

# V&V Reference Report

## L2 ASCDS Version : 10.2.4

Observation 16422 - L2 Version 1  
Chandra X-Ray Center

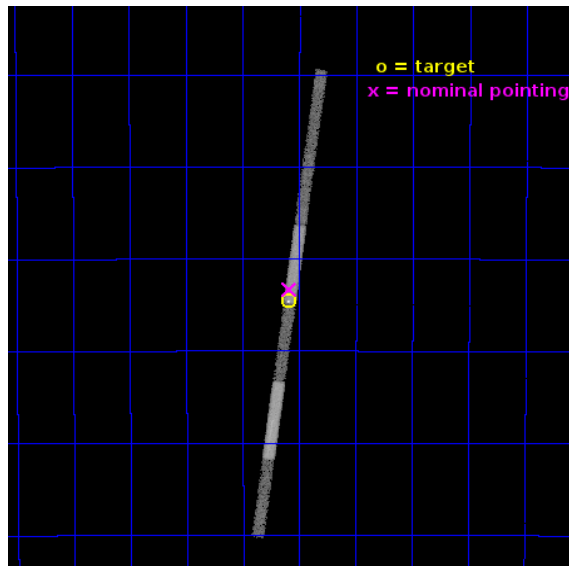
L2 Processing Date : Sep 29 2014

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# 1 Front

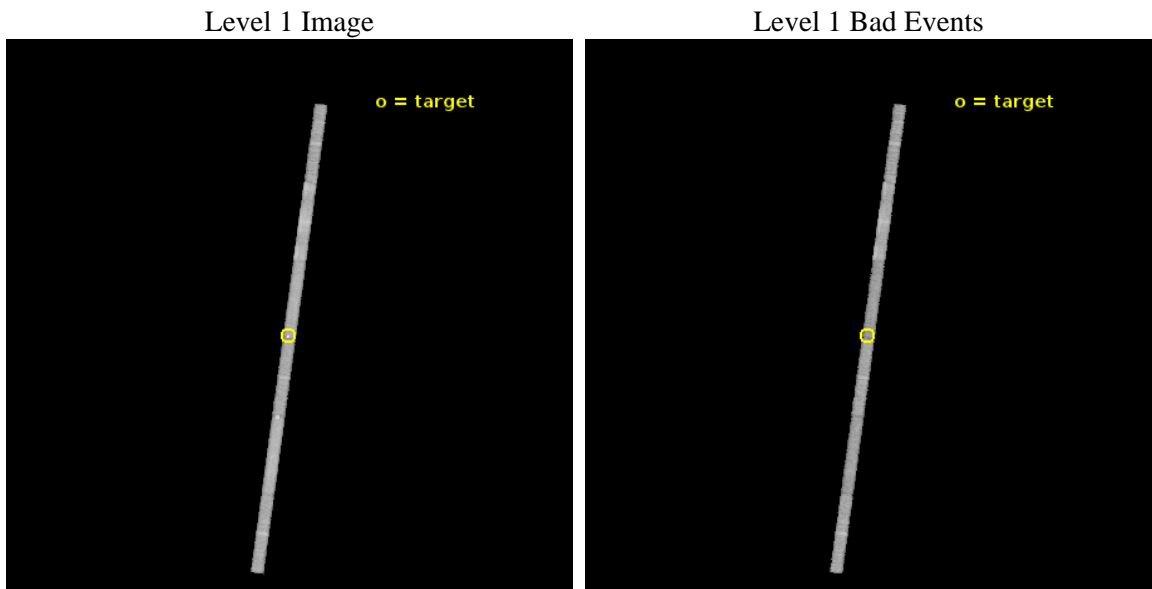
seq_num	790262	Sequence number
obs_id	16422	Observation id
title	AO-15 LETG/ACIS-S Calibration Observations of RXJ 1856	Proposal ti
observer	Dr. CXC Calibration	Principal investigator
object	RXJ 1856.5-3754	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	284.147083	Observer's specified target RA [deg]
dec_targ	-37.909611	Observer's specified target Dec [deg]
ra_nom	284.14702610383	Nominal RA [deg]
dec_nom	-37.888656467172	Nominal Dec [deg]
roll_nom	277.45017964124	Nominal Roll [deg]
revision	1	Processing version of data
ontime	27553.153763413	Sum of GTIs [s]
livetime	26027.21531144	Livetime [s]
ontime4	27553.194803417	Sum of GTIs [s]
ontime5	27553.11272341	Sum of GTIs [s]
ontime6	27553.071683407	Sum of GTIs [s]
ontime7	27553.153763413	Sum of GTIs [s]
ontime8	27553.030643404	Sum of GTIs [s]
ontime9	27552.9896034	Sum of GTIs [s]
l2events	37079	Number of level 2 events



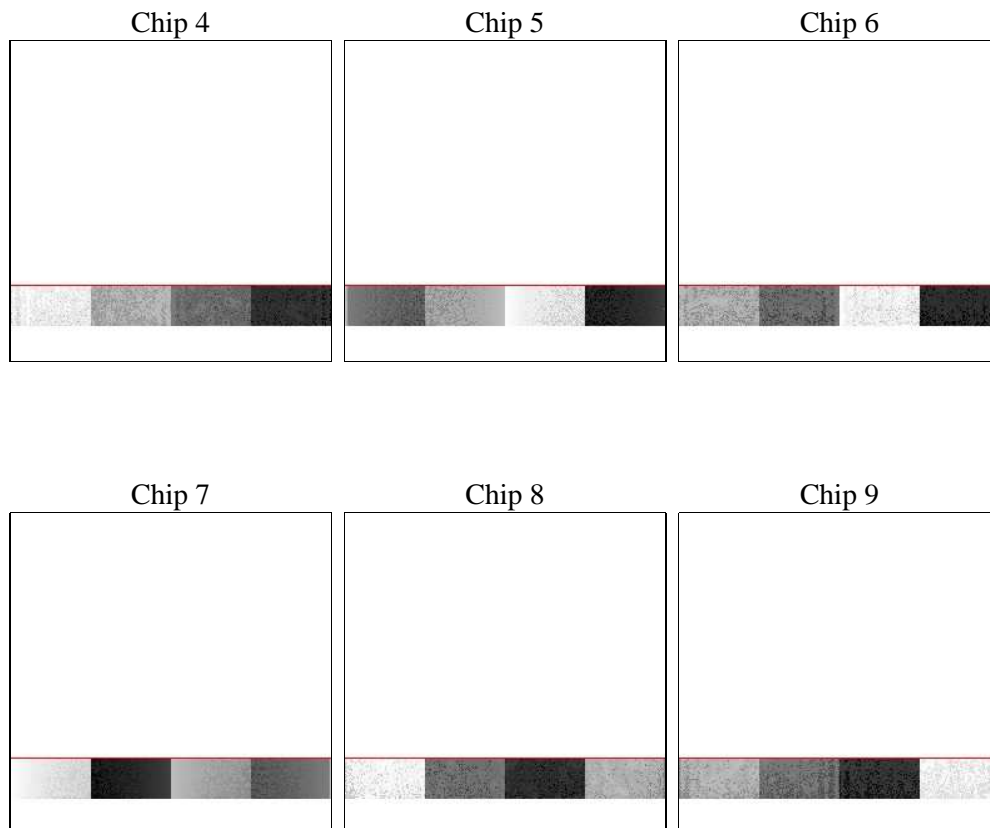
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	27500.000000	[s] Scheduled observation exposure time
ascdsver	10.2.4	Processing system revision	ontime	27553.153763413	Sum of GTIs [s]
caldbver	4.6.3	&#160	ontime4	27553.194803417	Sum of GTIs [s]
date	2014-09-30T01:38:45	Date and time of file creation	ontime5	27553.11272341	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	27553.071683407	Sum of GTIs [s]
			ontime7	27553.153763413	Sum of GTIs [s]
			ontime8	27553.030643404	Sum of GTIs [s]
			ontime9	27552.9896034	Sum of GTIs [s]
			l1events	158249	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			z0_pos	(4070.25, 3037.47)	src1a sky pixel position

### 2.1.4 Events

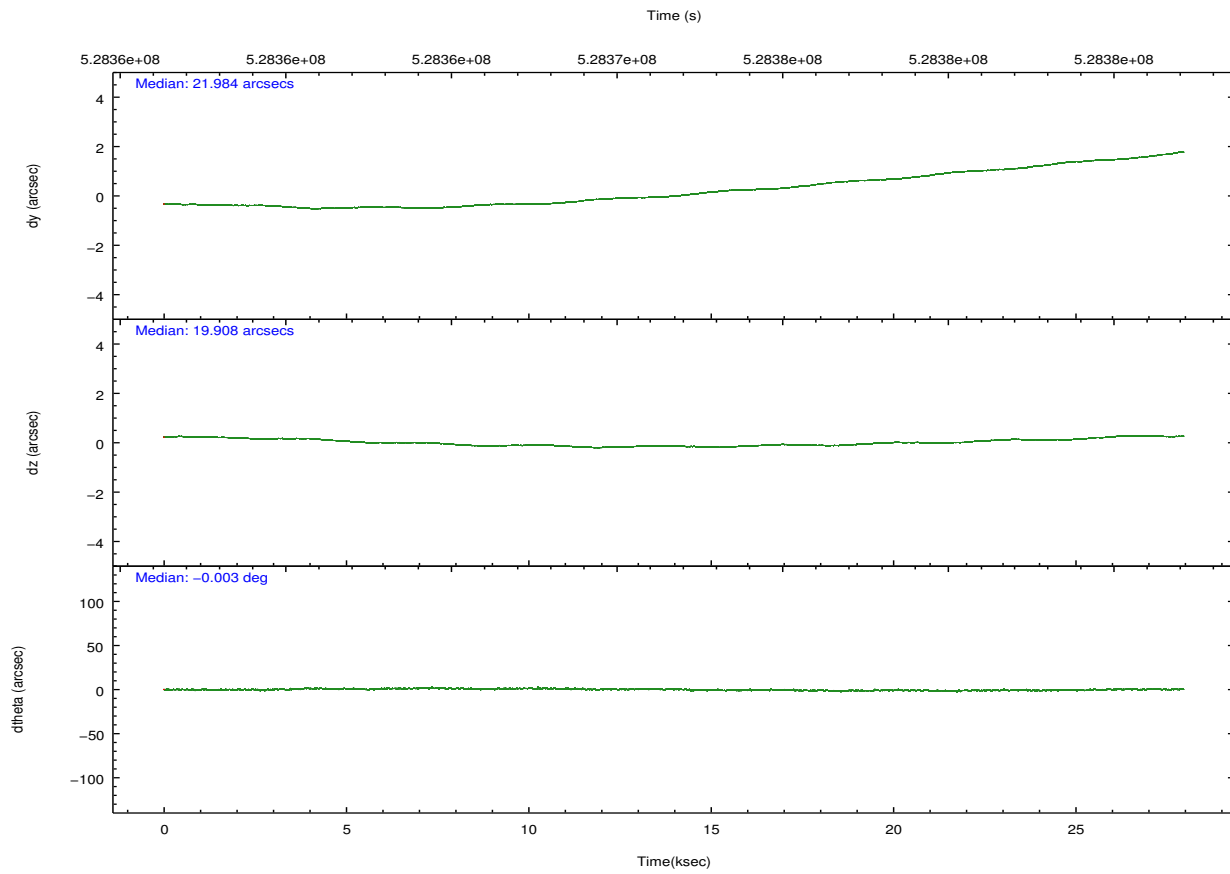
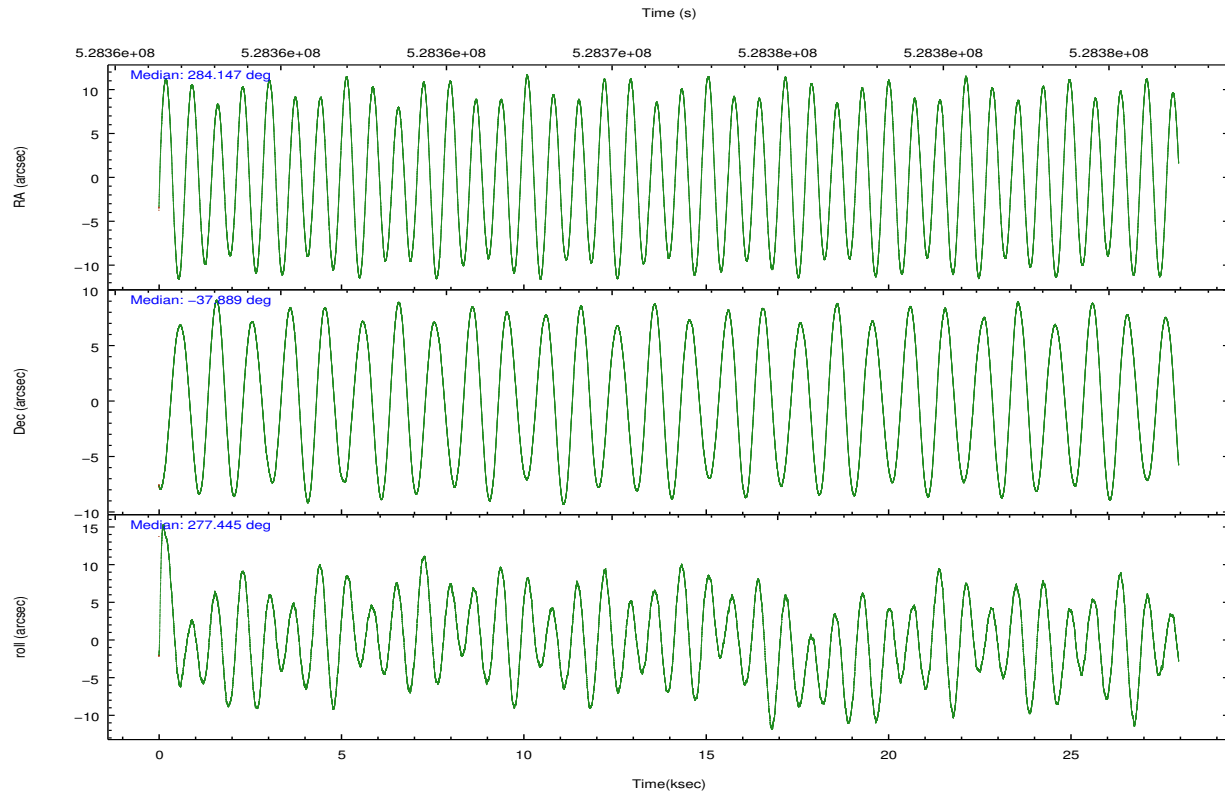
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	23954	31856	21832	26567	33939	20101
rejected events	20939	14846	19208	13425	25767	17499
rejected %	87%	46%	87%	50%	75%	87%

	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	1048	3158	737	2032	2064	795
	4%	9%	3%	7%	6%	3%
grade 1 events	8	84	2	25	12	6
	0%	0%	0%	0%	0%	0%
grade 2 events	628	4094	509	2795	1590	491
	2%	12%	2%	10%	4%	2%
grade 3 events	469	1232	422	1371	1028	463
	1%	3%	1%	5%	3%	2%
grade 4 events	378	1235	438	1387	970	395
	1%	3%	2%	5%	2%	1%
grade 5 events	845	2786	872	2648	1229	916
	3%	8%	3%	9%	3%	4%
grade 6 events	492	7292	518	5557	2520	460
	2%	22%	2%	20%	7%	2%
grade 7 events	20086	11975	18334	10752	24526	16575
	83%	37%	83%	40%	72%	82%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	LETG	LETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	284.125500	284.1470261038339	CCD I2 on	N	N
[deg] Pointing Dec	-37.867097	-37.88865646717156	CCD I3 on	N	N
[deg] Pointing Roll	277.280331	277.4501796412401	CCD S0 on	O1	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-182.132523	-182.1344861297048	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-8	-7.998036453302973	CCD S4 on	Y	Y
[s] Observation start time (MET)	528358181.184000	528357257.03862	CCD S5 on	Y	Y
Observation start date	2014-09-29T06:08:34	2014-09-29T05:54:17	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	528385681.184000	528386486.45275	On-chip summing requested	N	N
Observation end date	2014-09-29T13:46:54	2014-09-29T14:01:26	Subarray requested	CUSTOM	1/8
Read mode	TIMED	TIMED	Subarray start row	113	113
			Subarray row count	128	128
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	0.7

## 2.3 Aspect

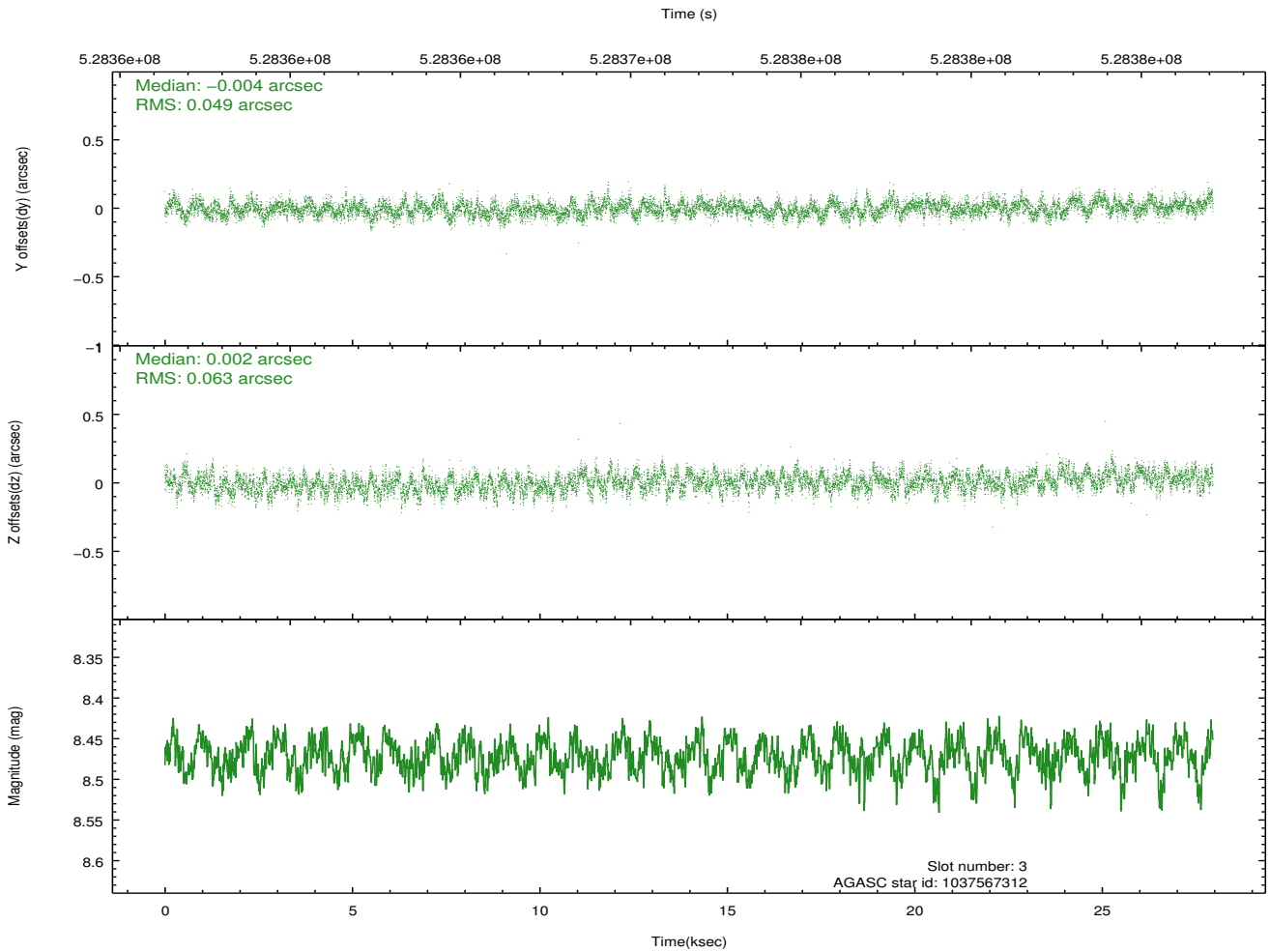
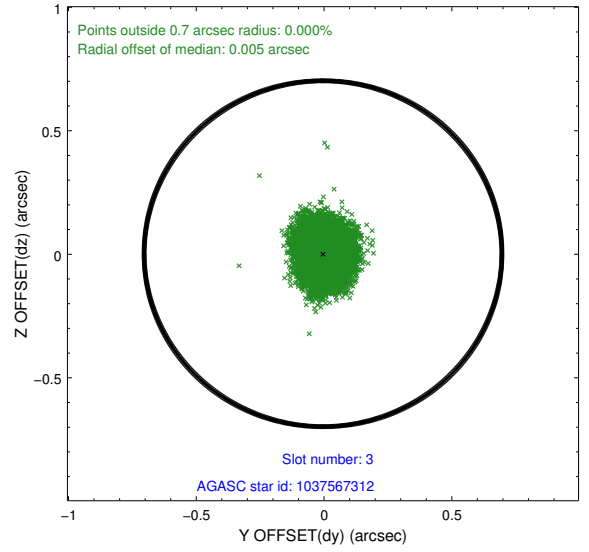
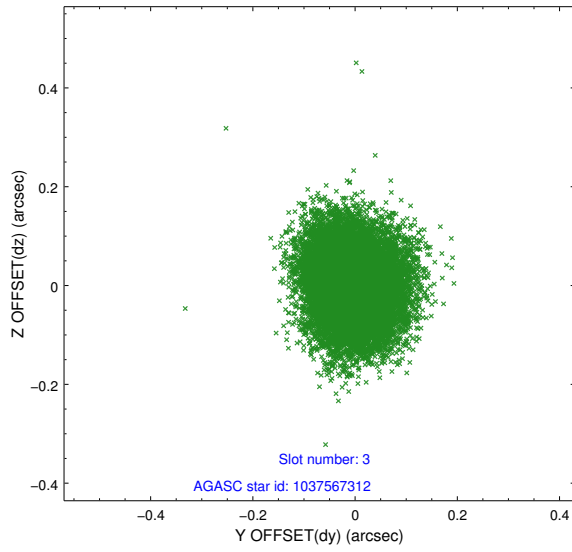


### Slot Statistics

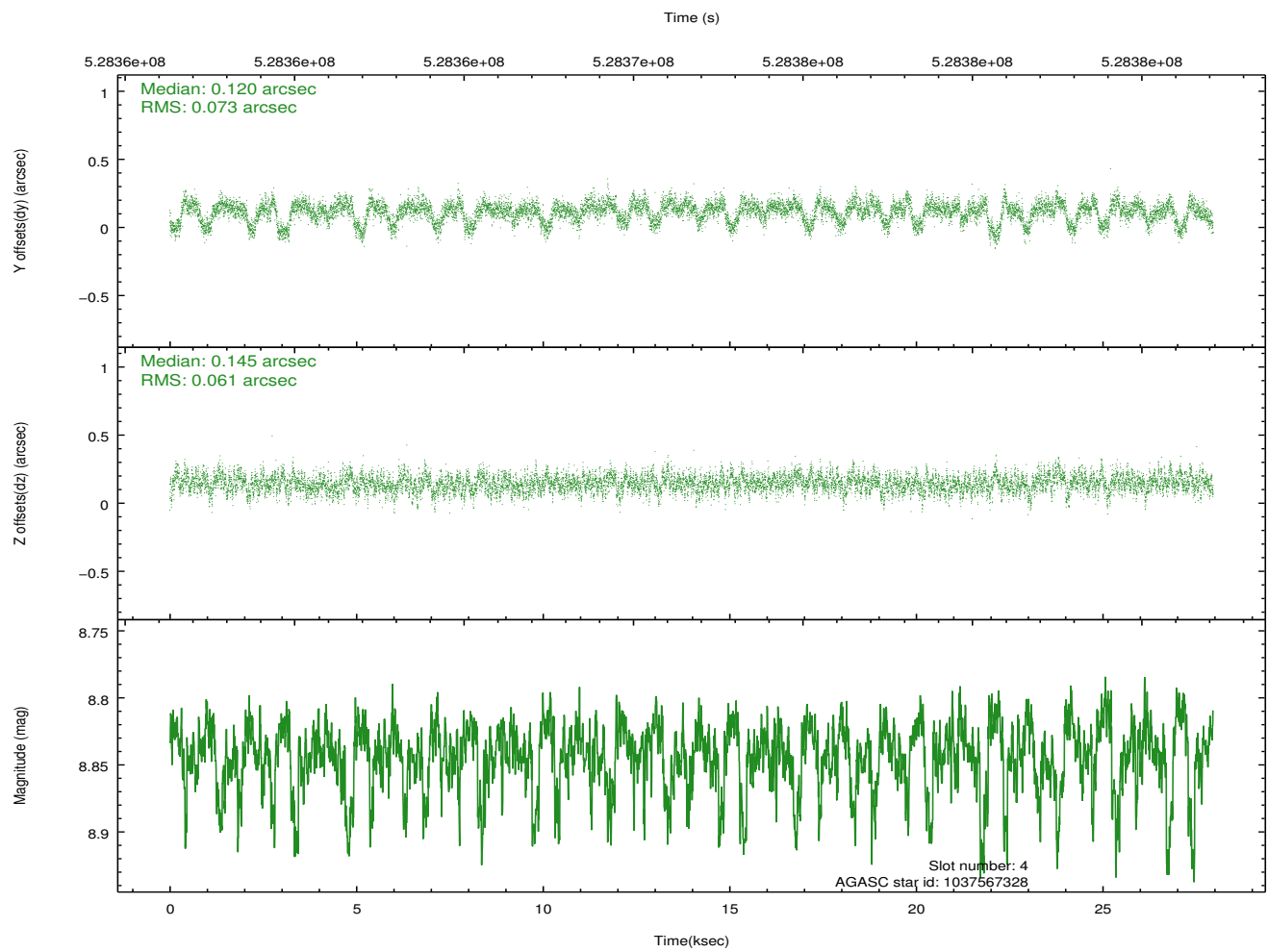
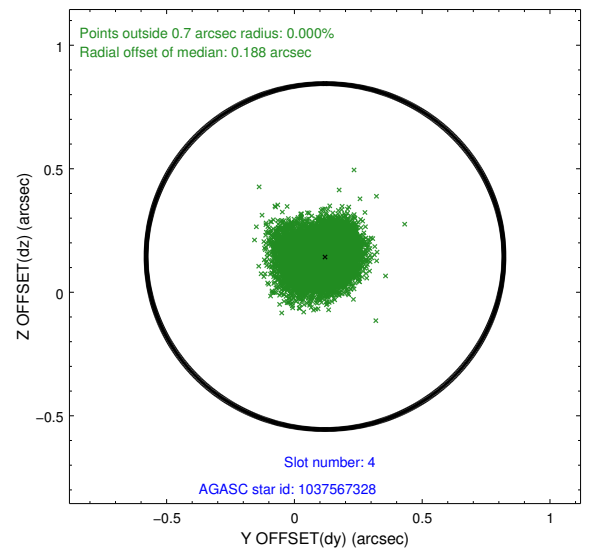
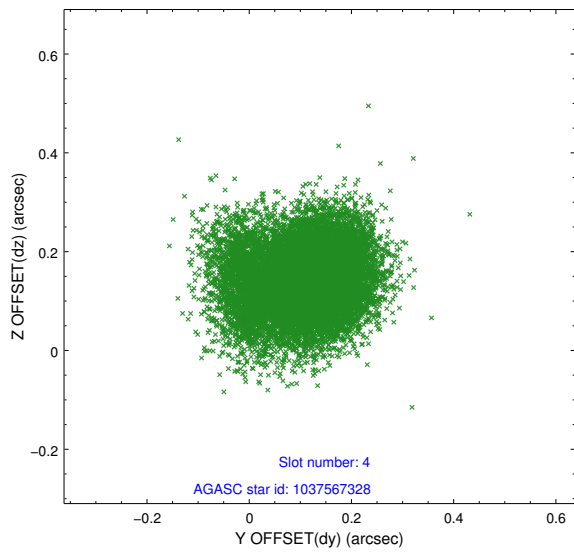
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.95	6820	-0.228	-0.130	0.015	0.024	0.000000	0.000000	-775.10	-1906.31
1	FID	ACIS-S-4	7.04	6820	0.235	0.149	0.011	0.021	0.000000	0.000000	2138.64	2.24
2	FID	ACIS-S-6	7.25	6820	-0.037	-0.011	0.013	0.019	0.000000	0.000000	387.25	639.63
3	GUIDE	1037567312	8.47	13633	-0.004	0.002	0.085	0.137	283.456056	-37.976515	157.35	-1935.14
4	GUIDE	1037567328	8.84	13628	0.120	0.145	0.100	0.169	284.052016	-37.647288	-810.83	-107.56
5	GUIDE	1037568192	8.66	13632	-0.063	-0.094	0.088	0.149	284.446060	-38.037443	725.29	823.64
6	GUIDE	1037578168	8.08	13636	0.039	-0.125	0.082	0.133	284.493659	-38.169059	1215.68	894.86
7	GUIDE	1037579152	9.39	13625	-0.084	0.073	0.113	0.186	284.871467	-38.408588	2209.13	1839.39

## 2.4 Star Slots

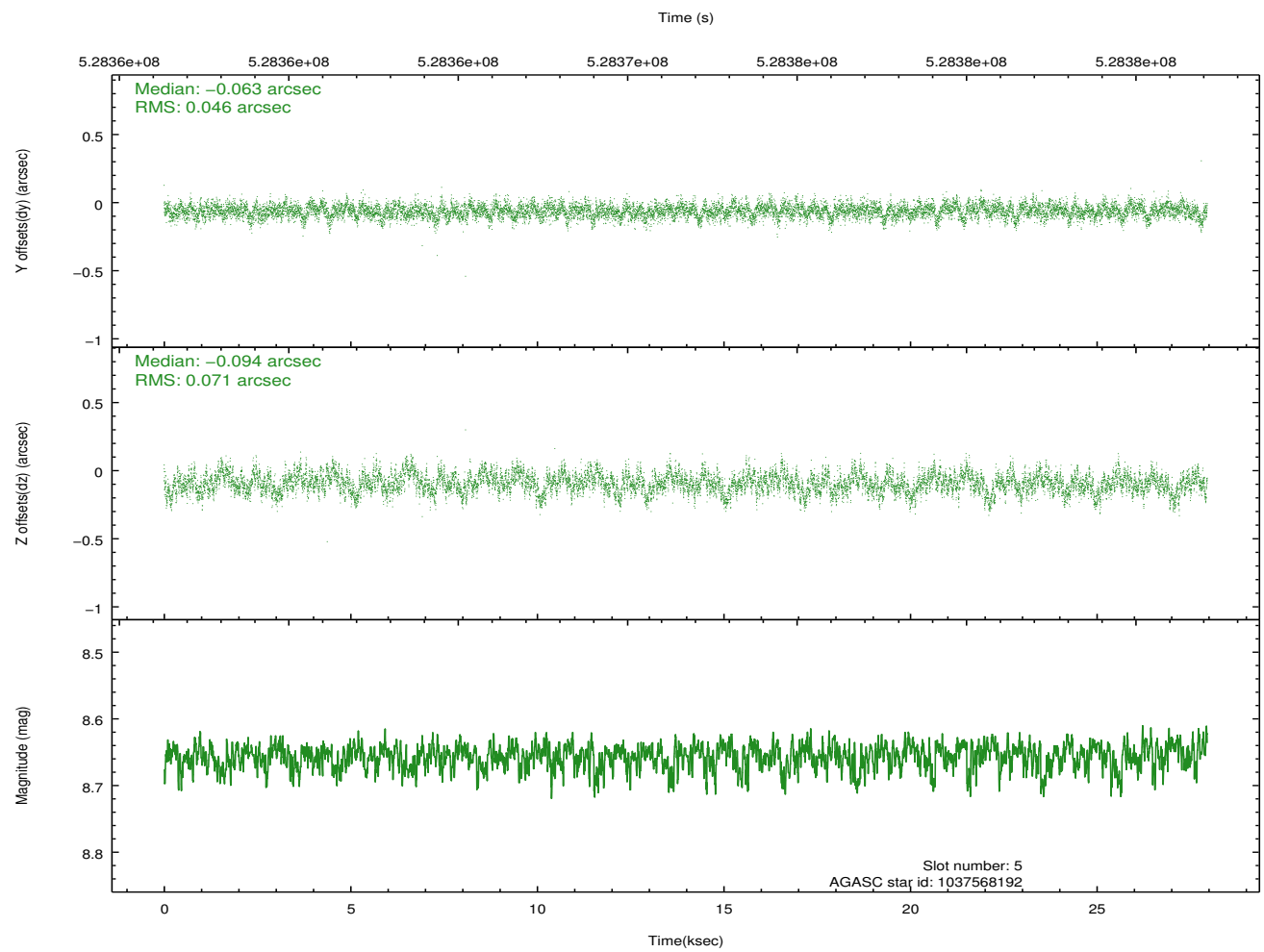
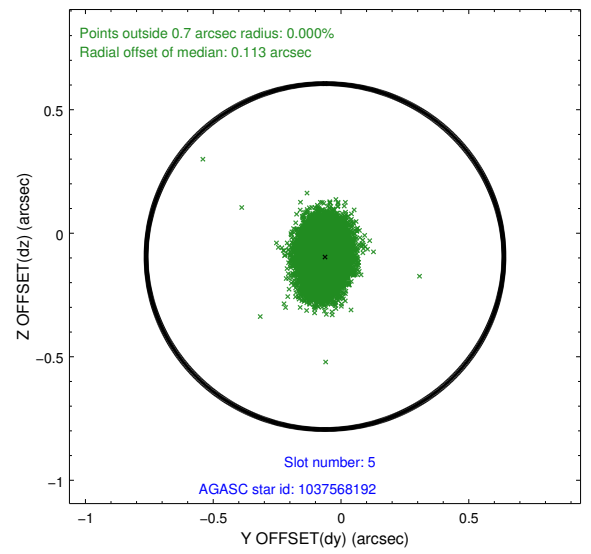
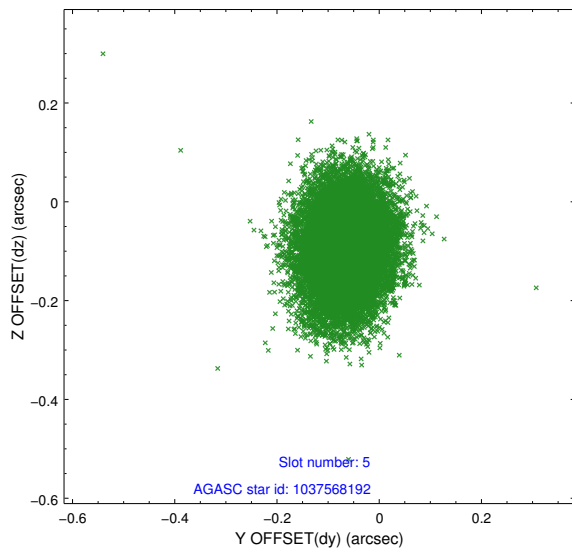
### 2.4.1 Slot 3



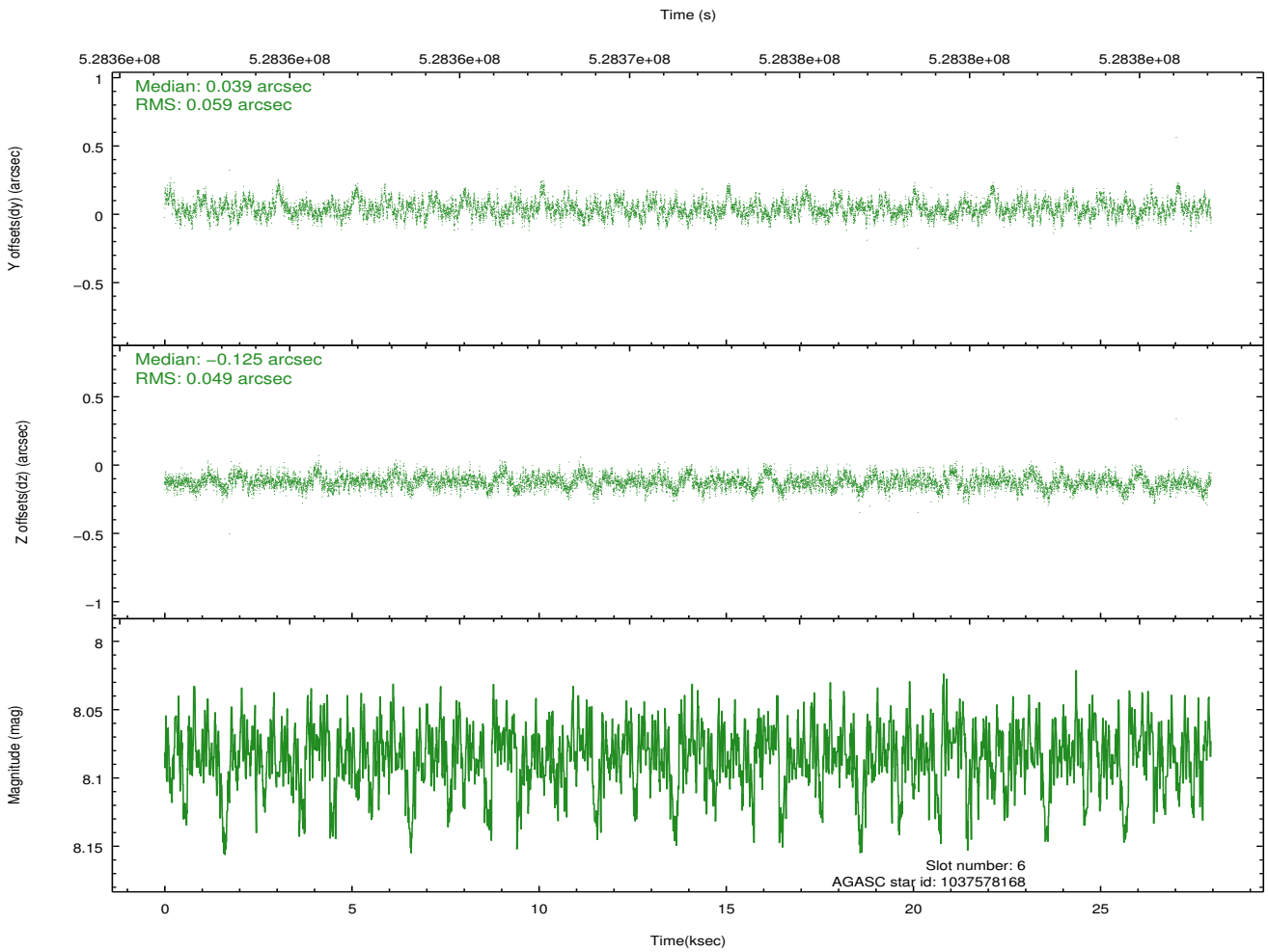
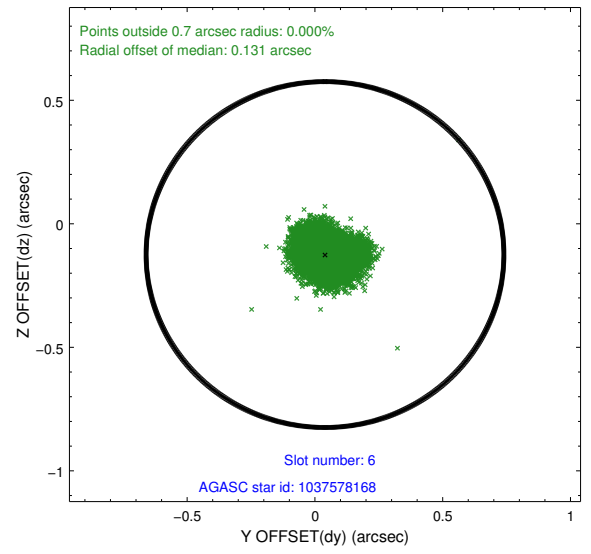
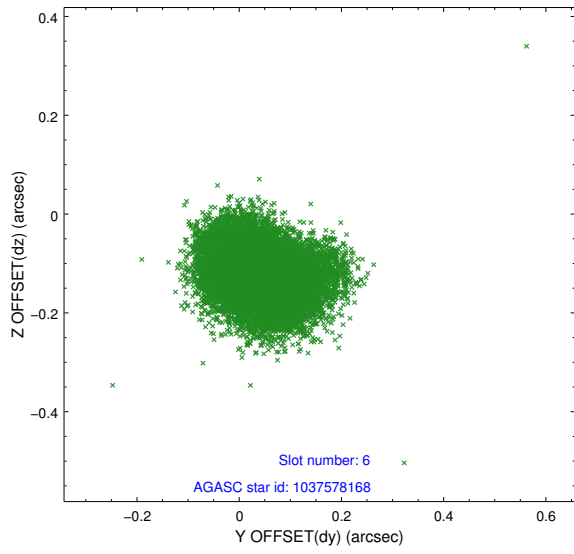
## 2.4.2 Slot 4



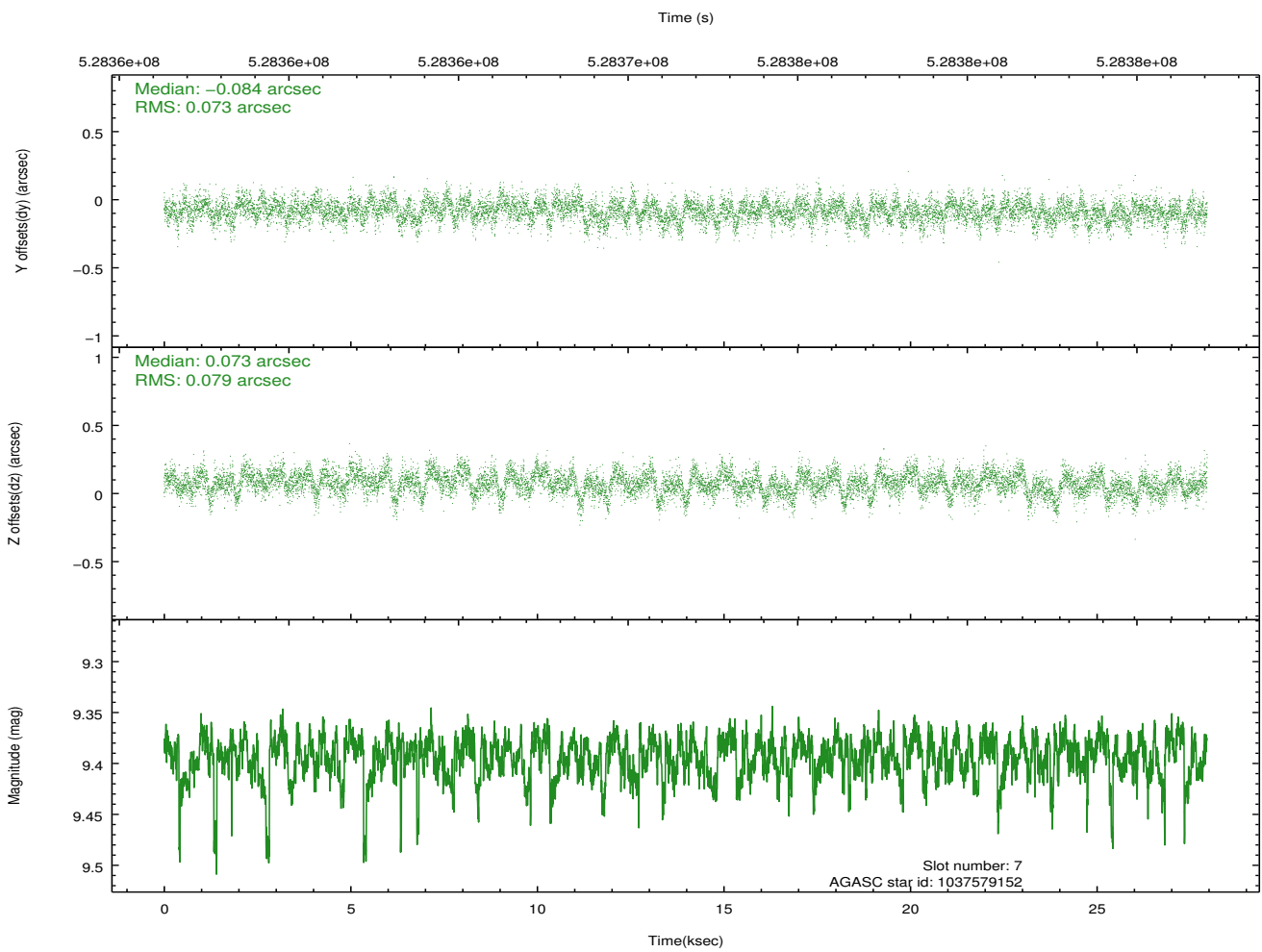
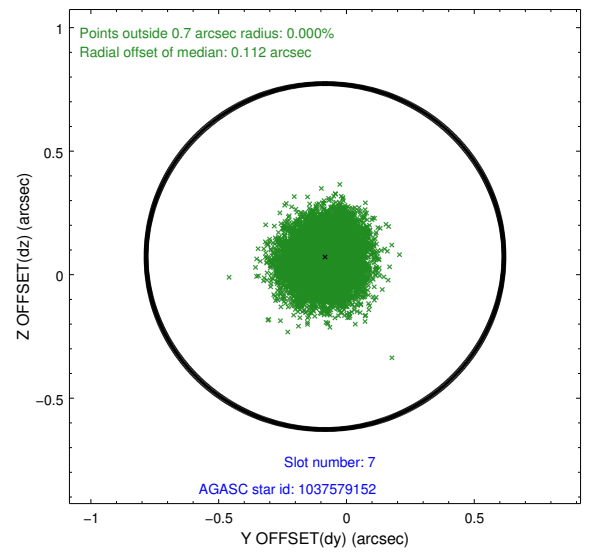
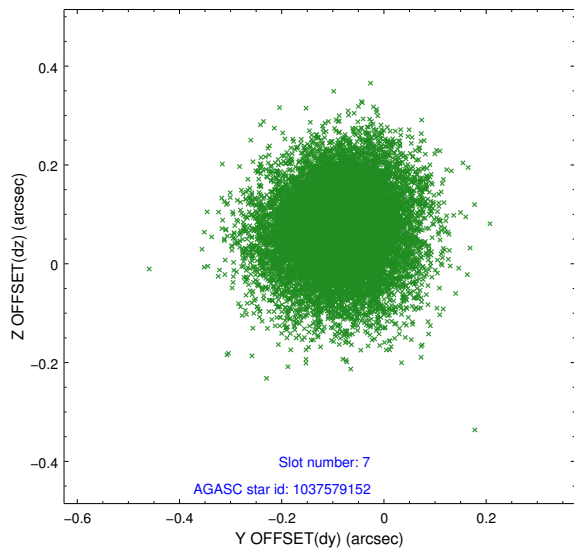
### 2.4.3 Slot 5



### 2.4.4 Slot 6

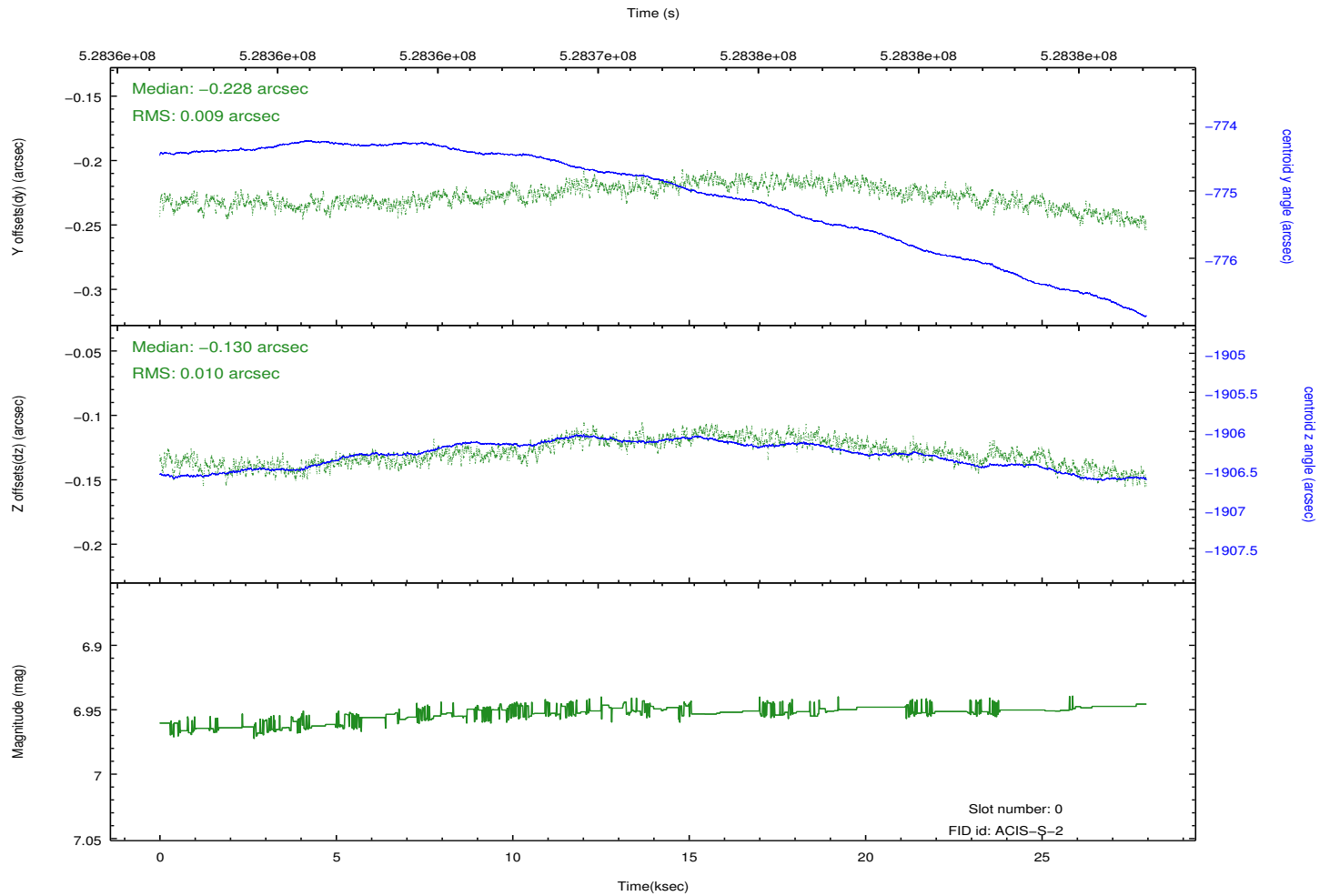
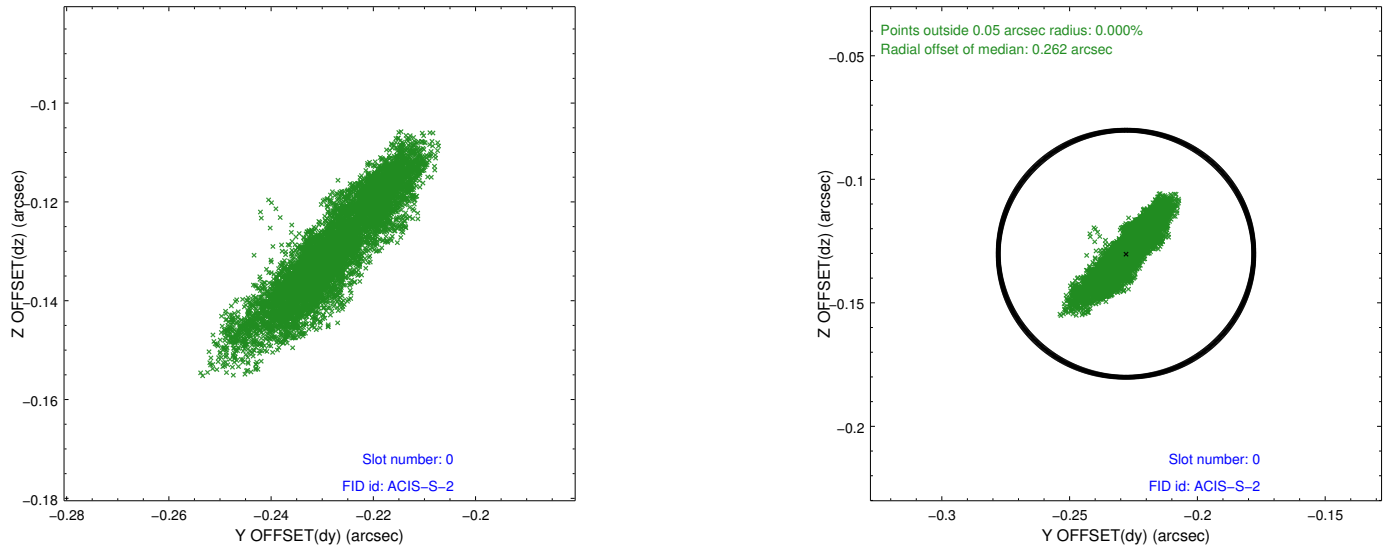


## 2.4.5 Slot 7

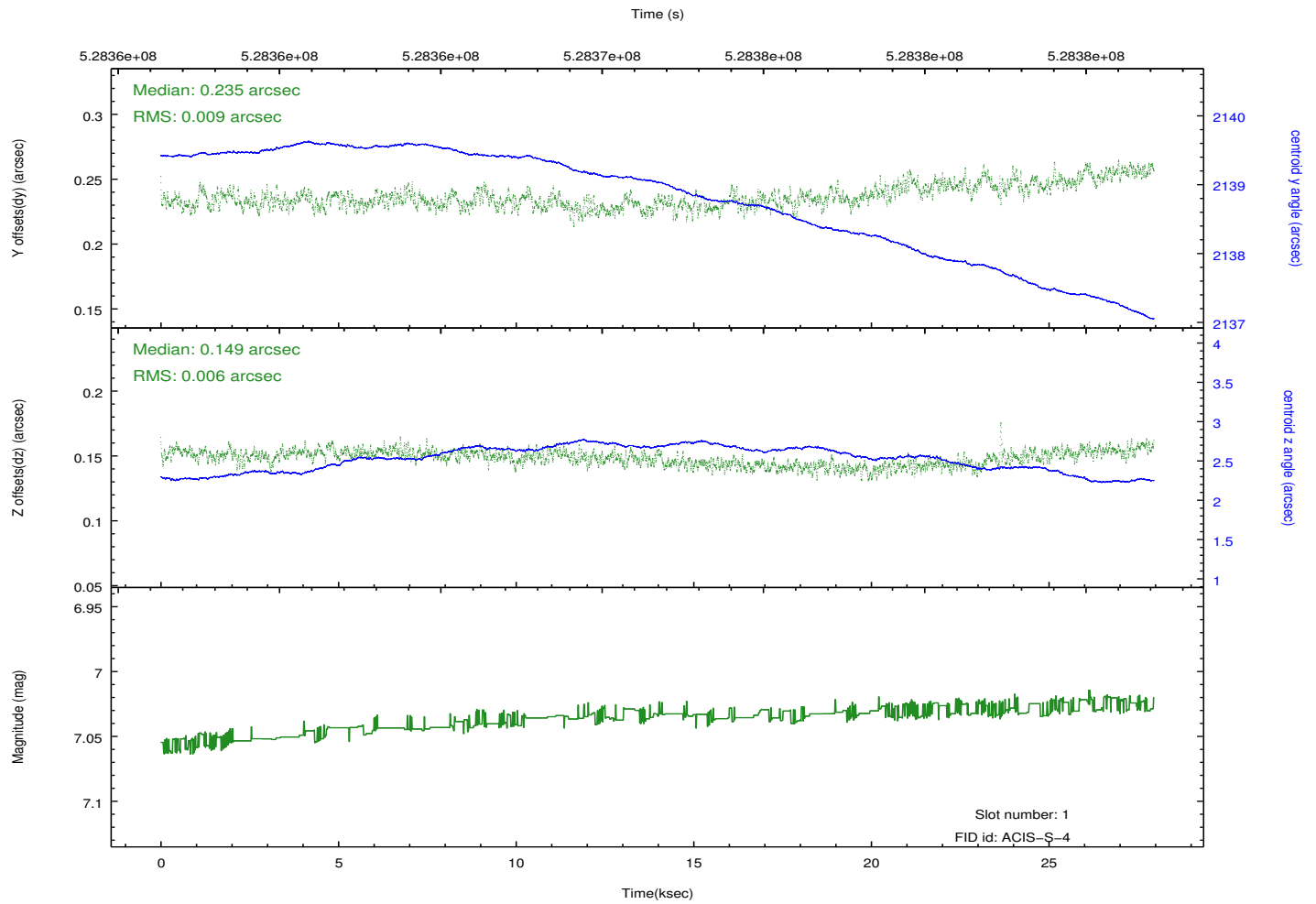
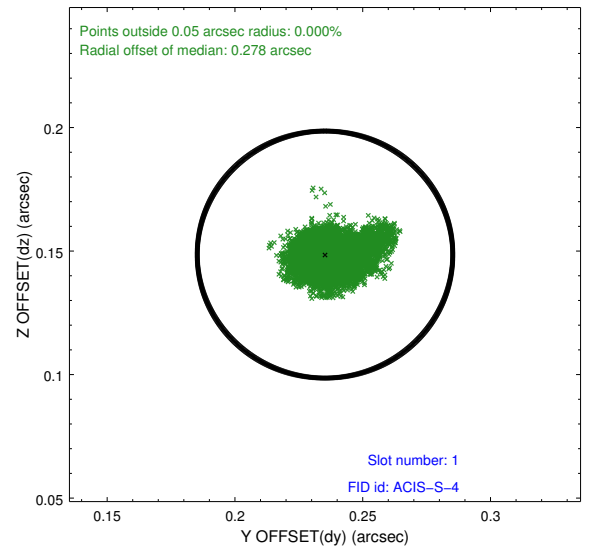
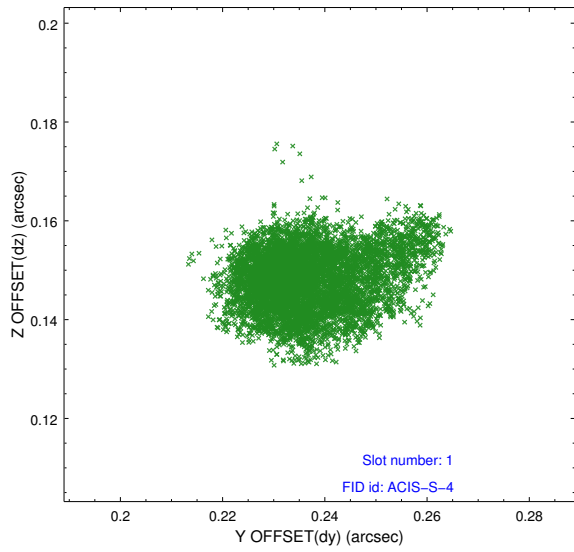


## 2.5 FID Slots

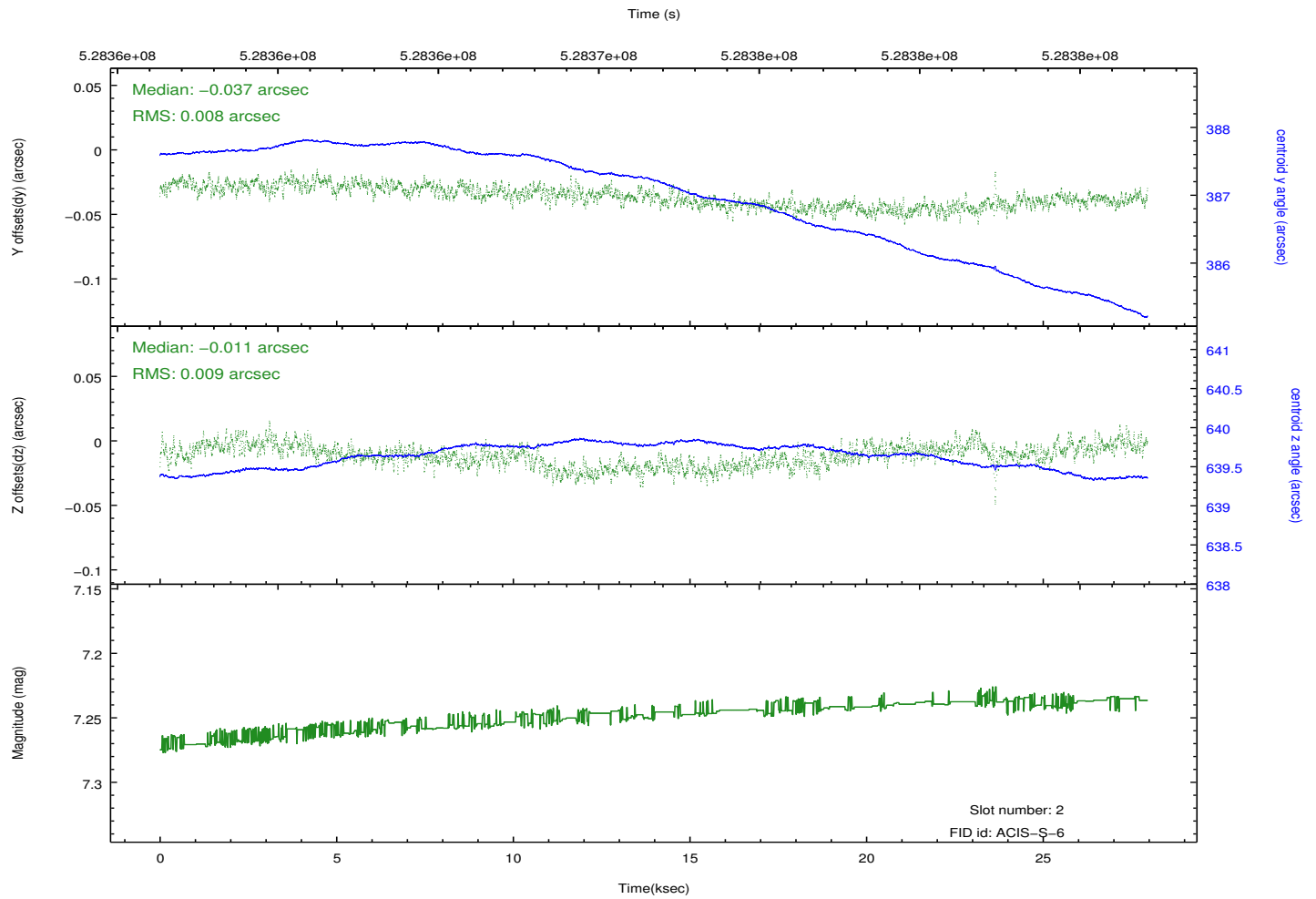
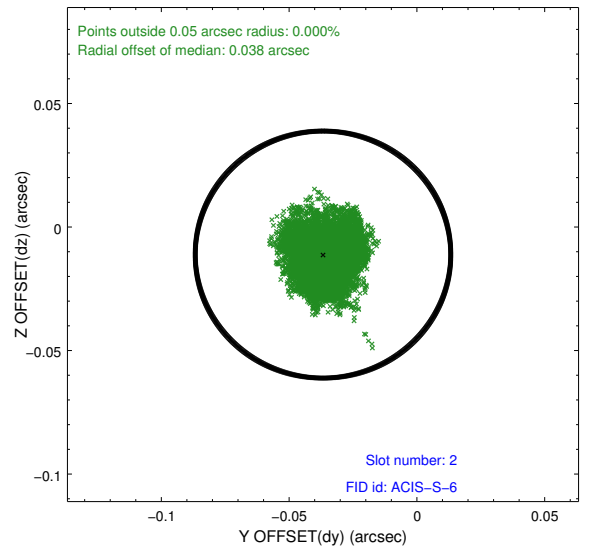
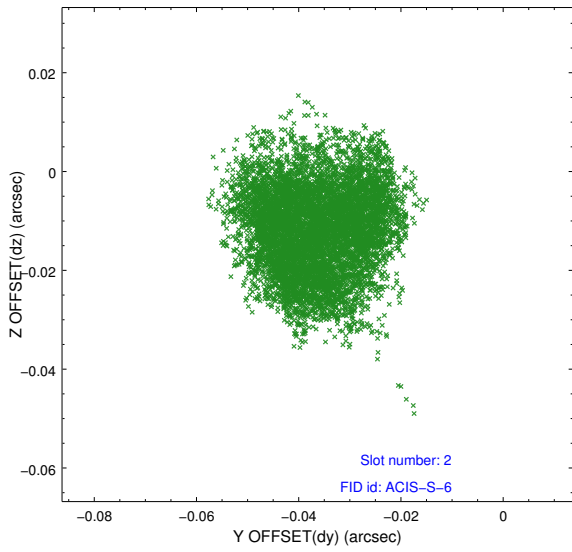
### 2.5.1 Slot 0



## 2.5.2 Slot 1

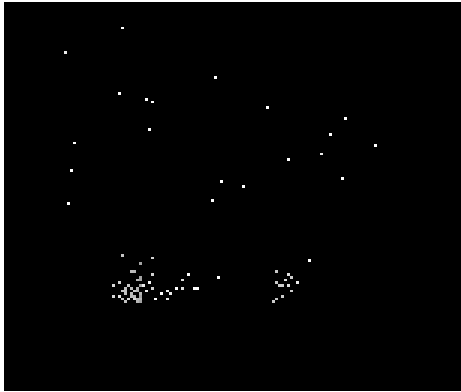


### 2.5.3 Slot 2

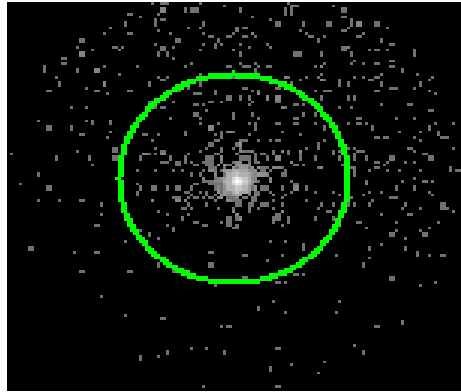


# 3 Gratings

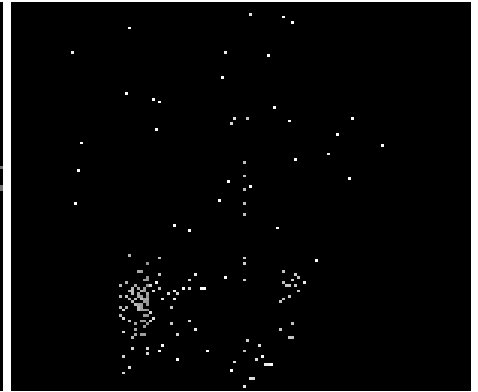
## 3.1 LETG Arm



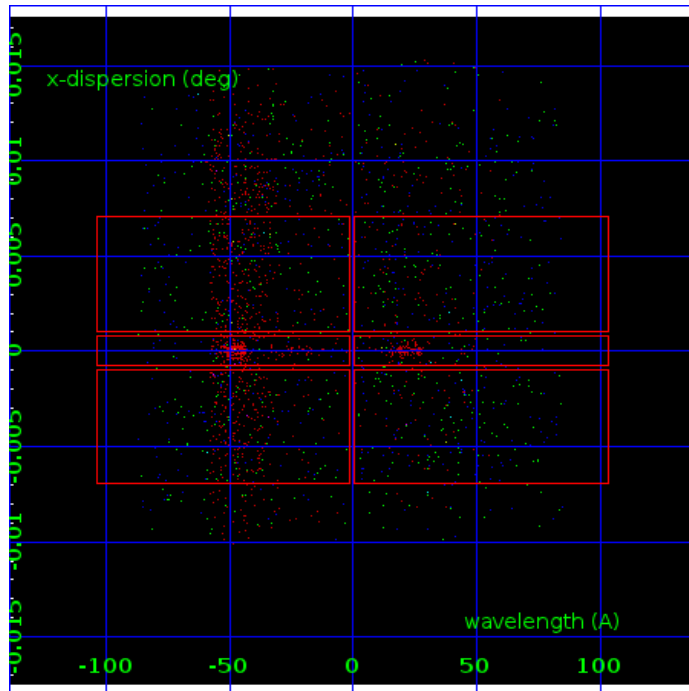
LETG Order Sort 123



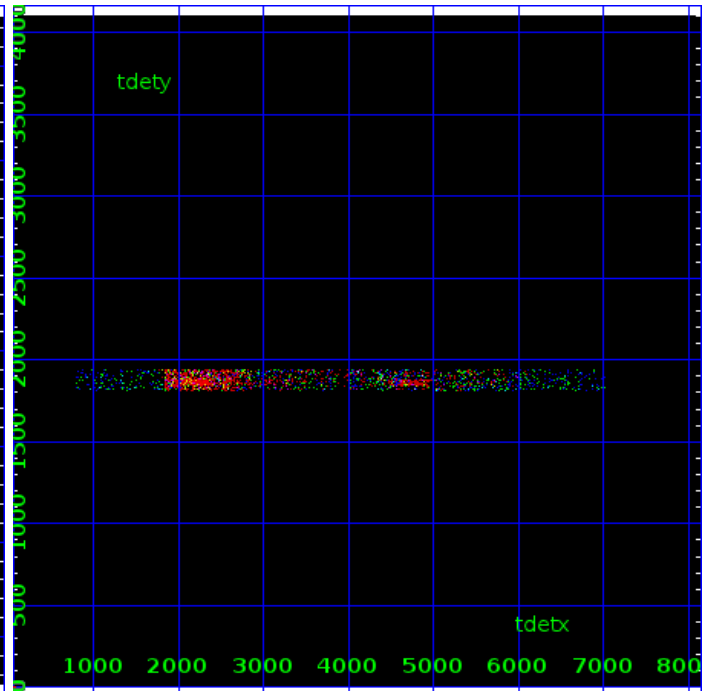
LETG Zero Order



LETG Order Sort ALL

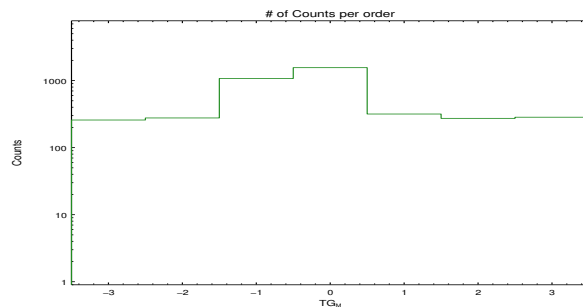


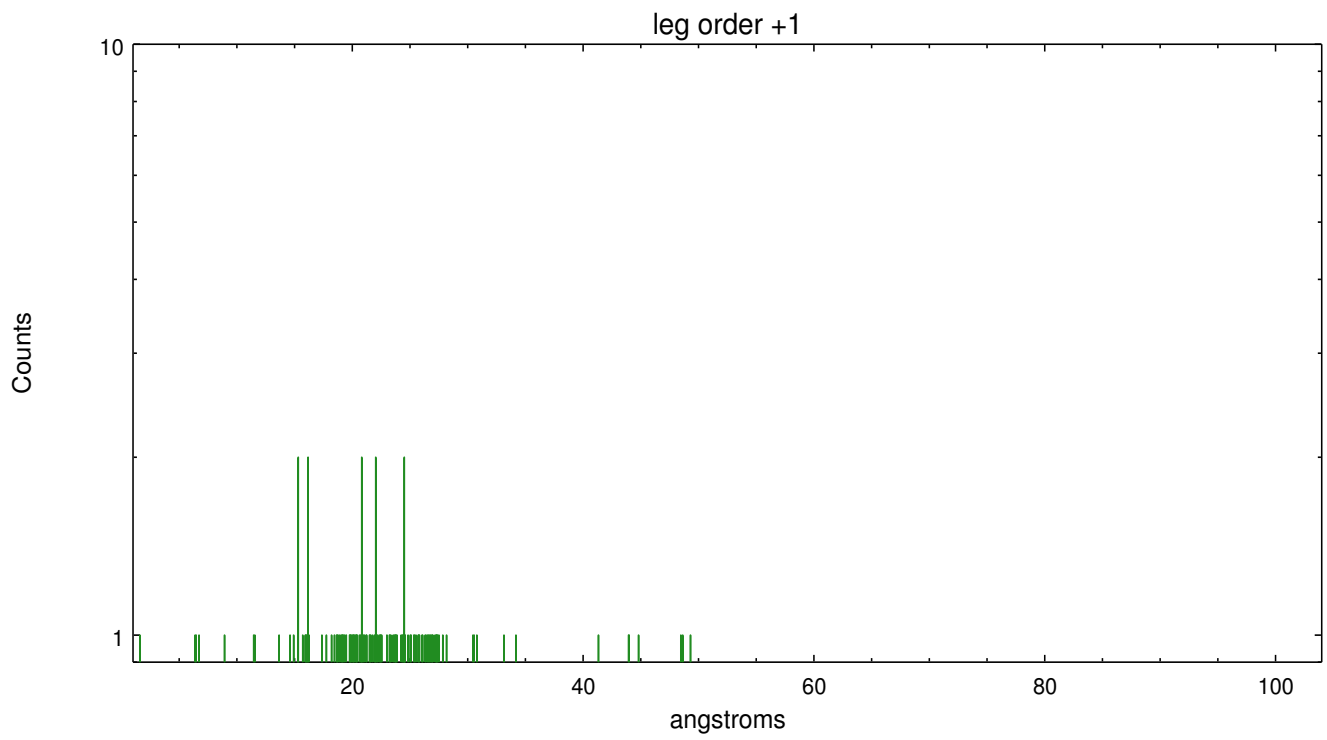
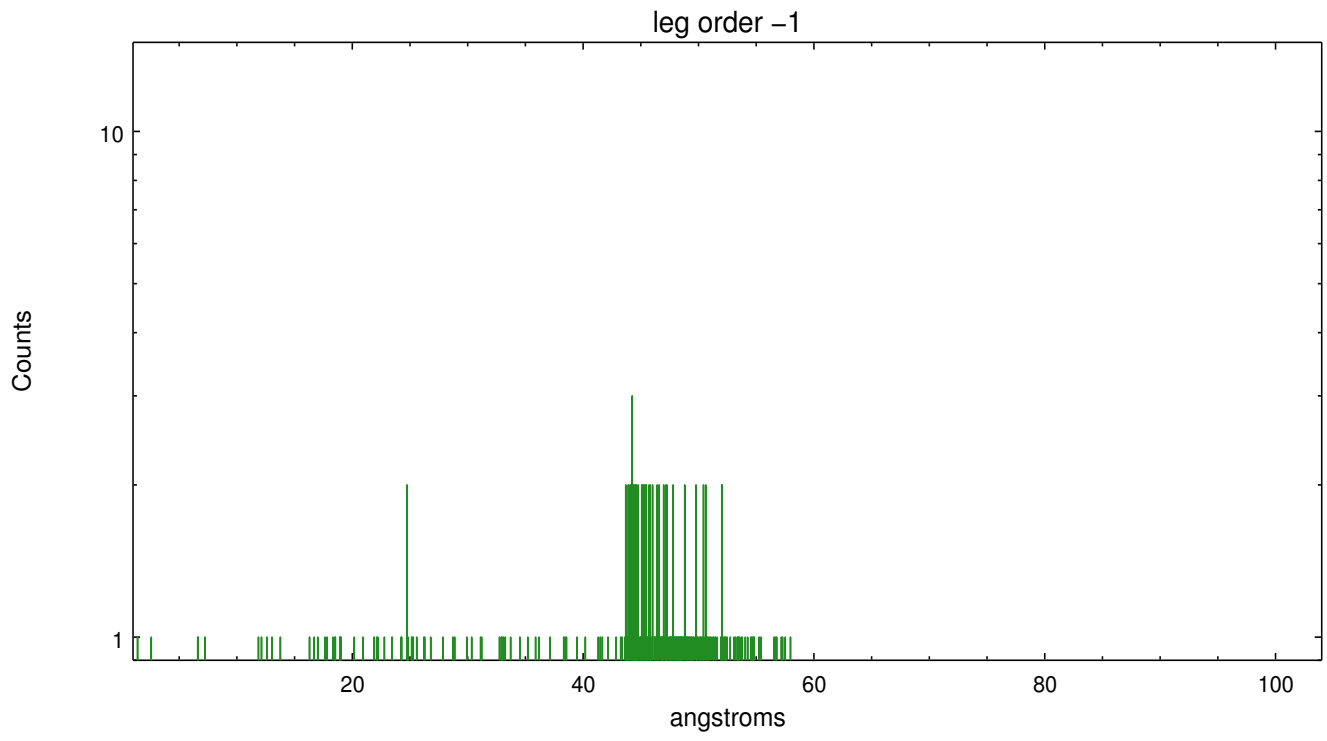
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	258	277	1074	1558	317	273	284





# A Summary

## A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2014.09.30
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	27.553153763413

## A.2 Comments

The target x-ray point source falls near the gap between the nodes of the CCD chips and has been dithered over this gap. Dithering over the node boundary, which has lower sensitivity, can give a false indication of variability.