

V&V Reference Report

L2 ASCDS Version : 10.5

Observation 18357 - L2 Version 1
Chandra X-Ray Center

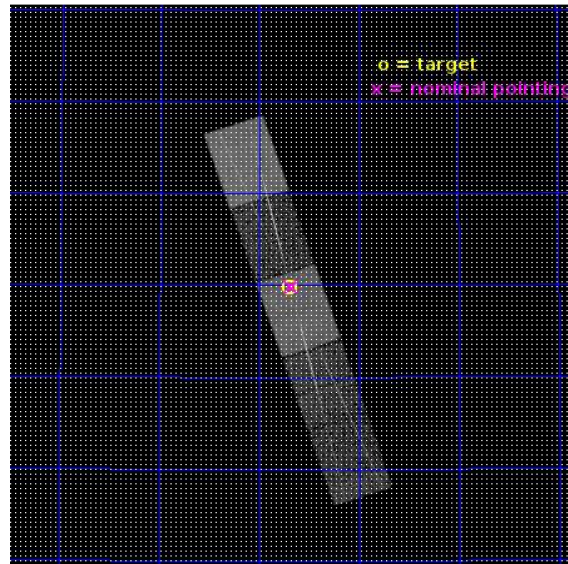
L2 Processing Date : Jul 26 2016

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1 Front

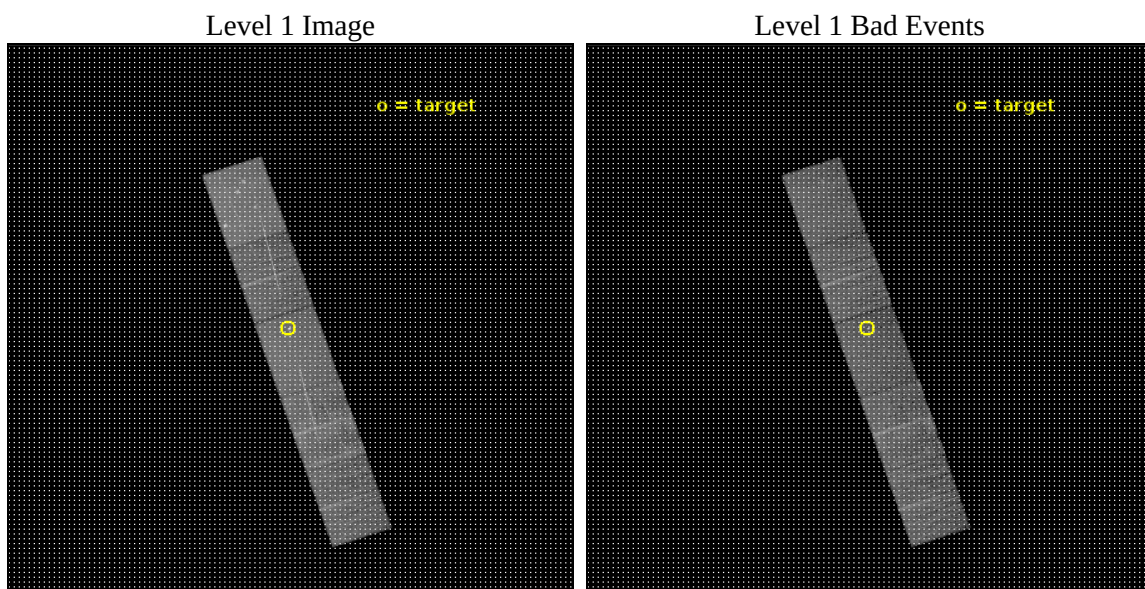
seq_num	291252	Sequence number
obs_id	18357	Observation id
title	AO-17 Internal Cross-Calibration Study	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	Capella	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	79.172917	Observer's specified target RA [deg]
dec_targ	45.996389	Observer's specified target Dec [deg]
ra_nom	79.169655532561	Nominal RA [deg]
dec_nom	45.997552851845	Nominal Dec [deg]
roll_nom	71.343815927549	Nominal Roll [deg]
revision	1	Processing version of data
ontime	15016.799850702	Sum of GTIs [s]
livetime	14764.329810935	Livetime [s]
ontime5	15016.799850702	Sum of GTIs [s]
ontime6	15016.799850702	Sum of GTIs [s]
ontime7	15016.799850702	Sum of GTIs [s]
ontime8	15014.358860493	Sum of GTIs [s]
ontime9	15016.799850702	Sum of GTIs [s]
l2events	140671	Number of level 2 events



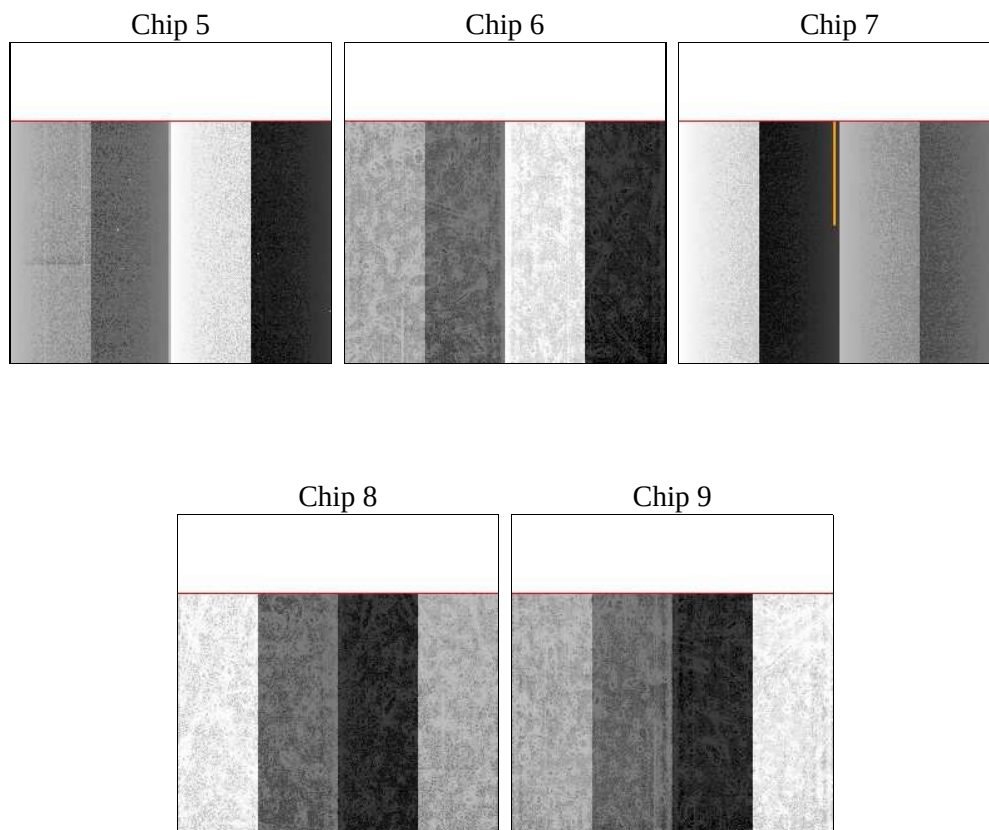
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	15000.000000	[s] Scheduled observation exposure time
ascdsver	10.5	Processing system revision	ontime	15016.799850702	Sum of GTIs [s]
caldbver	4.7.2	 	ontime5	15016.799850702	Sum of GTIs [s]
date	2016-07-27T02:55:53	Date and time of file creation	ontime6	15016.799850702	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	15016.799850702	Sum of GTIs [s]
			ontime8	15014.358860493	Sum of GTIs [s]
			ontime9	15016.799850702	Sum of GTIs [s]
			l1events	483167	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4081.19, 4084.95)	src1a sky pixel position
					src1a sky pixel position via

2.1.4 Events

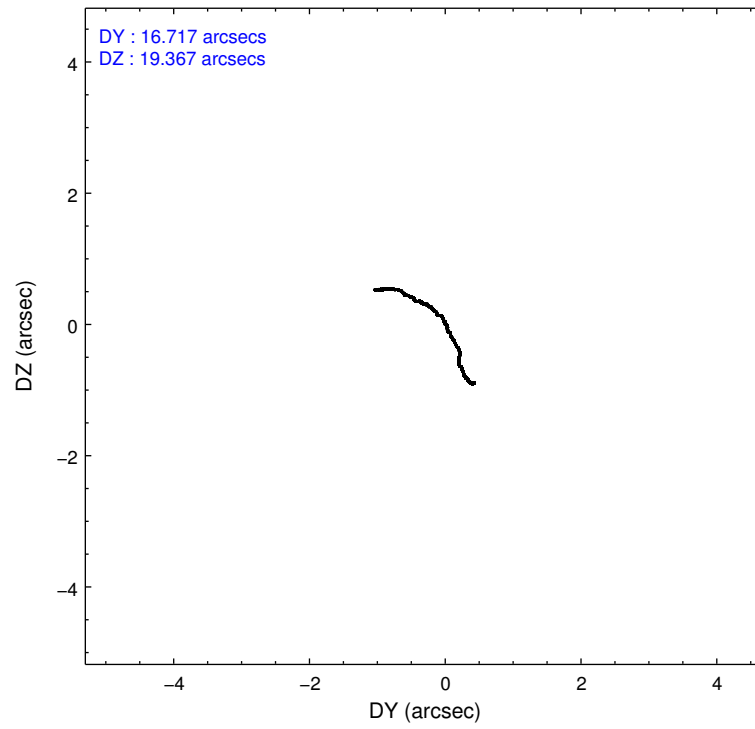
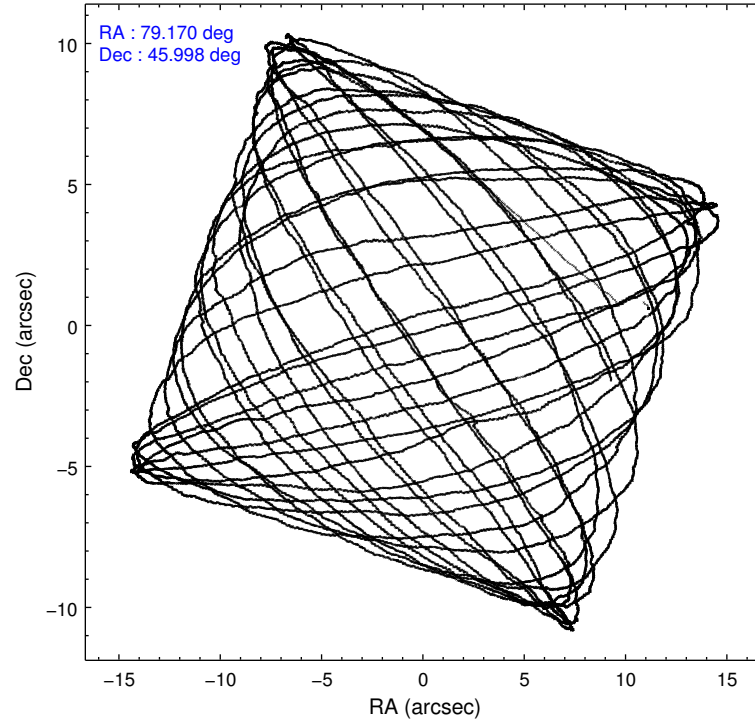
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	121699	80125	104764	101923	74656
rejected events	58976	65876	54854	70998	64557
rejected %	48%	82%	52%	69%	86%

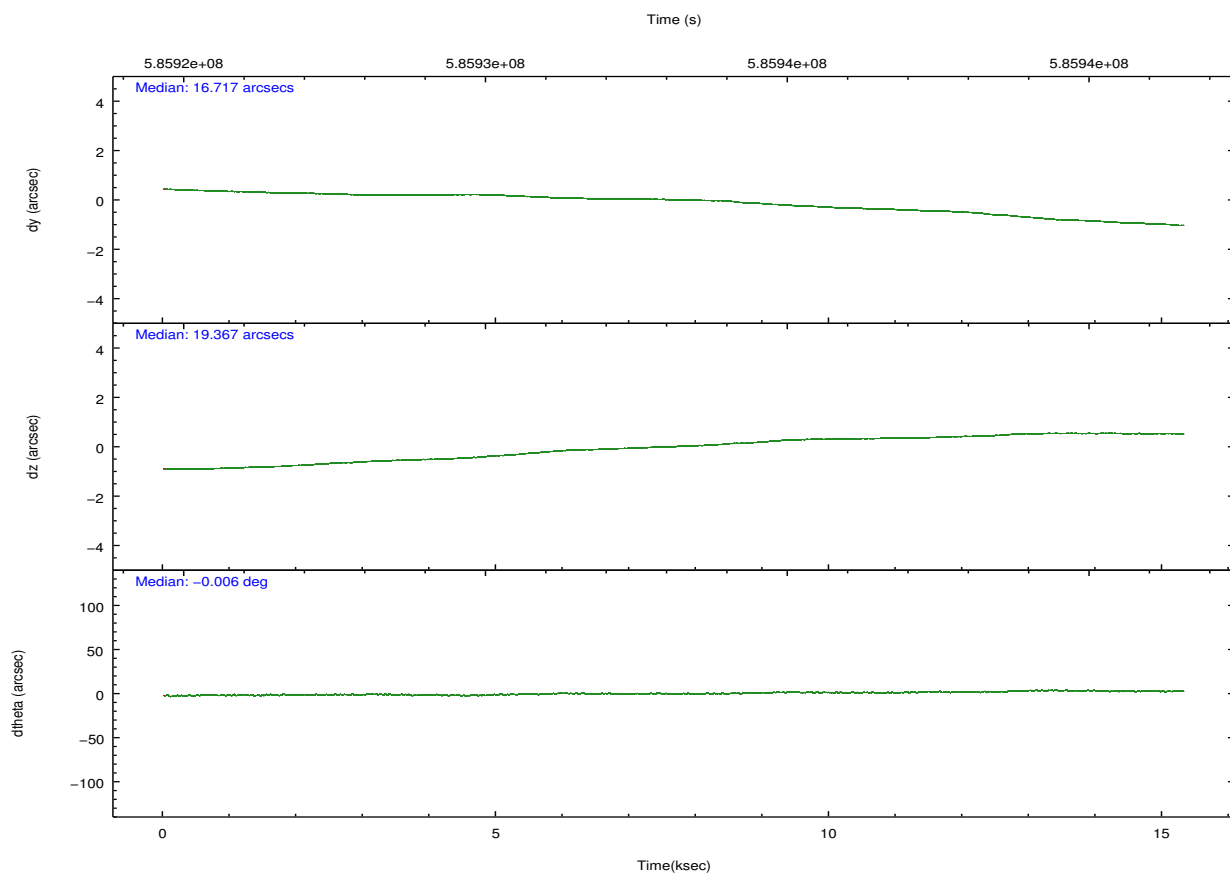
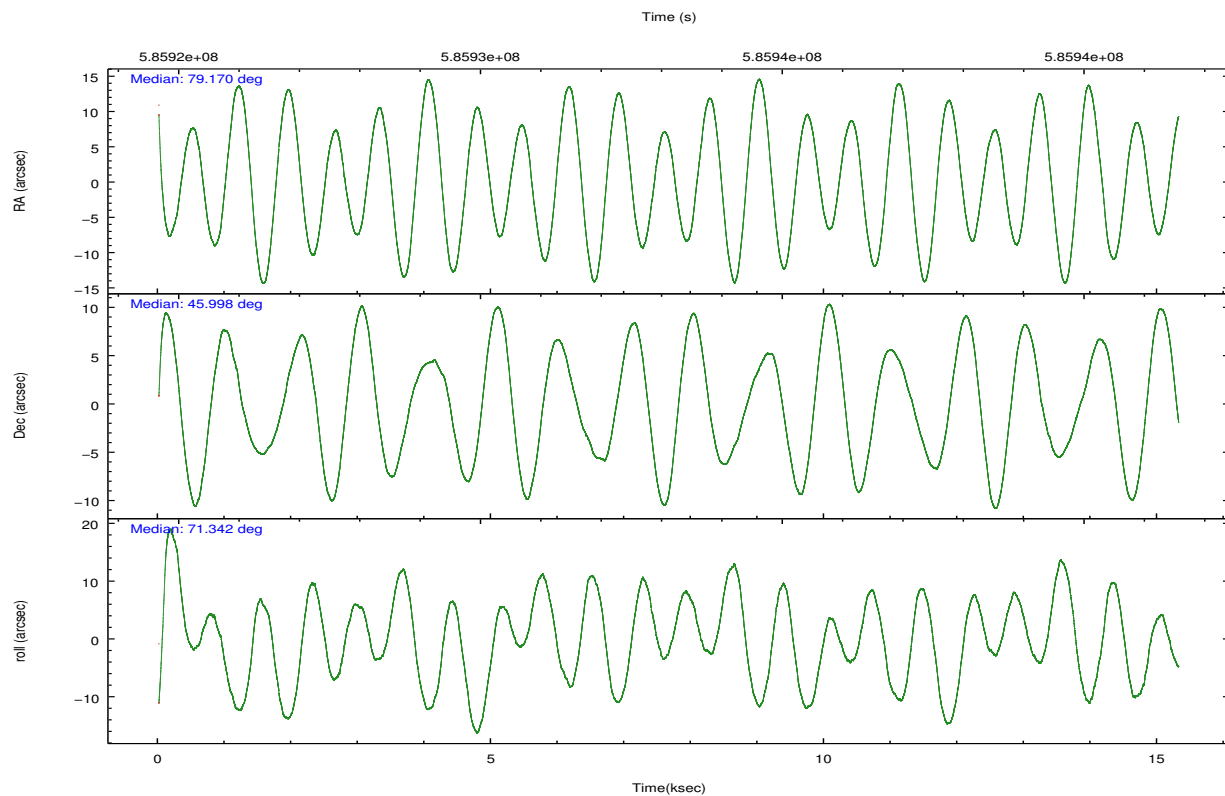
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	9750	7639	5656	12204	3981
	8%	9%	5%	11%	5%
grade 1 events	420	59	318	77	44
	0%	0%	0%	0%	0%
grade 2 events	18014	2515	10772	6505	2131
	14%	3%	10%	6%	2%
grade 3 events	2493	1094	4423	2752	987
	2%	1%	4%	2%	1%
grade 4 events	2399	1042	4512	2526	1011
	1%	1%	4%	2%	1%
grade 5 events	8600	3494	10286	5073	3927
	7%	4%	9%	4%	5%
grade 6 events	30085	1963	24556	6945	1990
	24%	2%	23%	6%	2%
grade 7 events	49938	62319	44241	65841	60585
	41%	77%	42%	64%	81%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-56789	ACIS-56789	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	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	79.177956	79.16965553256074	CCD I2 on	N	N
[deg] Pointing Dec	45.970680	45.99755285184541	CCD I3 on	N	N
[deg] Pointing Roll	71.181239	71.34381592754895	CCD S0 on	N	N
[s] Window start time (MET)	581126468.184000	581126468.184000	CCD S1 on	Y	Y
[s] Window stop time (MET)	588988868.184000	588988868.184000	CCD S2 on	Y	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S3 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S4 on	Y	Y
[mm] SIM translation stage pos	-187.132523	-187.127916318603	CCD S5 on	O1	Y
[mm] SIM translation stage offset	-3	-3.004606264404799	Number of optional ACIS chips dropped	0	0
[s] Observation start time (MET)	585925593.184000	585924298.59929	On-chip summing requested	N	N
Observation start date	2016-07-26T13:05:25	2016-07-26T12:44:58	Subarray requested	CUSTOM	CUSTOM
[s] Observation end time (MET)	585940593.184000	585941029.16275	Subarray start row	1	1
Observation end date	2016-07-26T17:15:25	2016-07-26T17:23:49	Subarray row count	774	774
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	2.4

2.3 Aspect



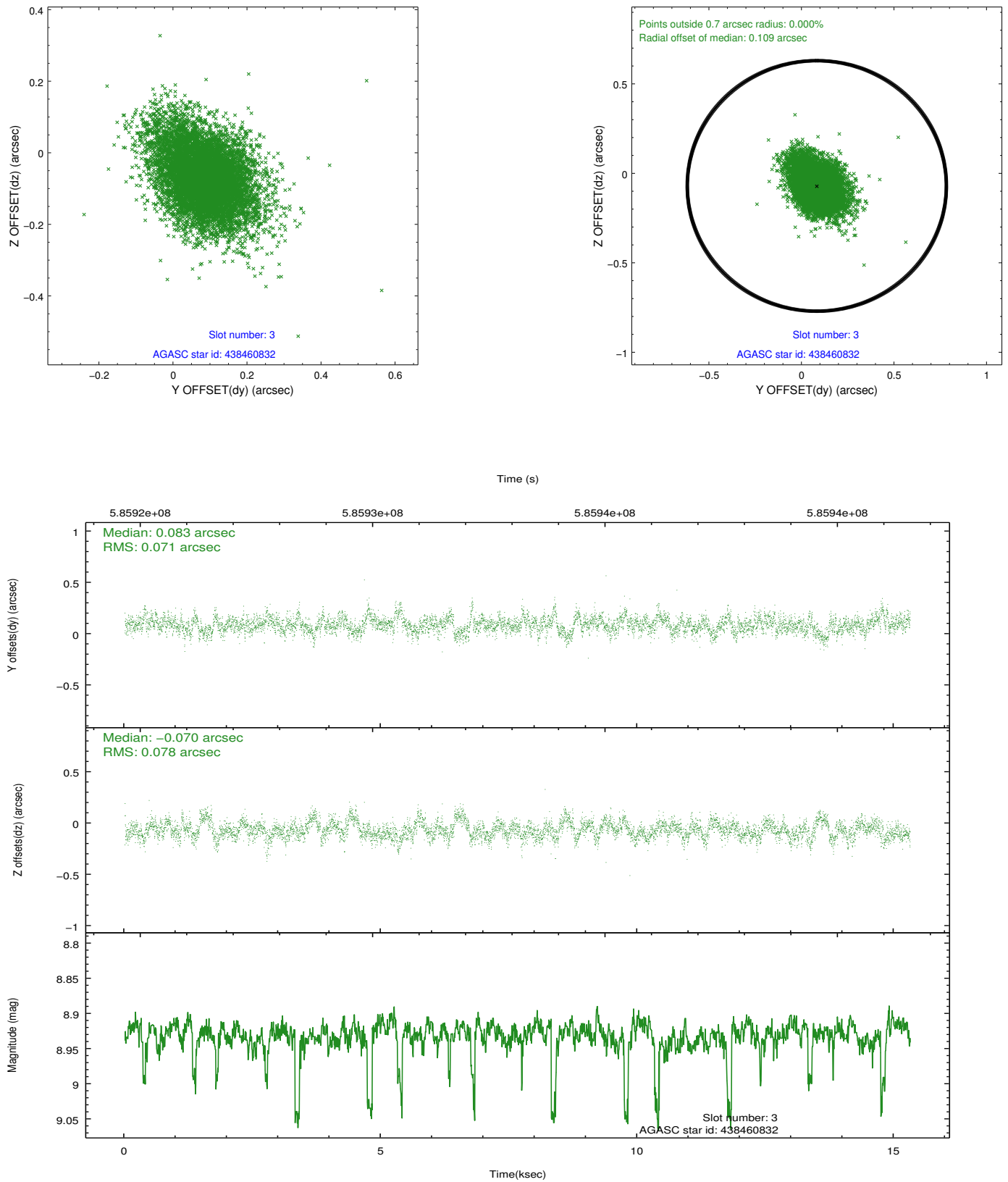


Slot Statistics

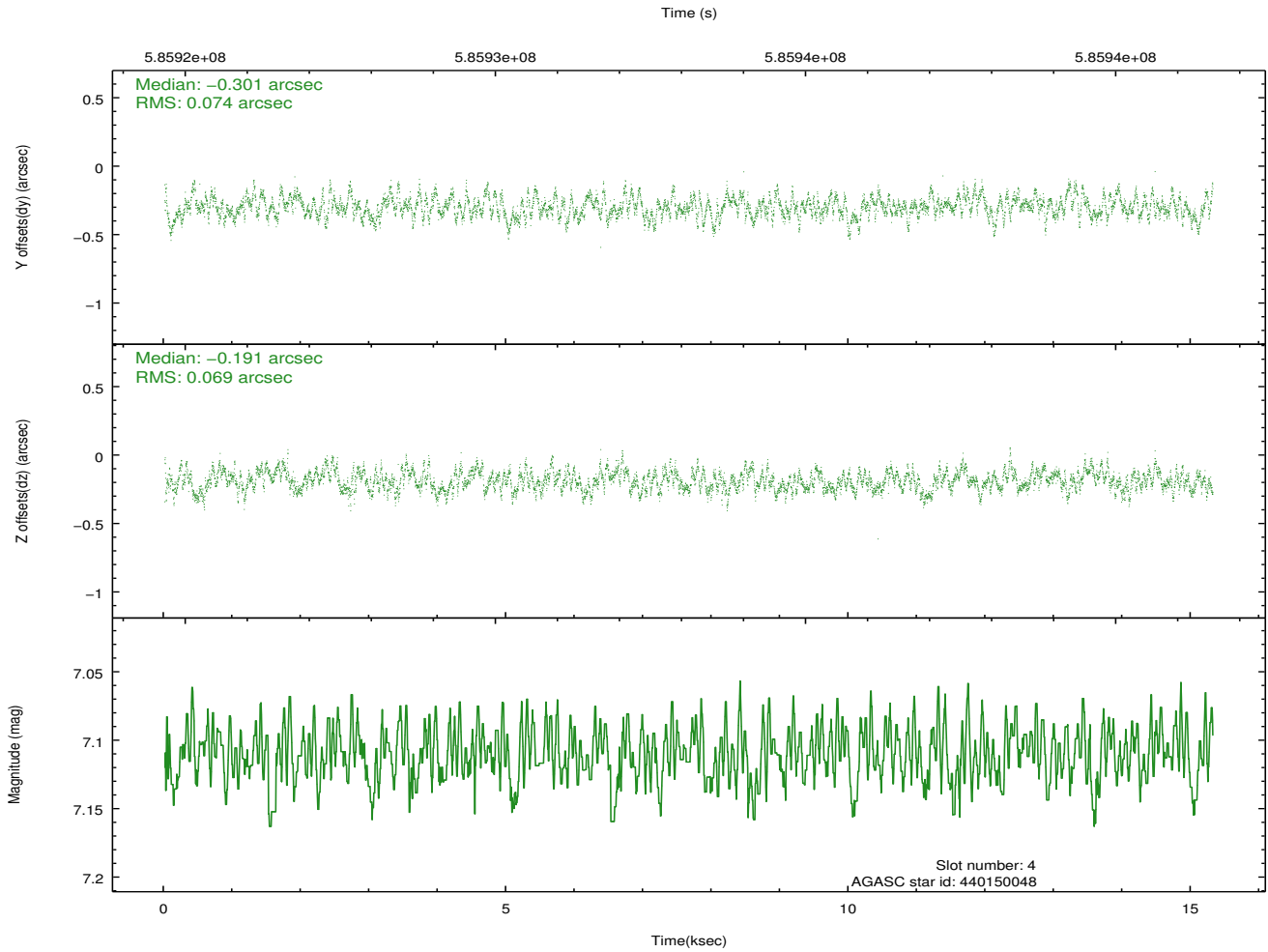
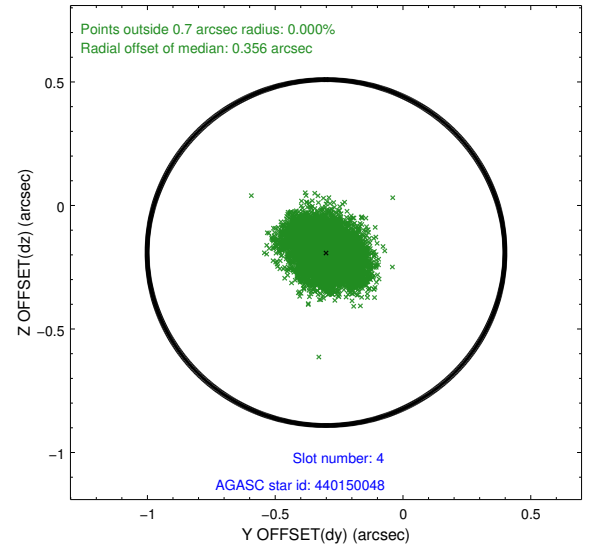
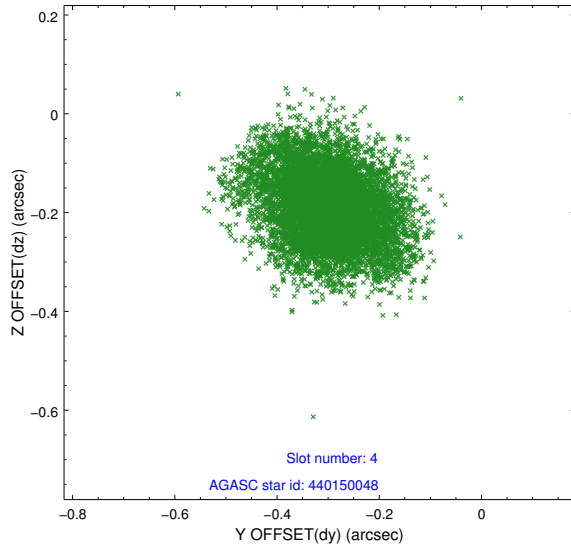
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.03	3735	-0.216	-0.098	0.021	0.033	0.000000	0.000000	-769.55	-1802.95
1	FID		ACIS-S-4	7.12	3735	0.443	0.130	0.013	0.025	0.000000	0.000000	2144.21	105.51
2	FID		ACIS-S-5	7.14	3735	-0.258	-0.025	0.019	0.032	0.000000	0.000000	-1822.11	99.26
3	GUIDE	used	438460832	8.93	7463	0.083	-0.070	0.108	0.191	78.414614	45.554782	-2029.75	1341.10
4	GUIDE	used	440150048	7.11	7469	-0.301	-0.191	0.108	0.174	79.112838	46.416060	1464.85	670.37
5	GUIDE	used	438461584	9.22	7459	-0.031	-0.060	0.167	0.282	78.061532	45.583834	-2207.23	2219.70
6	GUIDE	used	440140240	9.93	7458	-0.312	-0.284	0.224	0.349	78.889349	46.726437	2346.01	1552.47
7	GUIDE	used	440149480	9.13	7459	0.555	0.608	0.132	0.216	79.794341	45.220426	-2045.93	-2348.01

2.4 Star Slots

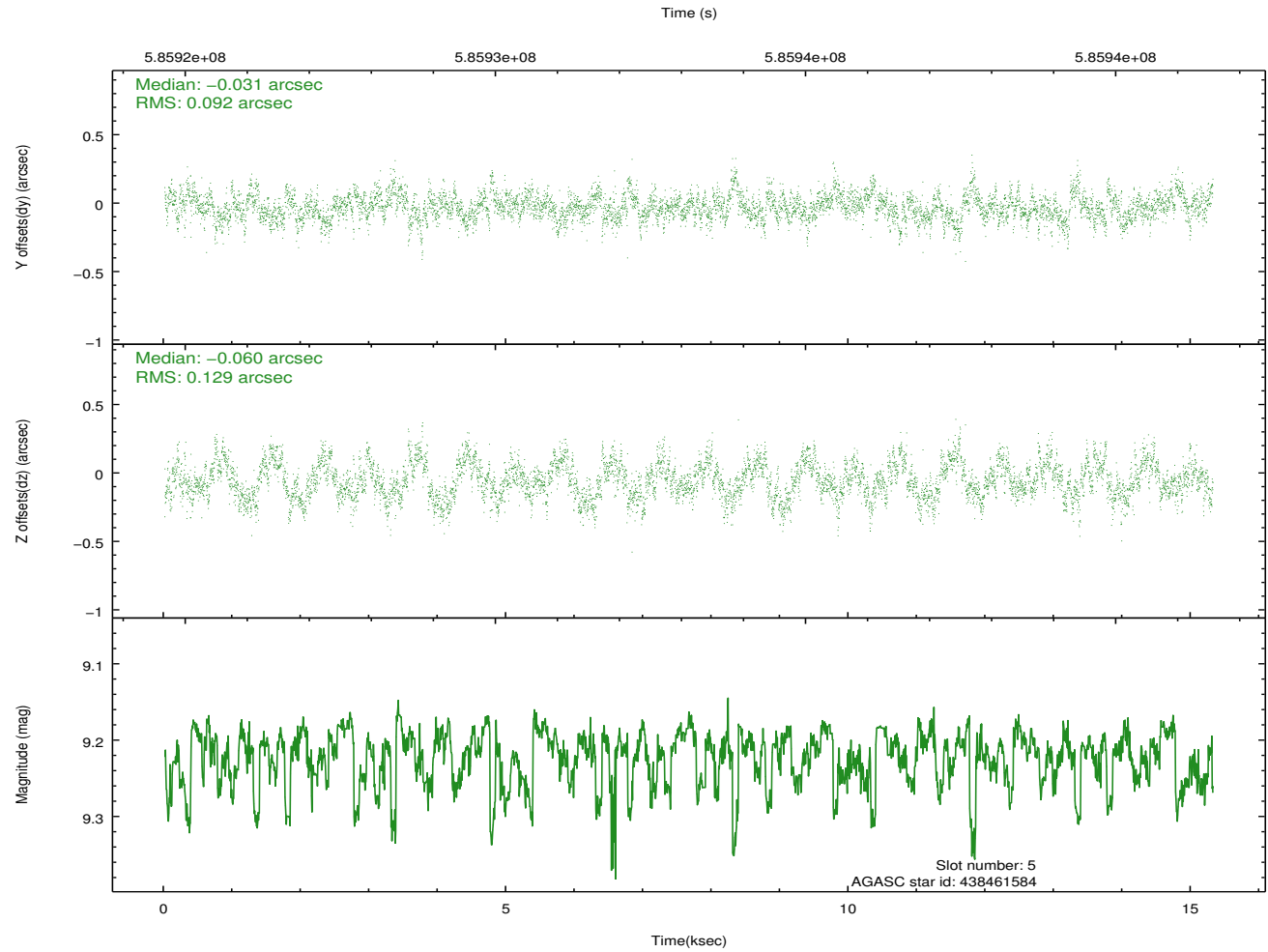
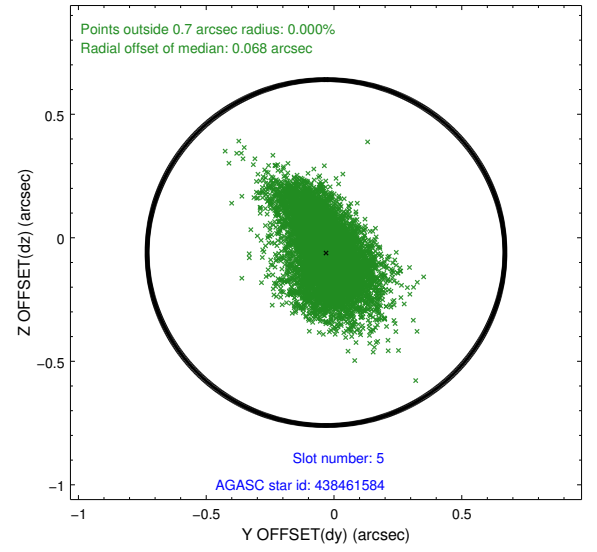
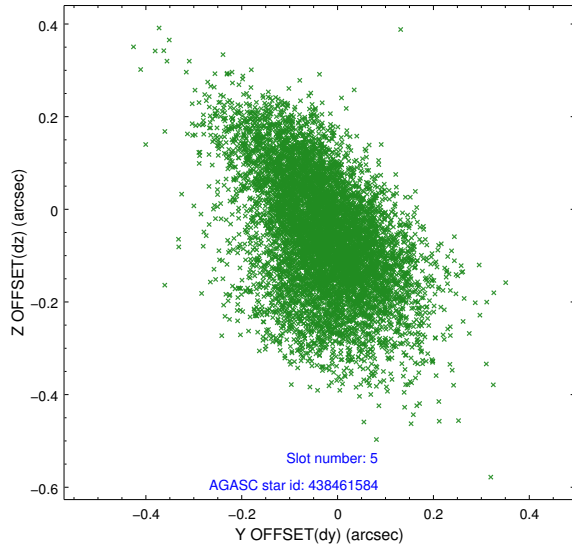
2.4.1 Slot 3



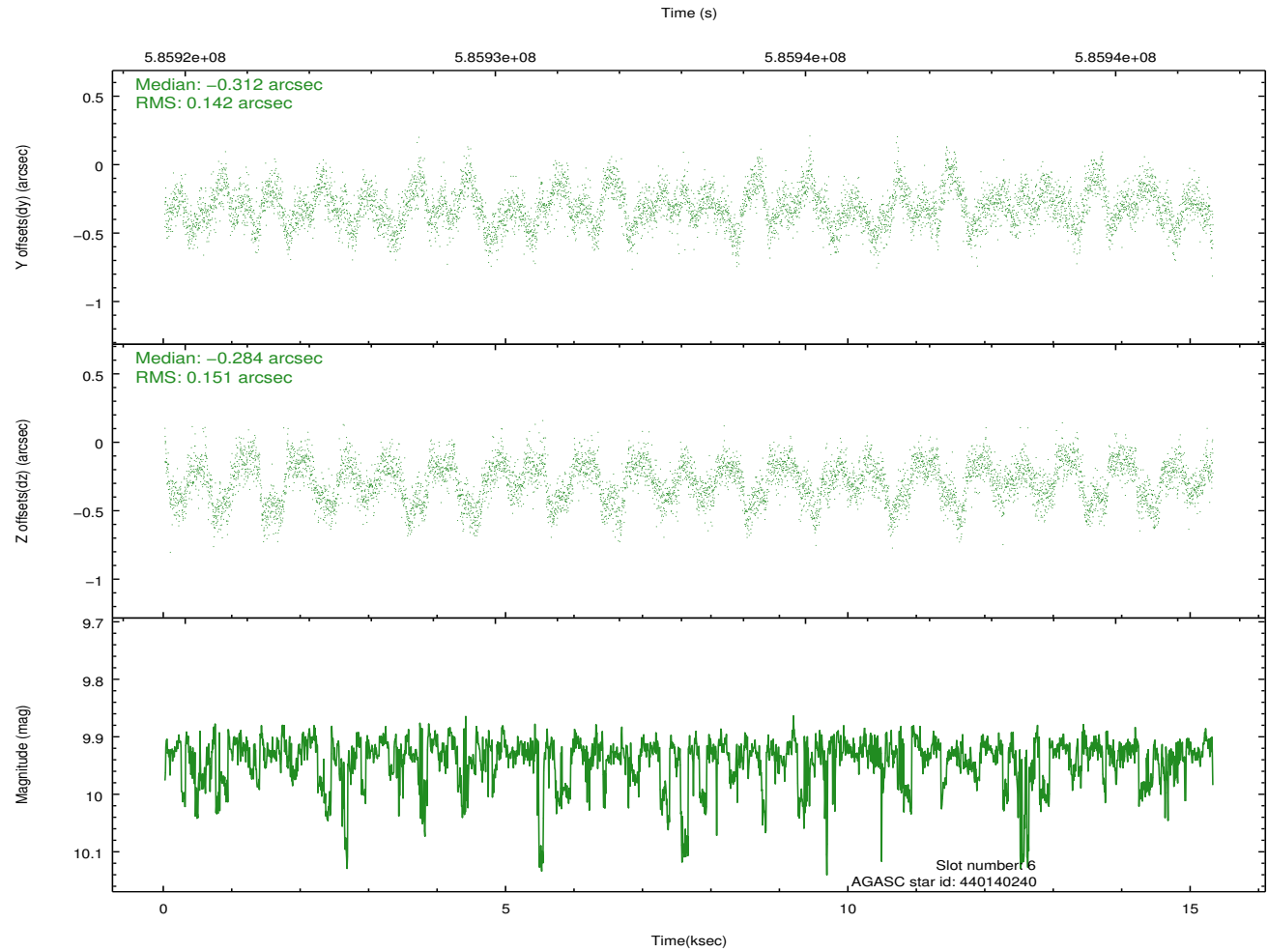
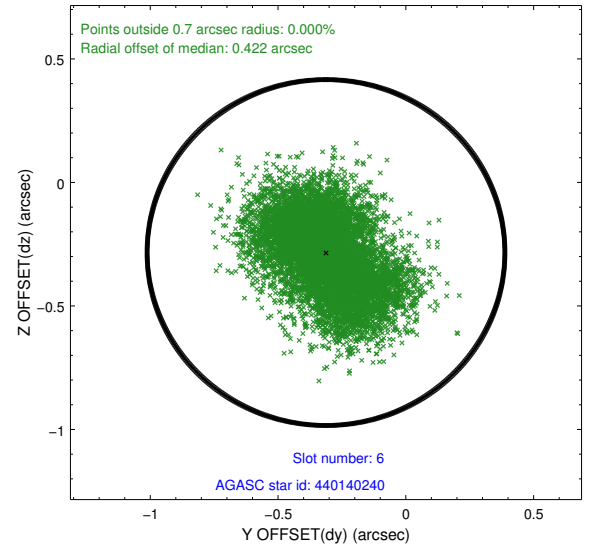
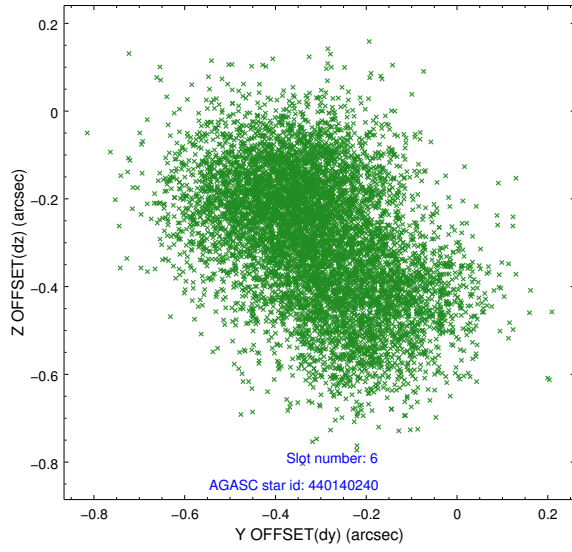
2.4.2 Slot 4



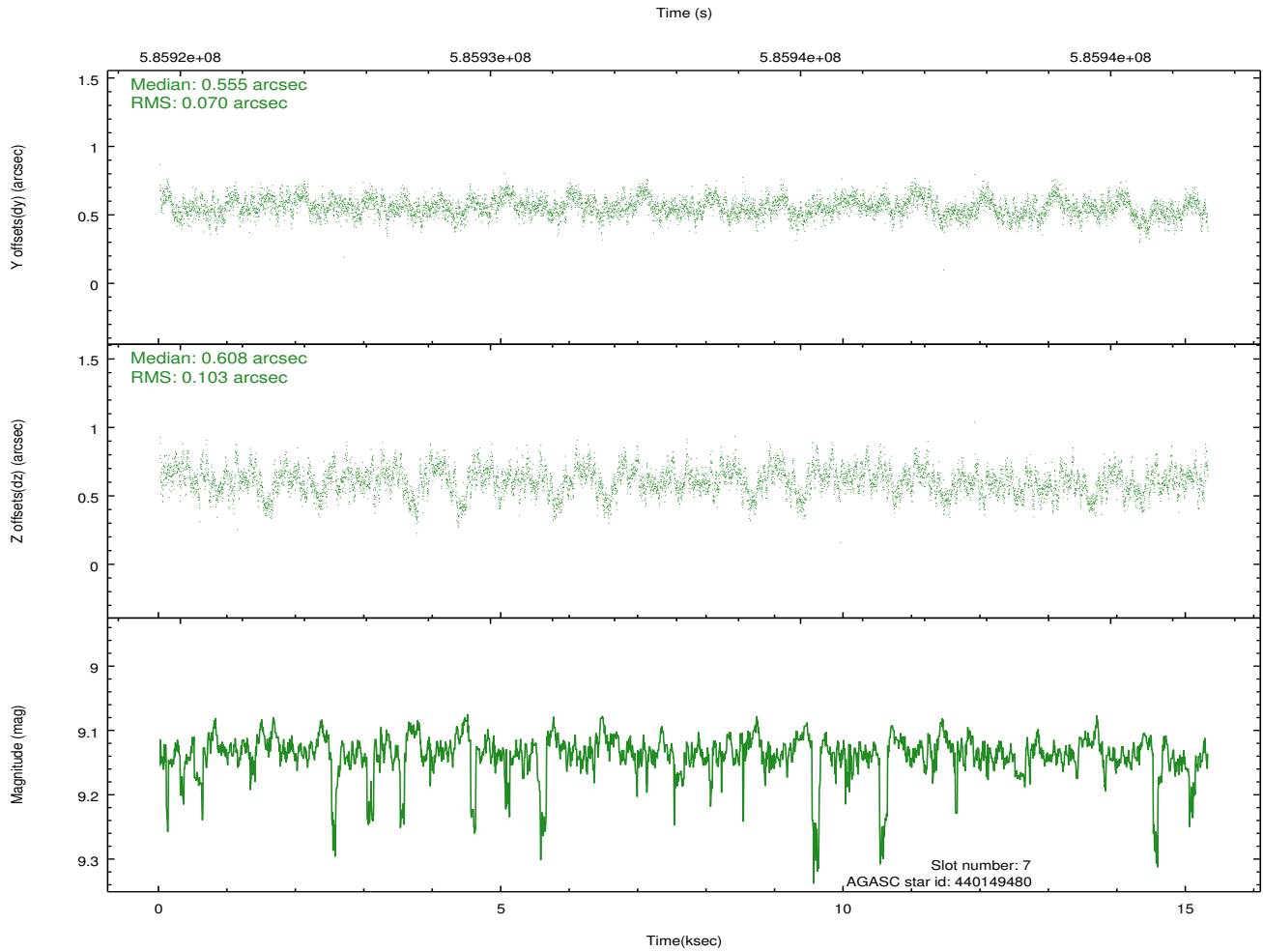
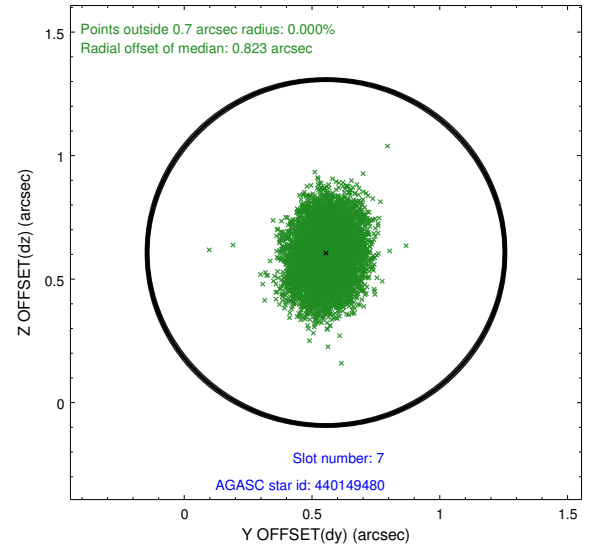
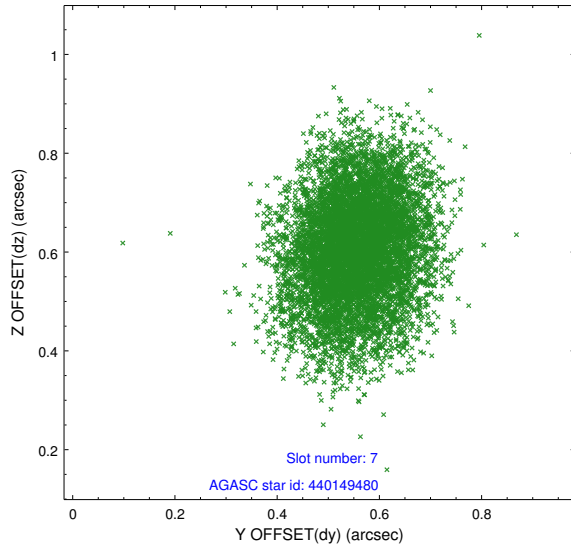
2.4.3 Slot 5



2.4.4 Slot 6

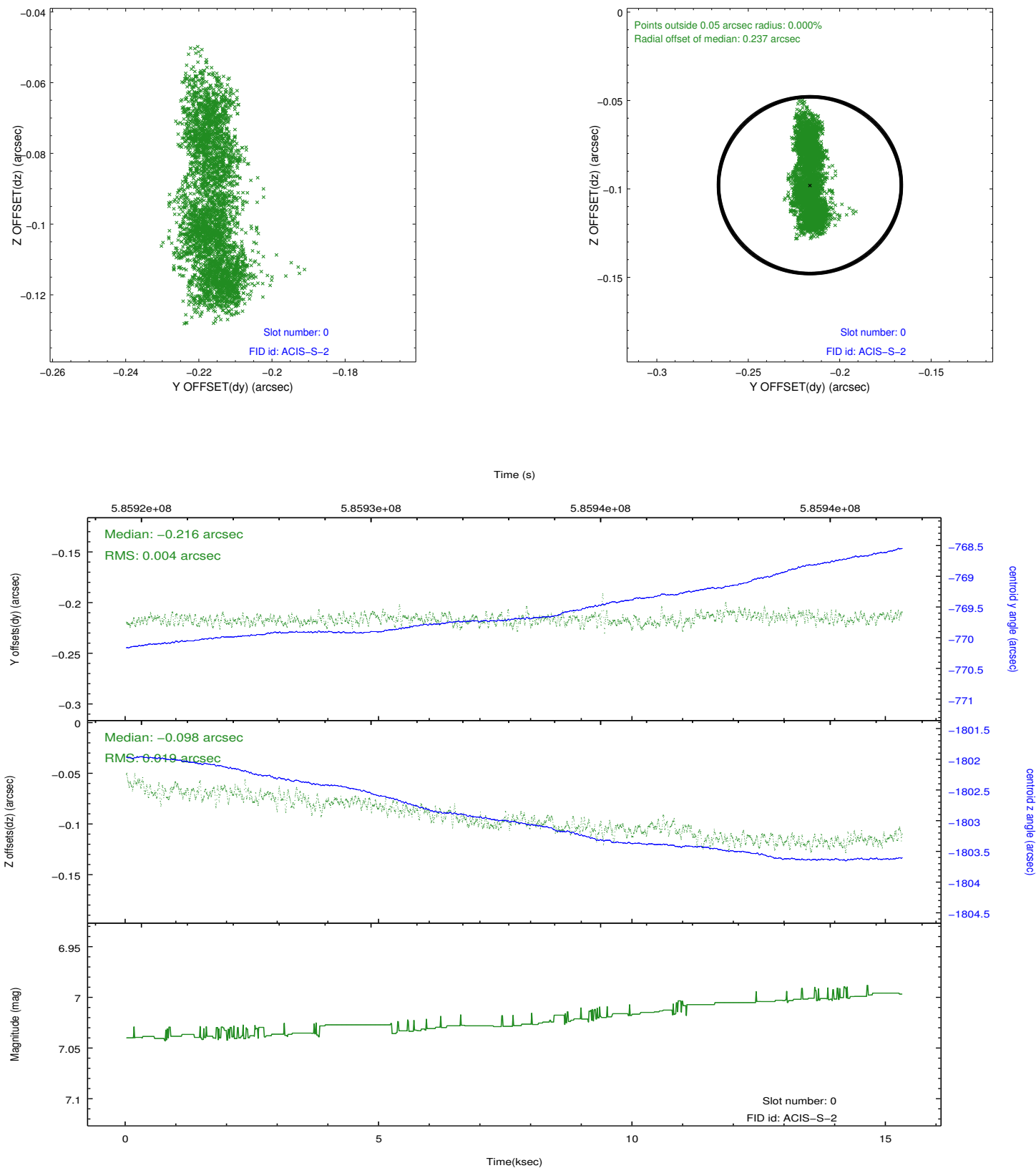


2.4.5 Slot 7

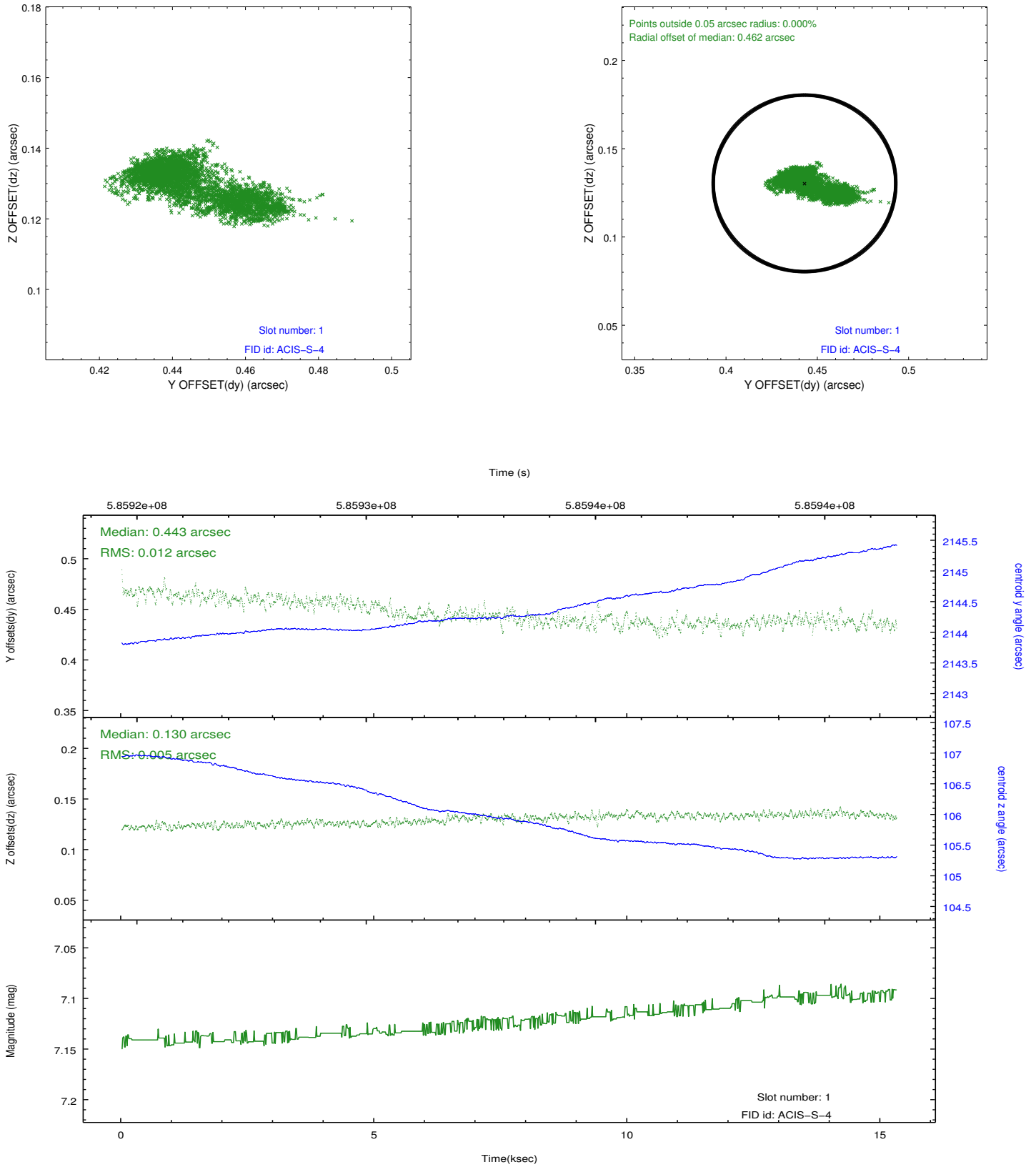


2.5 FID Slots

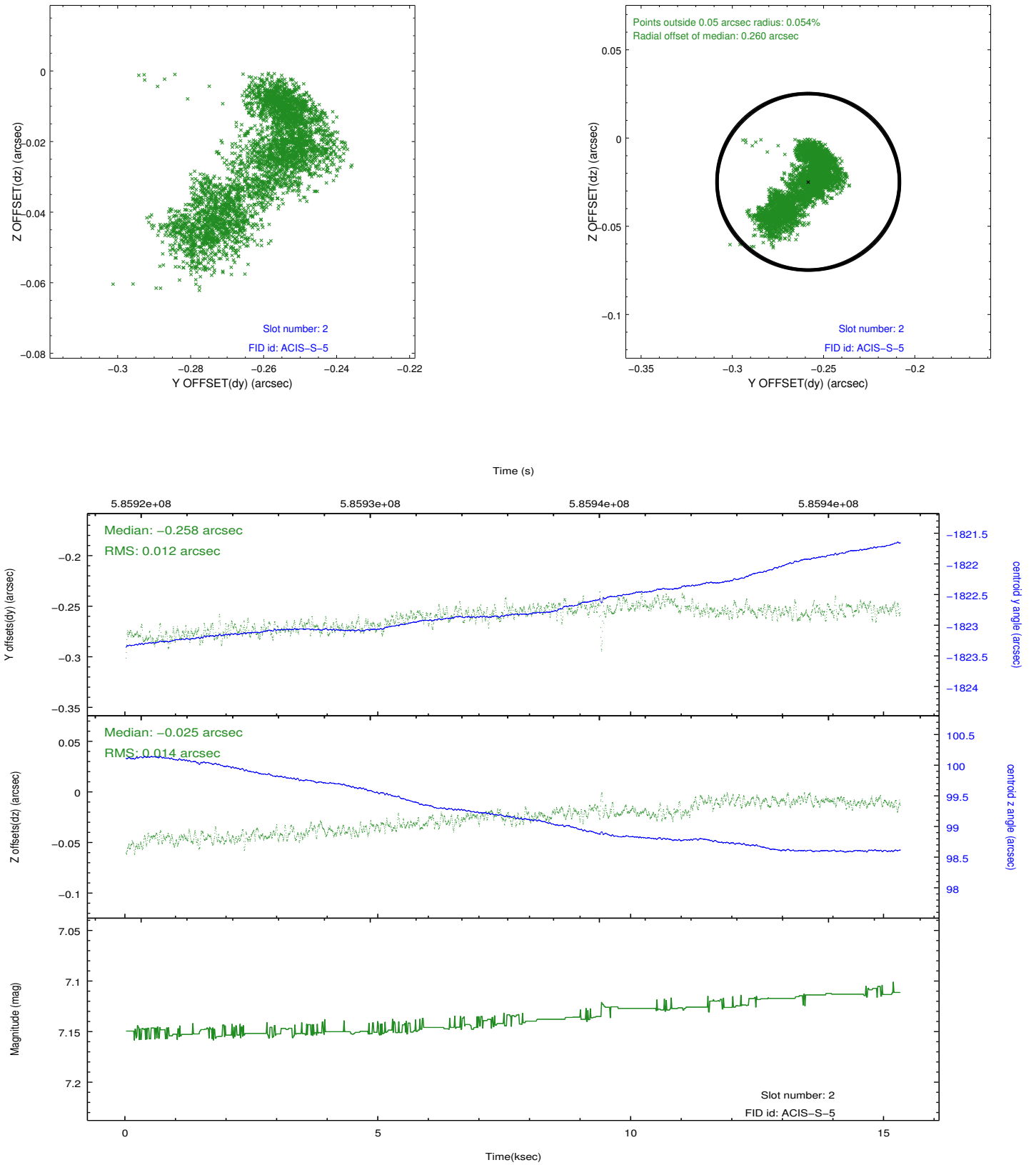
2.5.1 Slot 0



2.5.2 Slot 1

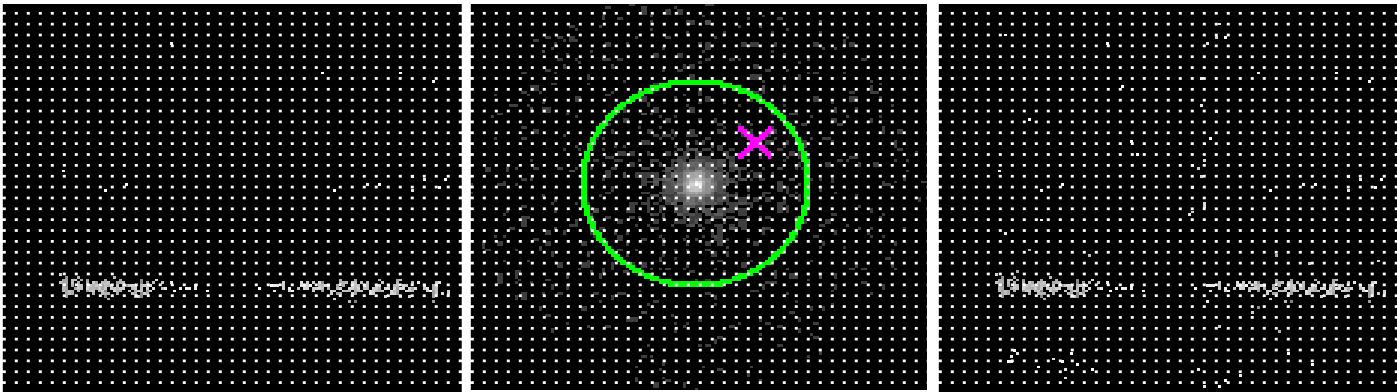


2.5.3 Slot 2



3 Gratings

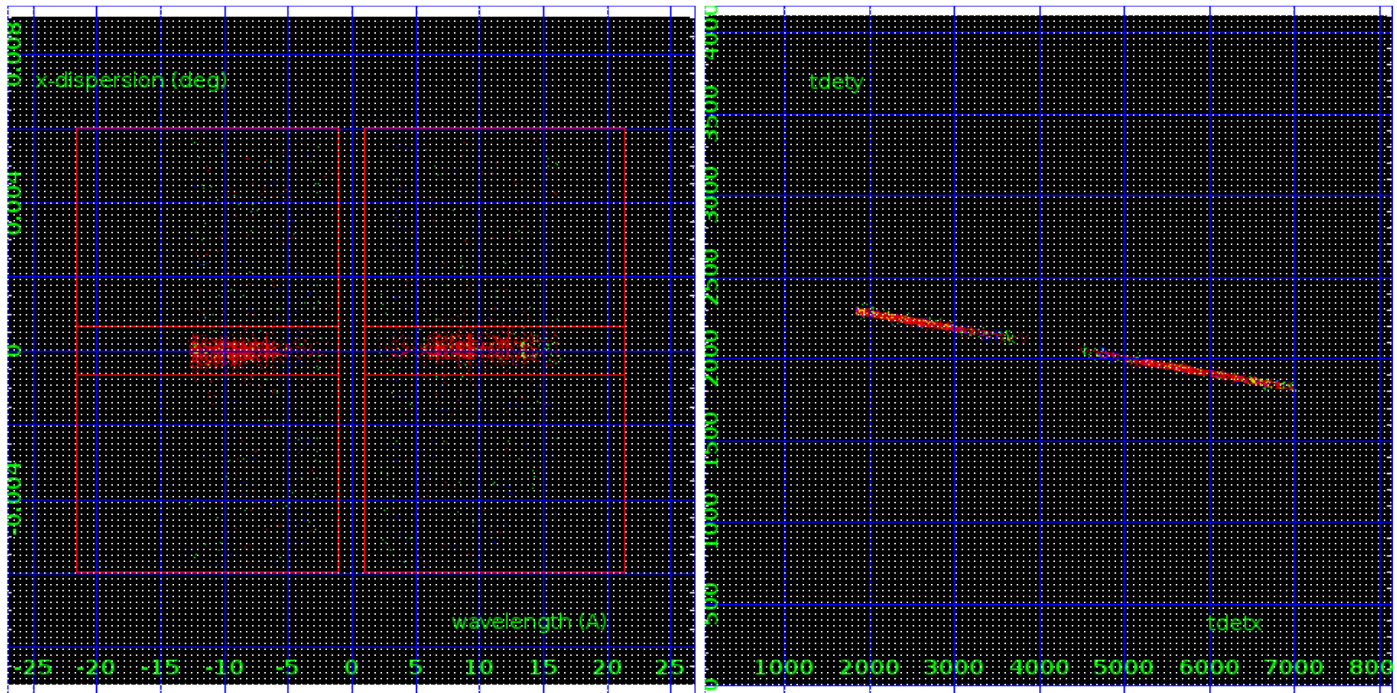
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

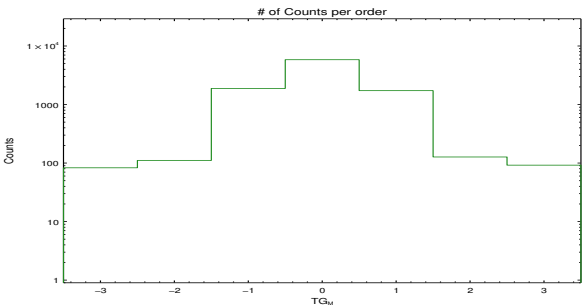
HEG Order Sort ALL

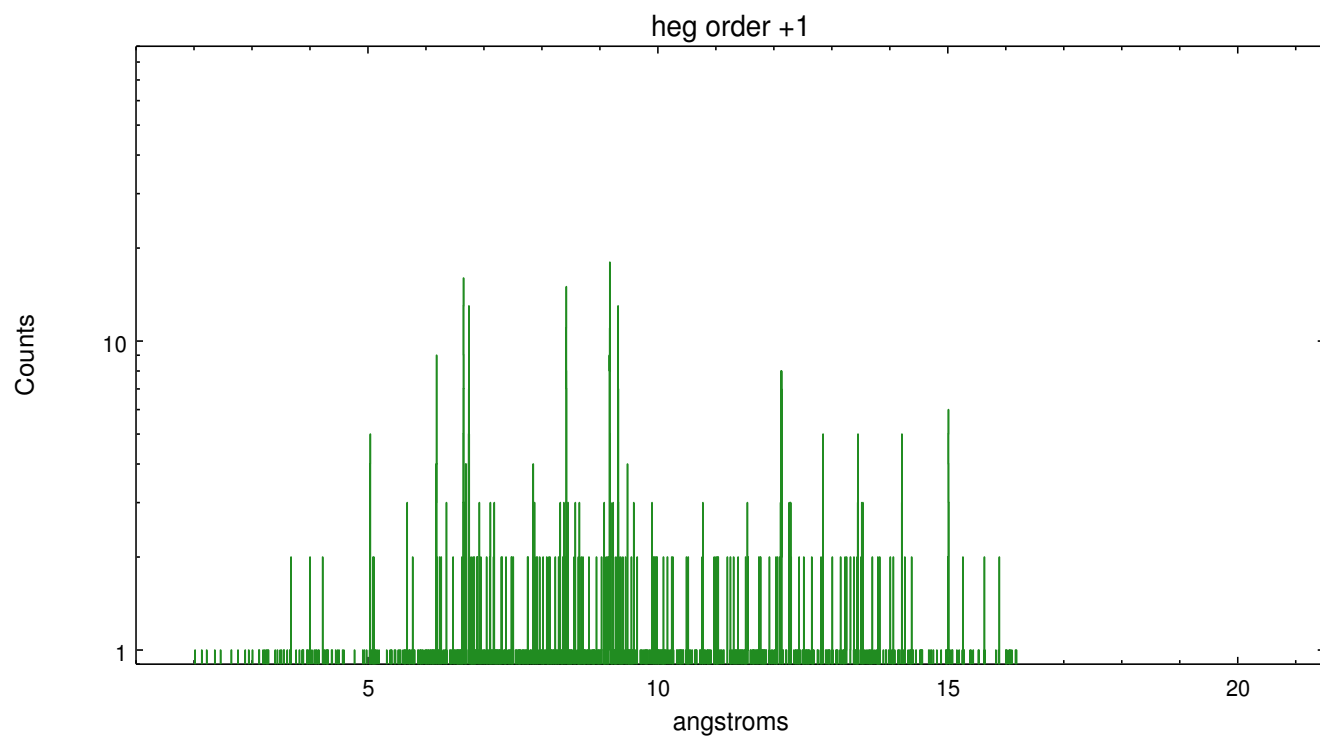
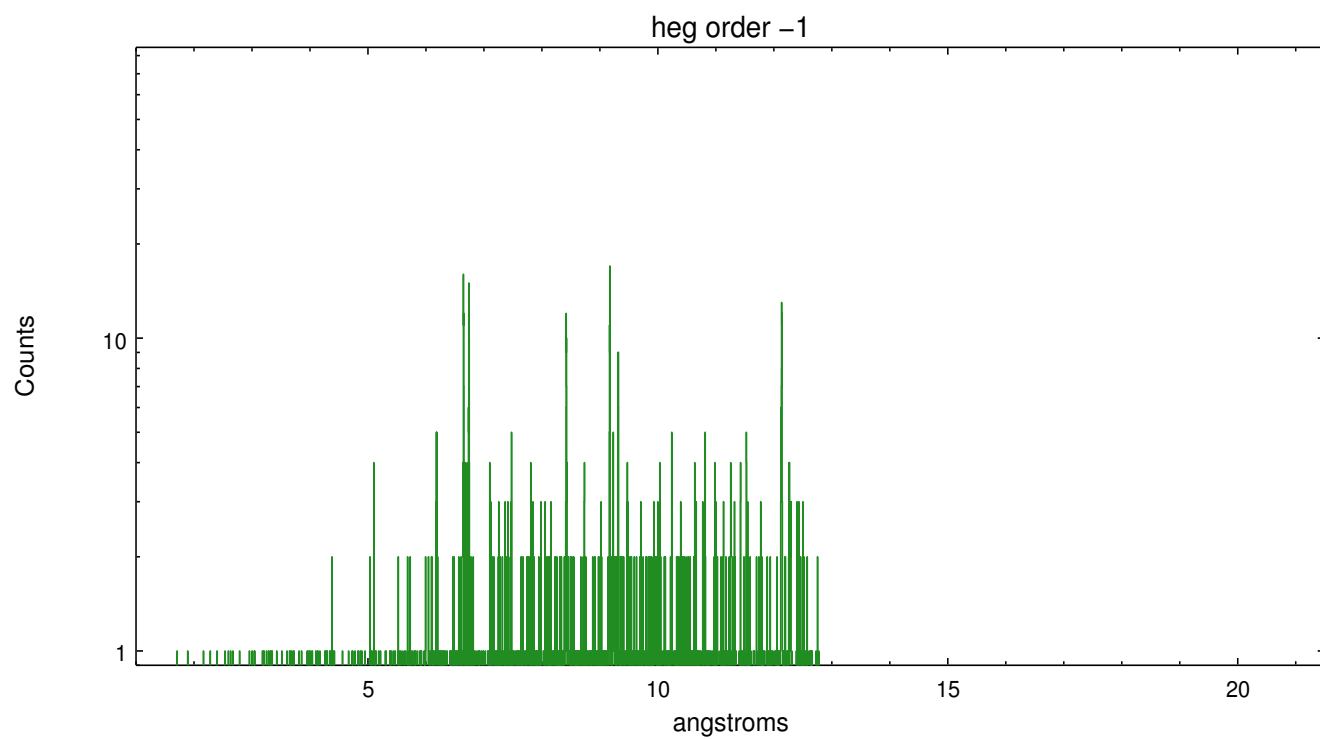


Spot Image HEG

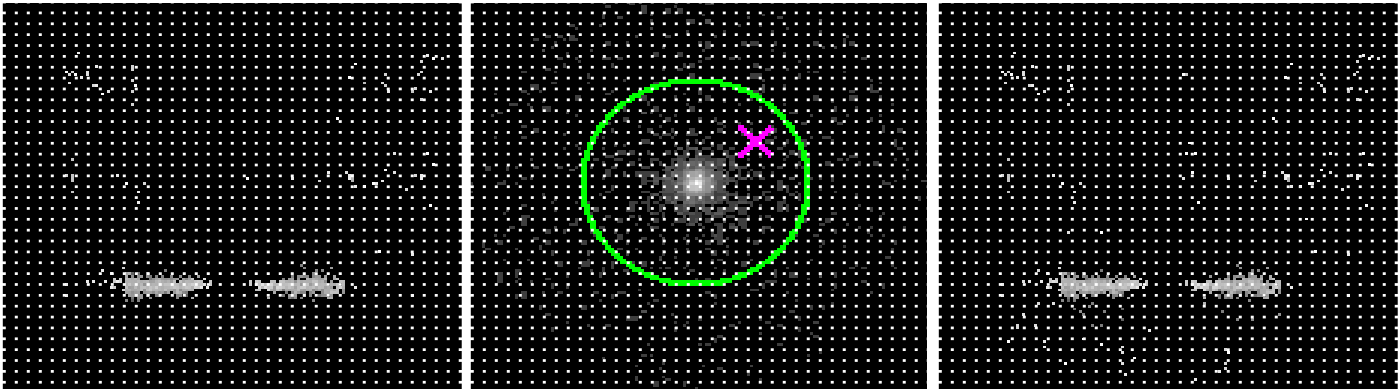
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	83	111	1884	5833	1727	127	92





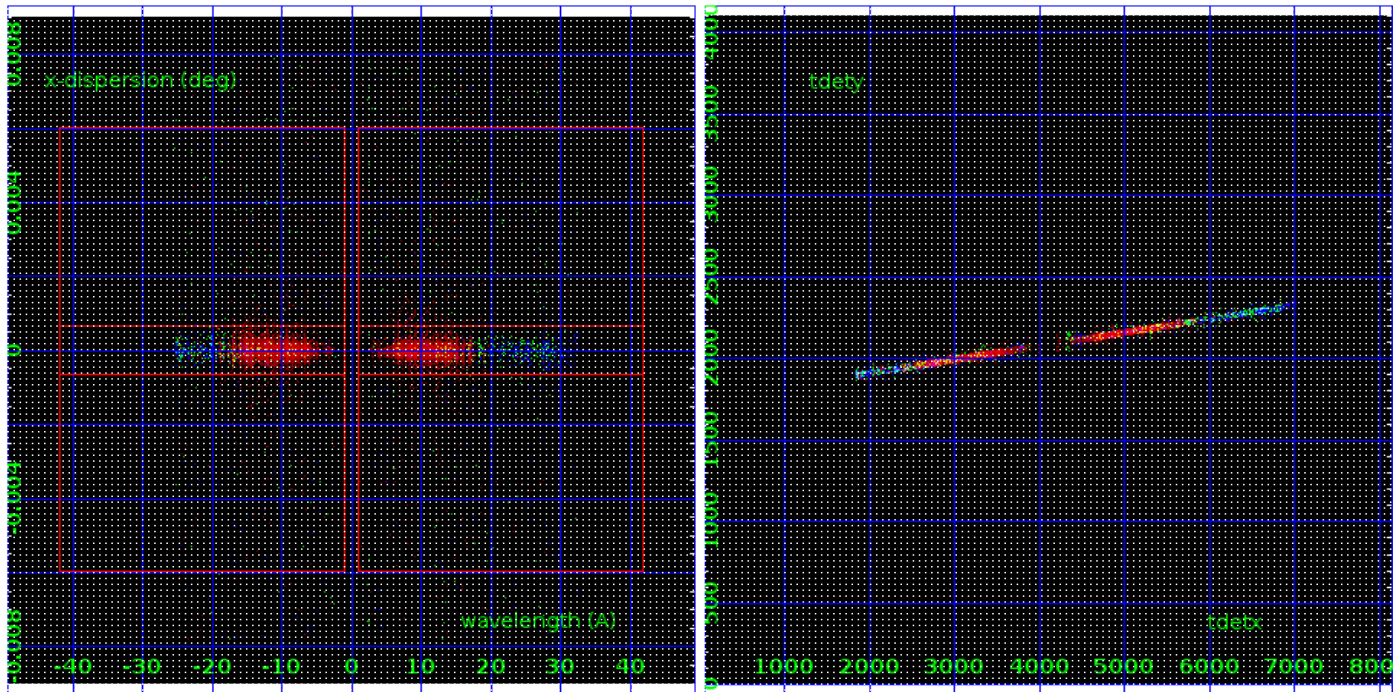
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

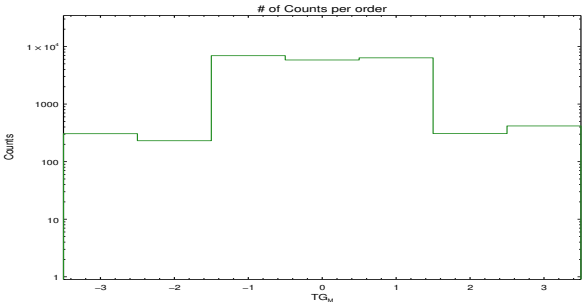
MEG Order Sort ALL

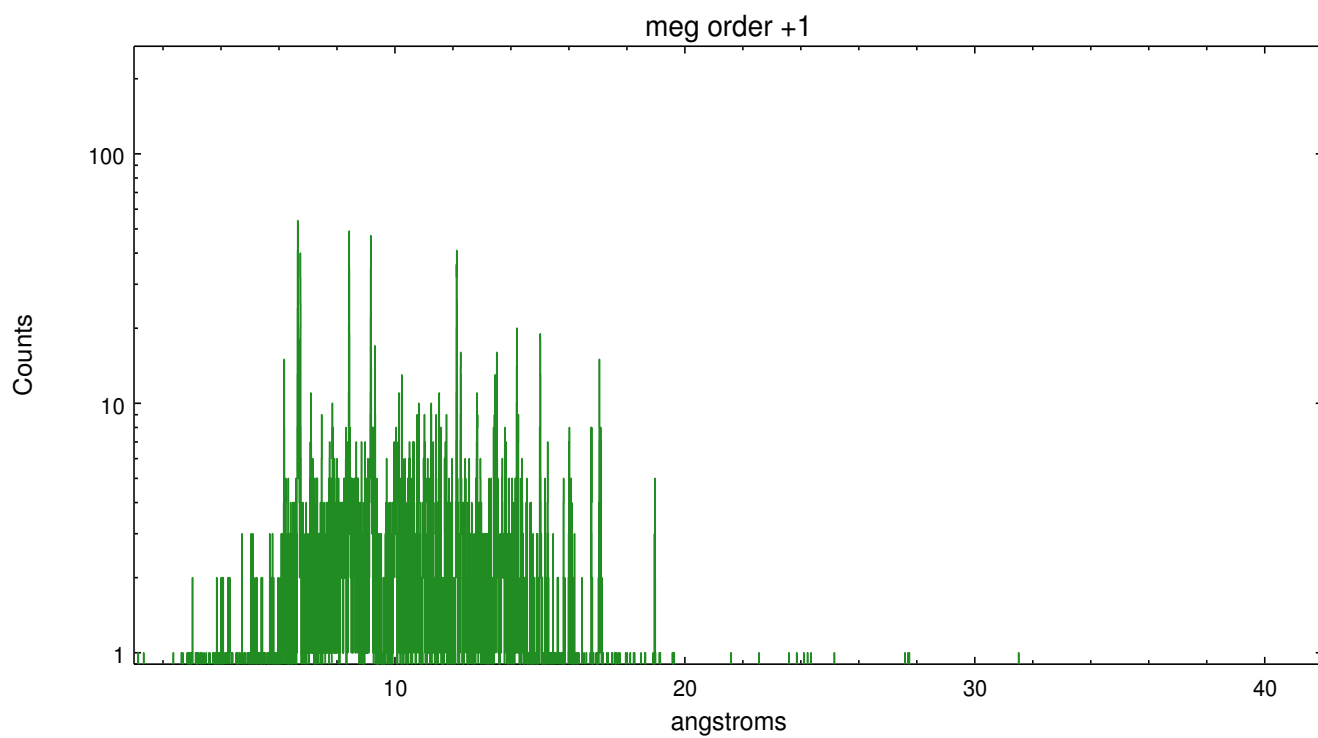
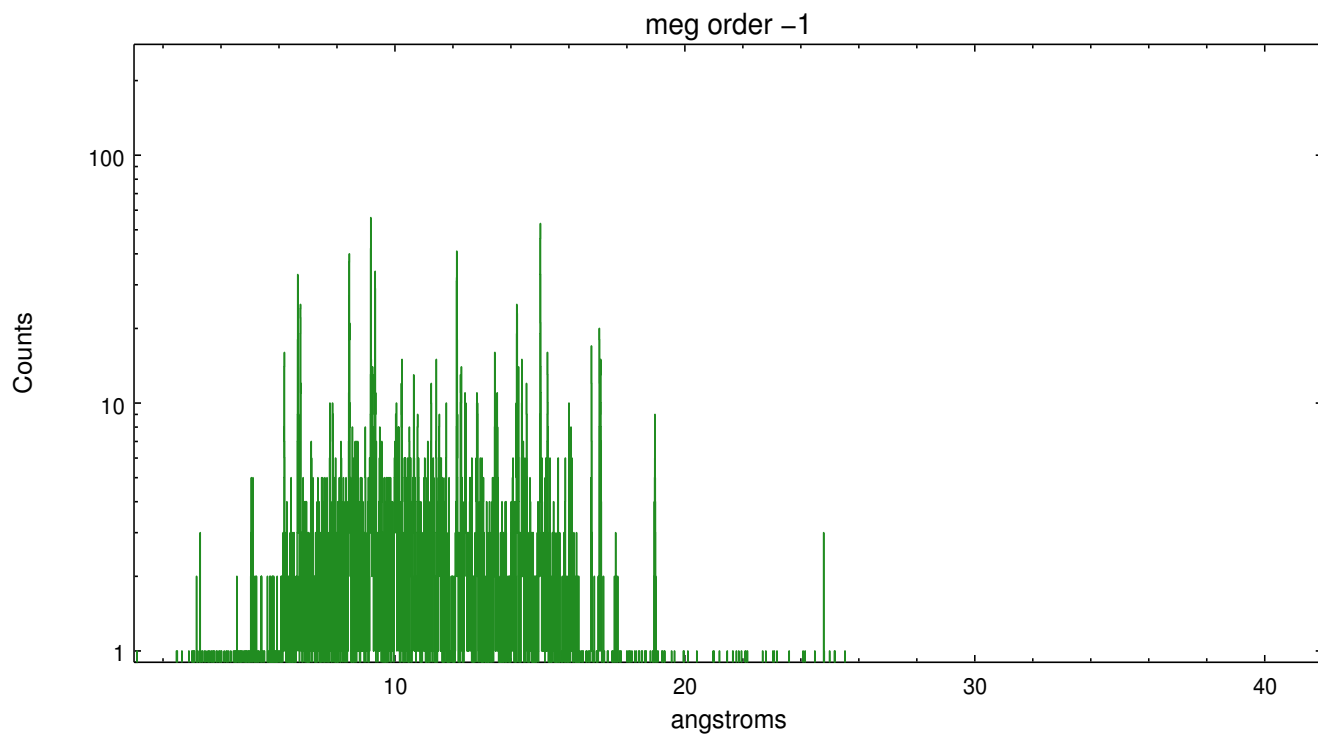


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	306	231	6930	5833	6357	307	417





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2016.07.27
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	15.016799850702

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.