

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 20097 - L2 Version 1
Chandra X-Ray Center

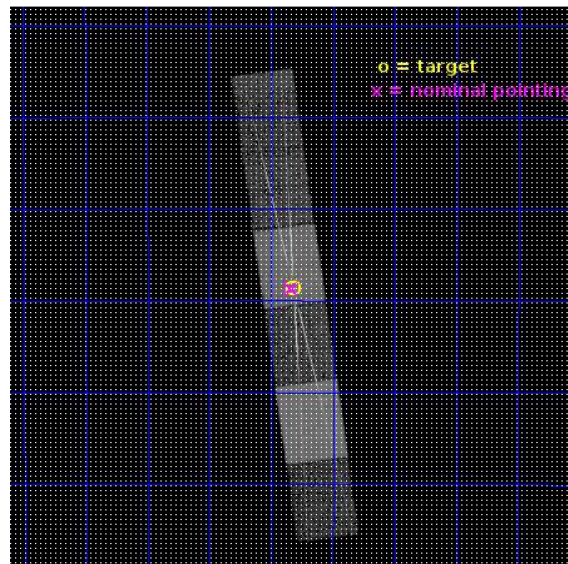
L2 Processing Date : Jun 18 2017

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1 Front

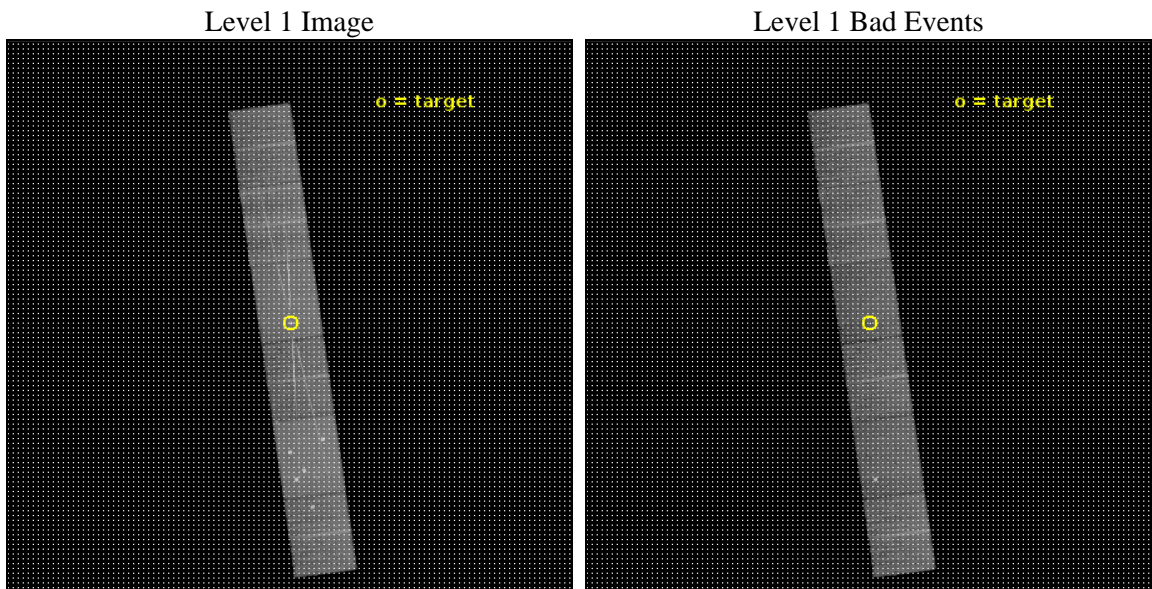
seq_num	703459	Sequence number
obs_id	20097	Observation id
title	The complex environment of the bright AGN IC4329a	Proposal title
observer	Jelle Kaastra	Principal investigator
object	IC4329a	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	207.330417	Observer's specified target RA [deg]
dec_targ	-30.309389	Observer's specified target Dec [deg]
ra_nom	207.33389667769	Nominal RA [deg]
dec_nom	-30.311488103396	Nominal Dec [deg]
roll_nom	262.15838932547	Nominal Roll [deg]
revision	1	Processing version of data
ontime	17080.0	Sum of GTIs [s]
livetime	16804.143185467	Livetime [s]
ontime4	17080.0	Sum of GTIs [s]
ontime5	17080.0	Sum of GTIs [s]
ontime6	17080.0	Sum of GTIs [s]
ontime7	17080.0	Sum of GTIs [s]
ontime8	17080.0	Sum of GTIs [s]
ontime9	17080.0	Sum of GTIs [s]
l2events	208870	Number of level 2 events



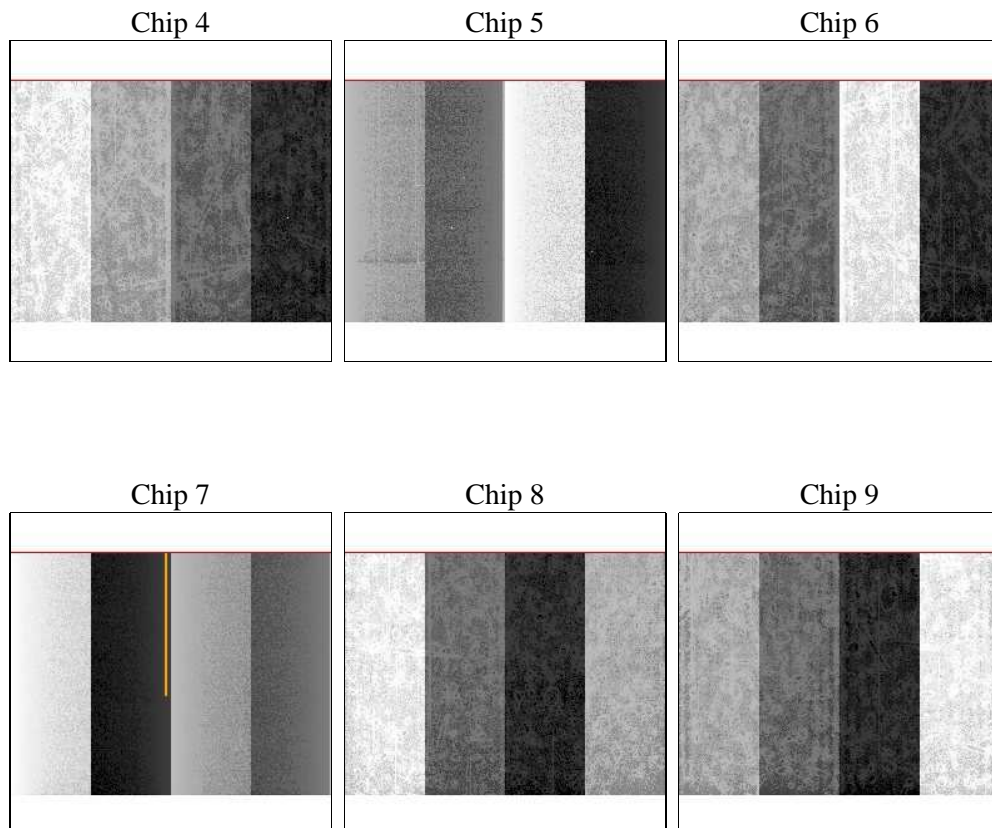
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	17000.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	17080.0	Sum of GTIs [s]
caldsver	4.7.5	 	ontime4	17080.0	Sum of GTIs [s]
date	2017-06-18T03:59:14	Date and time of file creation	ontime5	17080.0	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	17080.0	Sum of GTIs [s]
			ontime7	17080.0	Sum of GTIs [s]
			ontime8	17080.0	Sum of GTIs [s]
			ontime9	17080.0	Sum of GTIs [s]
			l1events	772940	Number of level 1 events
			tgmetho	FINDZO	Method used to create src1a file
				4110.00	

2.1.4 Events

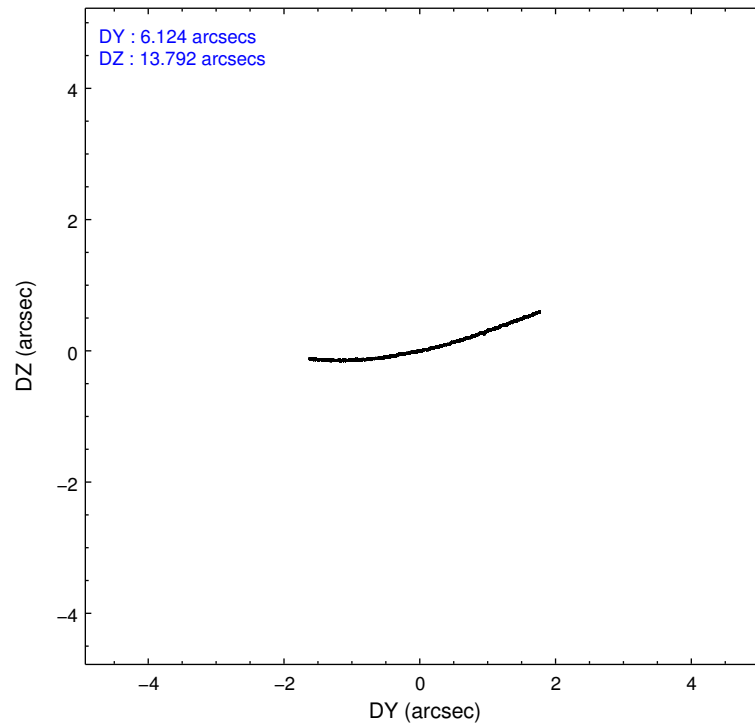
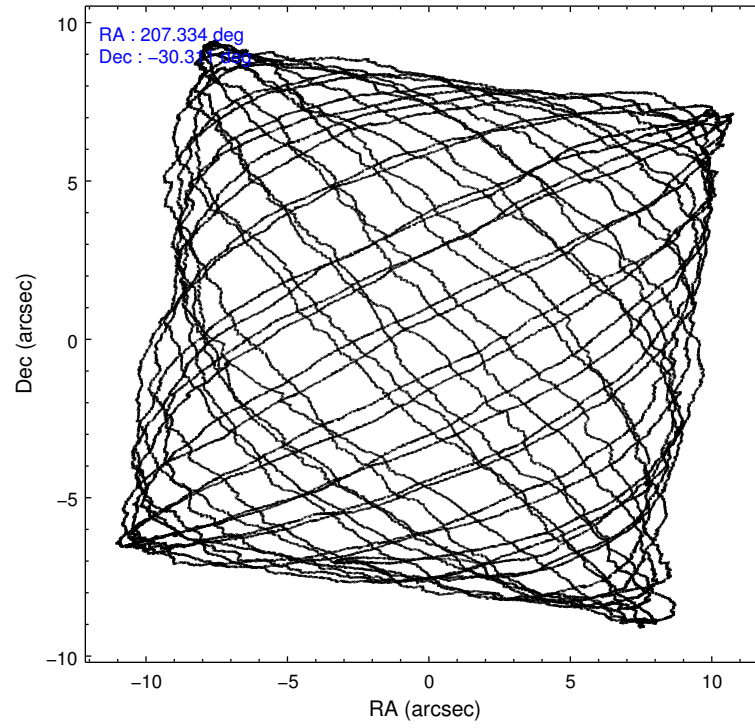
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	115097	173097	113200	148424	128536	94586	grade 0 events	7456	21856	16723	9445	14477	4803
rejected events	100276	80149	85134	72319	89623	82090		6%	12%	14%	6%	11%	5%
rejected %	87%	46%	75%	48%	69%	86%	grade 1 events	105	325	103	339	115	54
								0%	0%	0%	0%	0%	0%
							grade 2 events	2955	26045	4590	16672	8595	2684
								2%	15%	4%	11%	6%	2%
							grade 3 events	1241	2873	1791	7016	3672	1299
								1%	1%	1%	4%	2%	1%
							grade 4 events	1178	2715	1727	7004	3431	1248
								1%	1%	1%	4%	2%	1%
							grade 5 events	4655	11525	4632	13636	6577	4949
								4%	6%	4%	9%	5%	5%
							grade 6 events	1996	39496	3238	35988	8756	2471
								1%	22%	2%	24%	6%	2%
							grade 7 events	95511	68262	80396	58324	82913	77078
								82%	39%	71%	39%	64%	81%

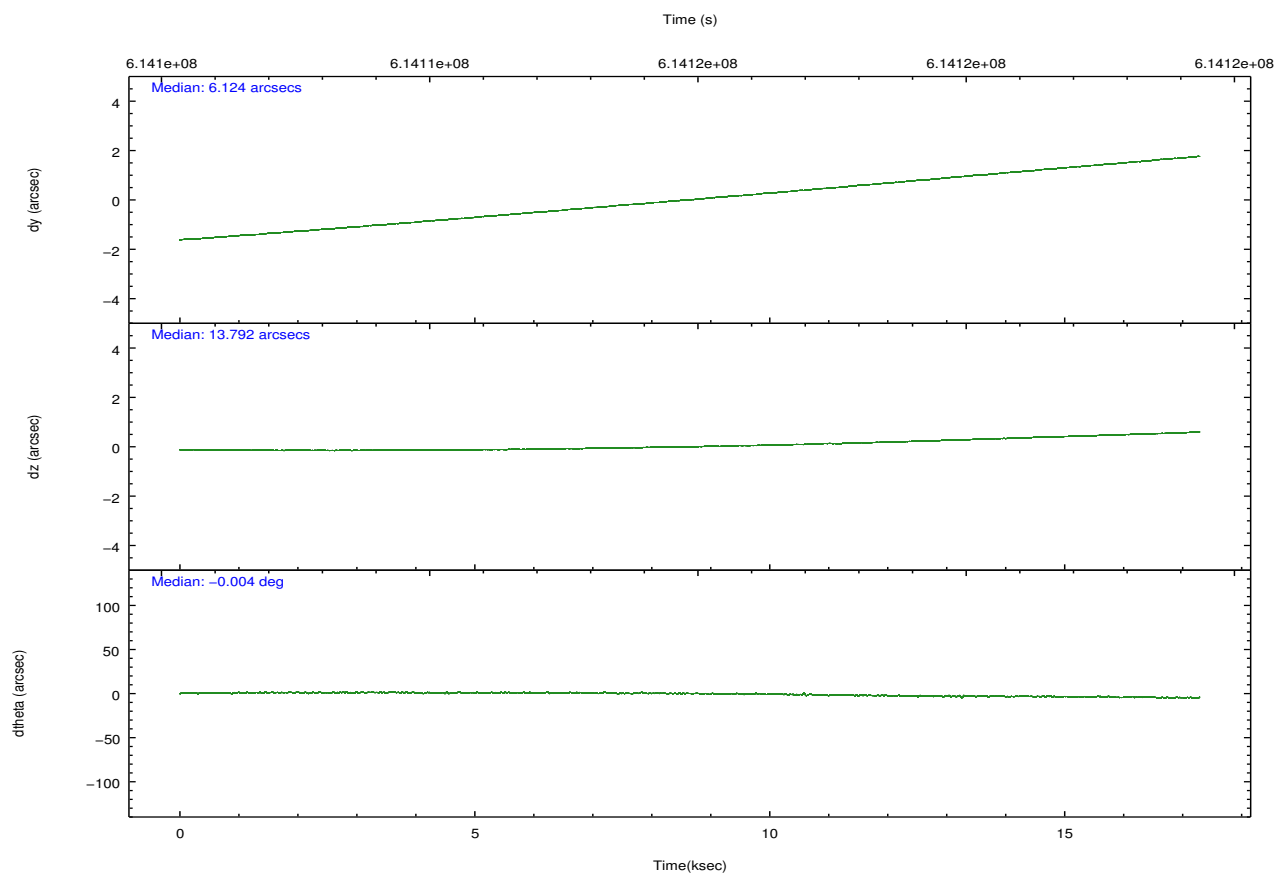
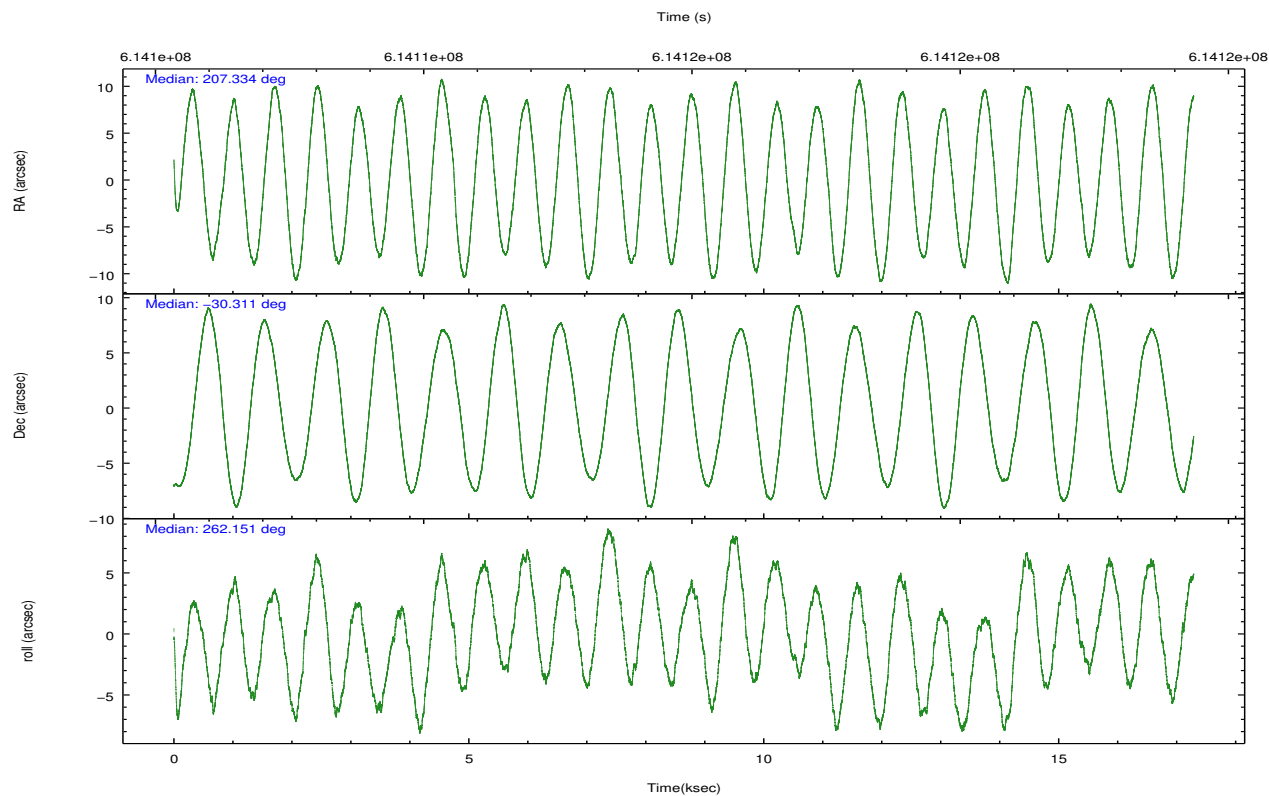
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-456789	ACIS-456789
Grating	HETG	HETG
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	207.321508	207.3338966776857
[deg] Pointing Dec	-30.286177	-30.3114881033959
[deg] Pointing Roll	261.995511	262.1583893254733
[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)	614106502.184000	614105516.97934
Observation start date	2017-06-17T17:07:13	2017-06-17T16:51:56
[s] Observation end time (MET)	614123502.184000	614124122.7804199
Observation end date	2017-06-17T21:50:33	2017-06-17T22:02:02
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	O1	Y
CCD S1 on	Y	Y
CCD S2 on	Y	Y
CCD S3 on	Y	Y
CCD S4 on	Y	Y
CCD S5 on	Y	Y
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	CUSTOM	CUSTOM
Subarray start row	125	125
Subarray row count	774	774
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	2.5

2.3 Aspect



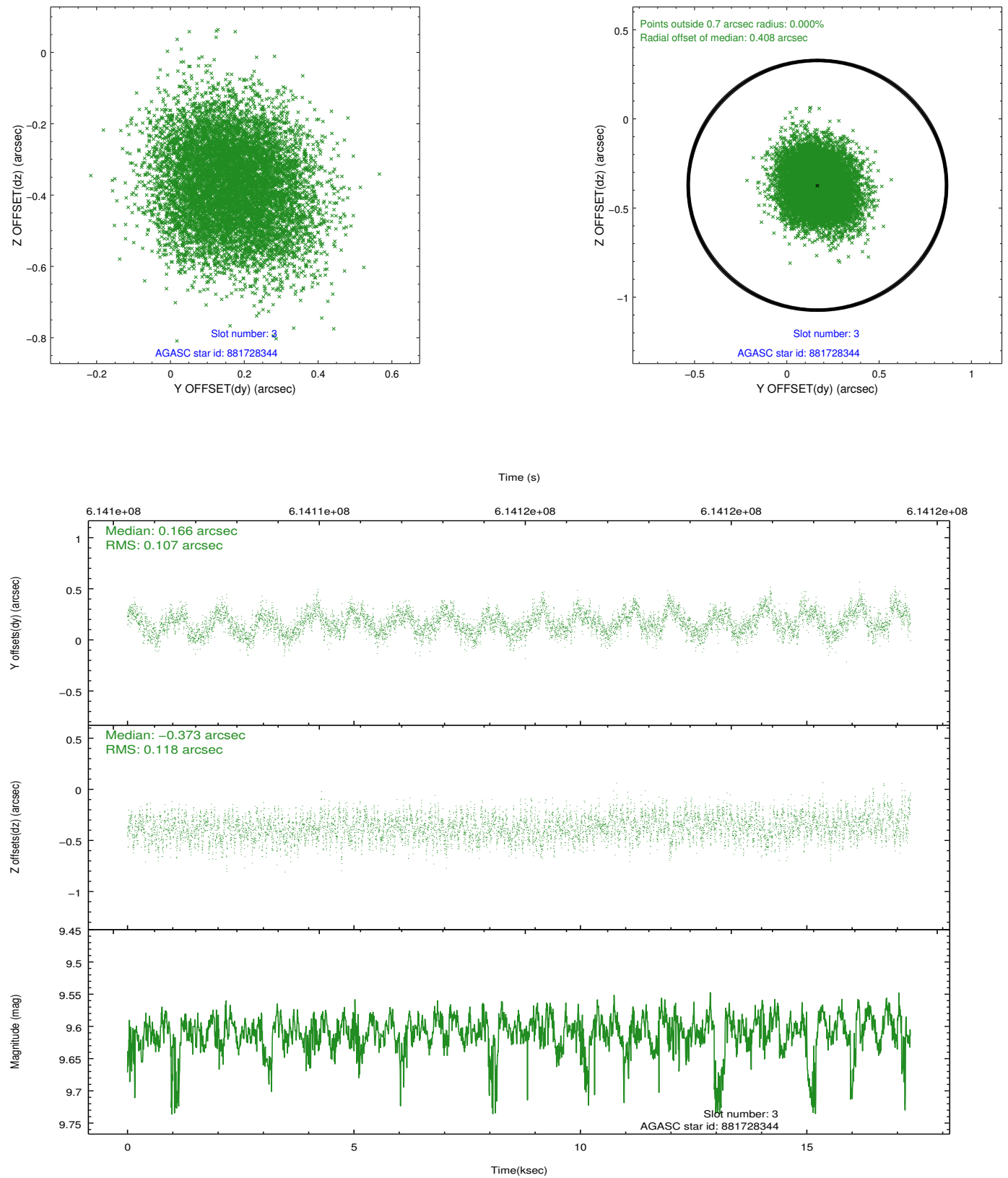


Slot Statistics

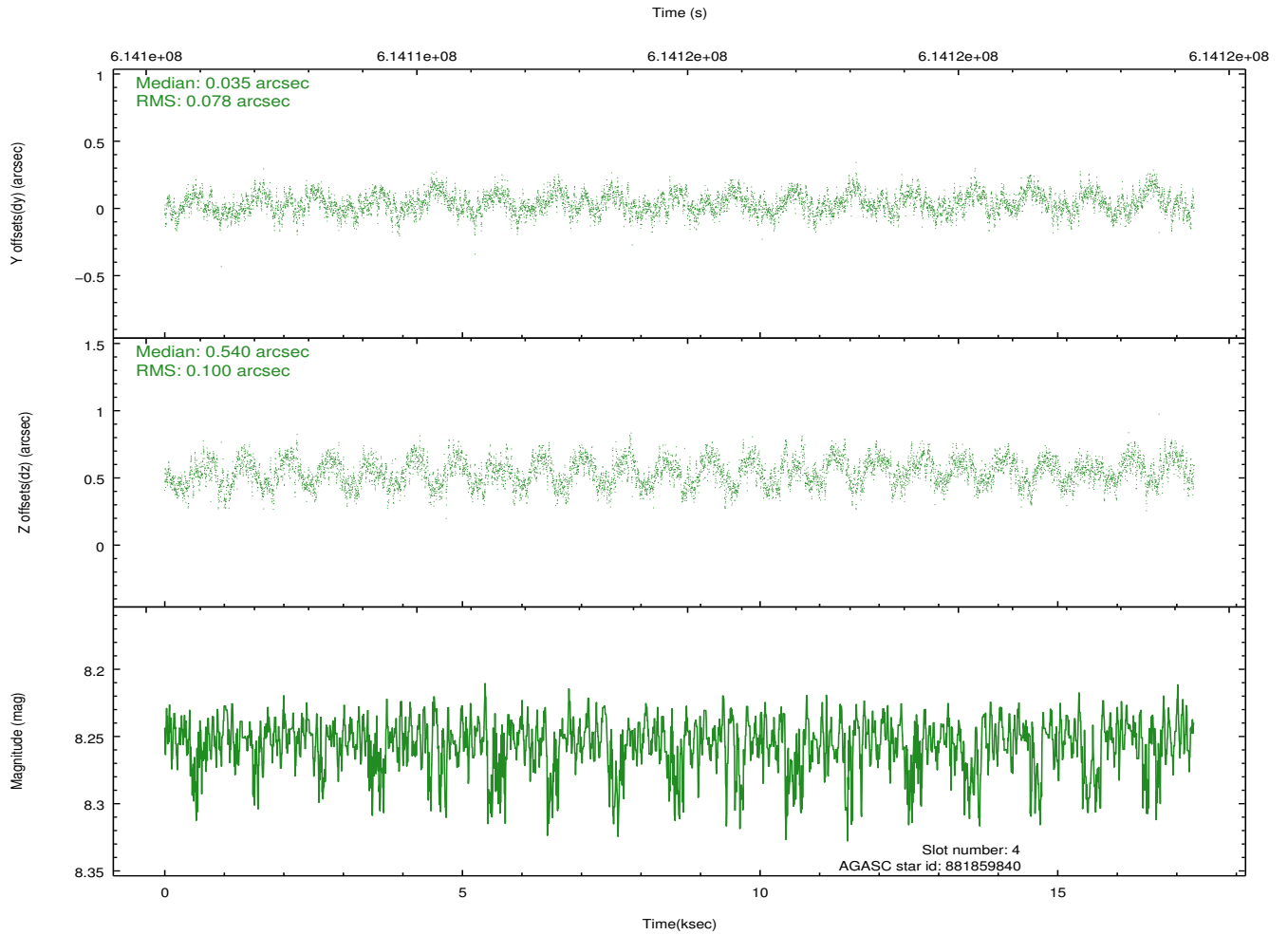
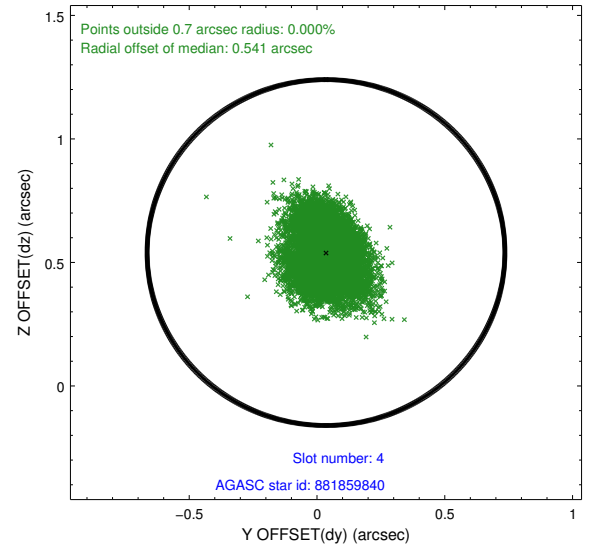
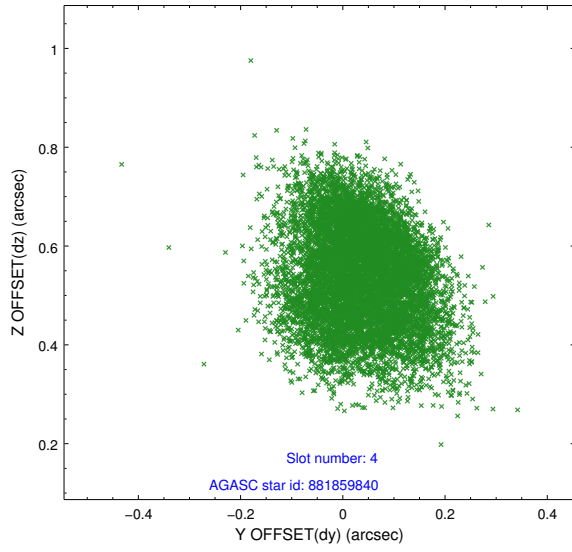
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.00	4217	-0.139	-0.067	0.013	0.023	0.000000	0.000000	-759.02	-1735.29
1	FID		ACIS-S-4	7.12	4217	0.308	0.084	0.009	0.015	0.000000	0.000000	2154.59	173.09
2	FID		ACIS-S-5	7.13	4217	-0.200	-0.010	0.015	0.026	0.000000	0.000000	-1811.62	166.95
3	GUIDE	used	881728344	9.61	8418	0.166	-0.373	0.171	0.269	206.739682	-29.671821	-1931.58	-2110.27
4	GUIDE	used	881859840	8.25	8435	0.035	0.540	0.135	0.212	207.221466	-29.661172	-2184.18	-622.53
5	GUIDE	used	954074720	9.39	8423	0.083	0.239	0.149	0.235	207.095076	-30.028141	-820.55	-828.29
6	GUIDE	used	954075880	7.11	8435	-0.192	-0.303	0.096	0.165	207.787300	-30.565970	799.02	1570.11
7	GUIDE	used	954078824	9.32	8425	-0.093	-0.092	0.170	0.278	207.889442	-30.427893	264.06	1818.04

2.4 Star Slots

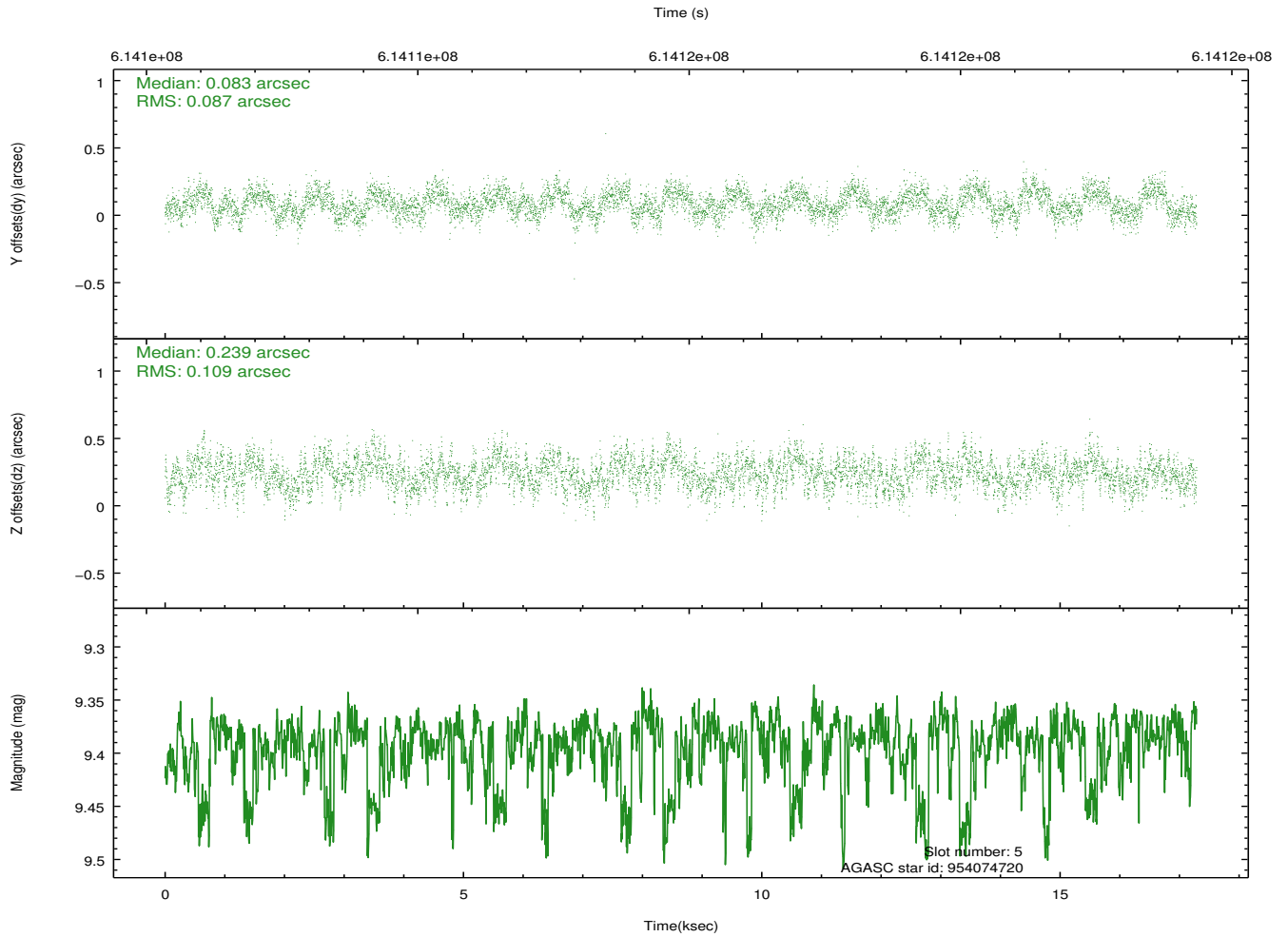
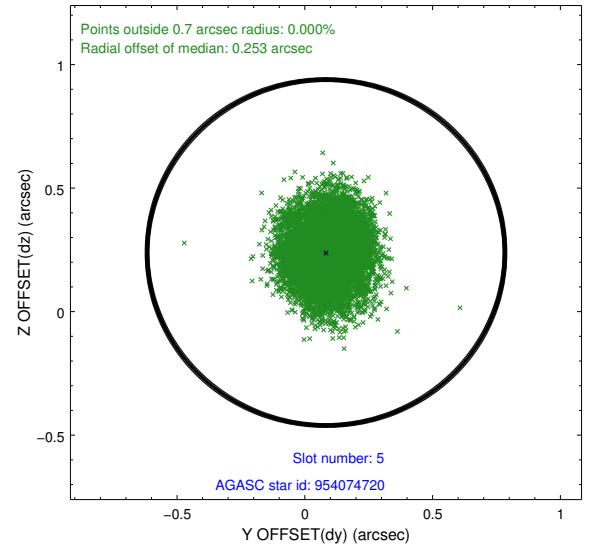
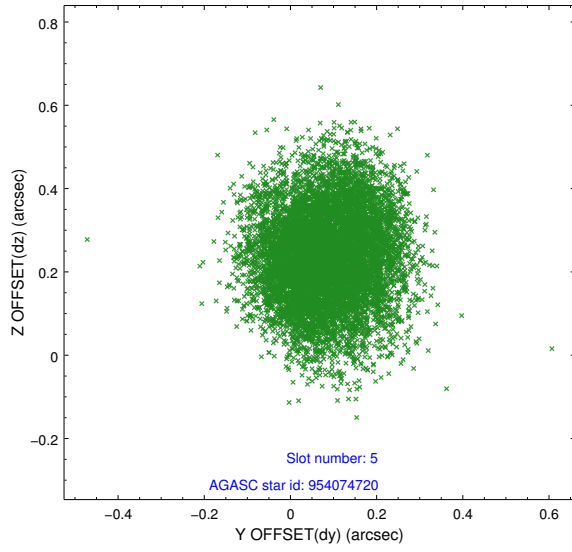
2.4.1 Slot 3



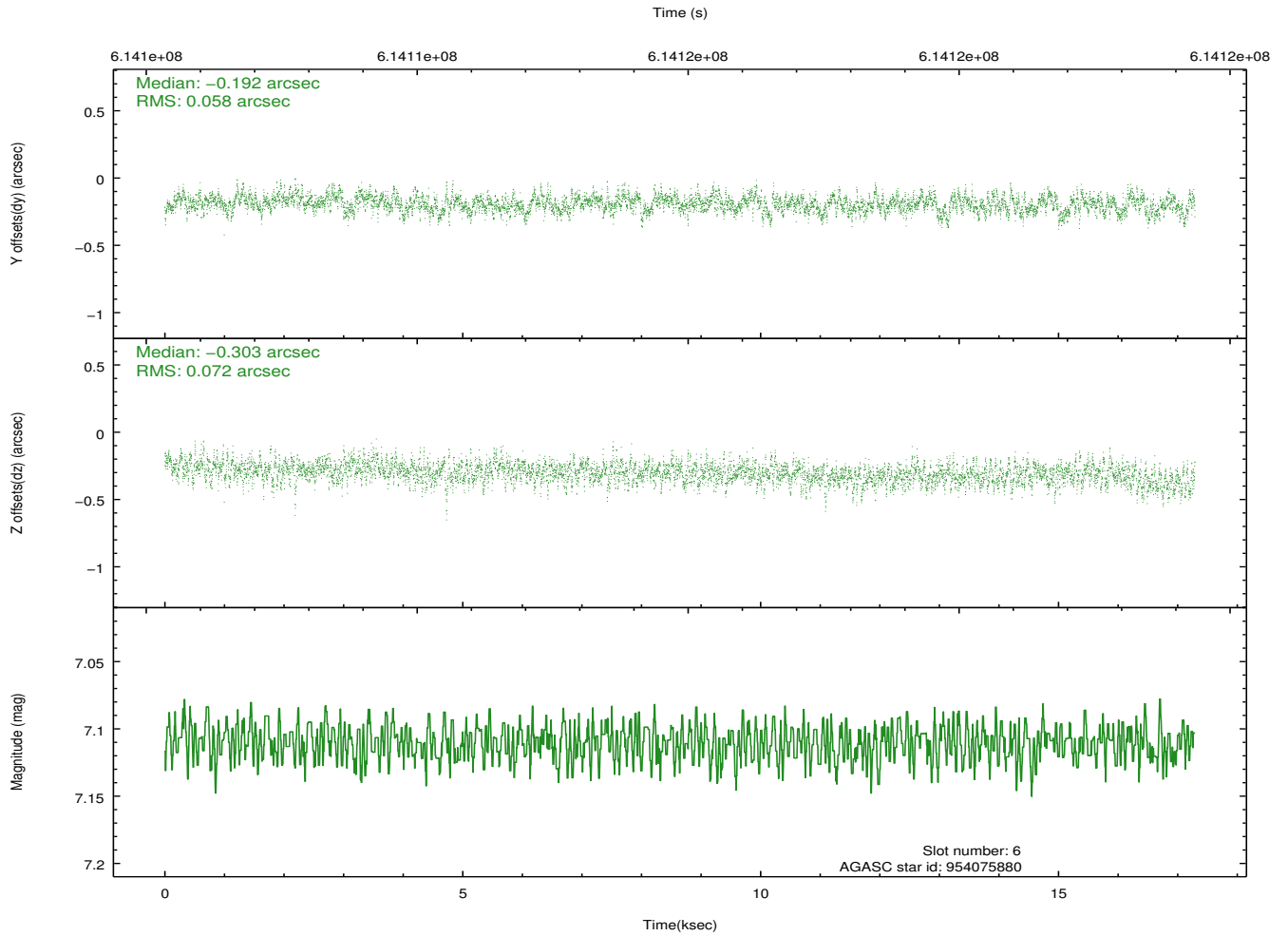
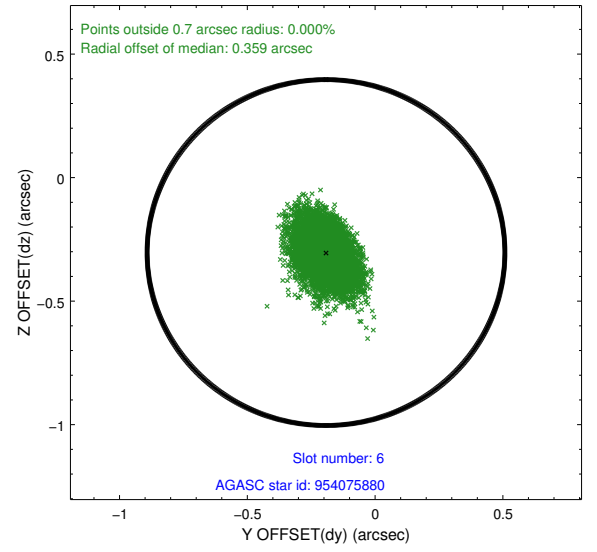
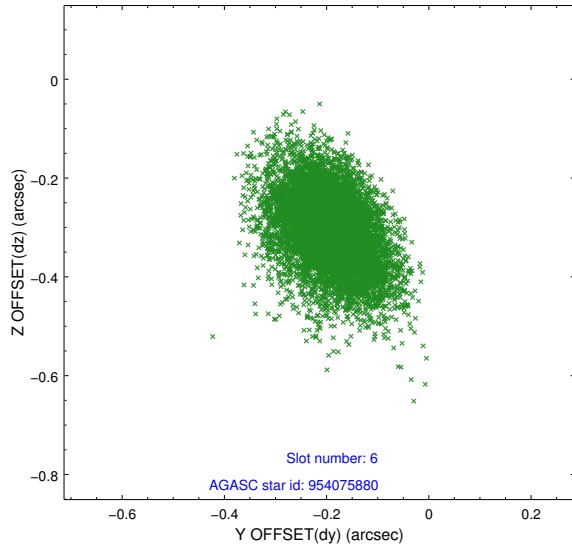
2.4.2 Slot 4



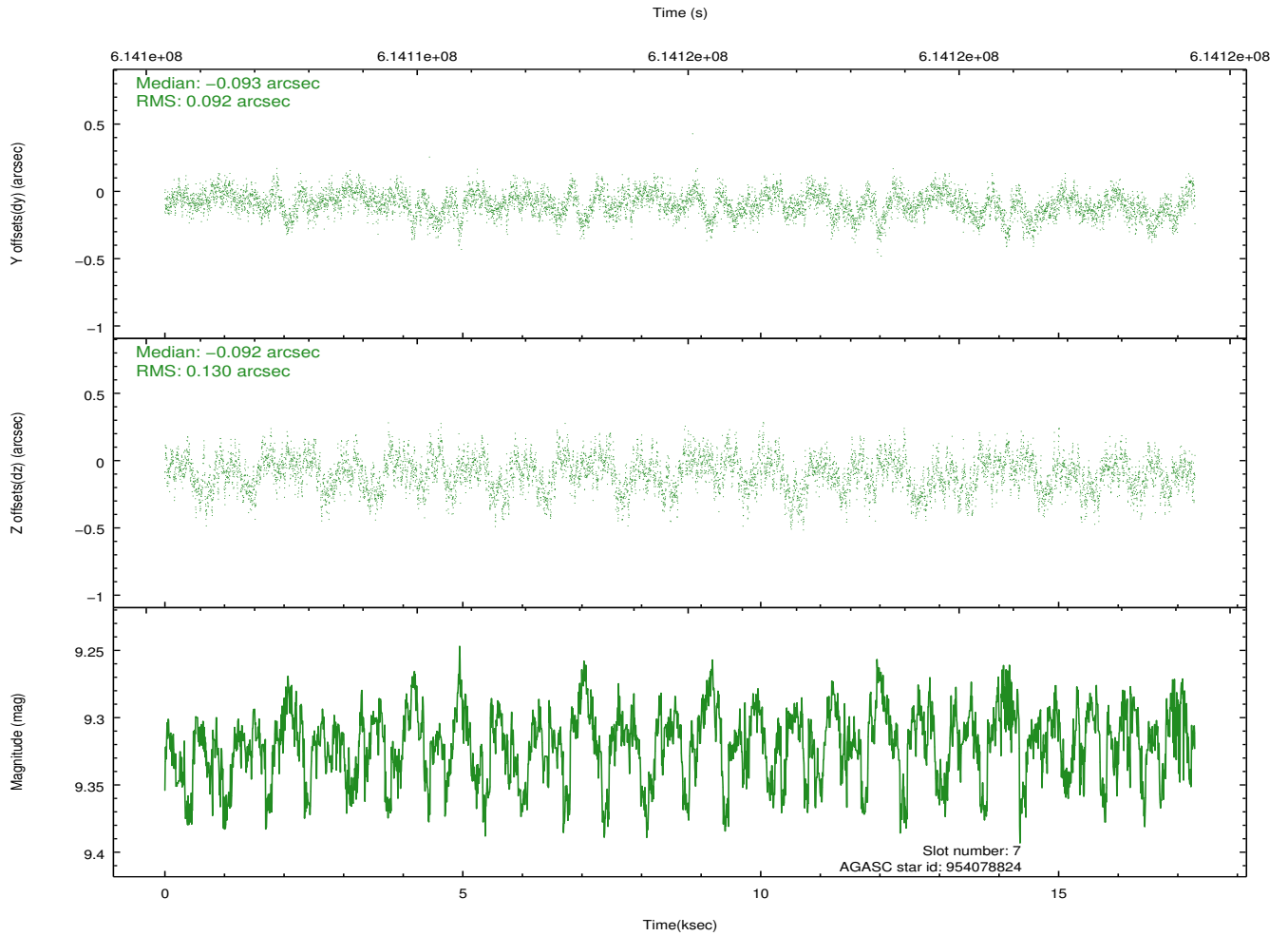
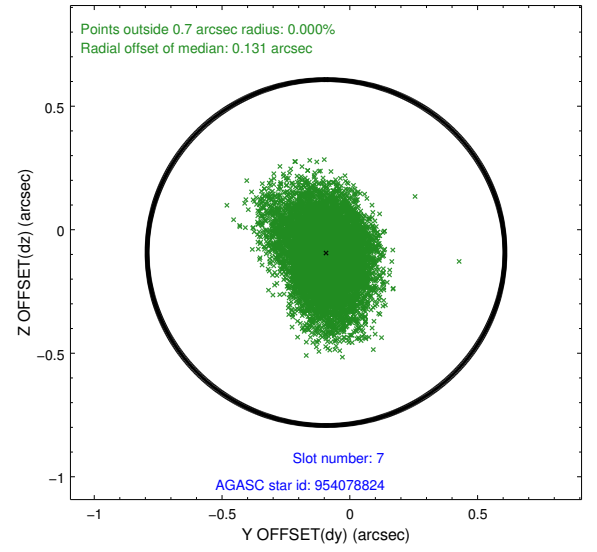
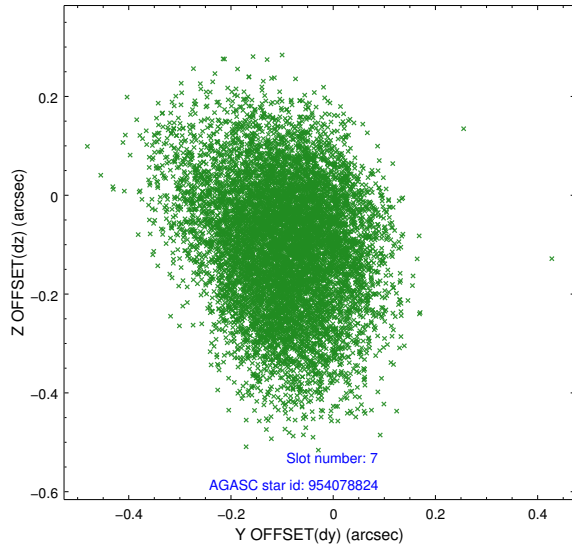
2.4.3 Slot 5



2.4.4 Slot 6

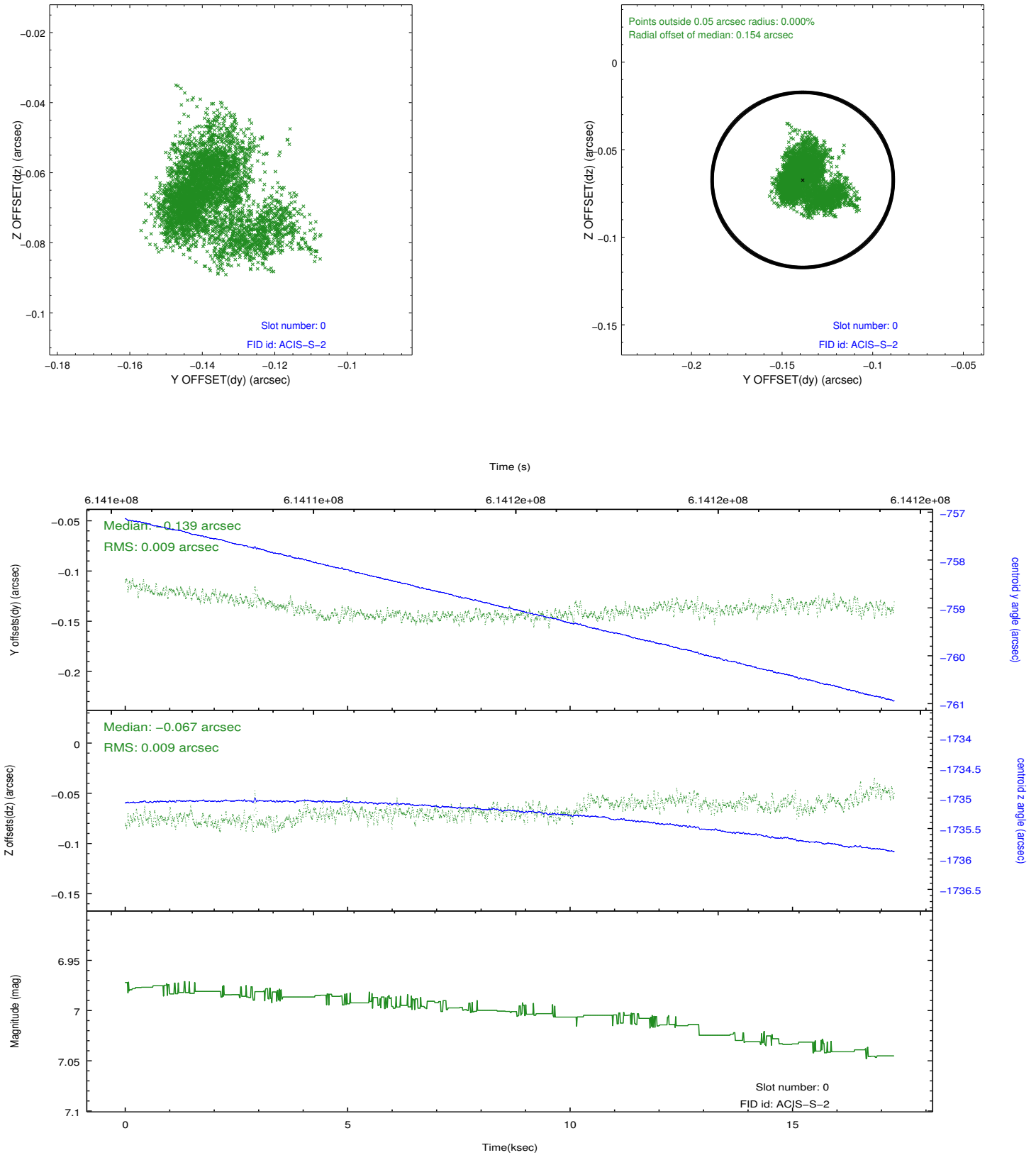


2.4.5 Slot 7

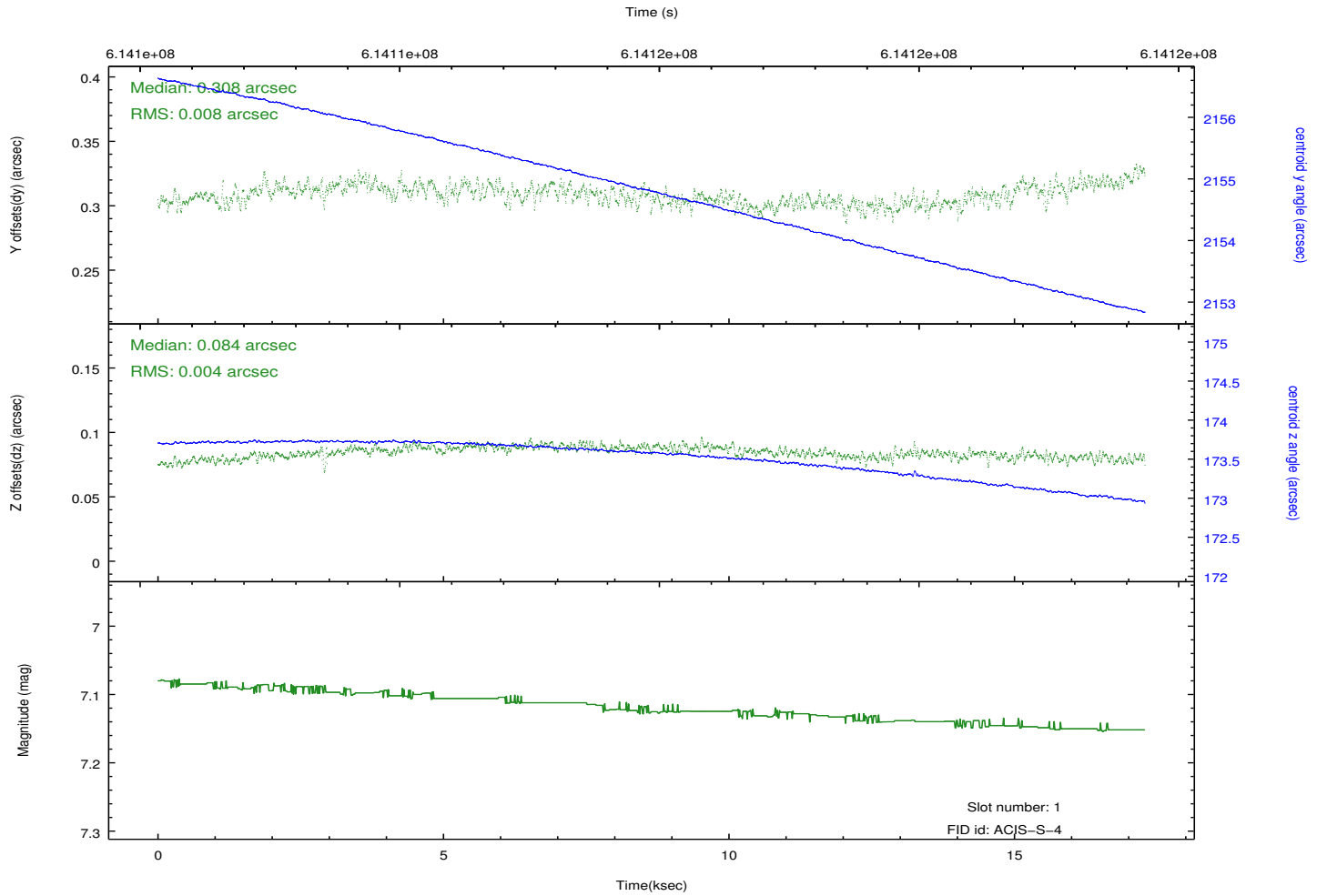
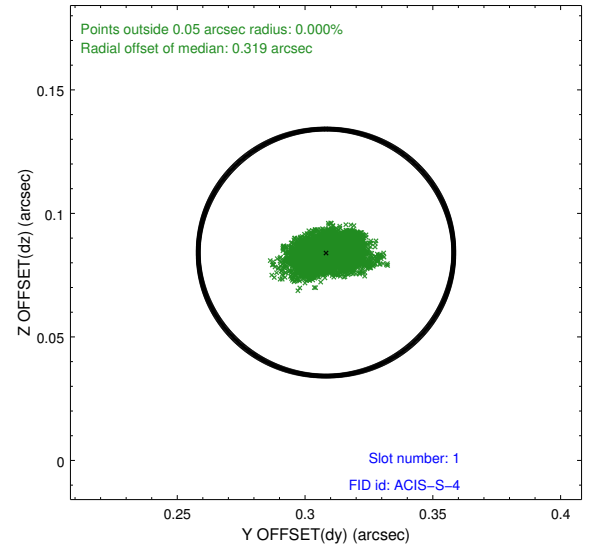
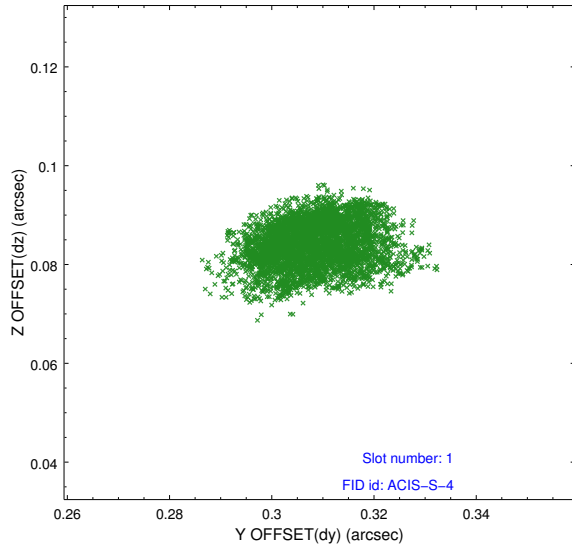


2.5 FID Slots

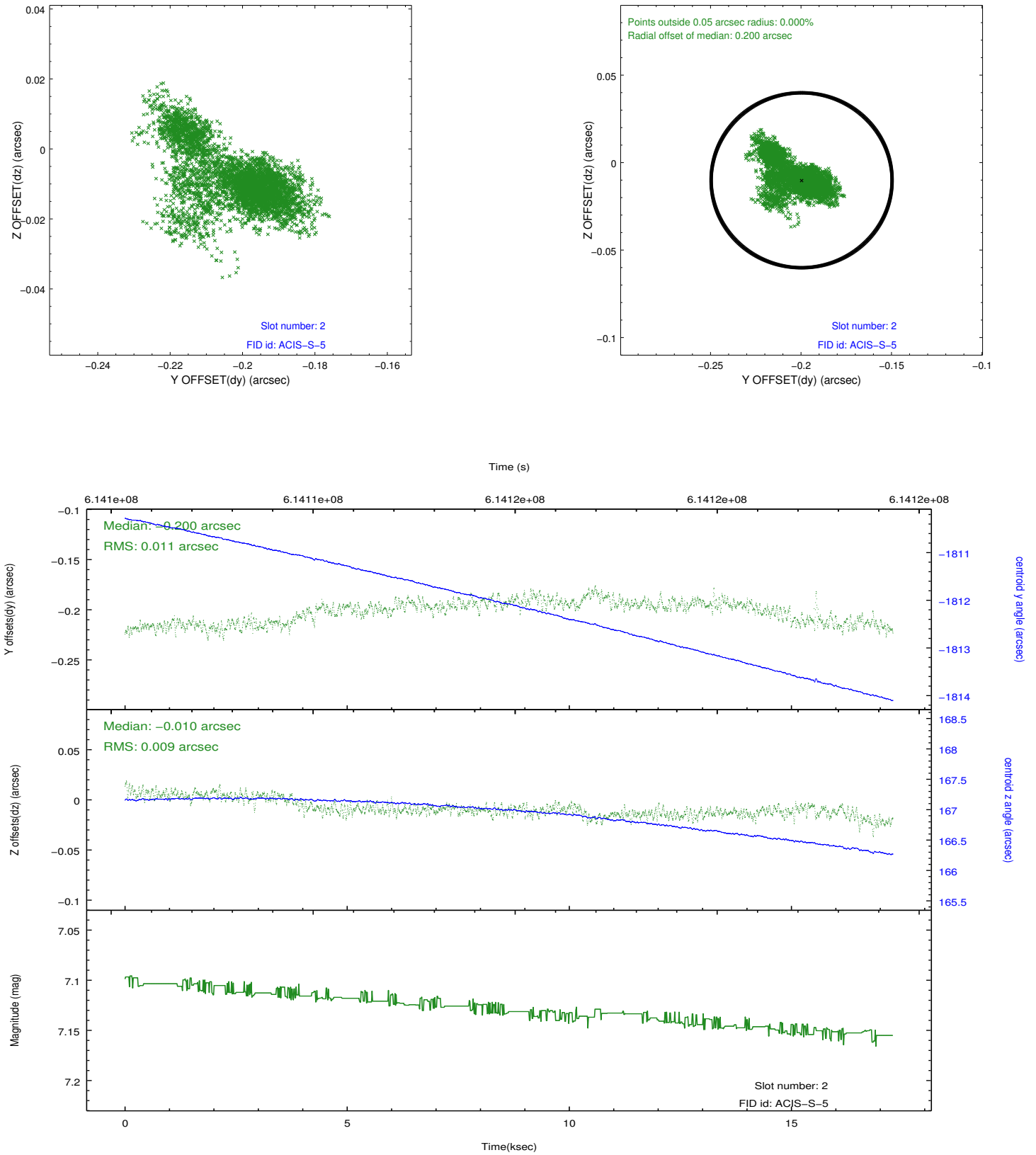
2.5.1 Slot 0



2.5.2 Slot 1

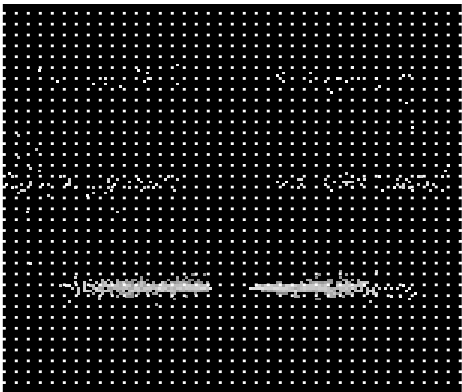


2.5.3 Slot 2

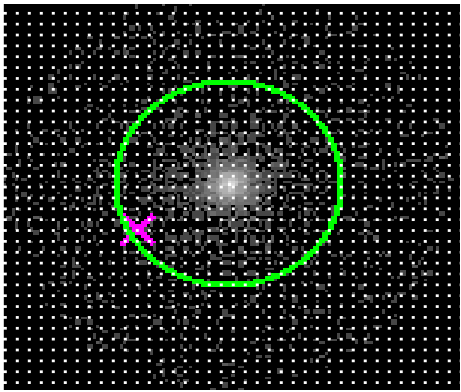


3 Gratings

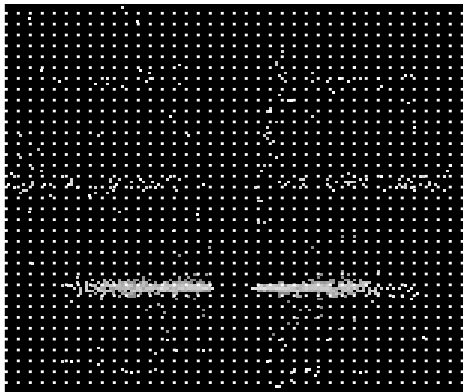
3.1 HEG Arm



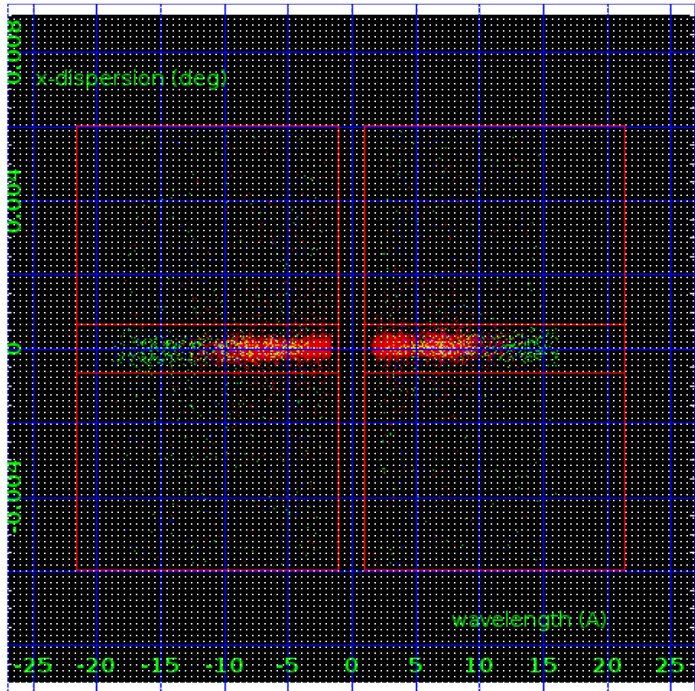
HEG Order Sort 123



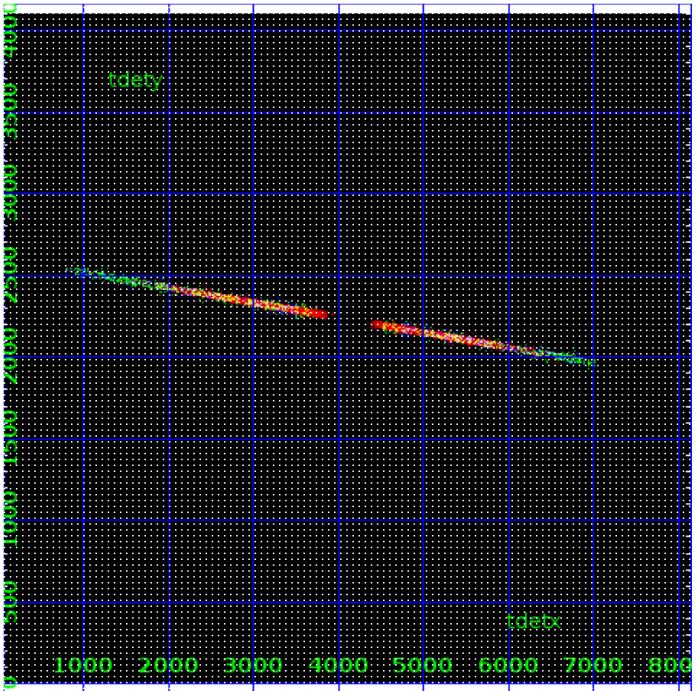
HEG Zero Order



HEG Order Sort ALL

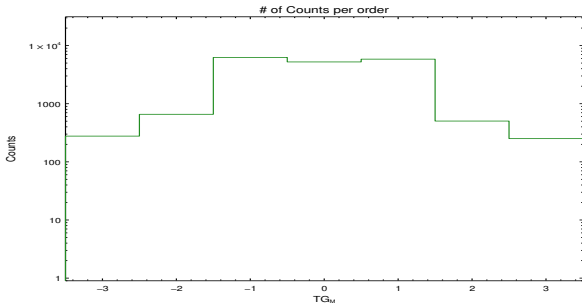


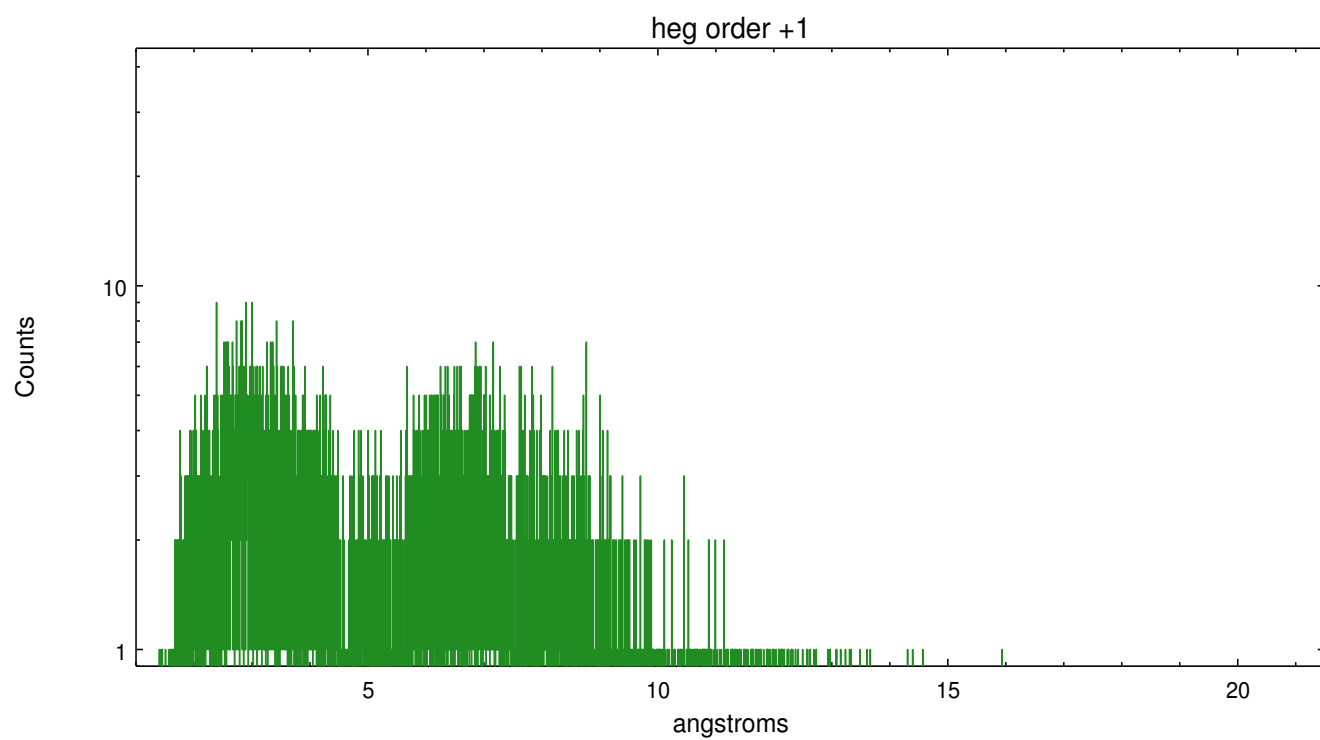
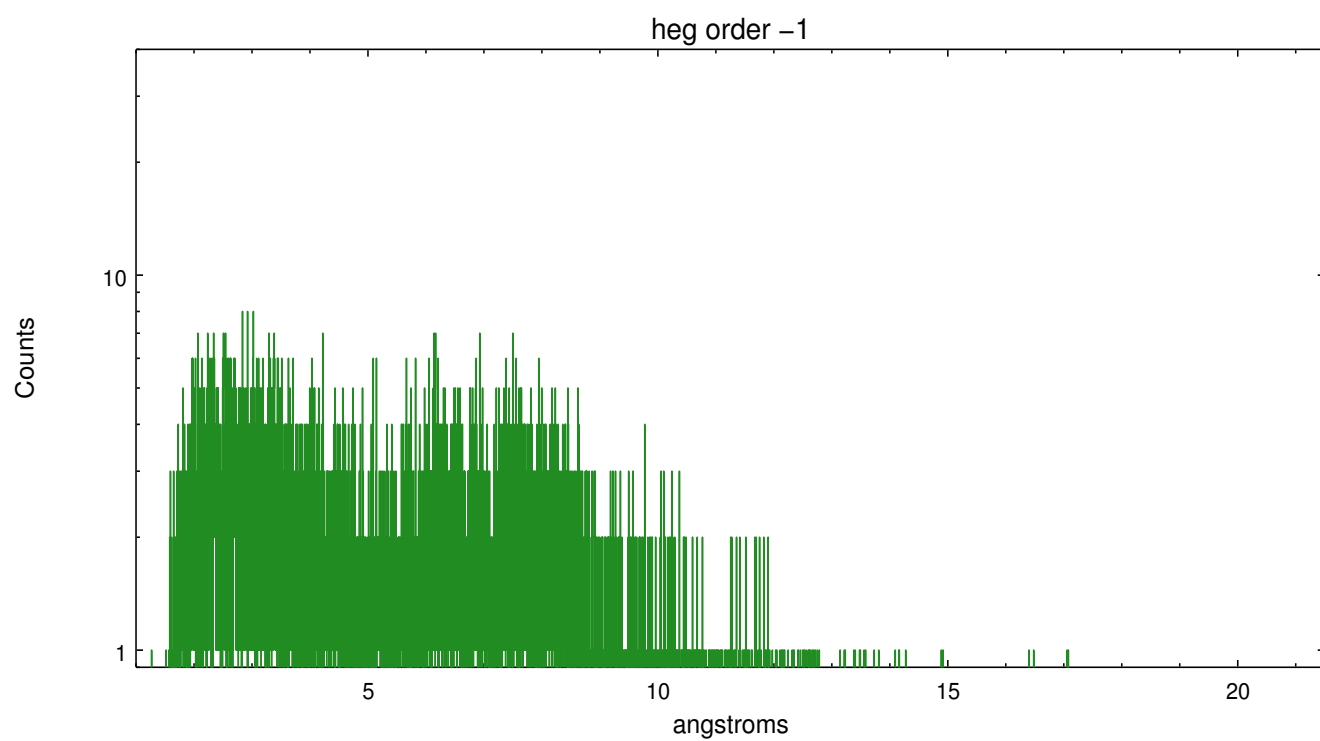
Spot Image HEG



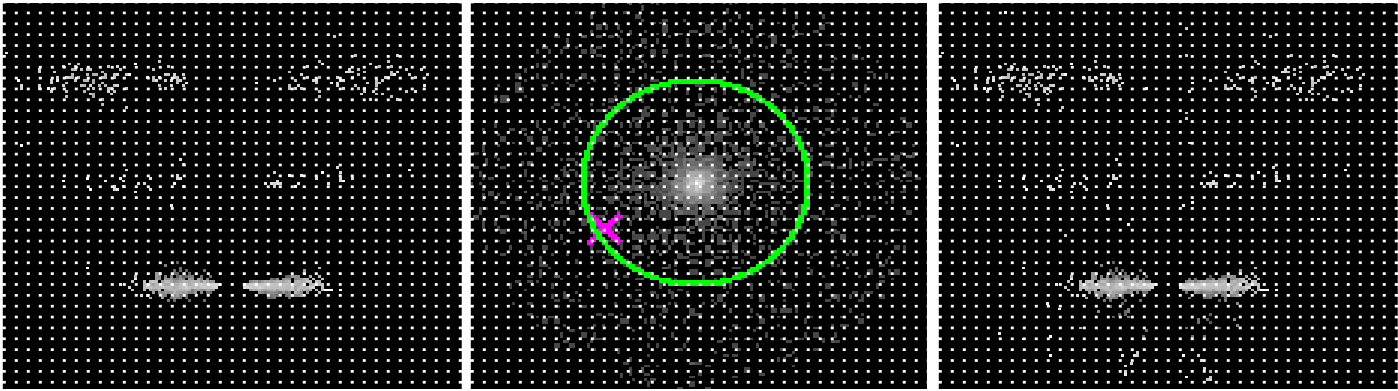
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	277	657	6253	5231	5839	503	251





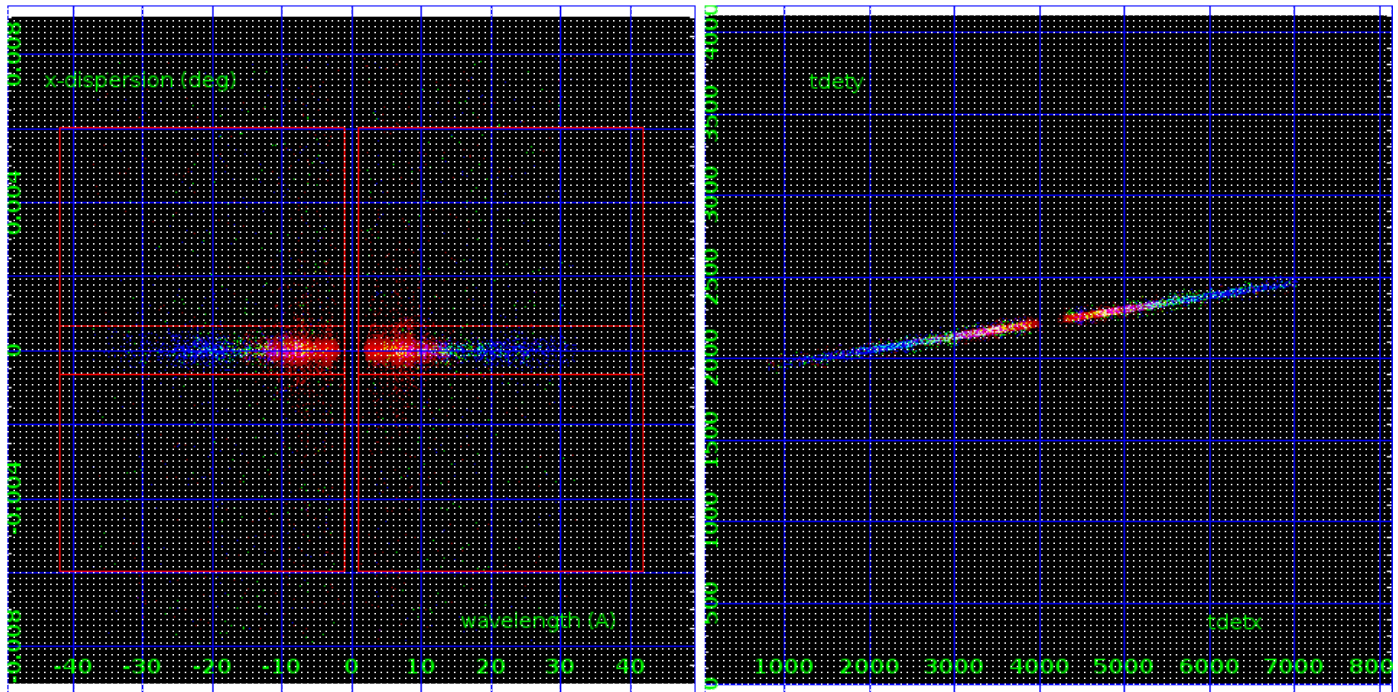
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

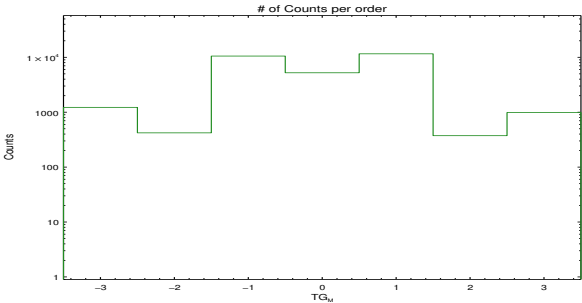
MEG Order Sort ALL

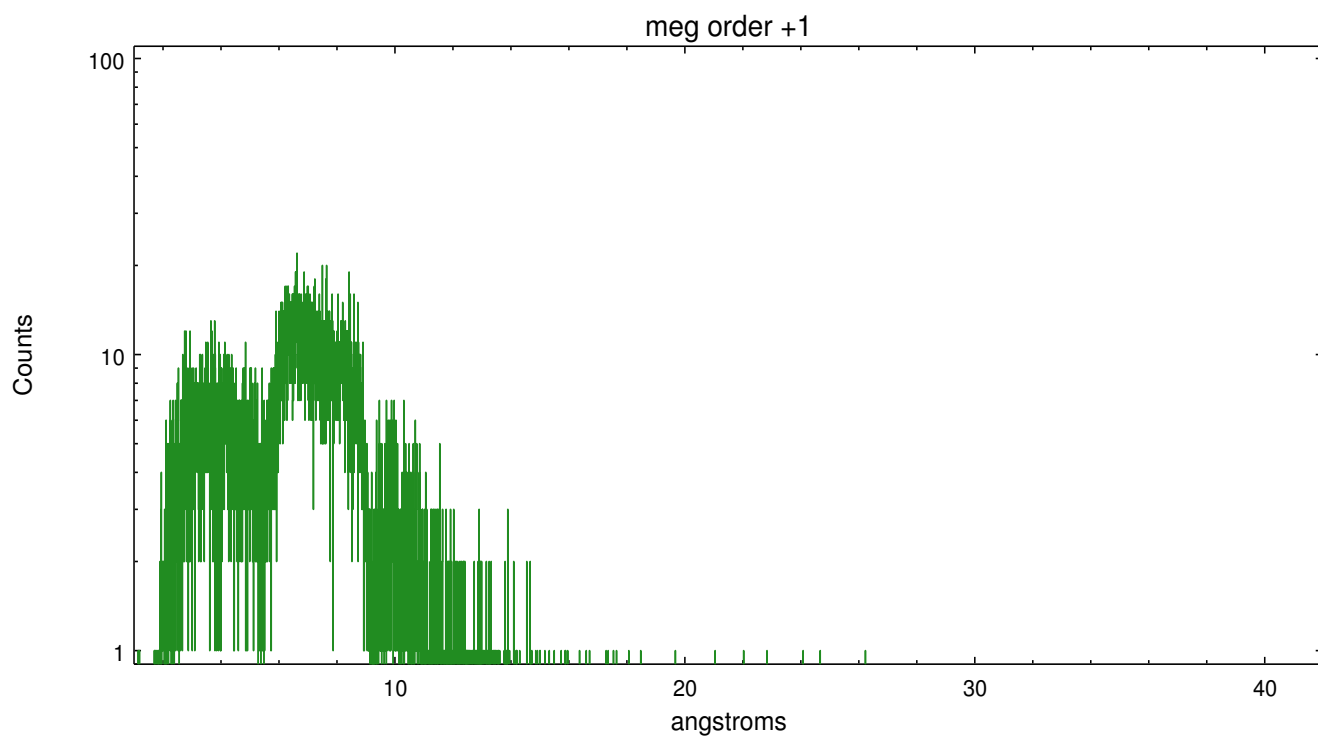
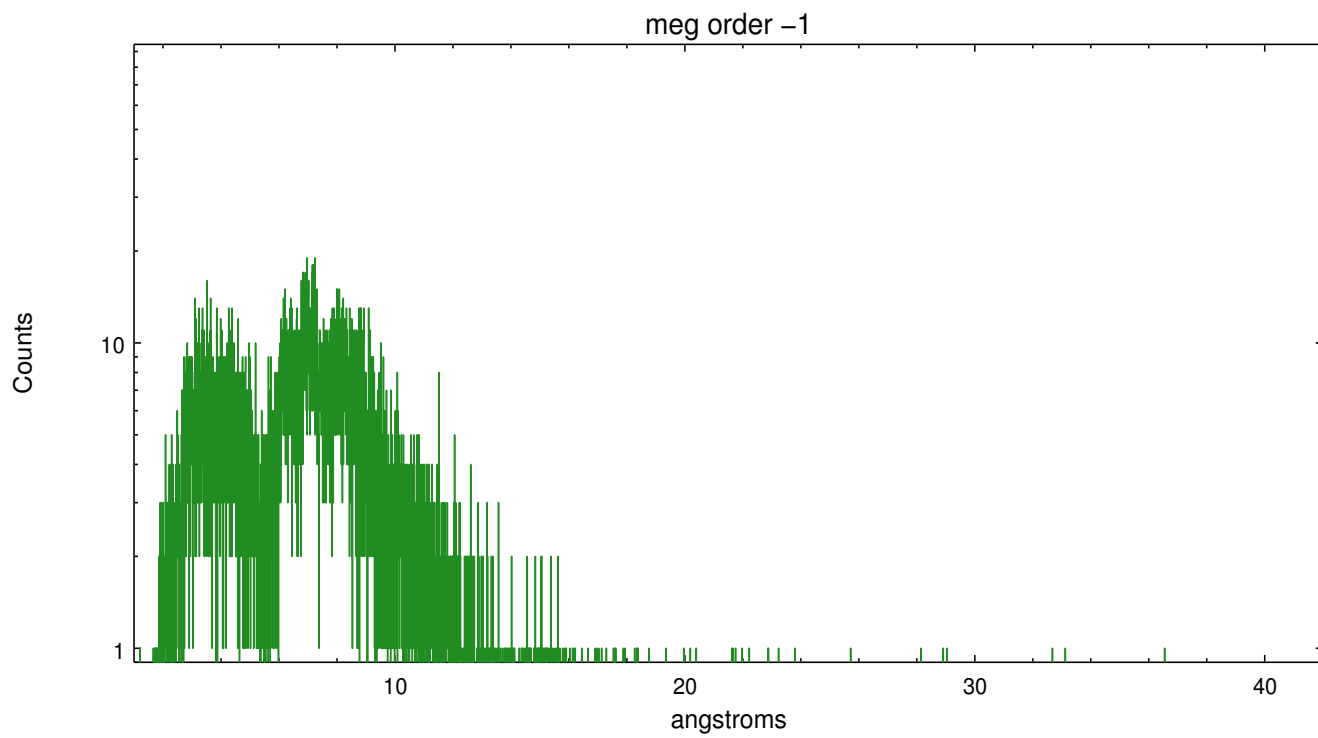


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1225	421	10539	5231	11589	374	986





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2017.06.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	17.08

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.