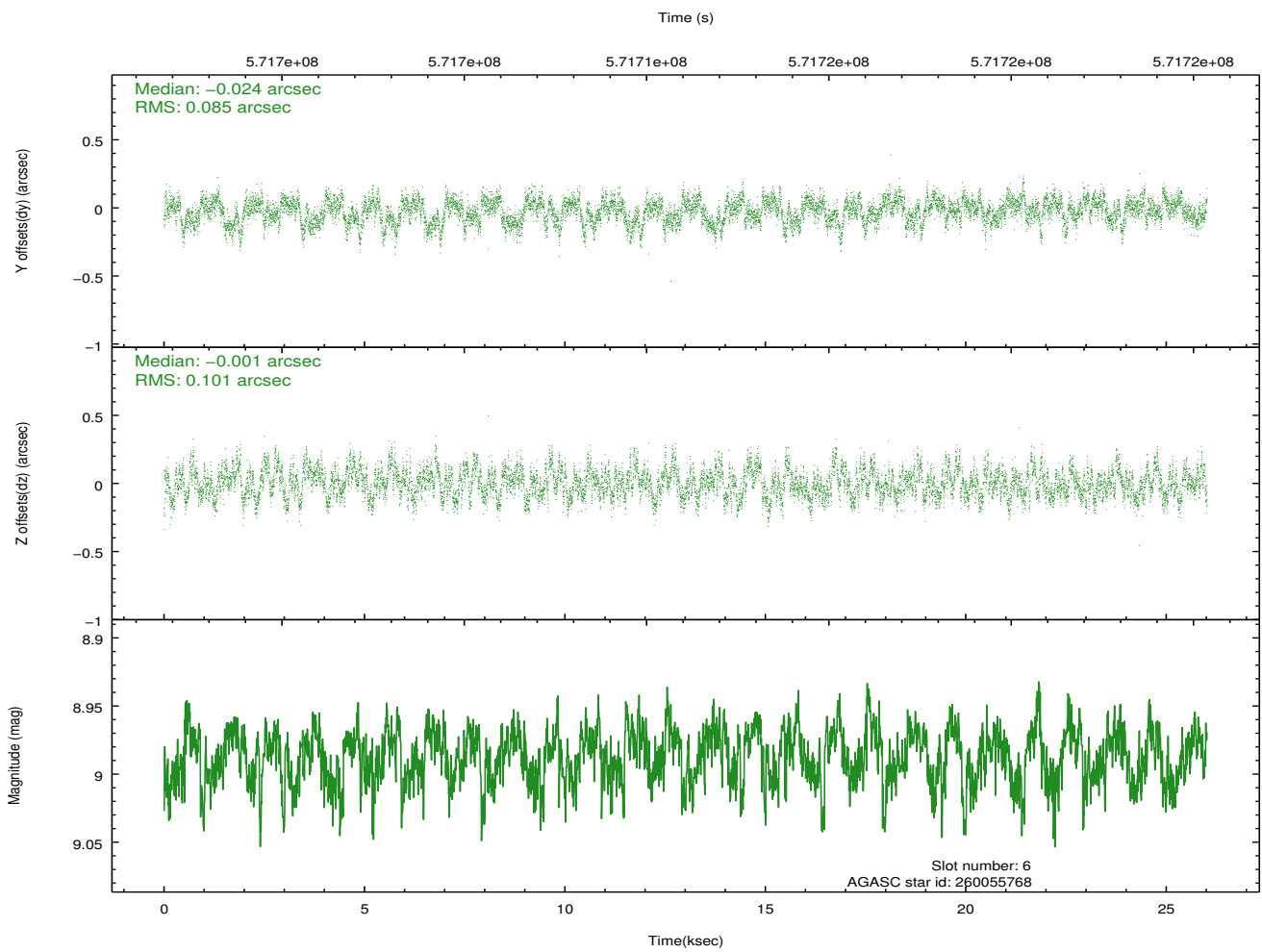
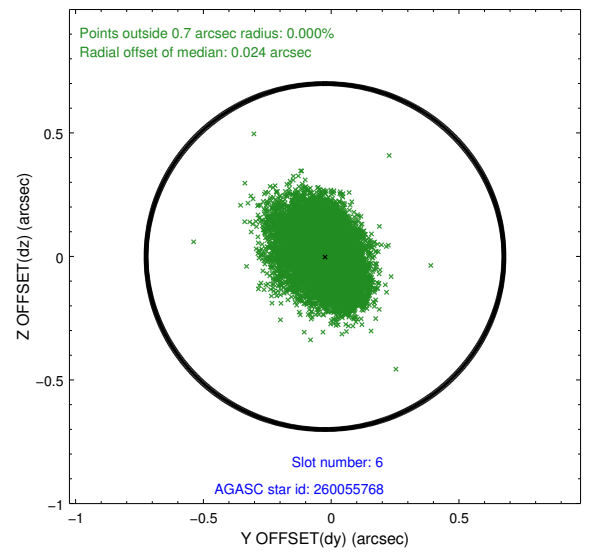
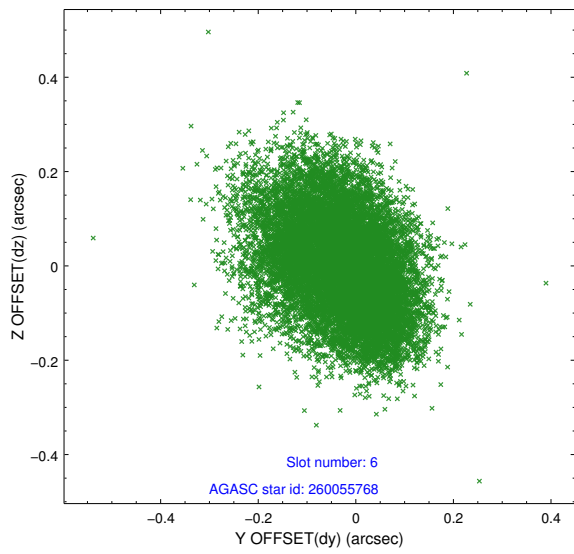
## 2.4.2 Slot 4



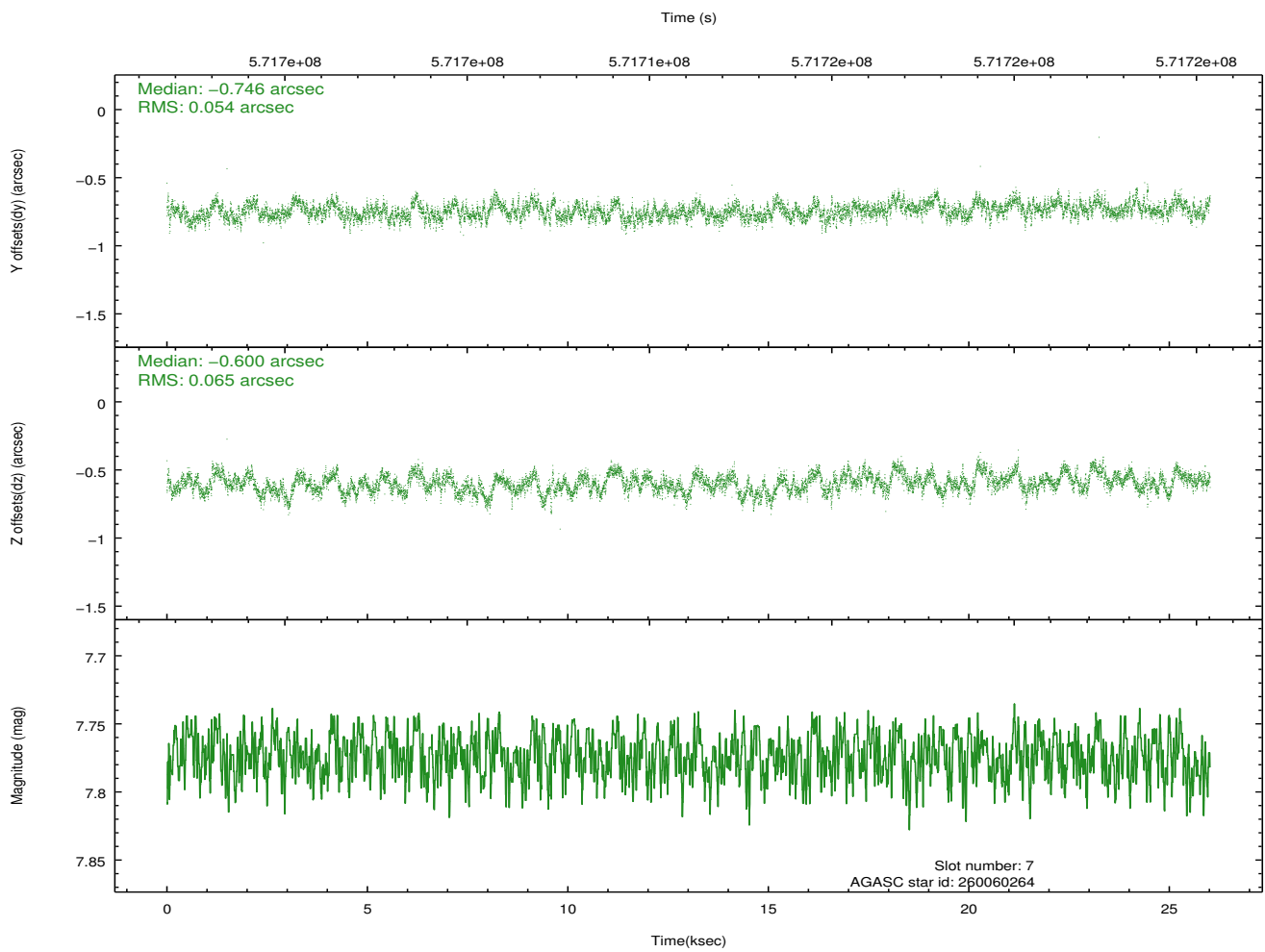
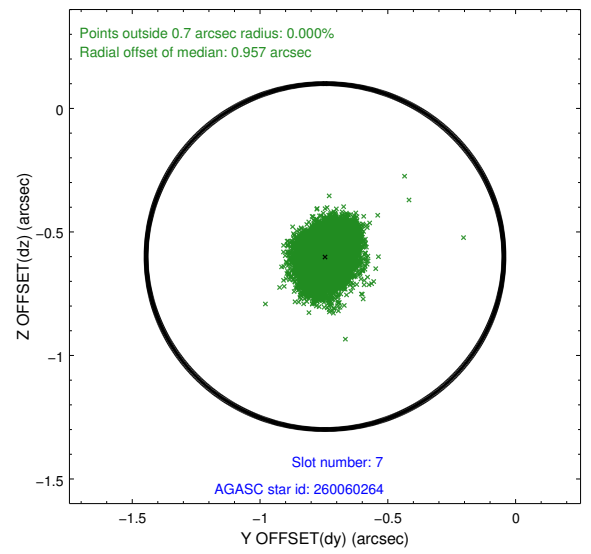
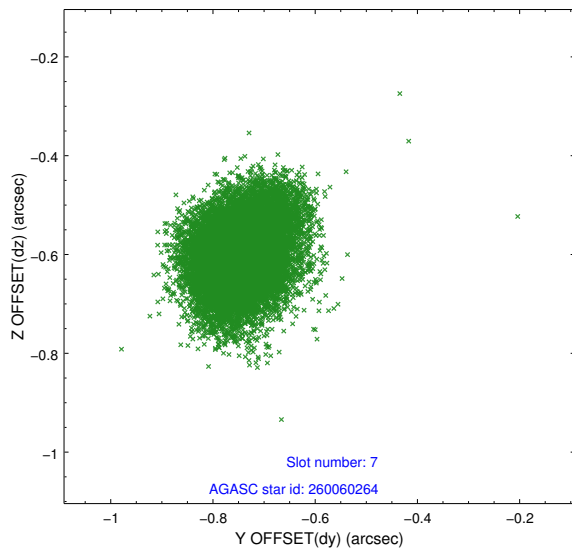
### 2.4.3 Slot 5



## 2.4.4 Slot 6

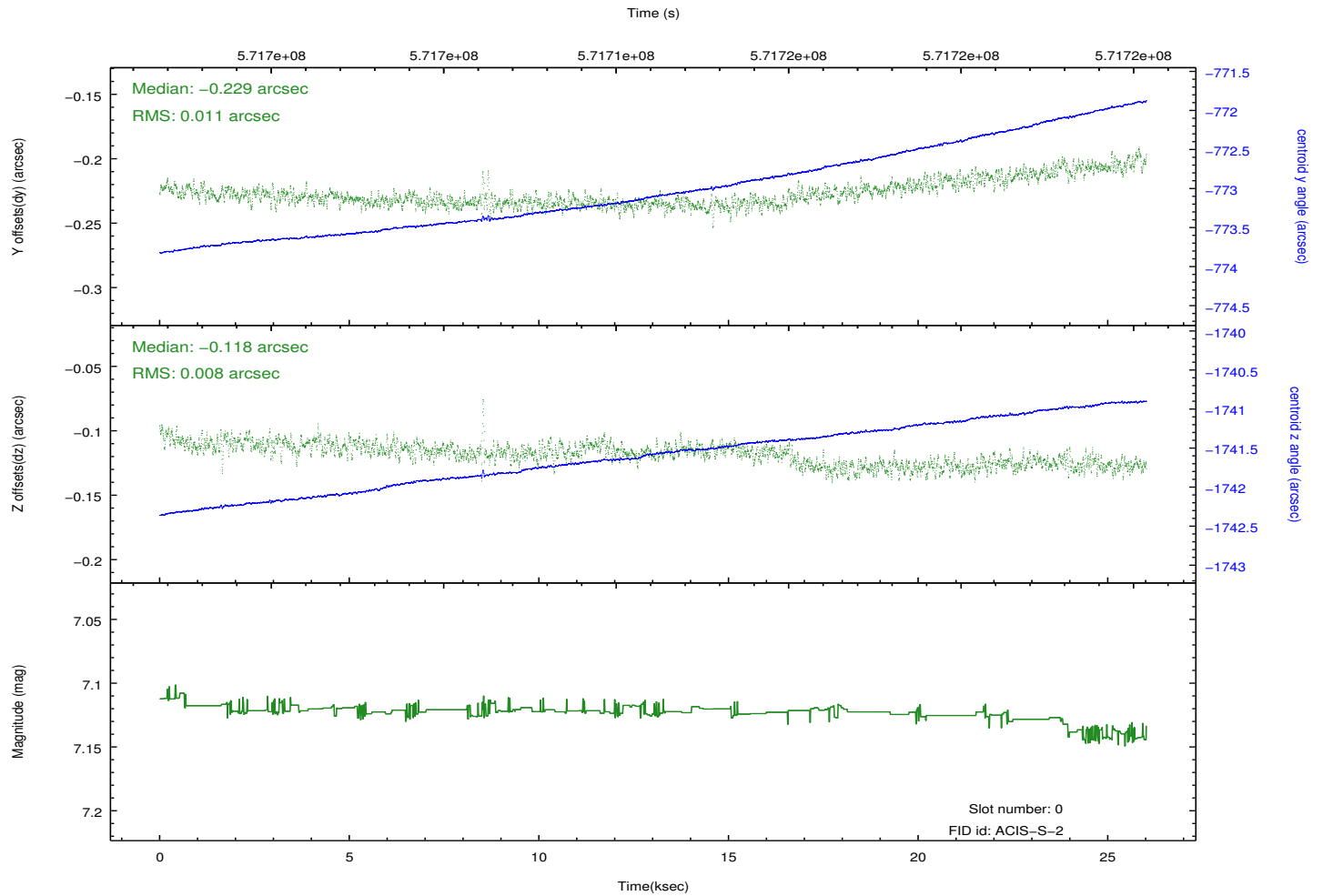
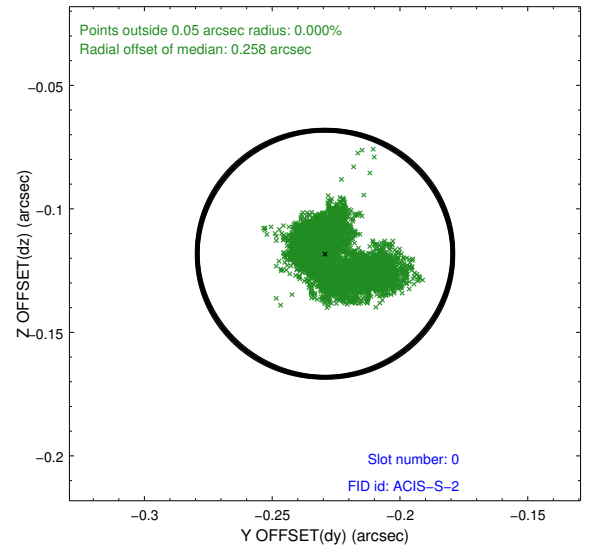
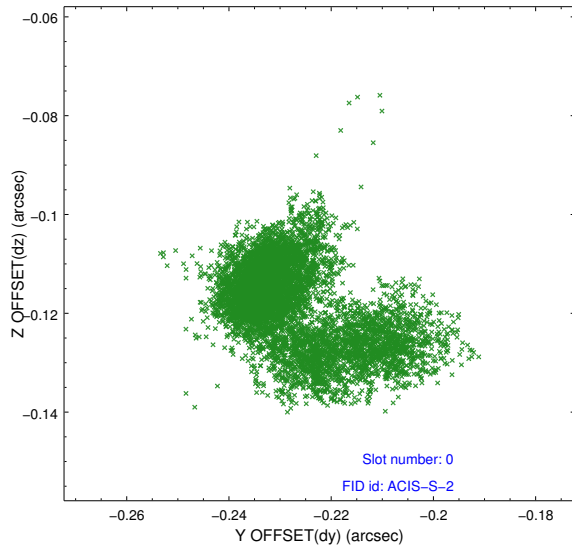


## 2.4.5 Slot 7

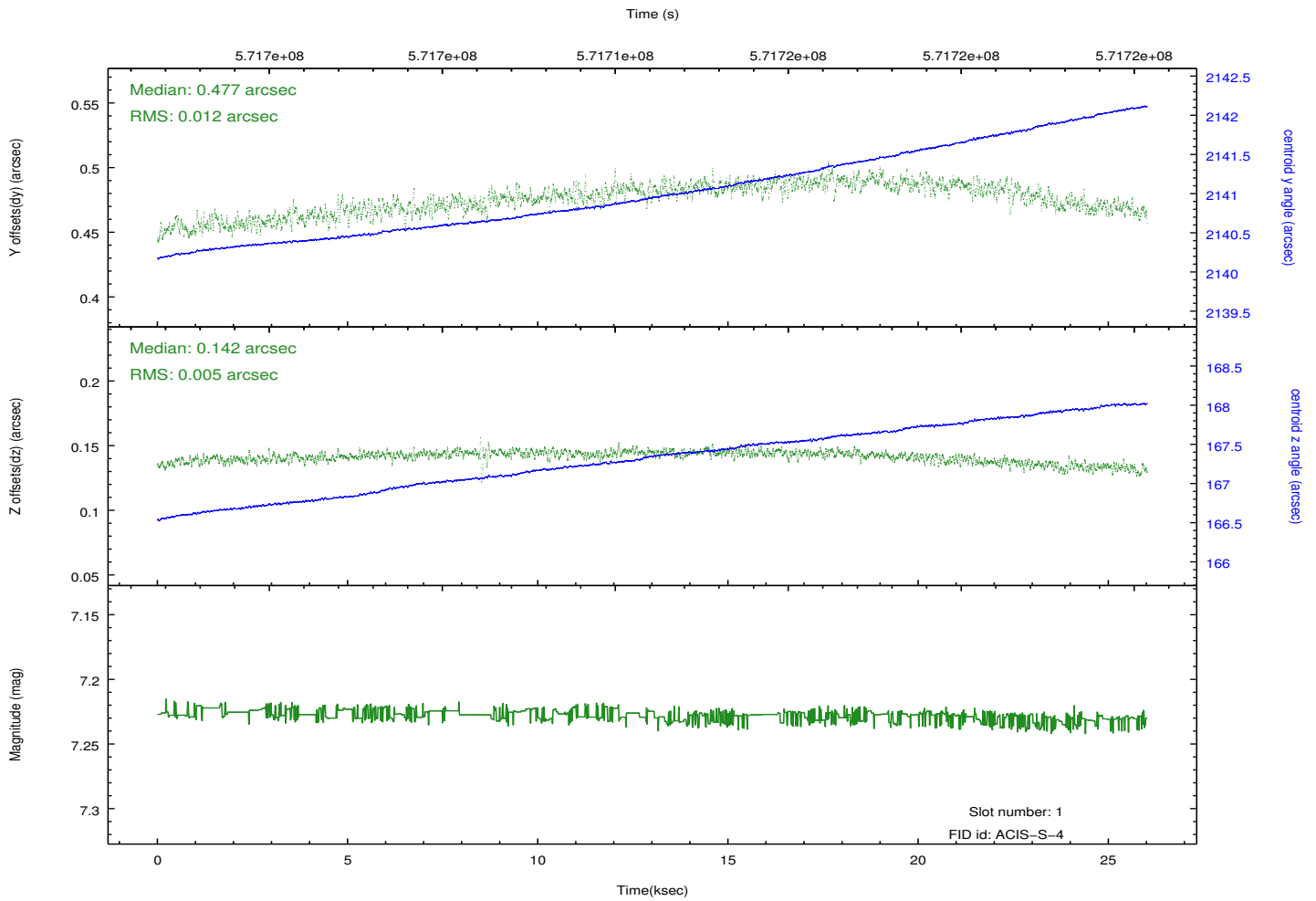
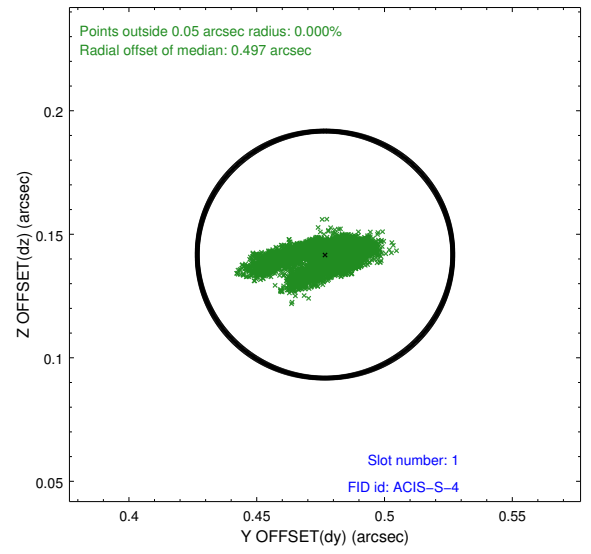
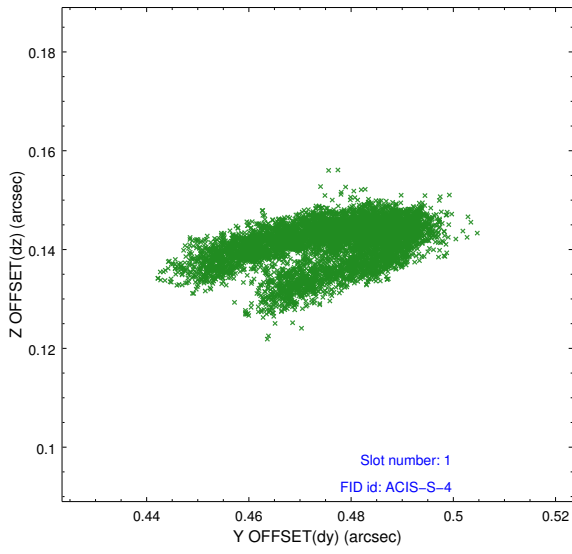


## 2.5 FID Slots

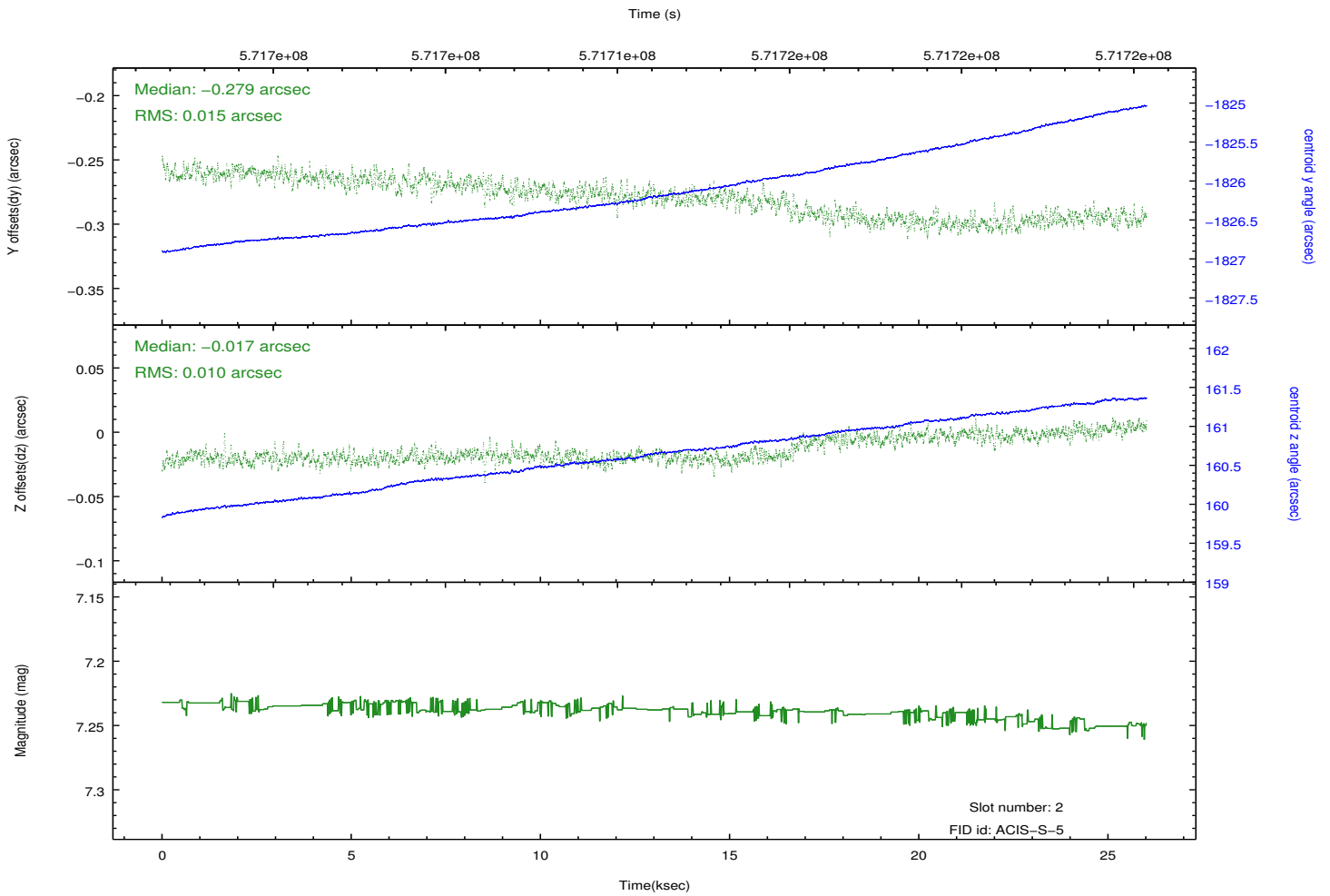
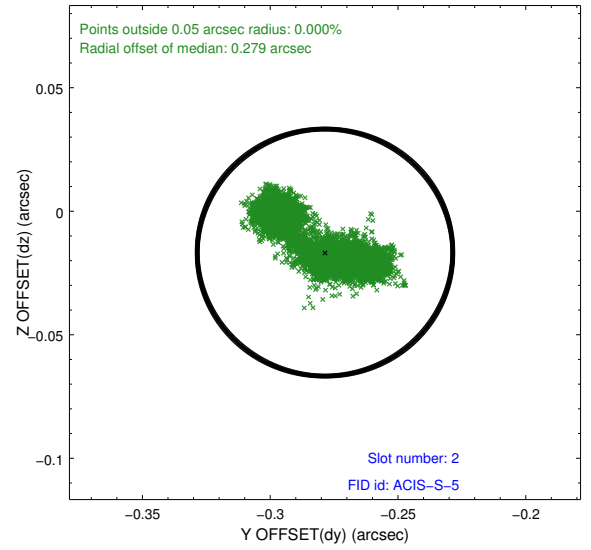
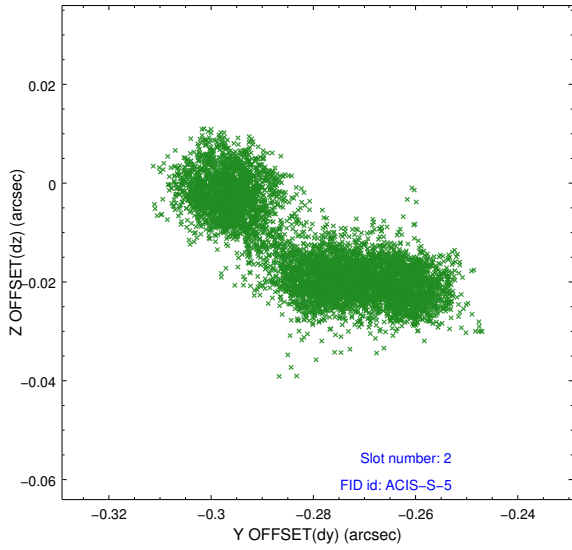
### 2.5.1 Slot 0



## 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)	2016.02.18
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.555867972374

## A.2 Comments

Joint proposal with HST and NRAO.

A spatial region of the original bias map for CCD = 6 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 = 6 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:

(173.04408, 27.71667), (173.04811, 27.70795), (173.19414, 27.76074),  
(173.19012, 27.76946).