

V&V Reference Report

L2 ASCDS Version : 10.5.1.1

Observation 18362 - L2 Version 1
Chandra X-Ray Center

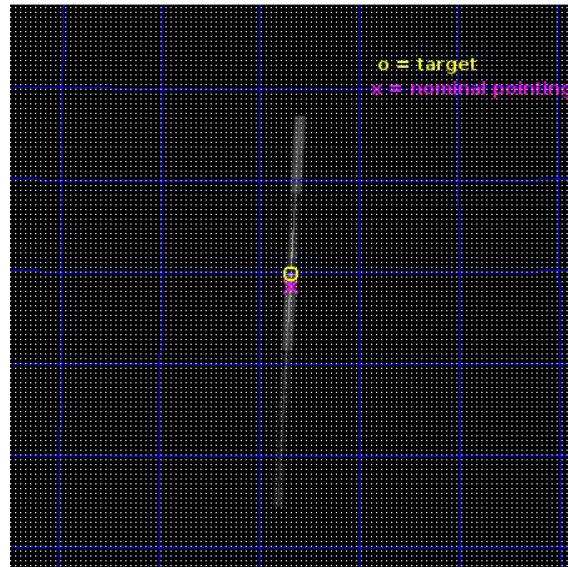
L2 Processing Date : Sep 10 2016

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1 Front

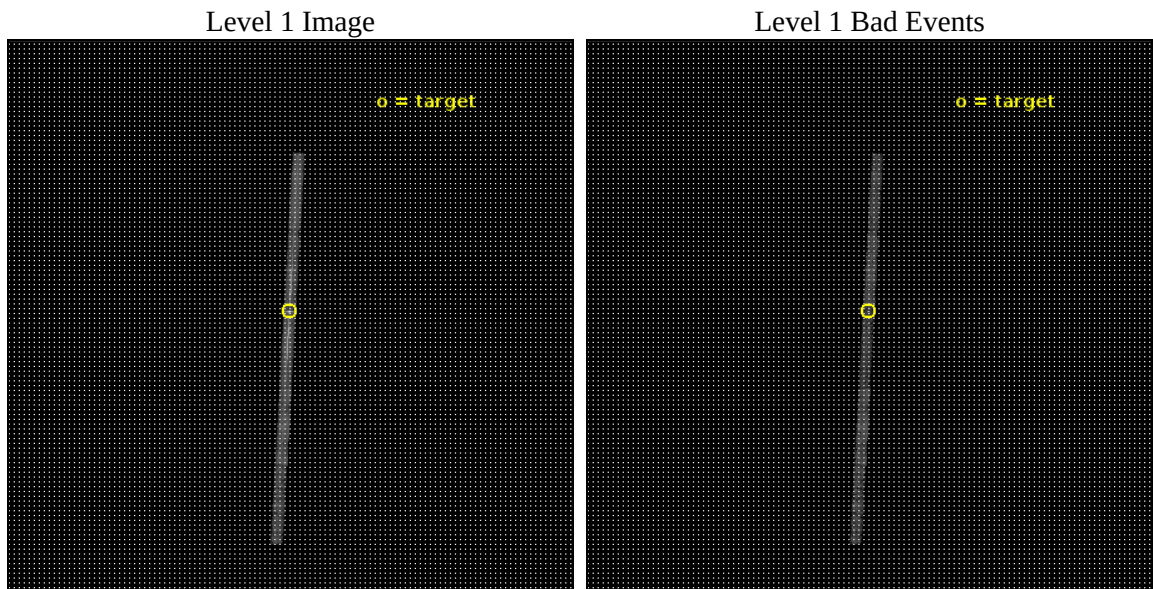
seq_num	291257	Sequence number
obs_id	18362	Observation id
title	AO-17 Internal Cross-Calibration Study	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	Capella	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	79.172917	Observer's specified target RA [deg]
dec_targ	45.996389	Observer's specified target Dec [deg]
ra_nom	79.169999442271	Nominal RA [deg]
dec_nom	45.973557590168	Nominal Dec [deg]
roll_nom	93.088701869843	Nominal Roll [deg]
revision	1	Processing version of data
ontime	10065.000400066	Sum of GTIs [s]
livetime	9420.6293523647	Livetime [s]
ontime5	10065.000400066	Sum of GTIs [s]
ontime6	10065.000400066	Sum of GTIs [s]
ontime7	10065.000400066	Sum of GTIs [s]
ontime8	10065.000400066	Sum of GTIs [s]
ontime9	10065.000400066	Sum of GTIs [s]
l2events	54400	Number of level 2 events



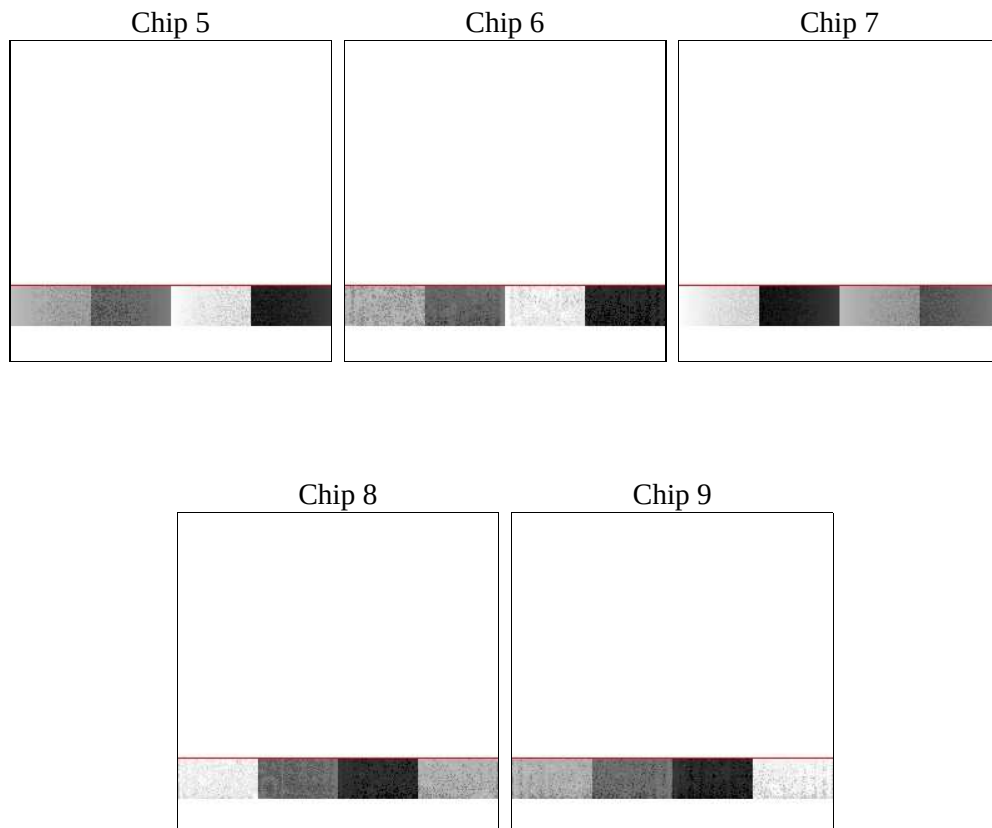
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	2	Obi number	sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ascdsver	10.5.1.1	Processing system revision	ontime	10065.000400066	Sum of GTIs [s]
caldsver	4.7.2	 	ontime5	10065.000400066	Sum of GTIs [s]
date	2016-09-10T16:10:16	Date and time of file creation	ontime6	10065.000400066	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	10065.000400066	Sum of GTIs [s]
			ontime8	10065.000400066	Sum of GTIs [s]
			ontime9	10065.000400066	Sum of GTIs [s]
			l1events	103096	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4082.43, 4260.60)	src1a sky pixel position
					src1a sky pixel position via

2.1.4 Events

	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	15061	20812	42350	15342	9531
rejected events	6972	9550	9365	11054	7944
rejected %	46%	45%	22%	72%	83%

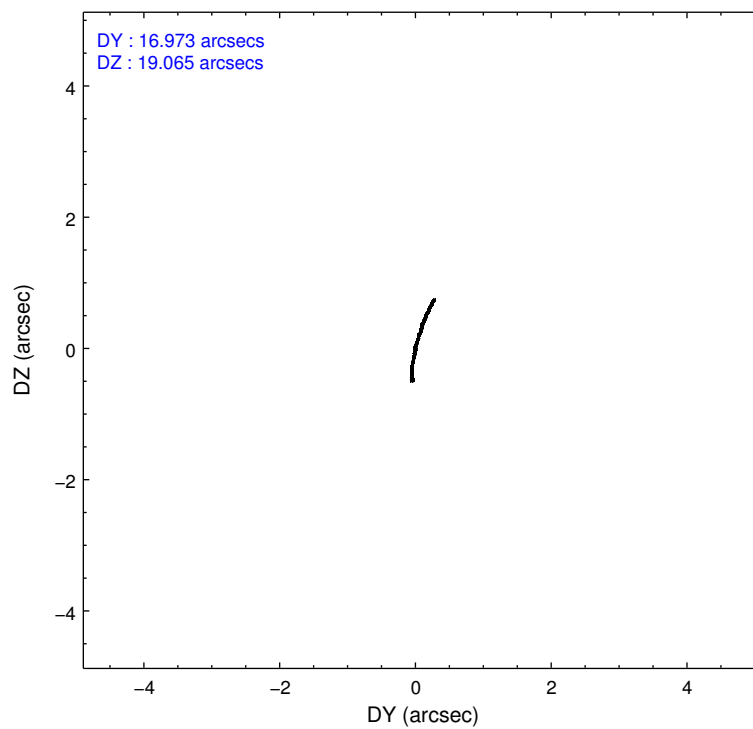
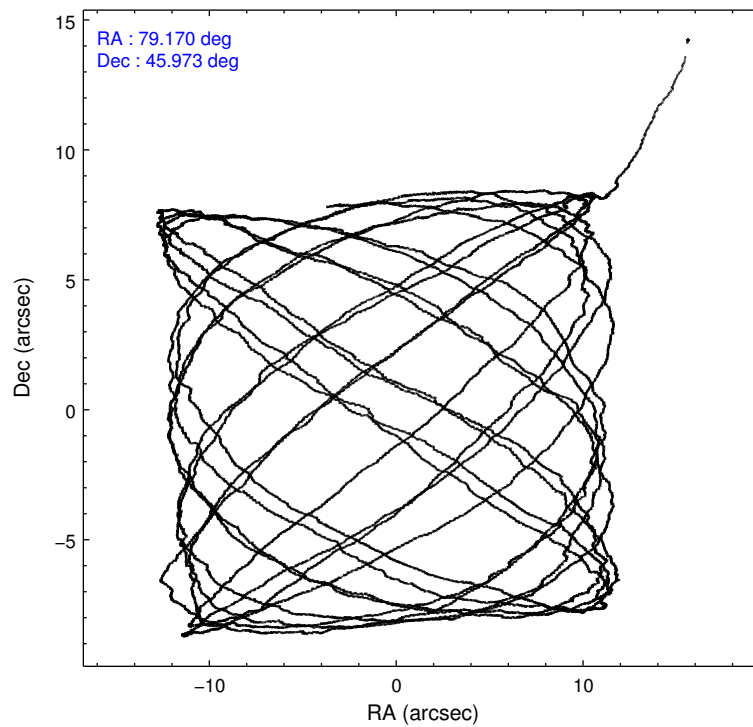
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	1293	8785	7709	1567	710
	8%	42%	18%	10%	7%
grade 1 events	31	19	316	8	4
	0%	0%	0%	0%	0%
grade 2 events	2216	1163	8334	823	242
	14%	5%	19%	5%	2%
grade 3 events	563	472	3893	427	216
	3%	2%	9%	2%	2%
grade 4 events	543	459	3723	382	186
	3%	2%	8%	2%	1%
grade 5 events	1137	412	2423	531	391
	7%	1%	5%	3%	4%
grade 6 events	3475	385	9329	1089	233
	23%	1%	22%	7%	2%
grade 7 events	5803	9117	6623	10515	7549
	38%	43%	15%	68%	79%

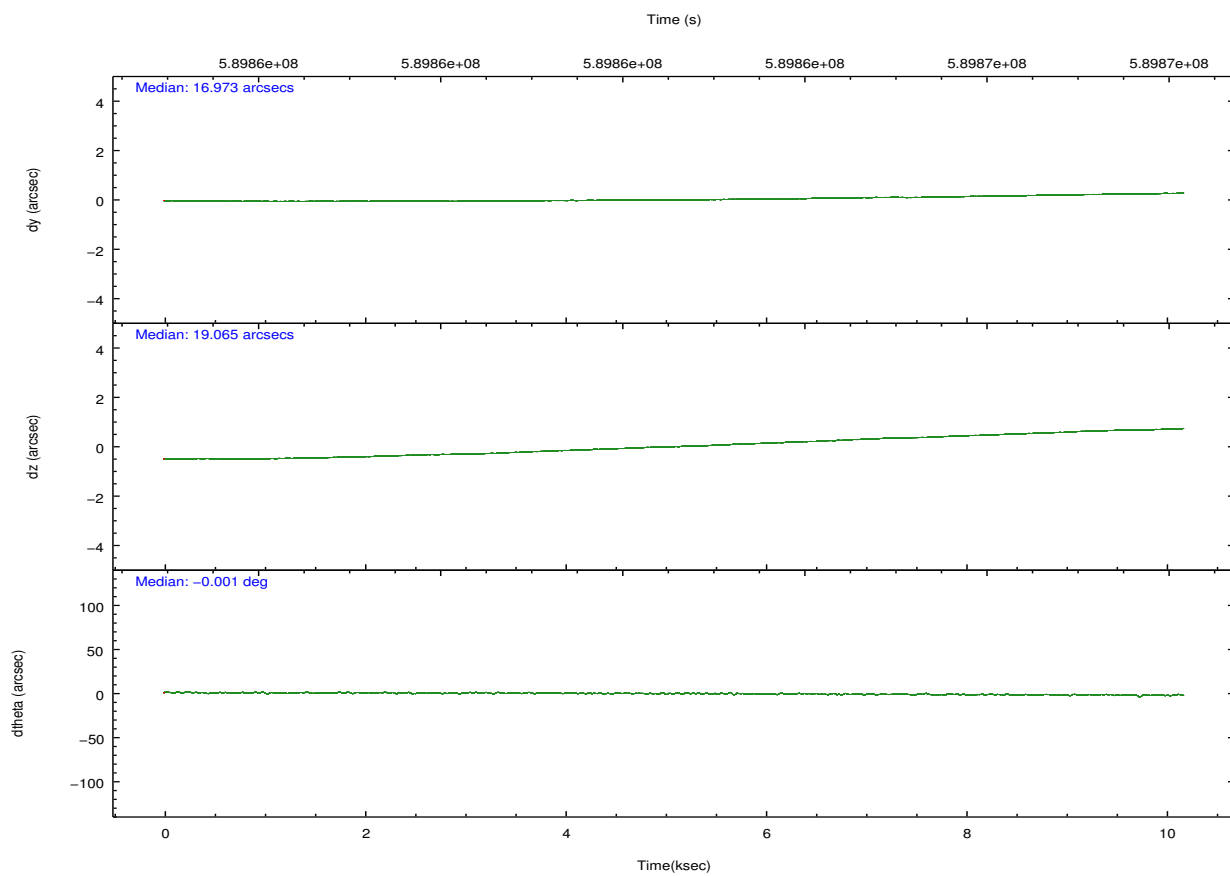
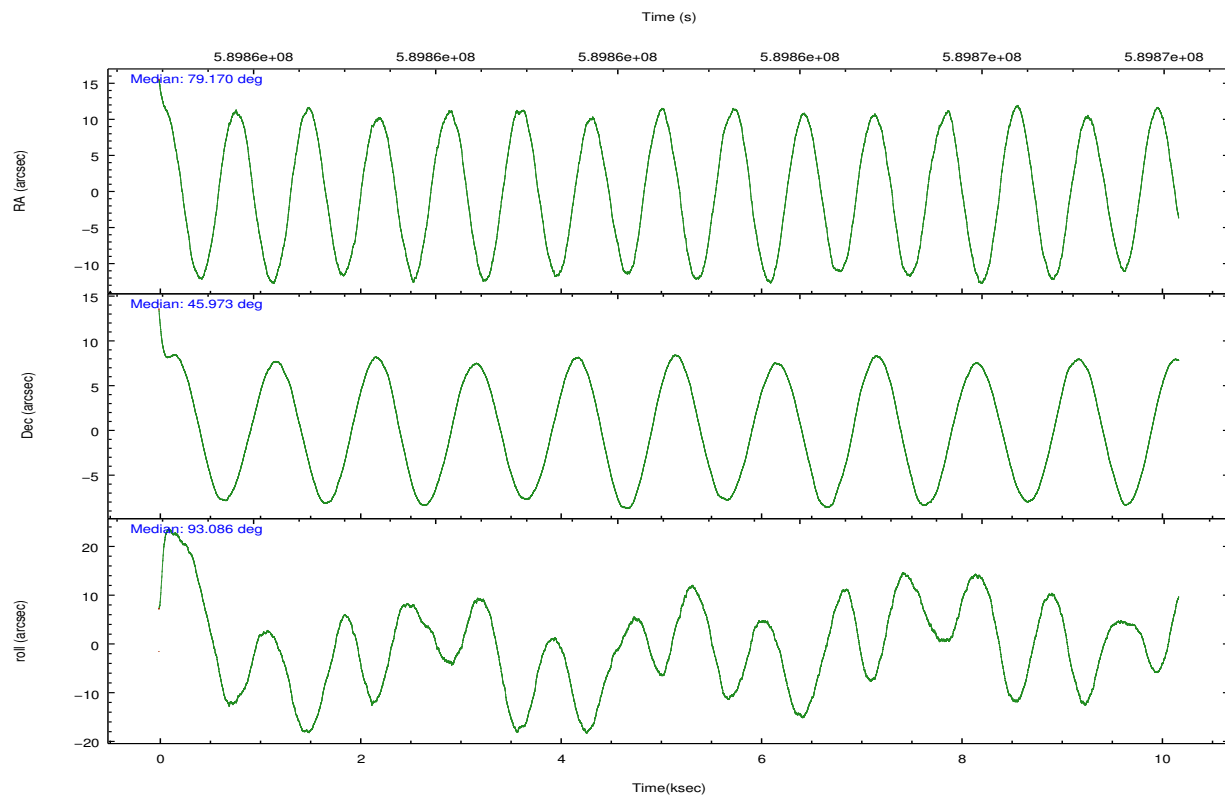
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-56789	ACIS-56789
Grating	LETG	LETG
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	79.191936	79.16999944227123
[deg] Pointing Dec	45.950721	45.97355759016805
[deg] Pointing Roll	92.916333	93.08870186984269
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-182.132523	-182.1370004450064
[mm] SIM translation stage offset	-8	-7.995522138001405
[s] Observation start time (MET)	589857634.184000	589856617.0253201
Observation start date	2016-09-10T01:19:26	2016-09-10T01:03:37
[s] Observation end time (MET)	589867634.184000	589867857.68847
Observation end date	2016-09-10T04:06:06	2016-09-10T04:10:57
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	N	N
CCD I3 on	N	N
CCD S0 on	N	N
CCD S1 on	Y	Y
CCD S2 on	Y	Y
CCD S3 on	Y	Y
CCD S4 on	Y	Y
CCD S5 on	O1	Y
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	CUSTOM	1/8
Subarray start row	113	113
Subarray row count	128	128
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	0.6

2.3 Aspect



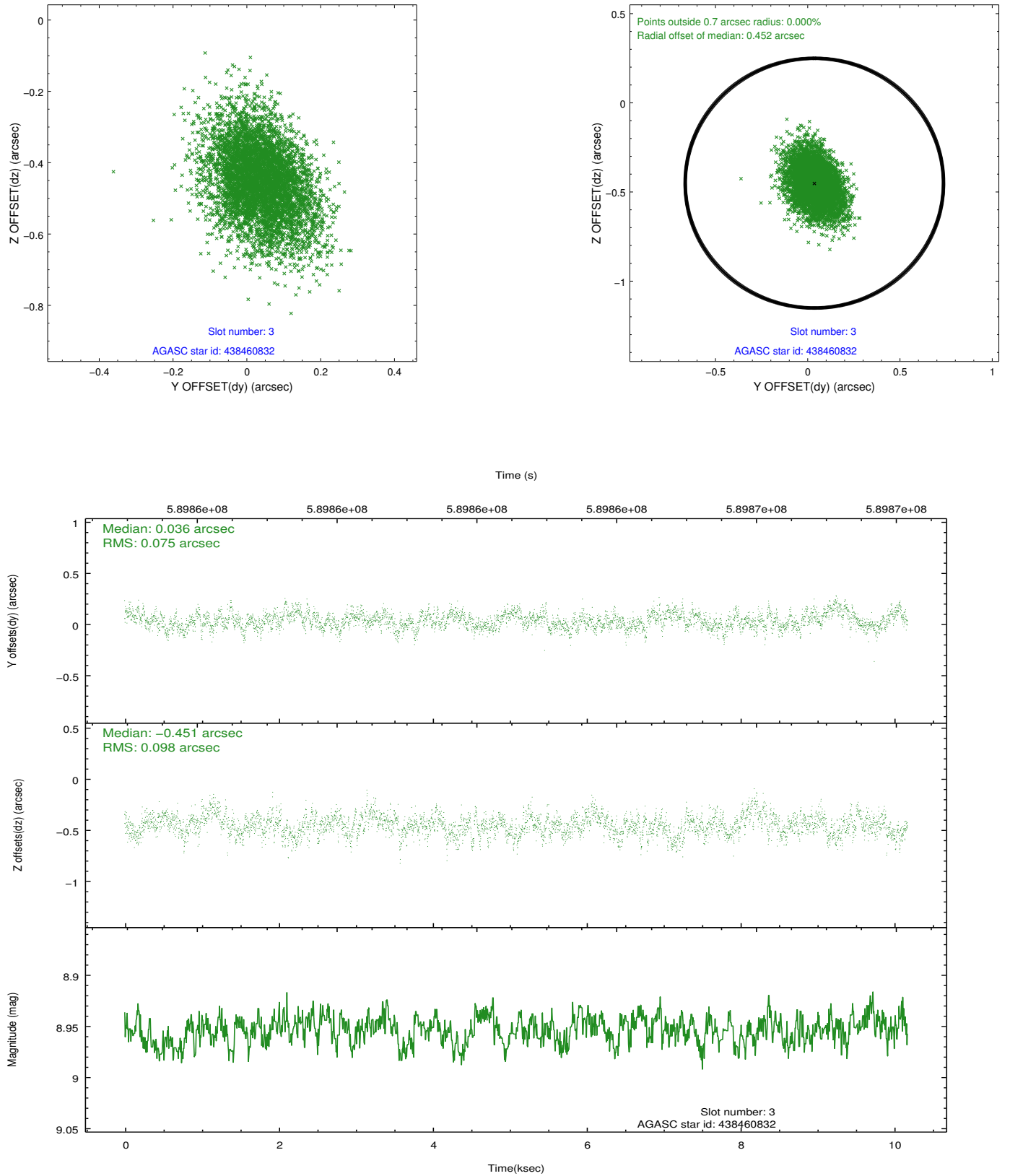


Slot Statistics

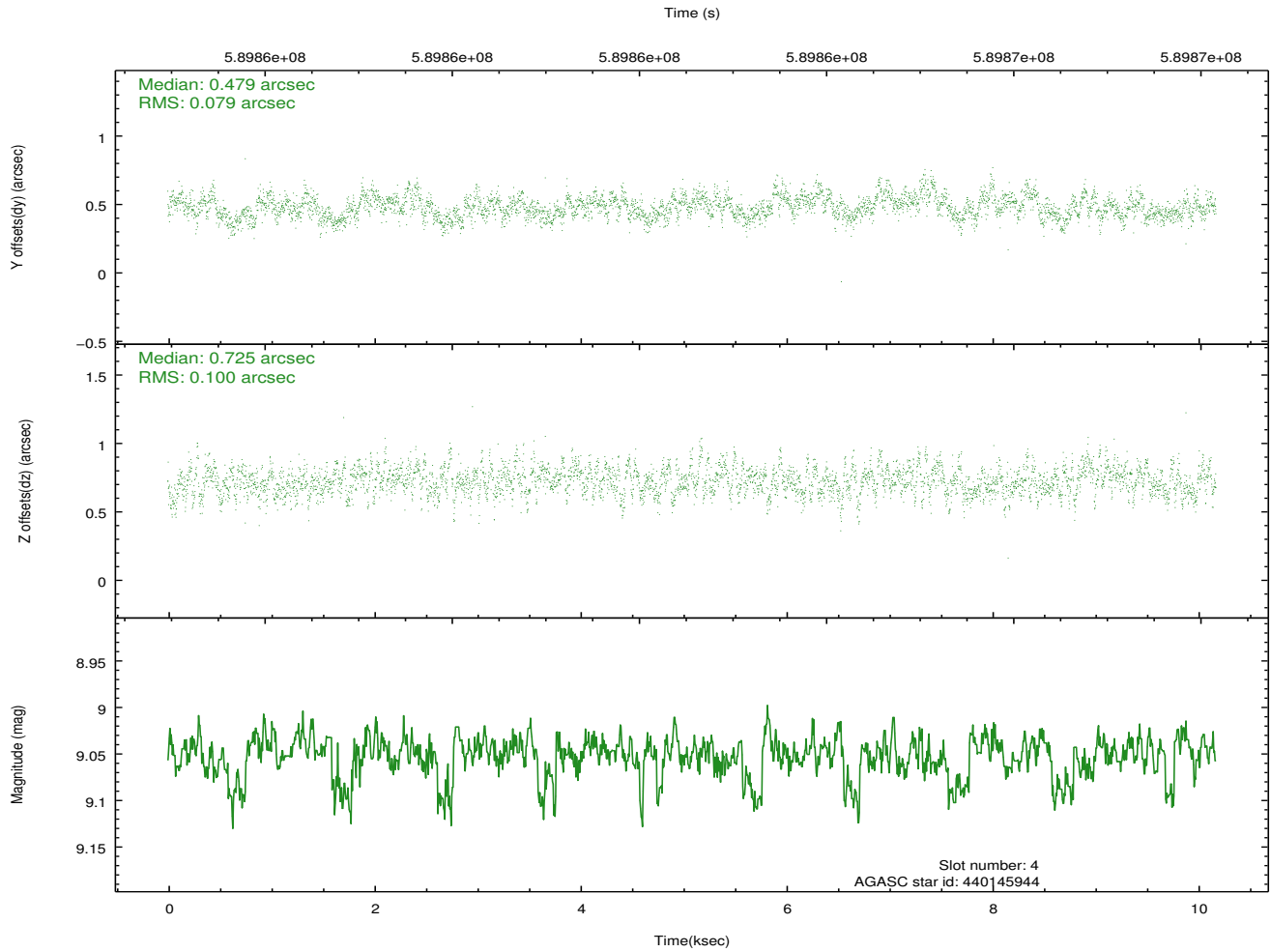
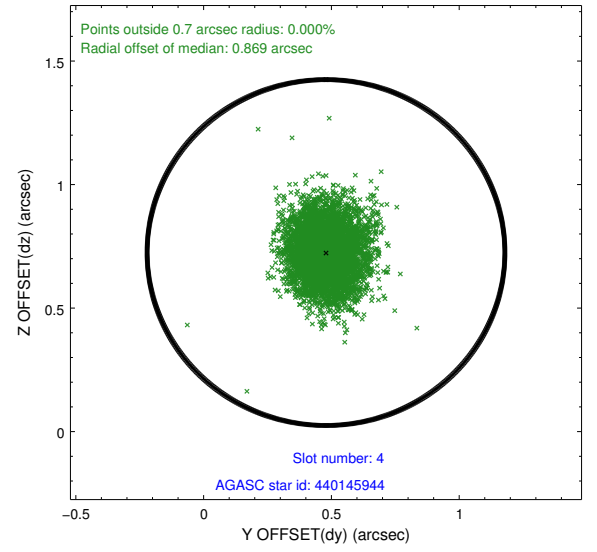
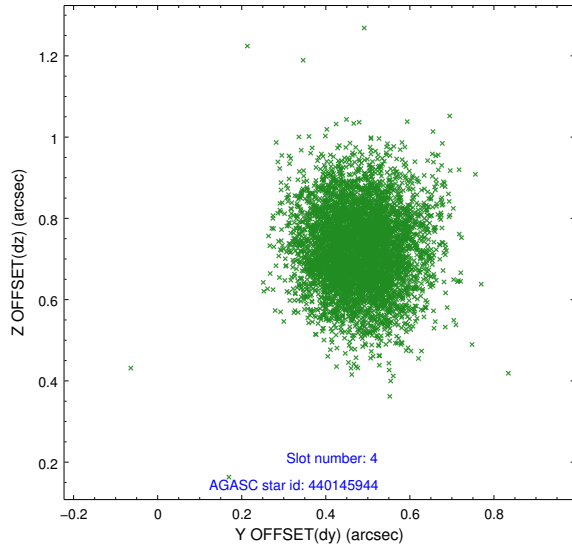
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.09	2483	-0.321	-0.200	0.008	0.015	0.000000	0.000000	-769.87	-1905.47
1	FID		ACIS-S-4	7.18	2483	0.322	0.205	0.008	0.013	0.000000	0.000000	2143.89	2.67
2	FID		ACIS-S-6	7.41	2483	-0.029	0.004	0.010	0.016	0.000000	0.000000	393.18	640.53
3	GUIDE	used	438460832	8.95	4961	0.036	-0.451	0.129	0.219	78.414614	45.554782	-1314.82	2028.70
4	GUIDE	used	440145944	9.05	4956	0.479	0.725	0.134	0.216	80.083717	45.428844	-1978.03	-2153.87
5	GUIDE	used	440150048	7.11	4965	-0.190	-0.170	0.117	0.198	79.112838	46.416060	1682.64	110.67
6	GUIDE	used	440163960	8.89	4959	0.359	0.281	0.122	0.199	79.298370	45.827072	-456.92	-243.67
7	GUIDE	used	438441368	9.94	4933	-0.711	-0.383	0.252	0.399	78.646413	46.420494	1761.82	1265.88

2.4 Star Slots

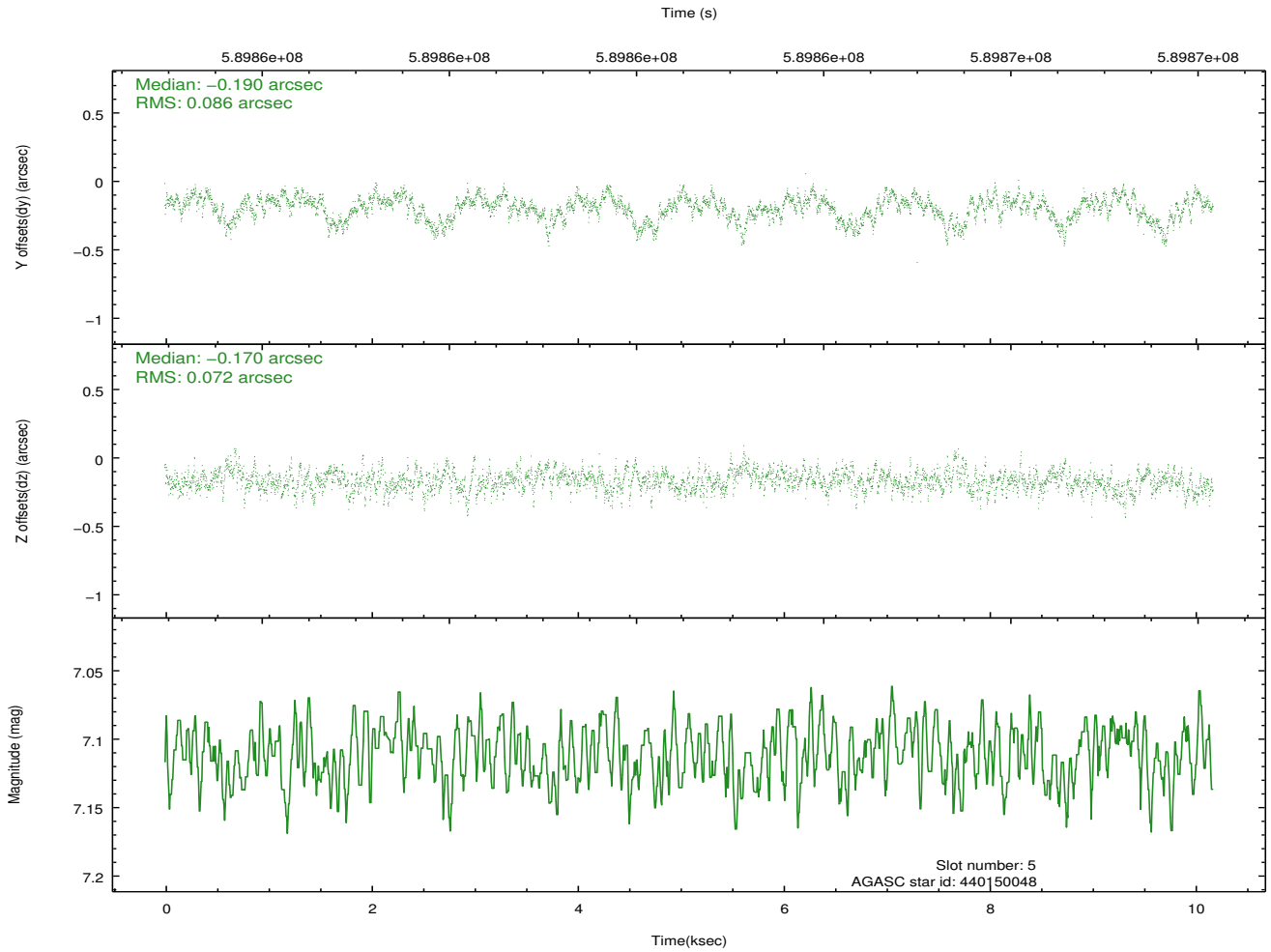
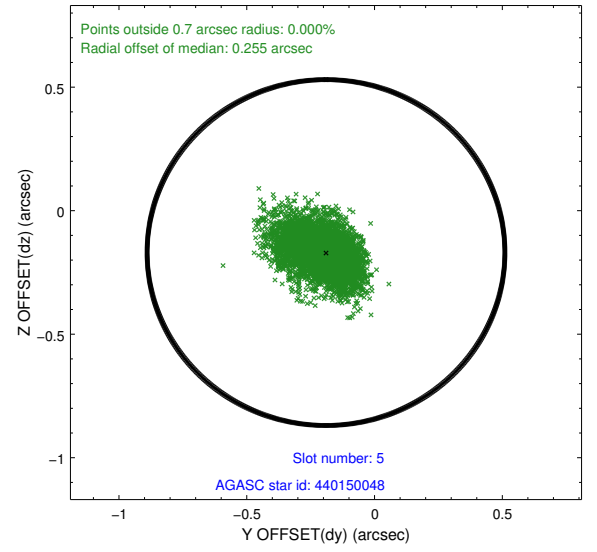
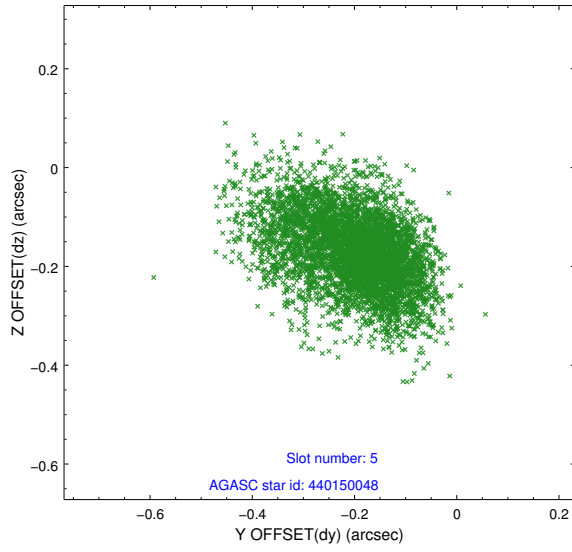
2.4.1 Slot 3



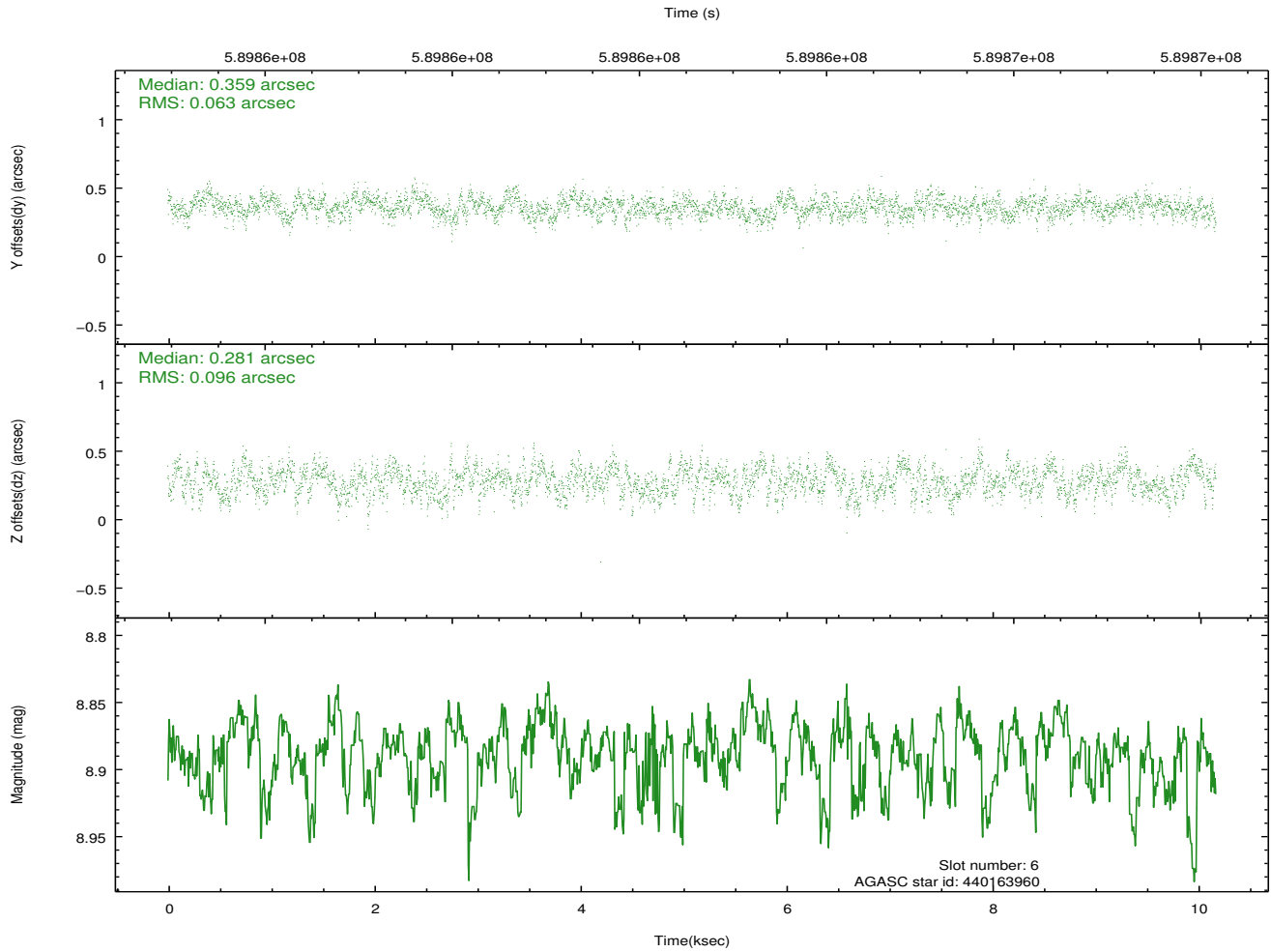
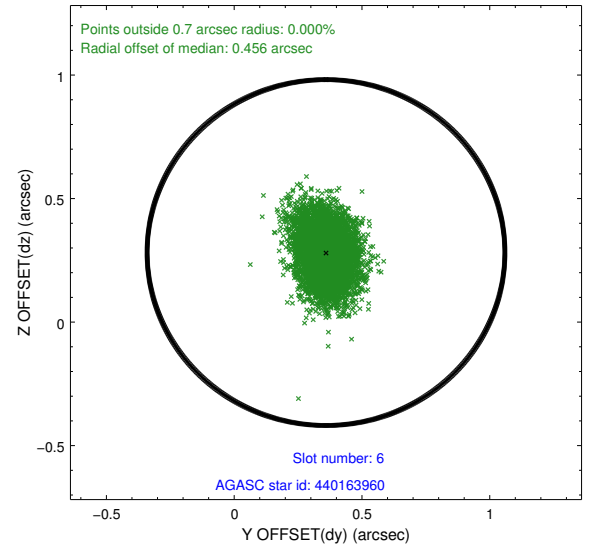
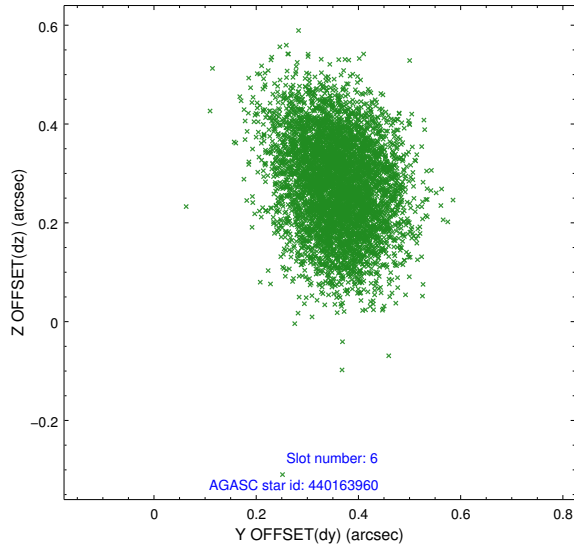
2.4.2 Slot 4



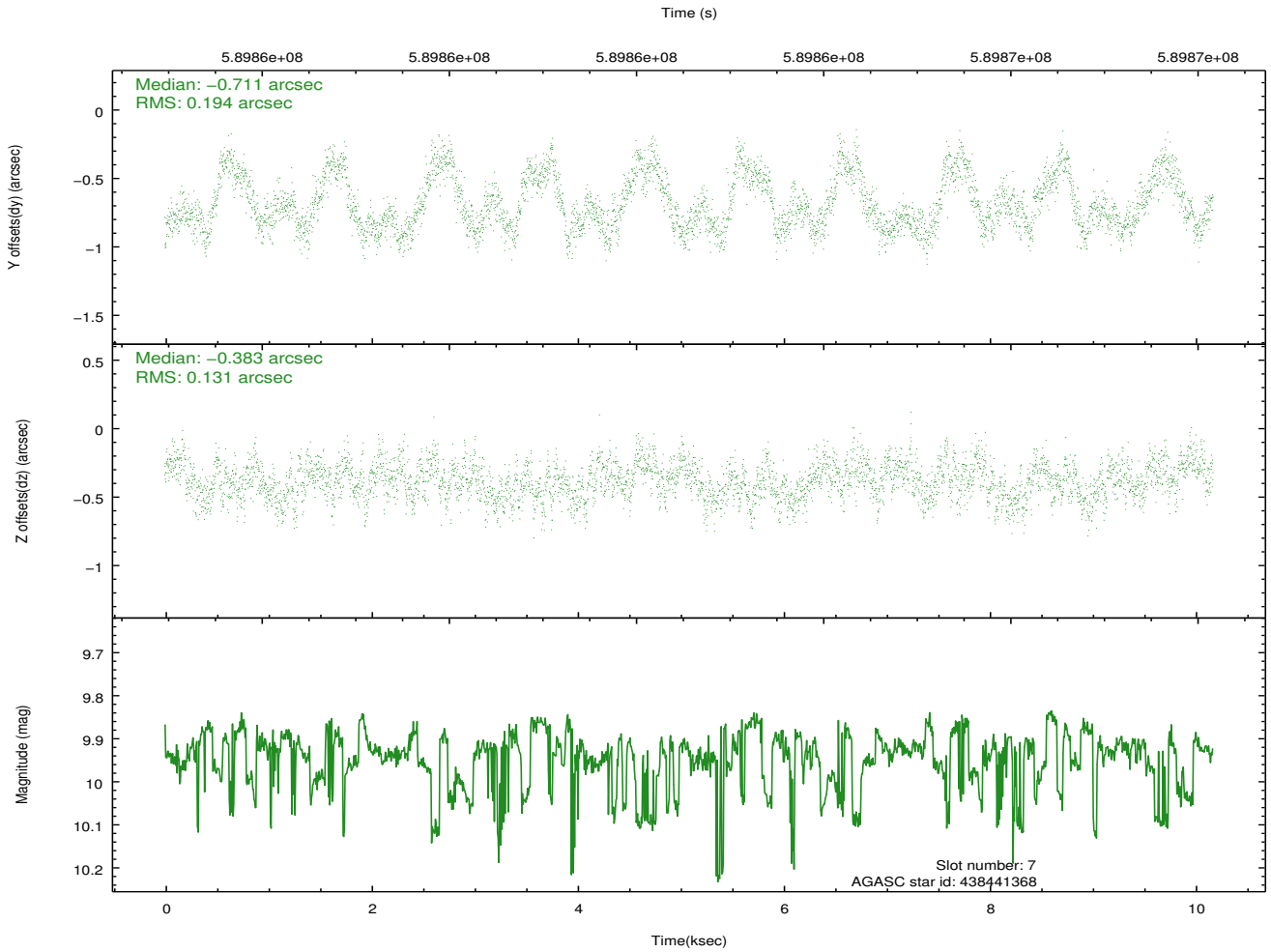
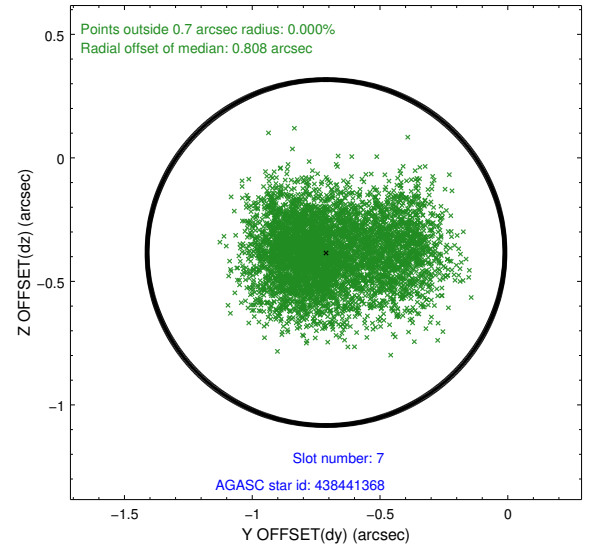
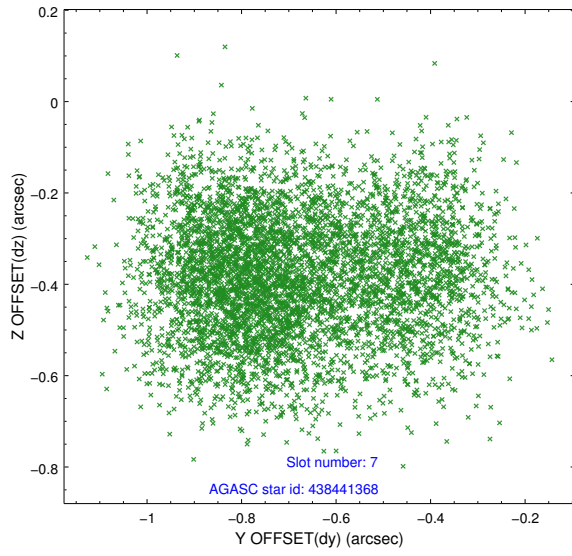
2.4.3 Slot 5



2.4.4 Slot 6

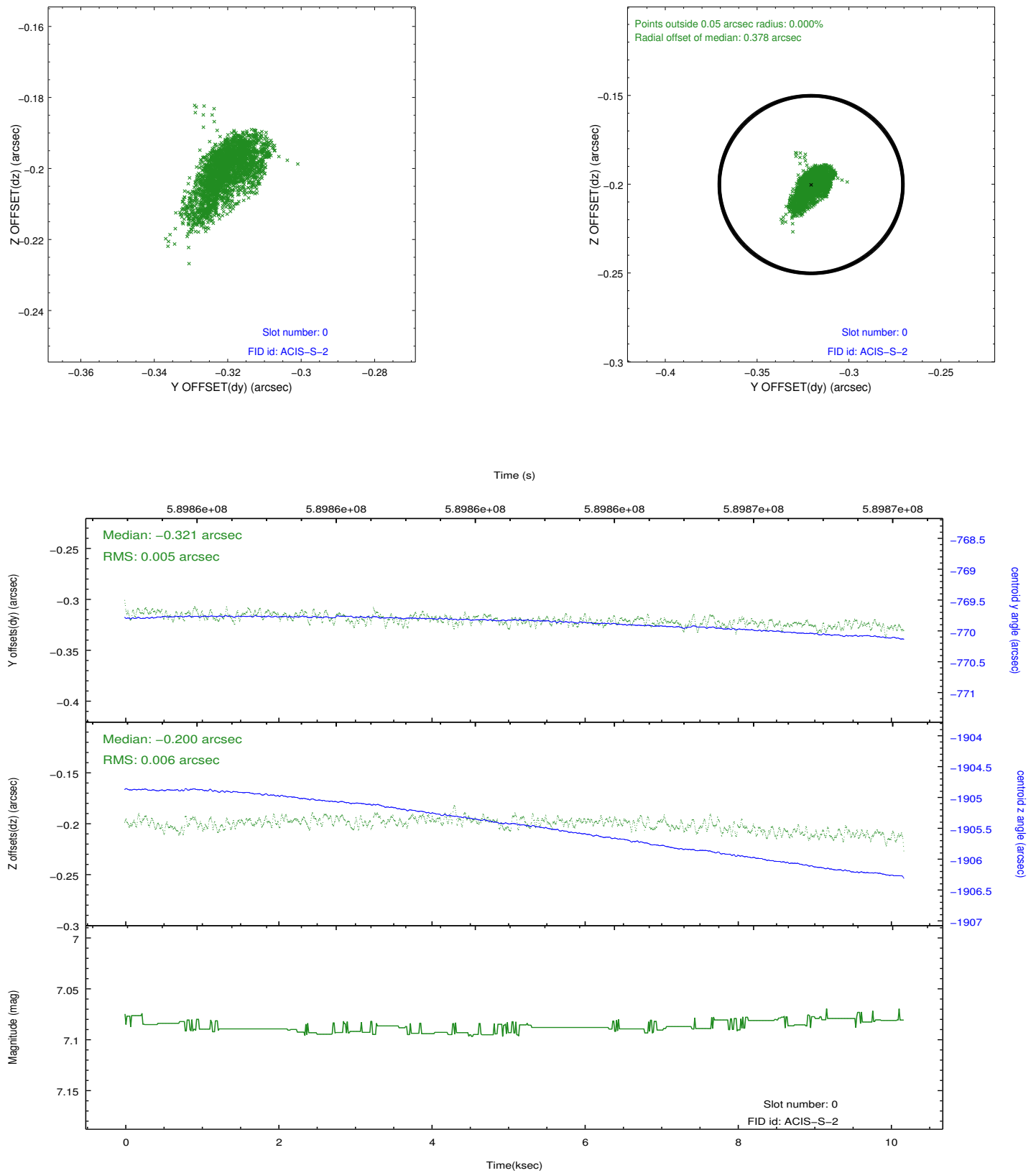


2.4.5 Slot 7

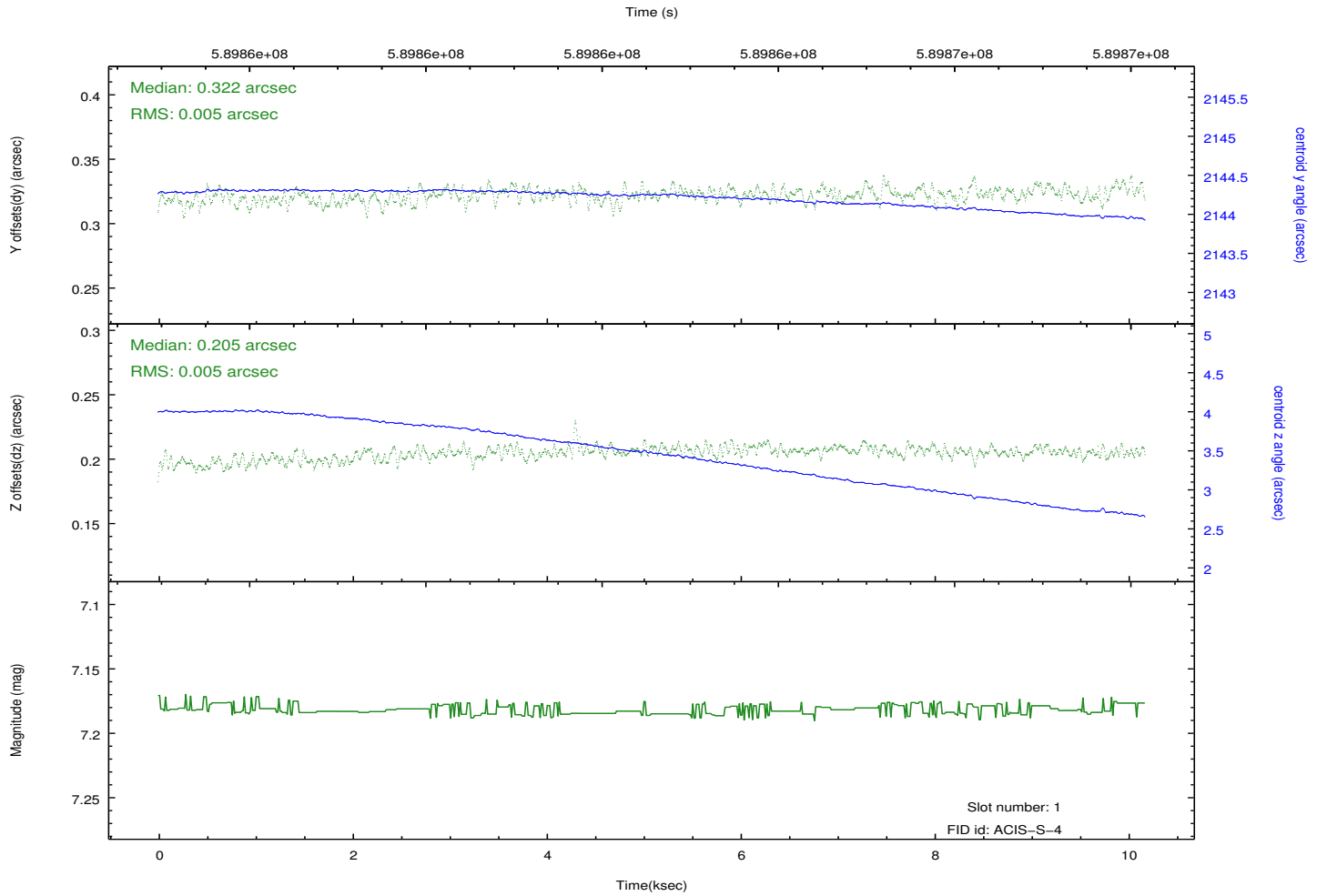
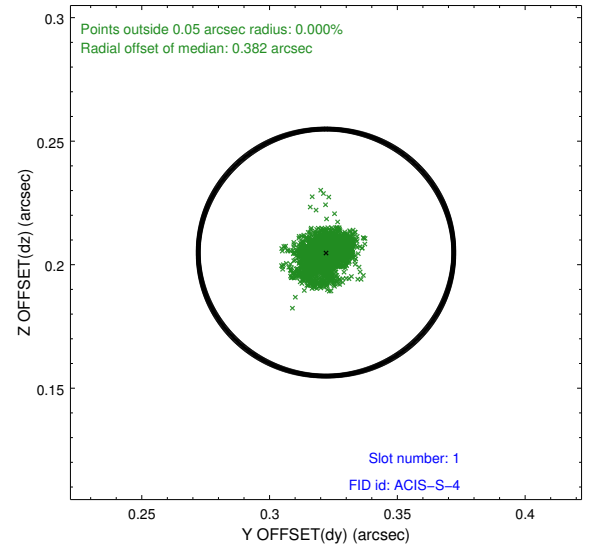
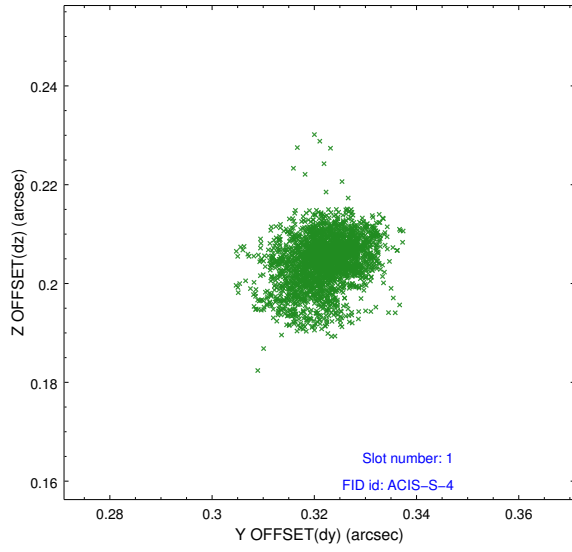


2.5 FID Slots

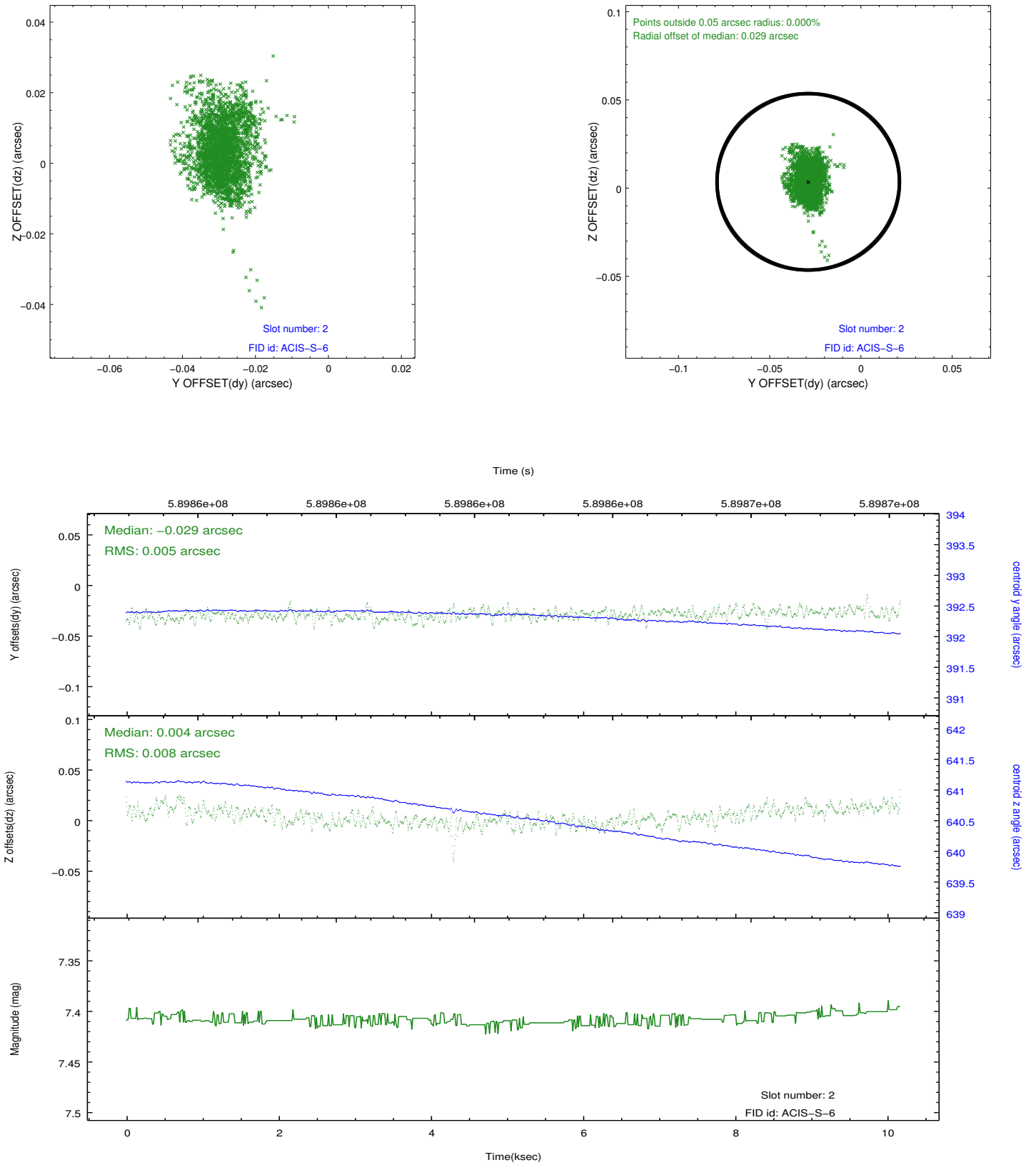
2.5.1 Slot 0



2.5.2 Slot 1

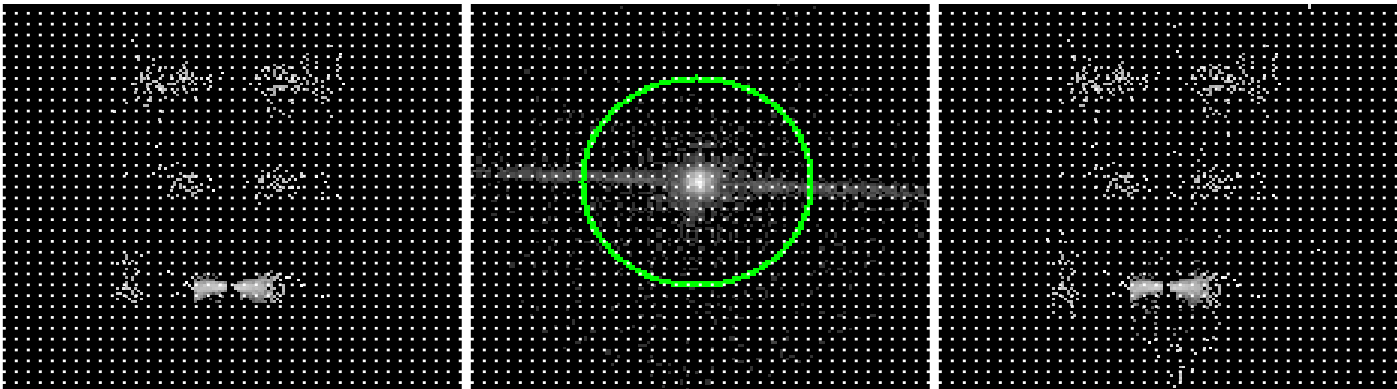


2.5.3 Slot 2



3 Gratings

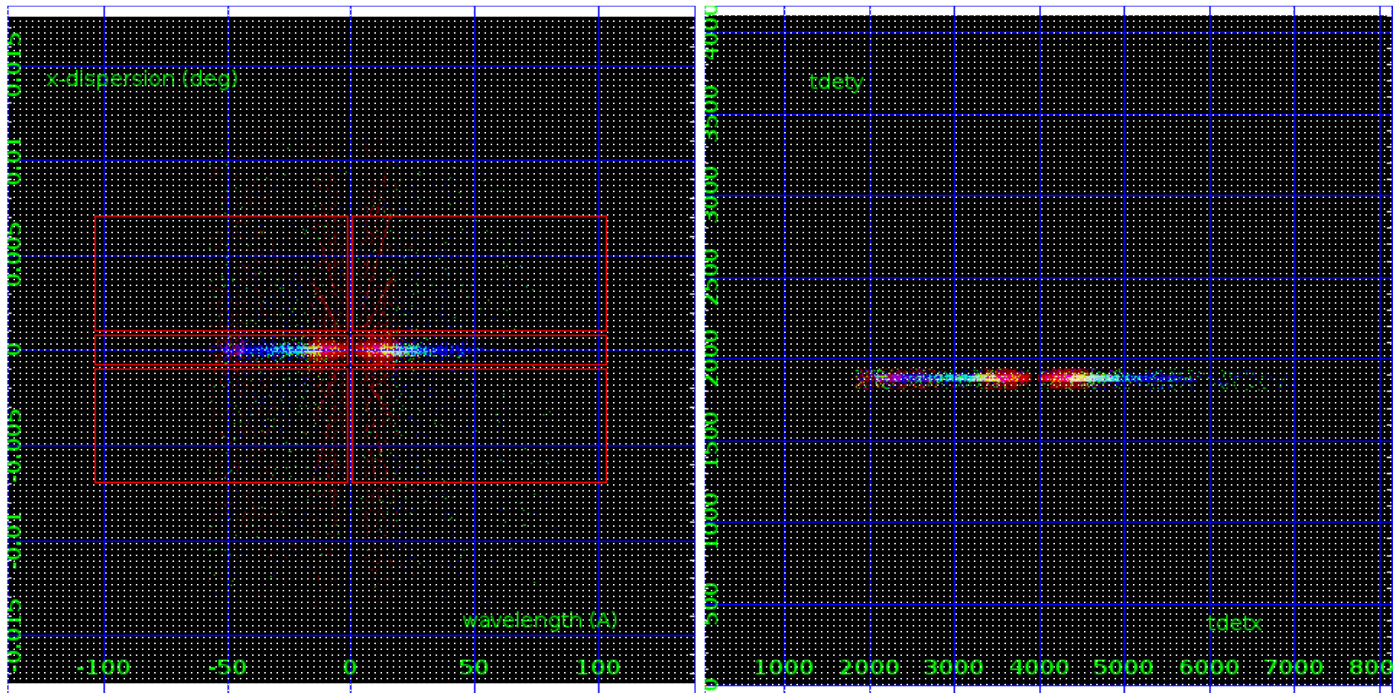
3.1 LETG Arm



LETG Order Sort 123

LETG Zero Order

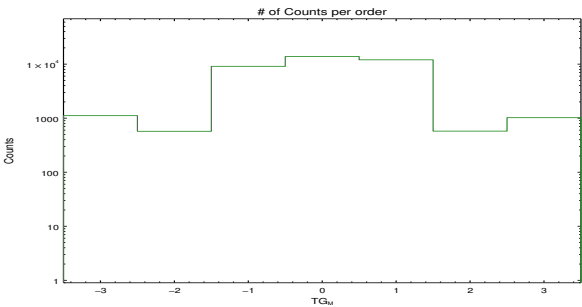
LETG Order Sort ALL

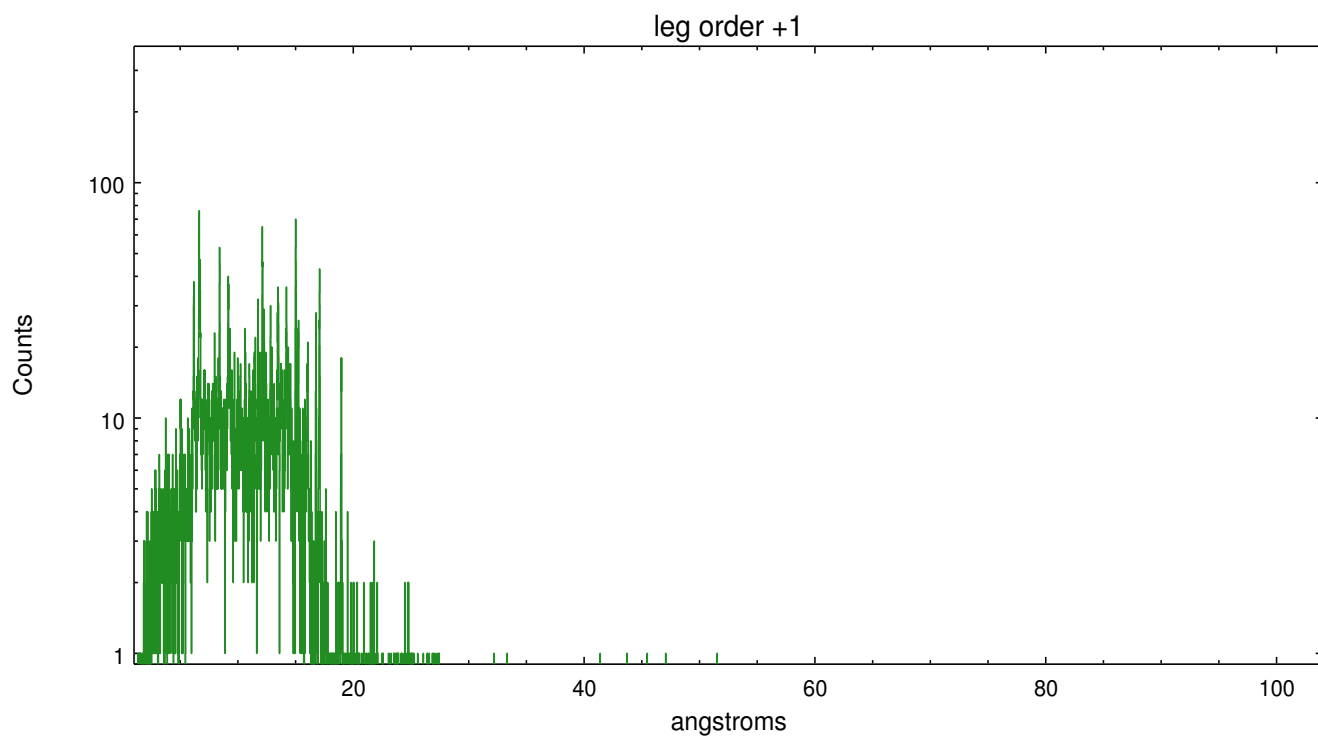
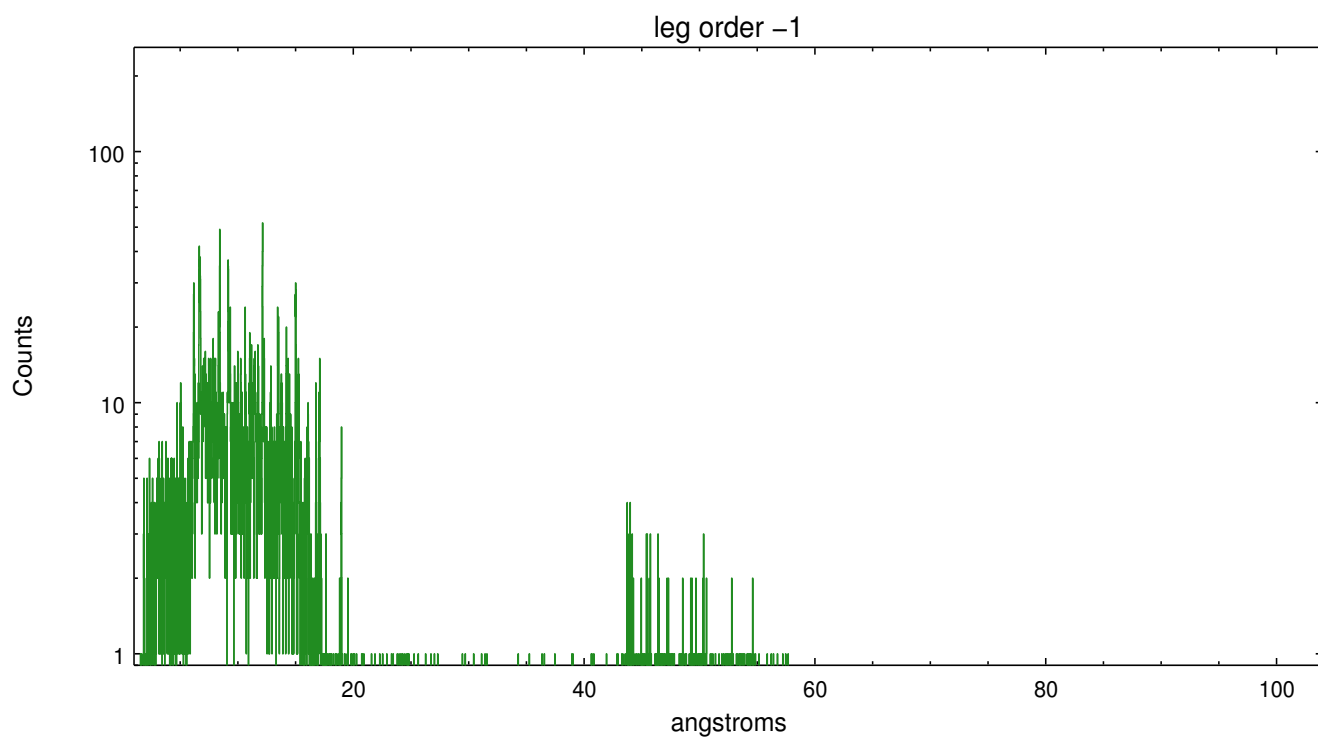


Spot Image LETG

Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1114	572	9111	13811	12018	576	1022





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2016.09.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.065000400066

A.2 Comments

Zeroth order piled up. The zeroth order sky position was determined using a software tool developed by CXC called findzero, which is available in CIAO as part of the tgdetect2 tool. The tool calculates the point of intersection of the readout streak on the ACIS CCD and the meg or leg dispersed spectral arm, rather than using a centroid position of the source. The findzero results are more accurate than source centroid in this case.