

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 20096 - L2 Version 1
Chandra X-Ray Center

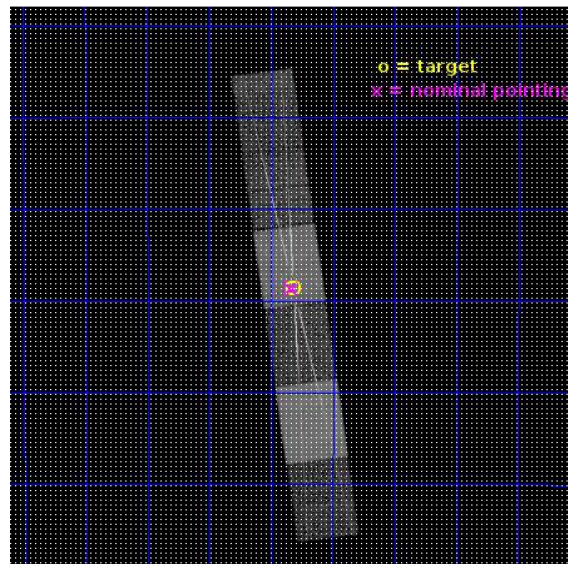
L2 Processing Date : Jun 15 2017

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1 Front

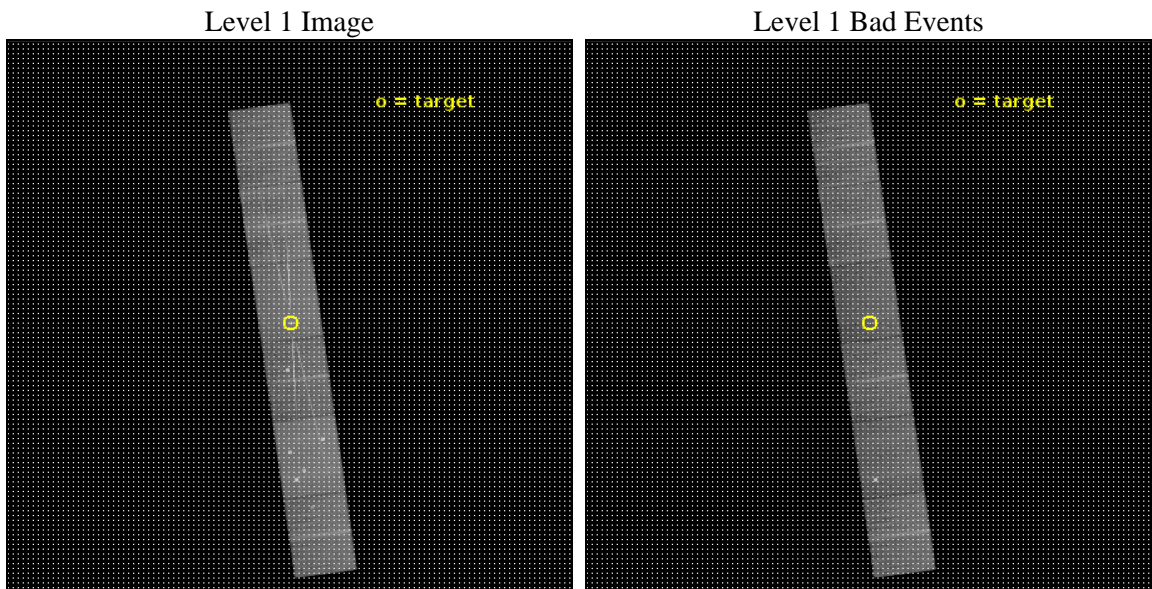
seq_num	703459	Sequence number
obs_id	20096	Observation id
title	The complex environment of the bright AGN IC4329a	Proposal title
observer	Jelle Kaastra	Principal investigator
object	IC4329a	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	207.330417	Observer's specified target RA [deg]
dec_targ	-30.309389	Observer's specified target Dec [deg]
ra_nom	207.33386977787	Nominal RA [deg]
dec_nom	-30.311442681502	Nominal Dec [deg]
roll_nom	262.15836371945	Nominal Roll [deg]
revision	1	Processing version of data
ontime	20080.0	Sum of GTIs [s]
livetime	19755.690583383	Livetime [s]
ontime4	20080.0	Sum of GTIs [s]
ontime5	20080.0	Sum of GTIs [s]
ontime6	20080.0	Sum of GTIs [s]
ontime7	20080.0	Sum of GTIs [s]
ontime8	20080.0	Sum of GTIs [s]
ontime9	20072.376798987	Sum of GTIs [s]
l2events	246406	Number of level 2 events



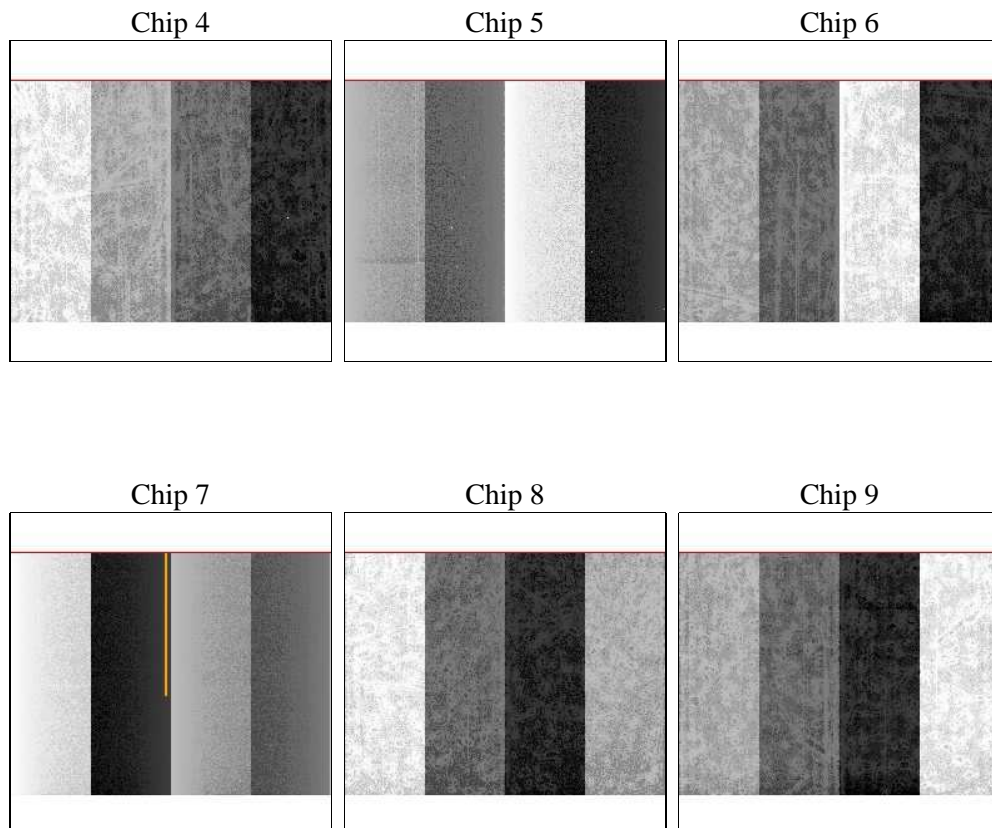
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	20080.0	Sum of GTIs [s]
caldsver	4.7.5	 	ontime4	20080.0	Sum of GTIs [s]
date	2017-06-15T10:26:11	Date and time of file creation	ontime5	20080.0	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	20080.0	Sum of GTIs [s]
			ontime7	20080.0	Sum of GTIs [s]
			ontime8	20080.0	Sum of GTIs [s]
			ontime9	20072.376798987	Sum of GTIs [s]
			l1events	951160	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			ra_pos	(4110.00 4100.28)	src1a sky pixel position

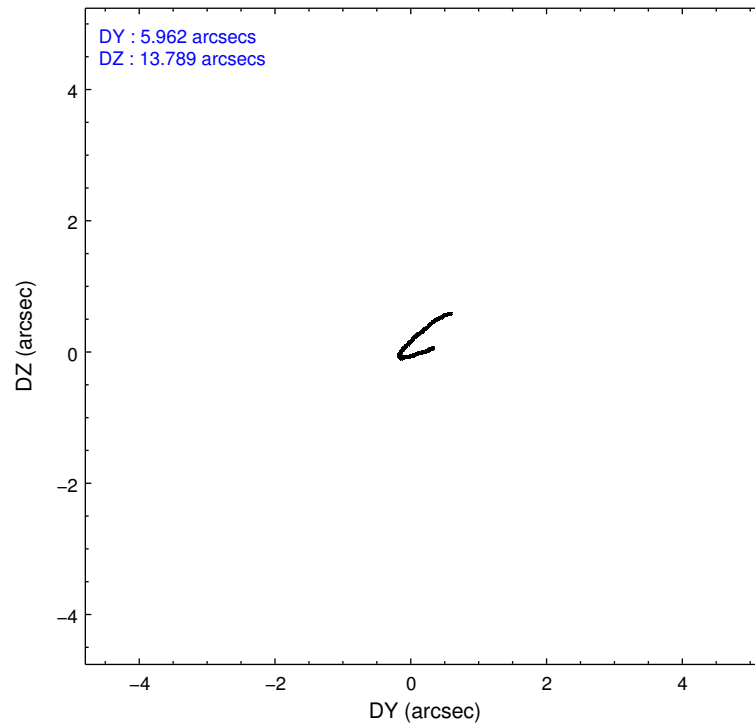
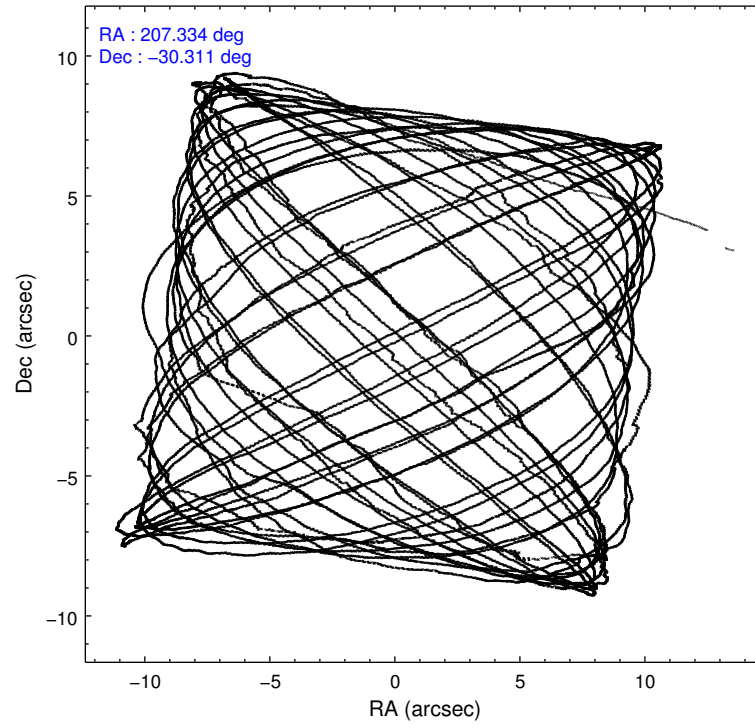
2.1.4 Events

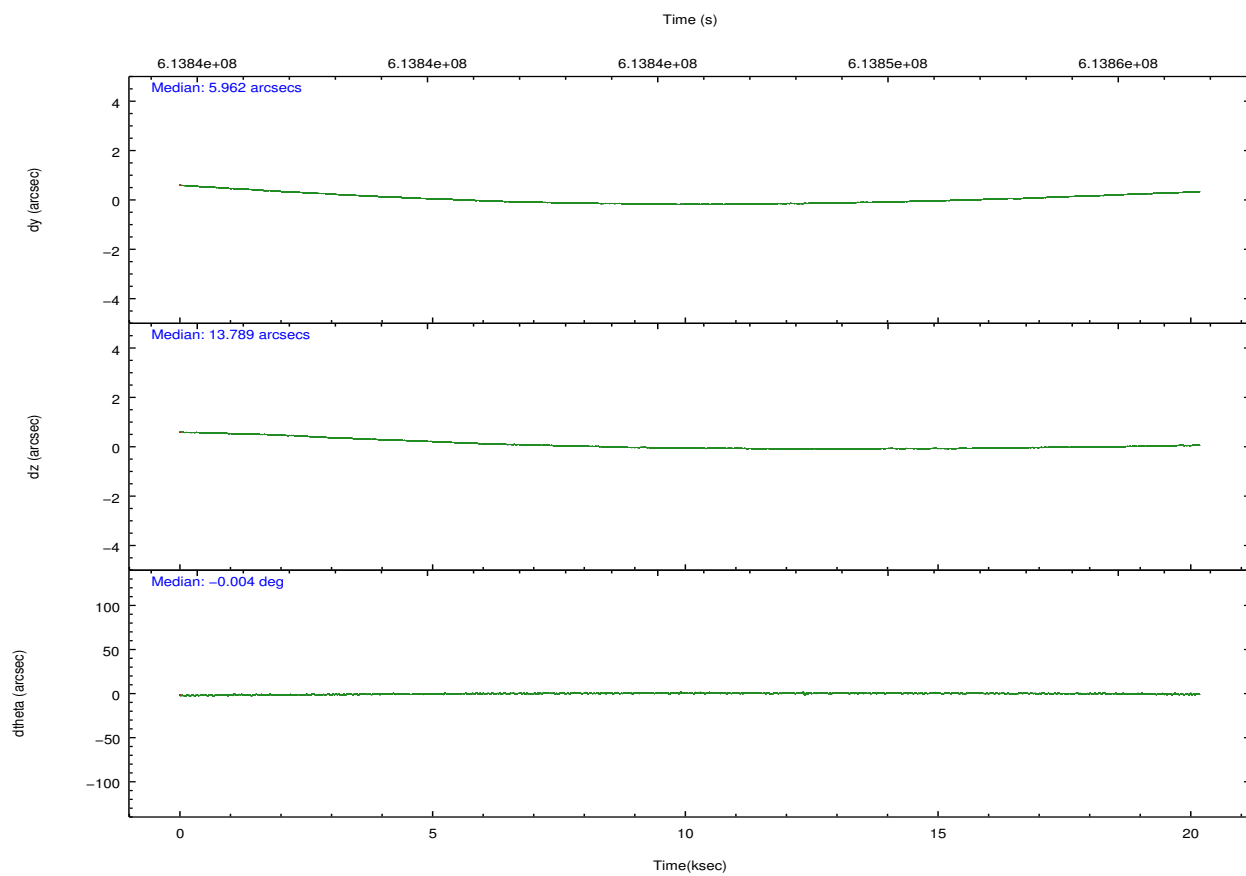
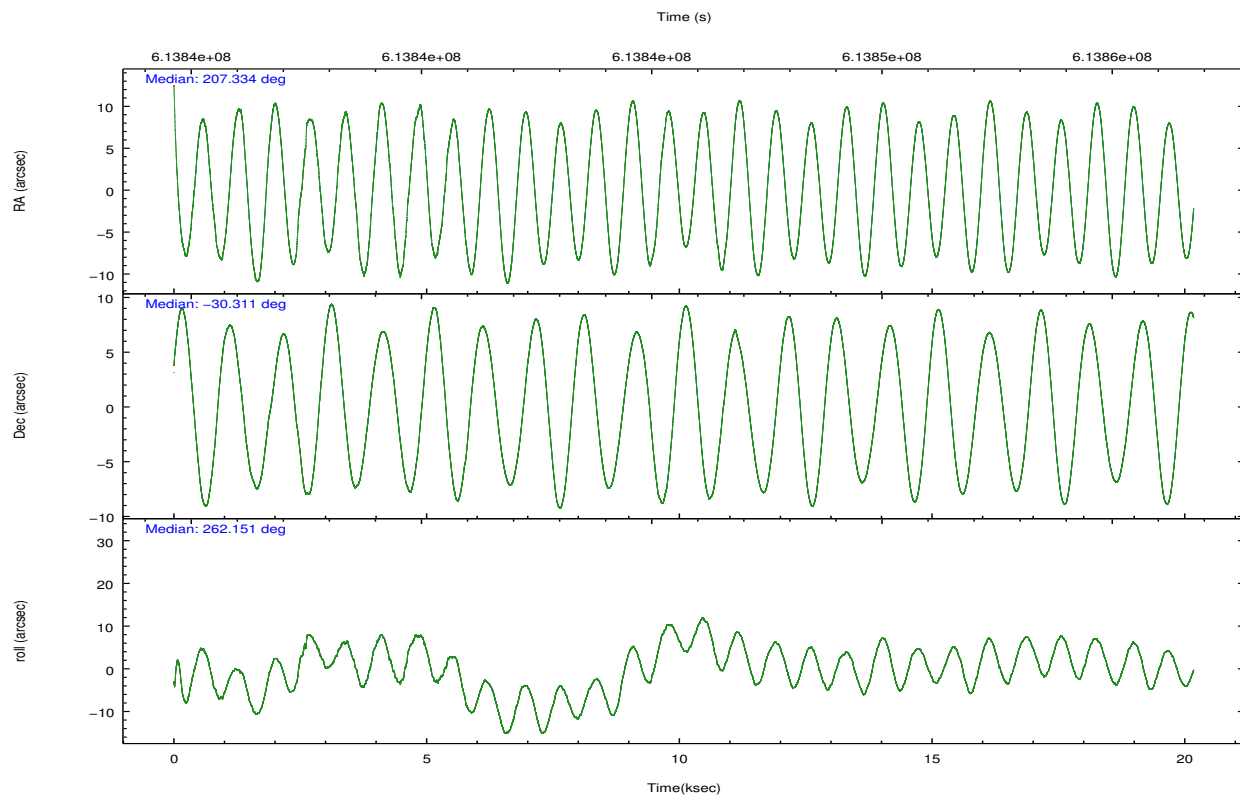
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	144108	204211	143189	176224	161511	121917	grade 0 events	6351	20838	19075	11244	15834	5989
rejected events	129040	100624	105364	86408	116718	106724		4%	10%	13%	6%	9%	4%
rejected %	89%	49%	73%	49%	72%	87%	grade 1 events	111	416	99	373	138	85
								0%	0%	0%	0%	0%	0%
							grade 2 events	3235	28859	10826	19157	10102	3206
								2%	14%	7%	10%	6%	2%
							grade 3 events	1576	2856	2053	8212	4097	1540
								1%	1%	1%	4%	2%	1%
							grade 4 events	1543	2697	1901	7952	3753	1429
								1%	1%	1%	4%	2%	1%
							grade 5 events	5408	11919	5101	15753	7782	5735
								3%	5%	3%	8%	4%	4%
							grade 6 events	2365	48343	3980	43262	11015	3034
								1%	23%	2%	24%	6%	2%
							grade 7 events	123519	88283	100154	70271	108790	100899
								85%	43%	69%	39%	67%	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	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	207.321508	207.3338697778669	CCD I2 on	N	N
[deg] Pointing Dec	-30.286177	-30.31144268150215	CCD I3 on	N	N
[deg] Pointing Roll	261.995511	262.1583637194506	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	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	Y	Y
[s] Observation start time (MET)	613835780.184000	613834851.87608	CCD S5 on	Y	Y
Observation start date	2017-06-14T13:55:11	2017-06-14T13:40:51	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	613855780.184000	613856788.41485	On-chip summing requested	N	N
Observation end date	2017-06-14T19:28:31	2017-06-14T19:46:28	Subarray requested	CUSTOM	CUSTOM
Read mode	TIMED	TIMED	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



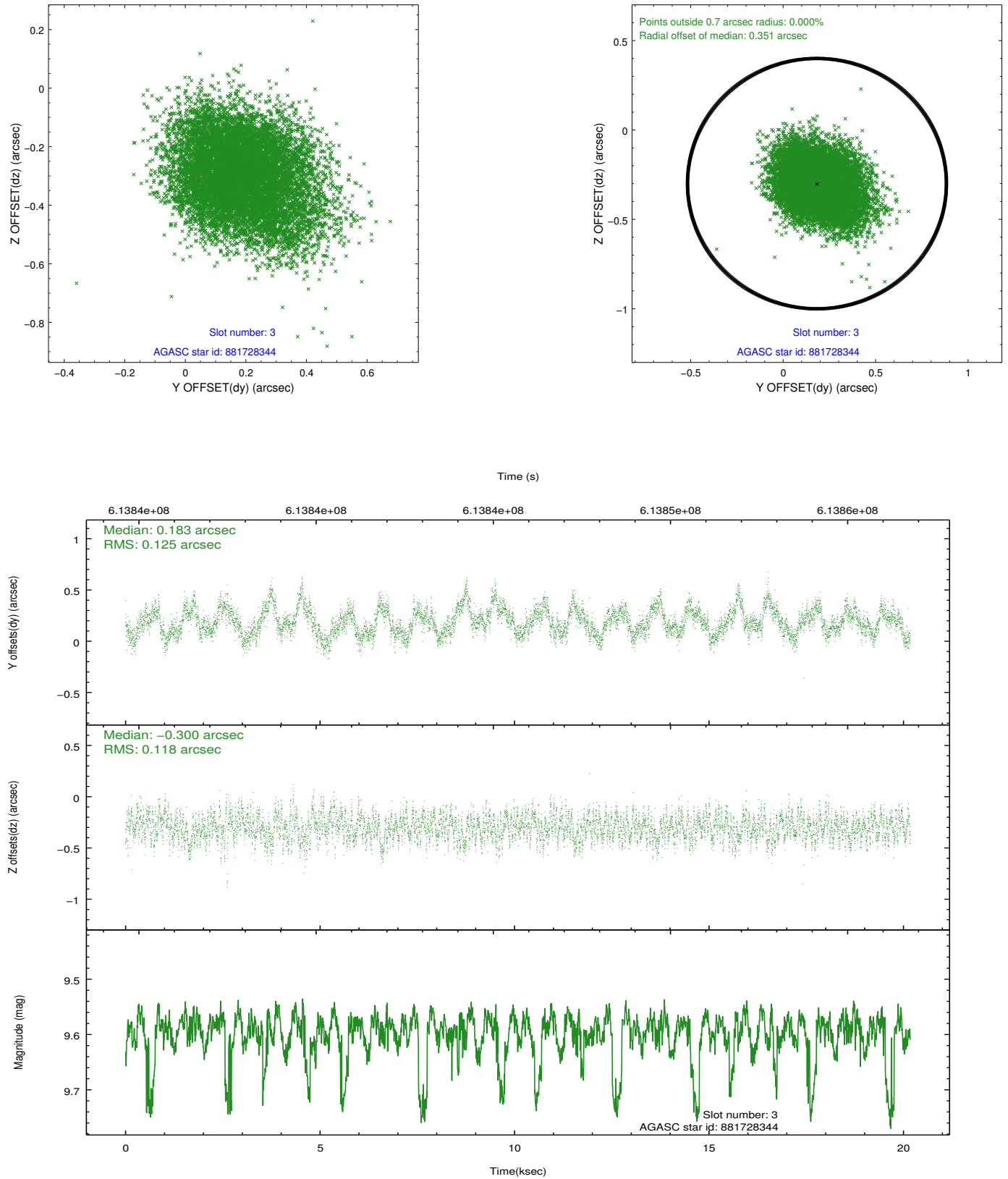


Slot Statistics

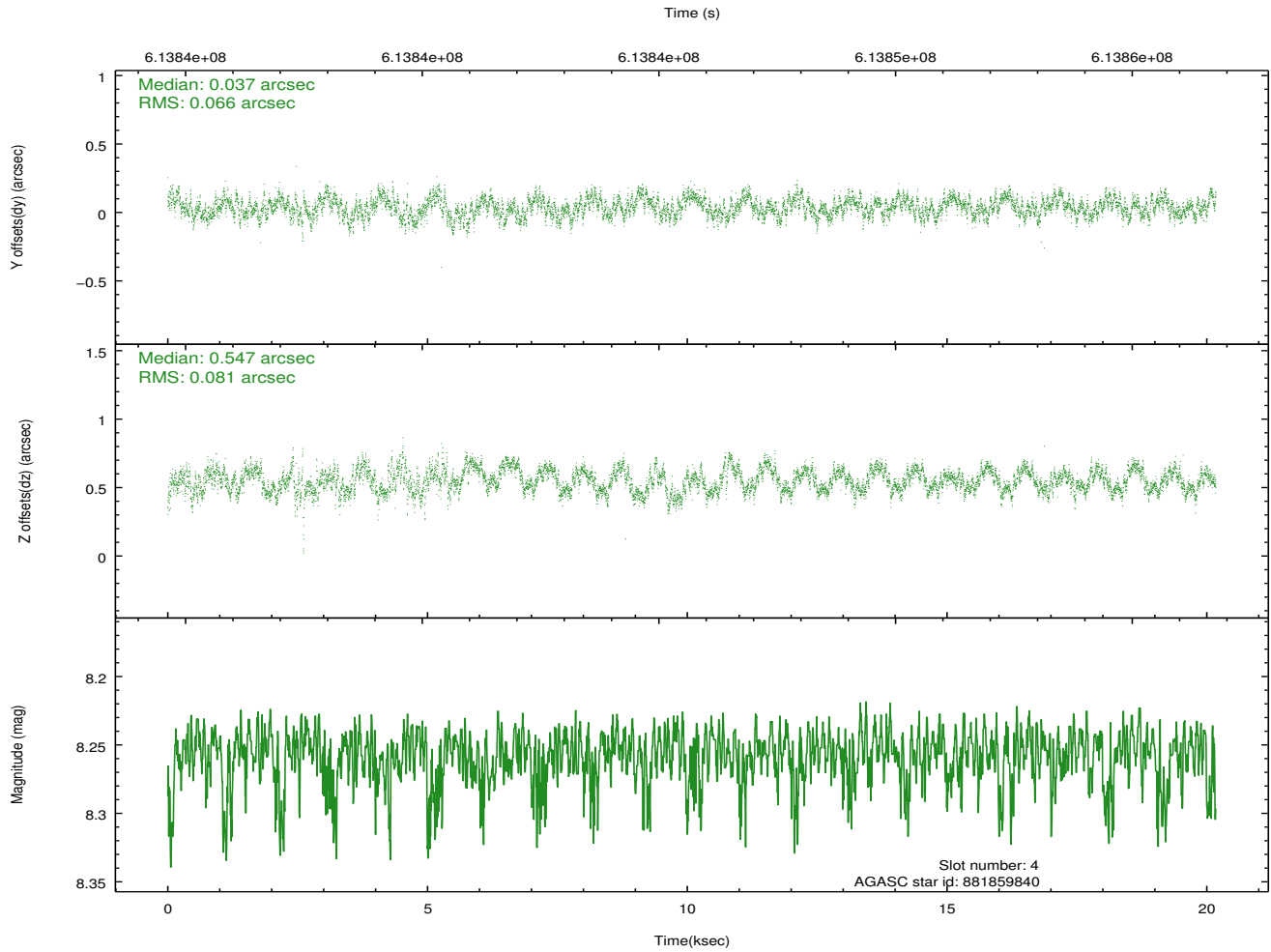
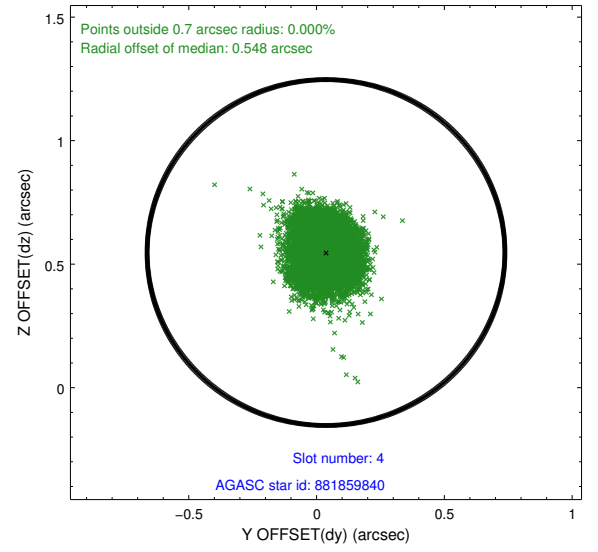
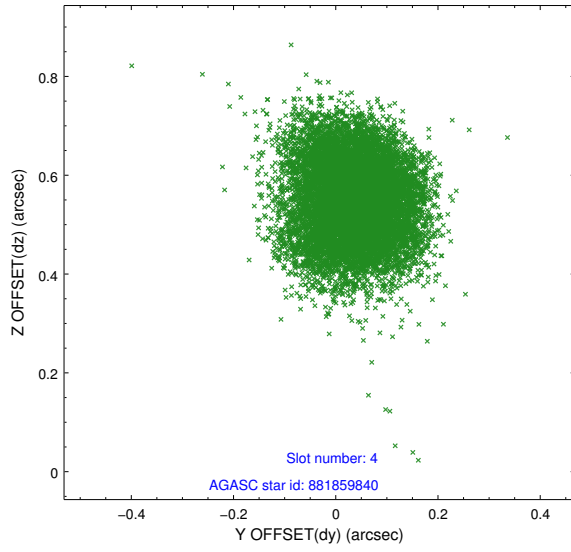
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.08	4922	-0.174	-0.101	0.010	0.015	0.000000	0.000000	-758.92	-1735.33
1	FID		ACIS-S-4	7.20	4922	0.375	0.111	0.008	0.014	0.000000	0.000000	2154.83	173.16
2	FID		ACIS-S-5	7.21	4922	-0.232	-0.000	0.009	0.014	0.000000	0.000000	-1811.58	166.95
3	GUIDE	used	881728344	9.59	9832	0.183	-0.300	0.183	0.291	206.739682	-29.671821	-1931.43	-2110.11
4	GUIDE	used	881859840	8.26	9840	0.037	0.547	0.112	0.173	207.221466	-29.661172	-2184.03	-622.39
5	GUIDE	used	954074720	9.39	9836	0.127	0.233	0.156	0.238	207.095076	-30.028141	-820.35	-828.19
6	GUIDE	used	954075880	7.10	9840	-0.205	-0.342	0.075	0.137	207.787300	-30.565970	799.14	1570.19
7	GUIDE	used	954078824	9.32	9820	-0.137	-0.136	0.168	0.271	207.889442	-30.427893	264.13	1818.08

2.4 Star Slots

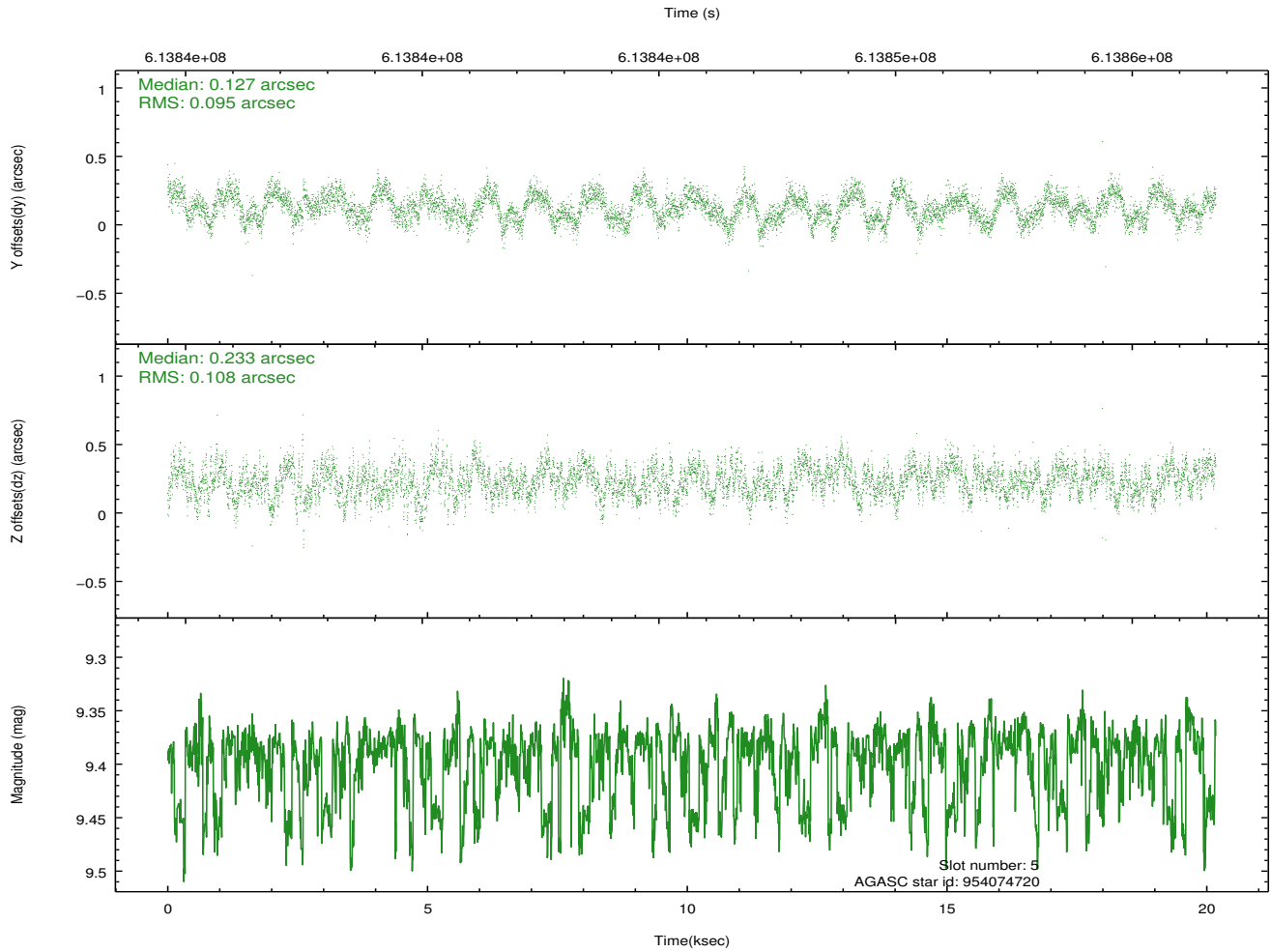
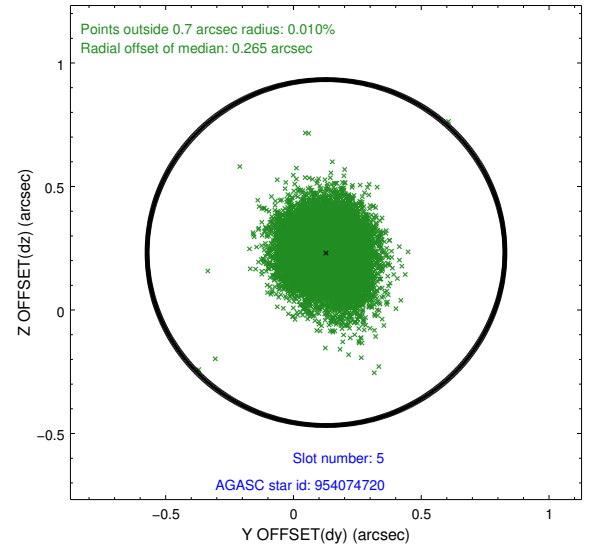
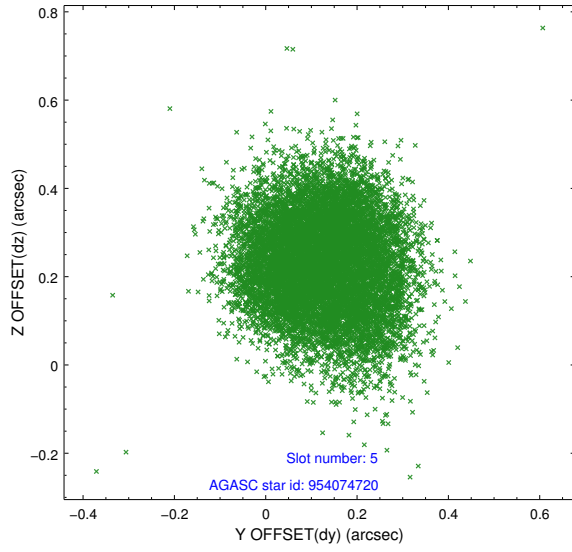
2.4.1 Slot 3



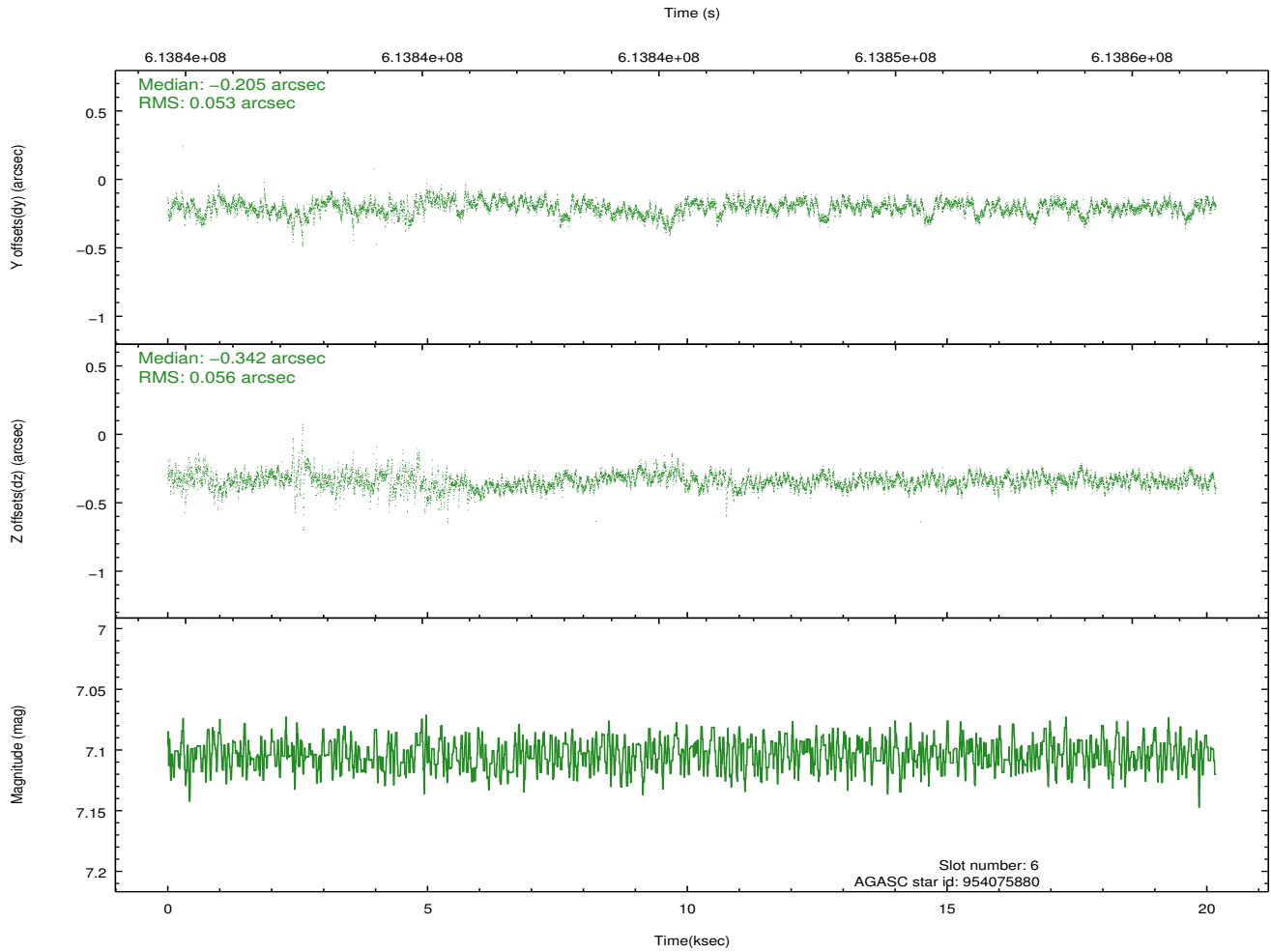
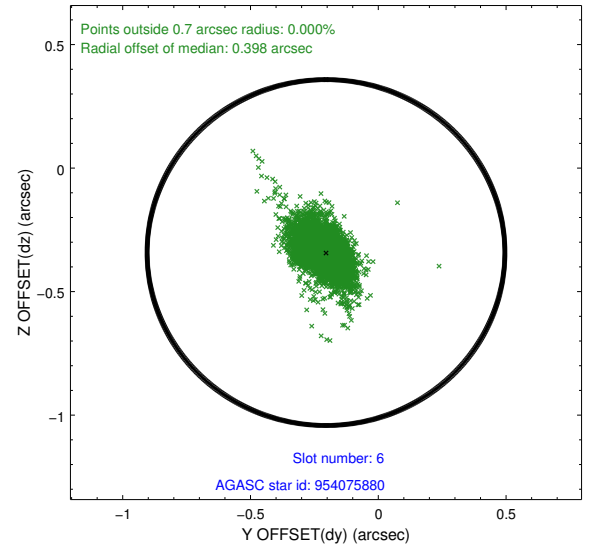
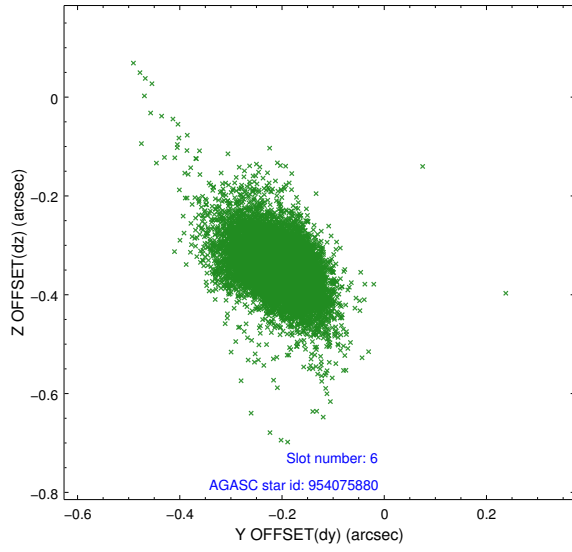
2.4.2 Slot 4



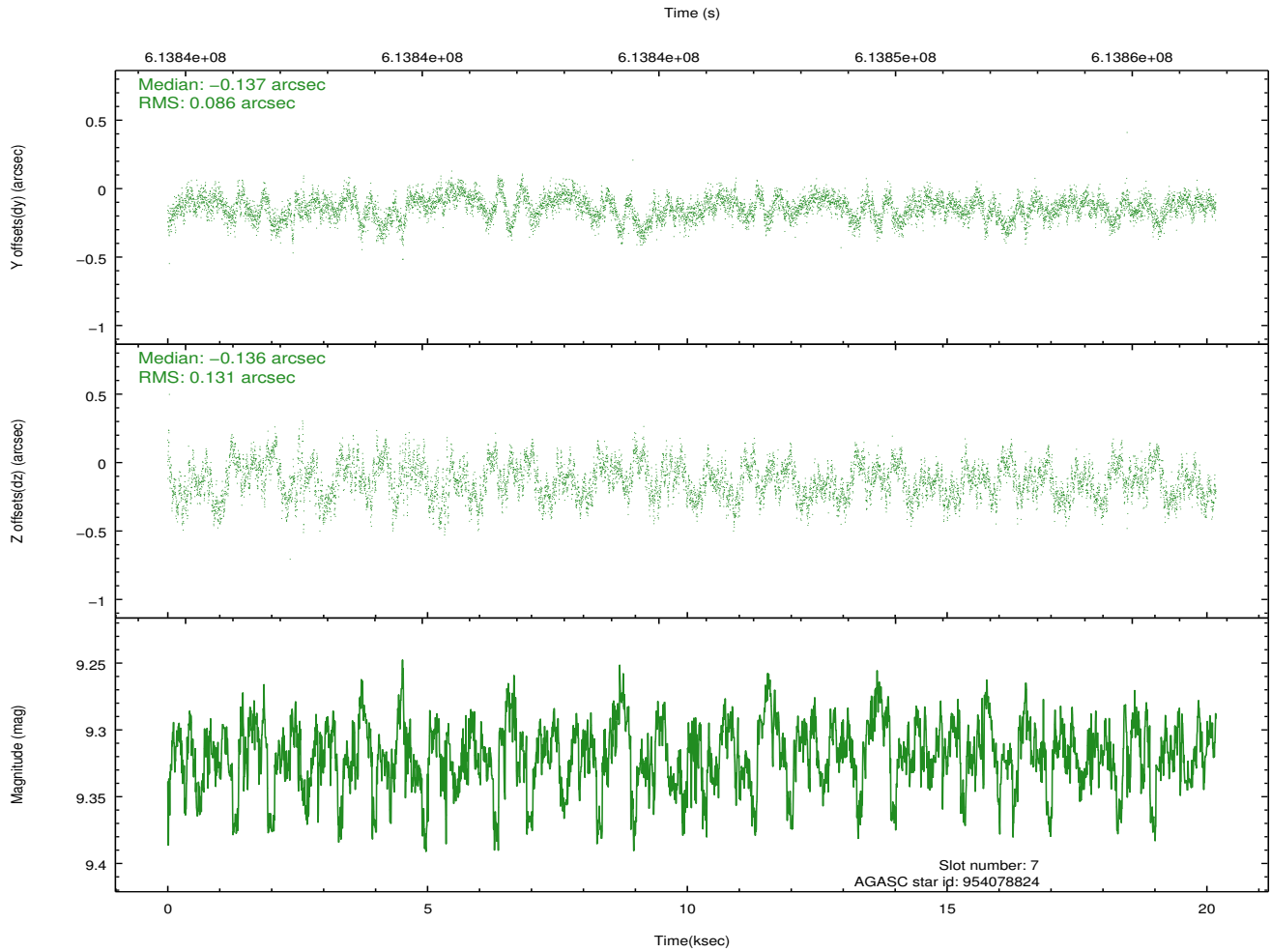
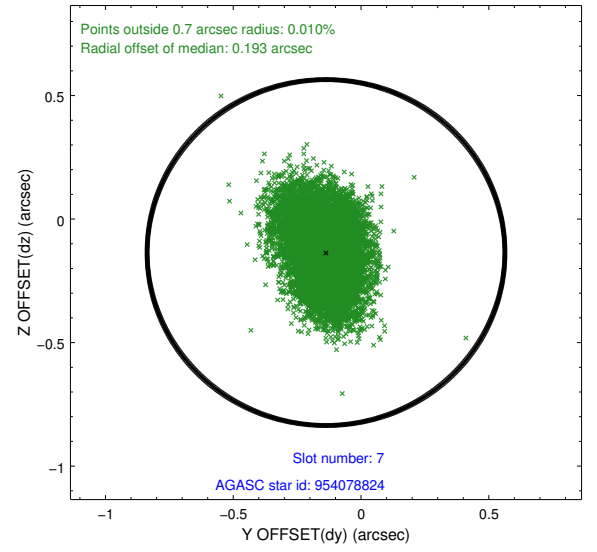
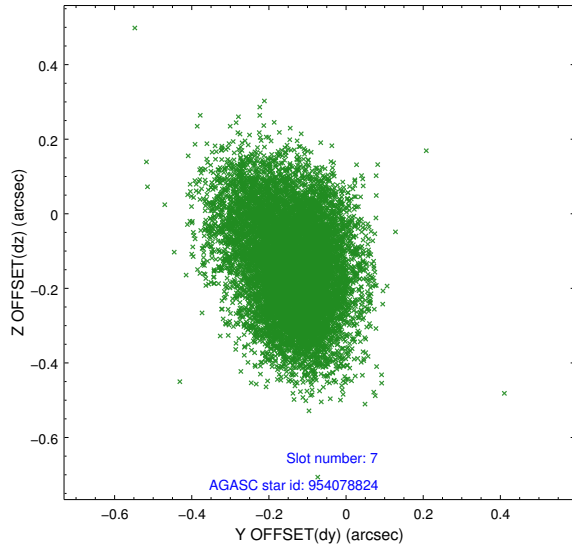
2.4.3 Slot 5



2.4.4 Slot 6

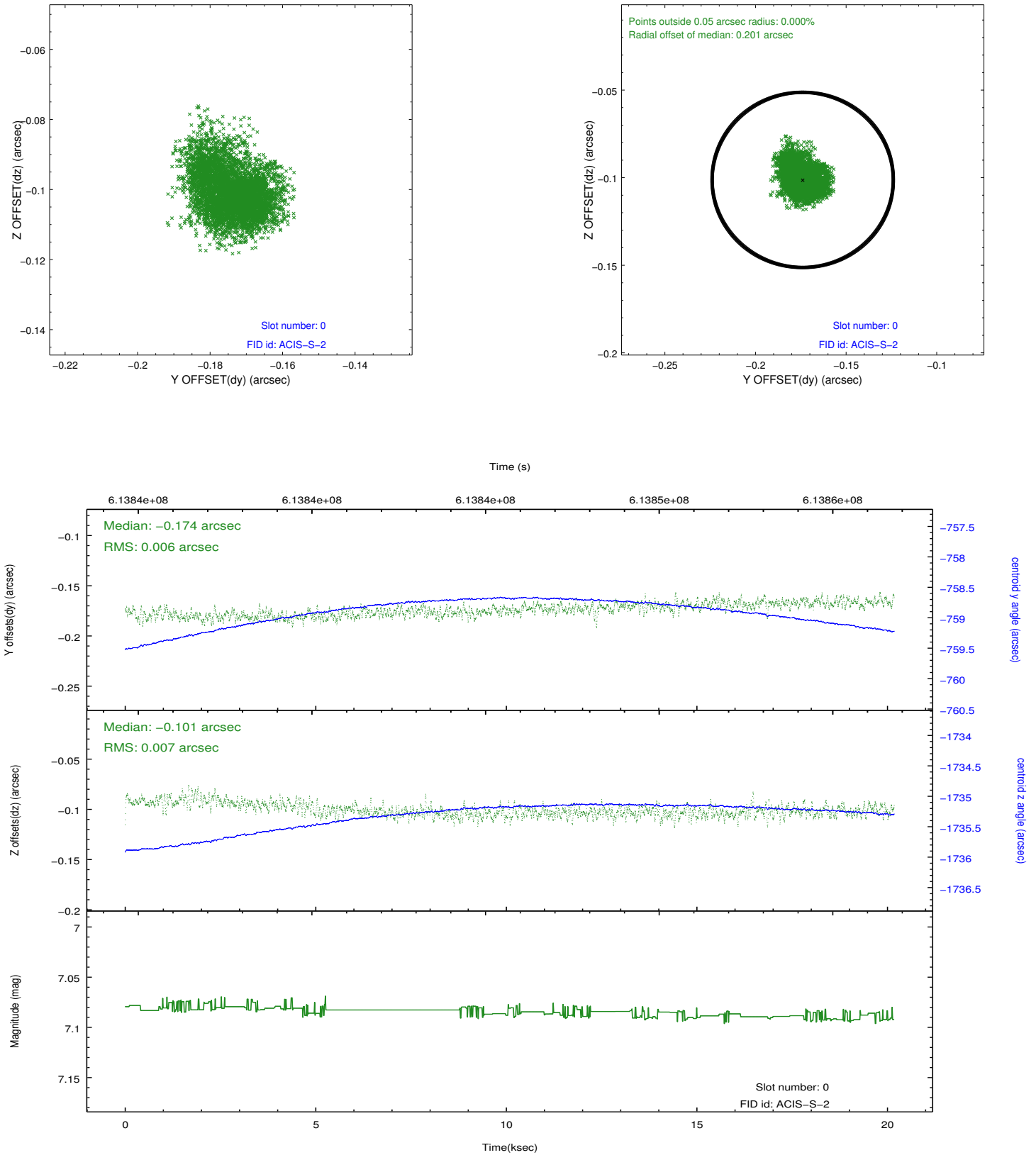


2.4.5 Slot 7

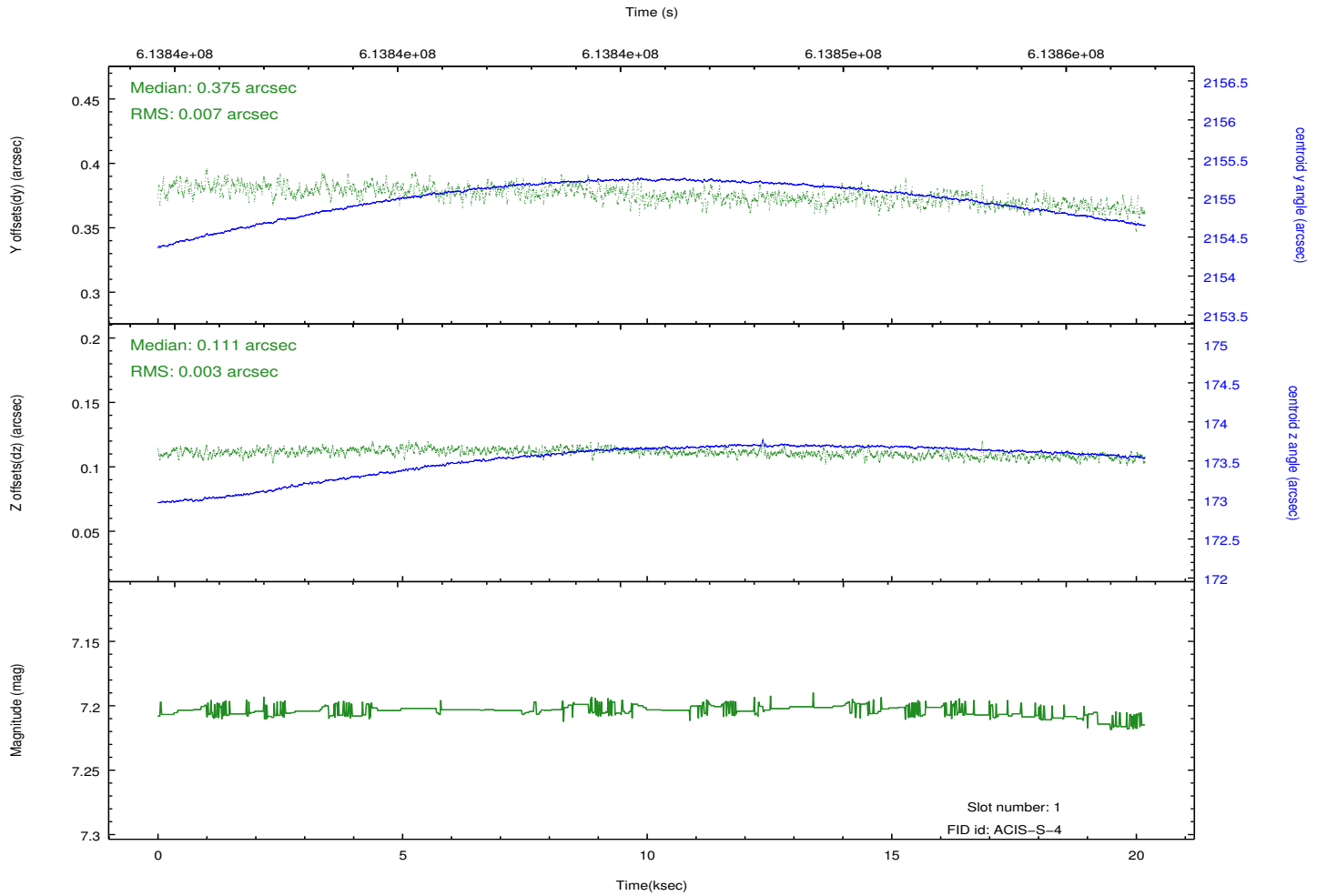
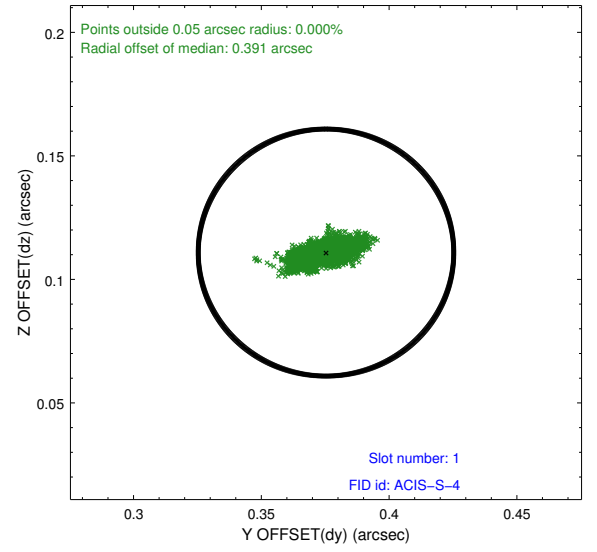
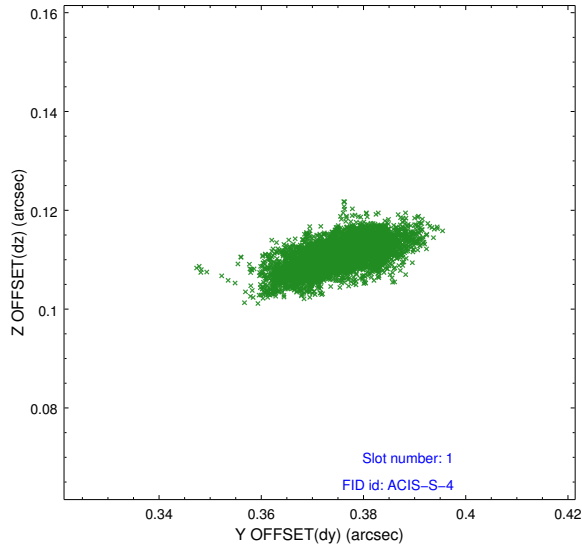


2.5 FID Slots

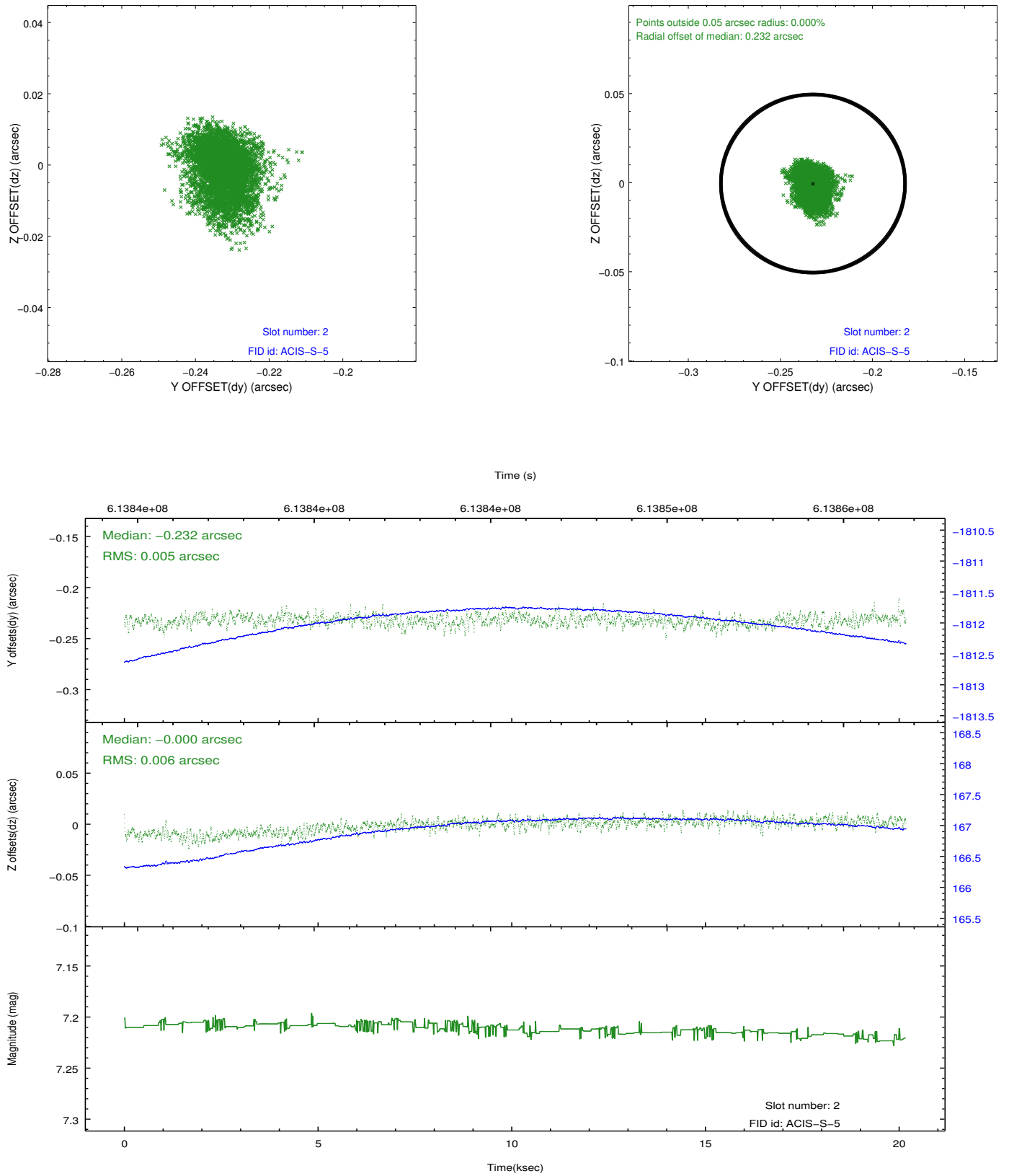
2.5.1 Slot 0



2.5.2 Slot 1

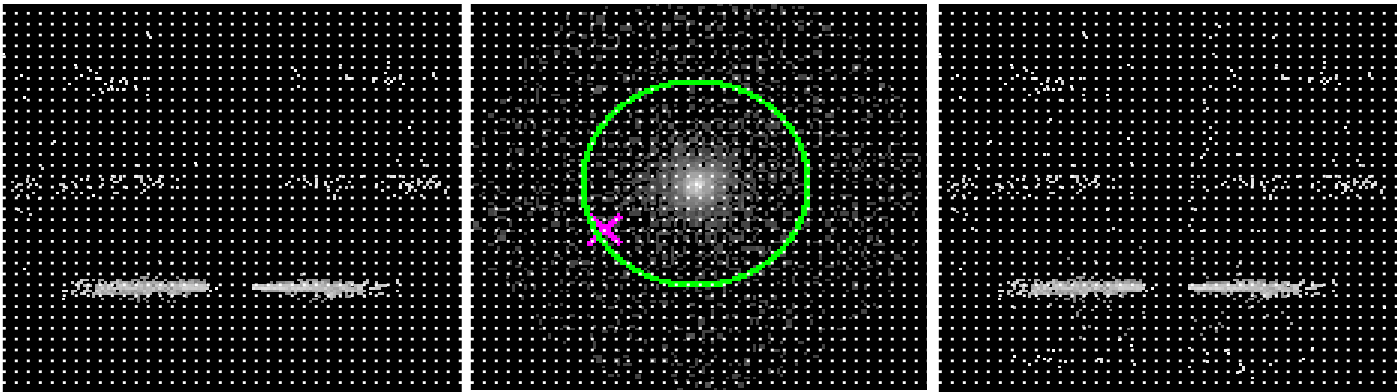


2.5.3 Slot 2



3 Gratings

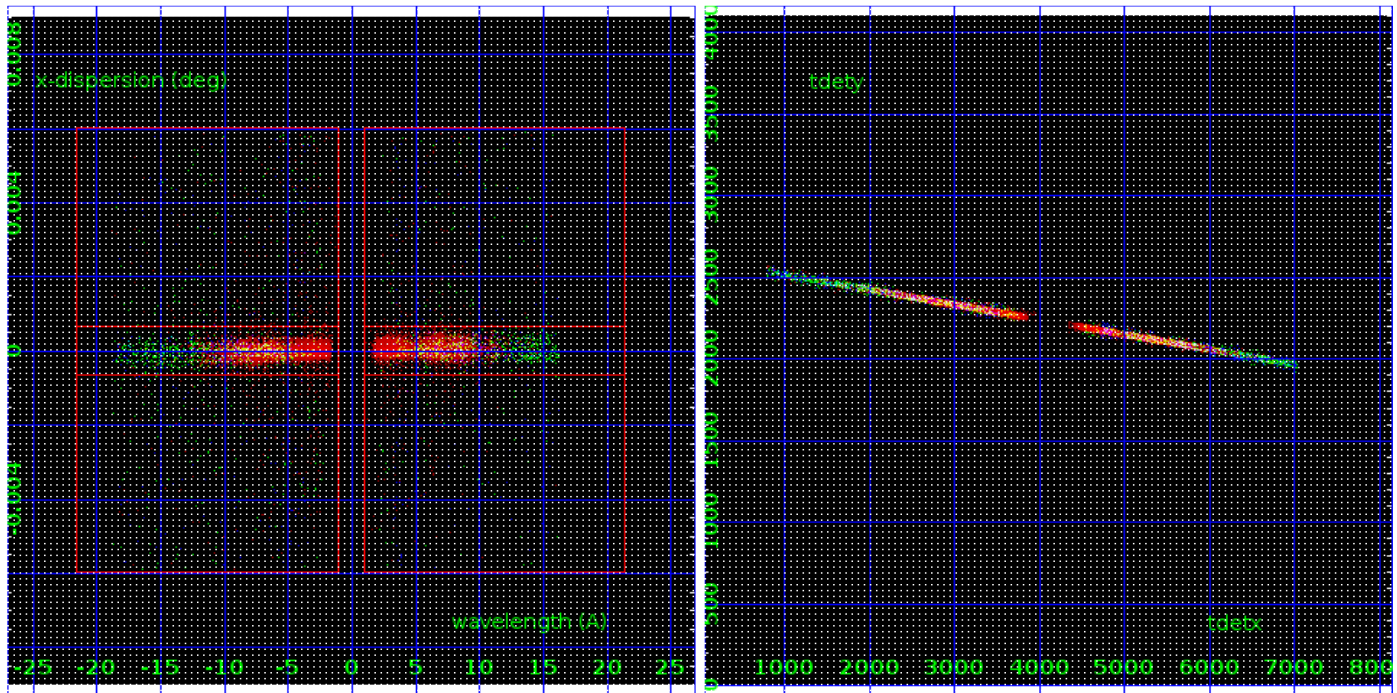
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

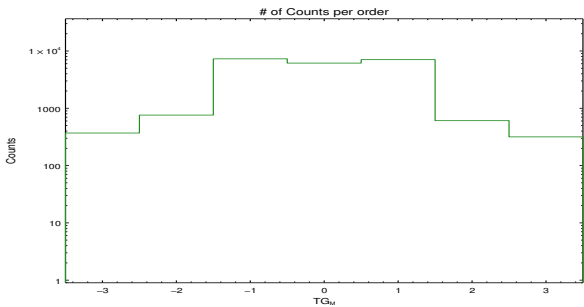
HEG Order Sort ALL

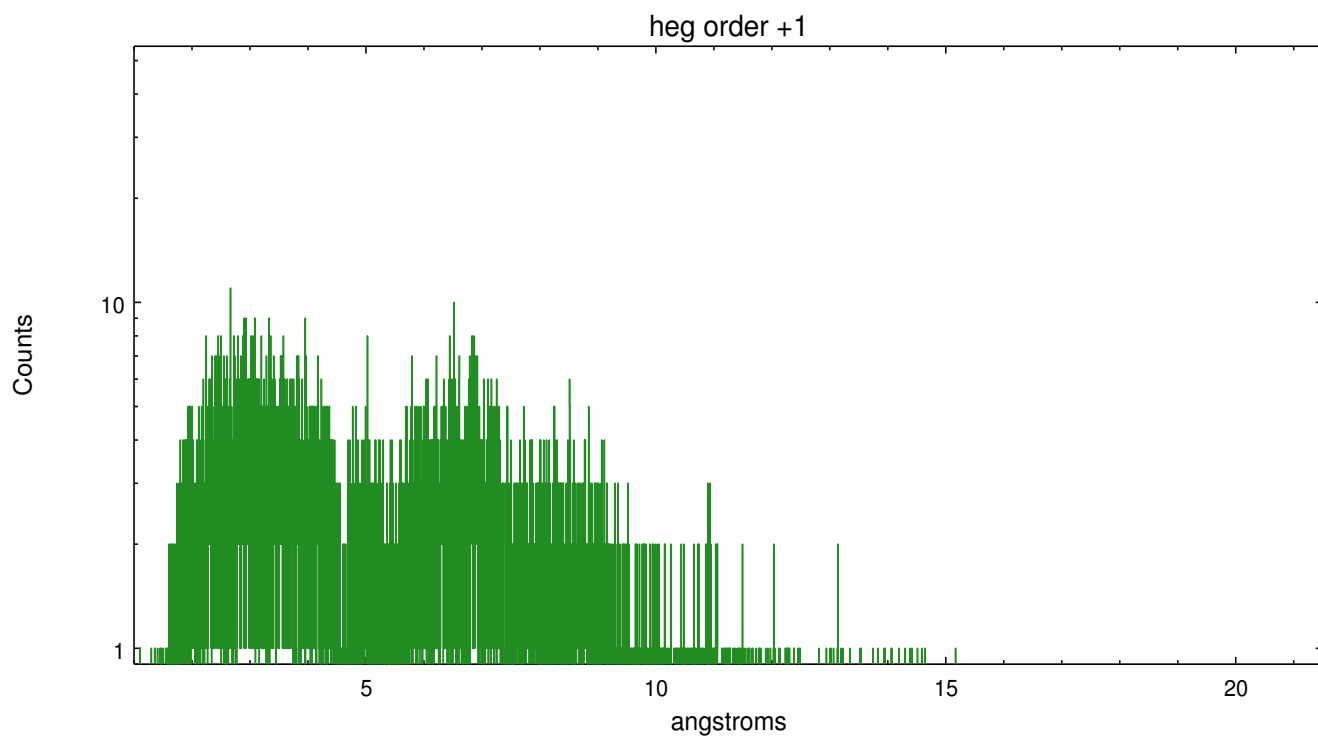
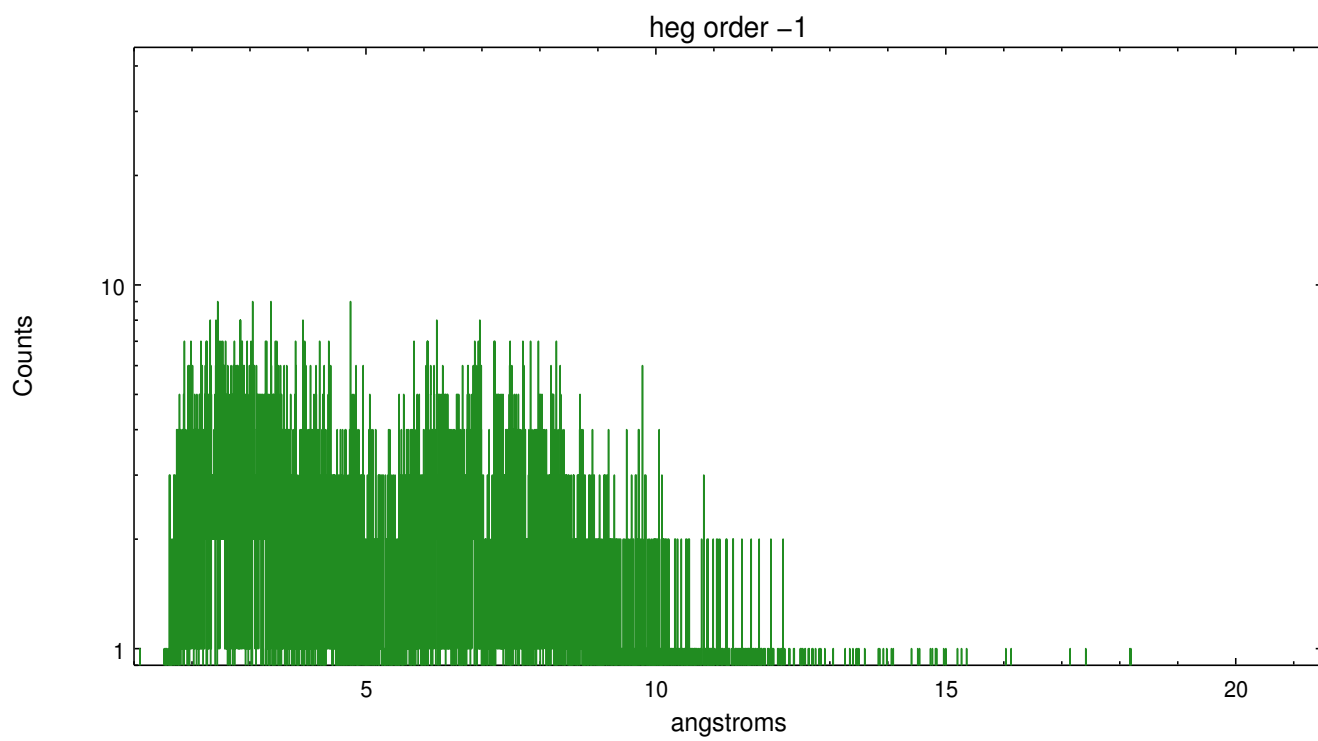


Spot Image HEG

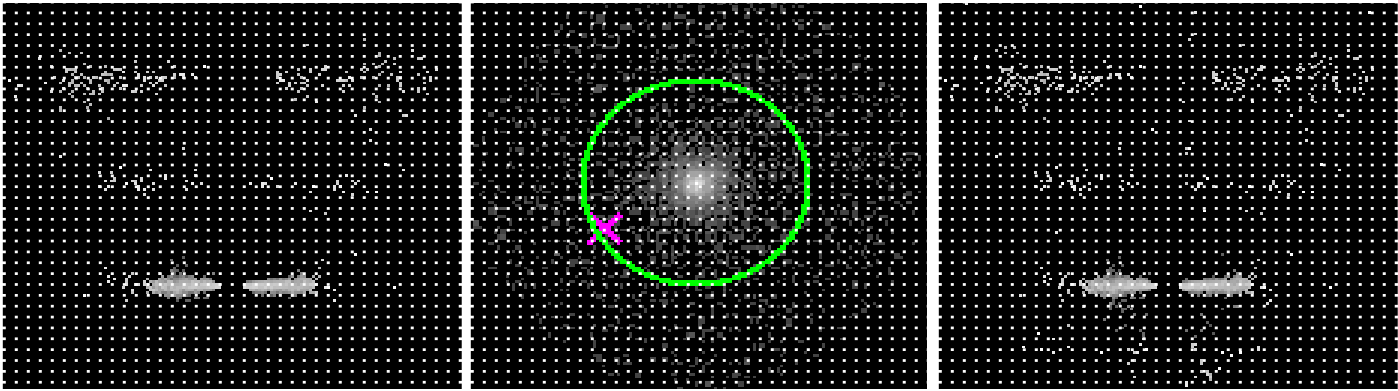
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	370	761	7297	6144	7062	608	317





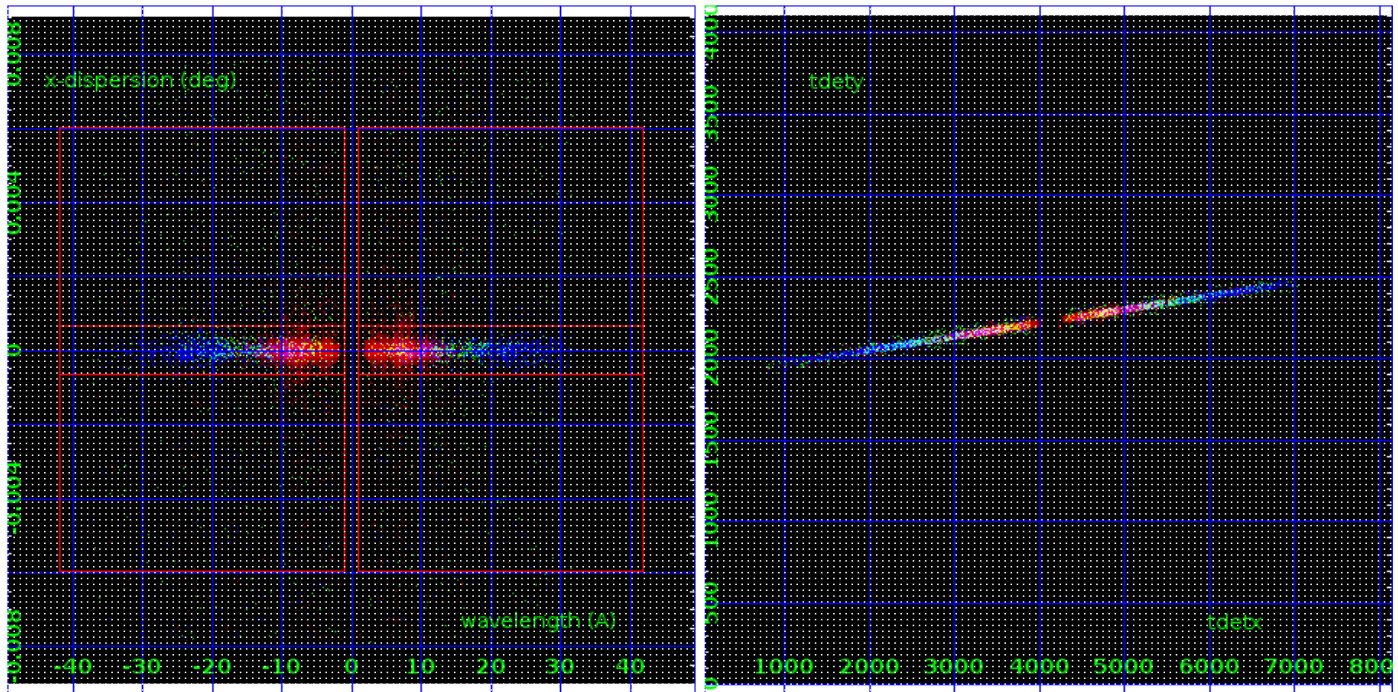
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

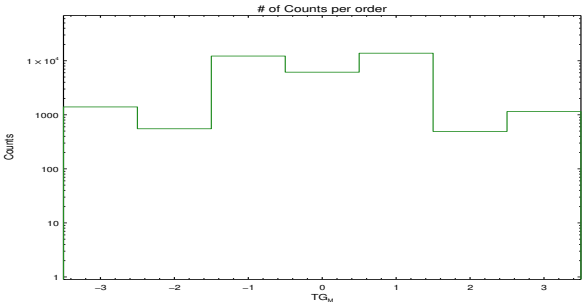
MEG Order Sort ALL

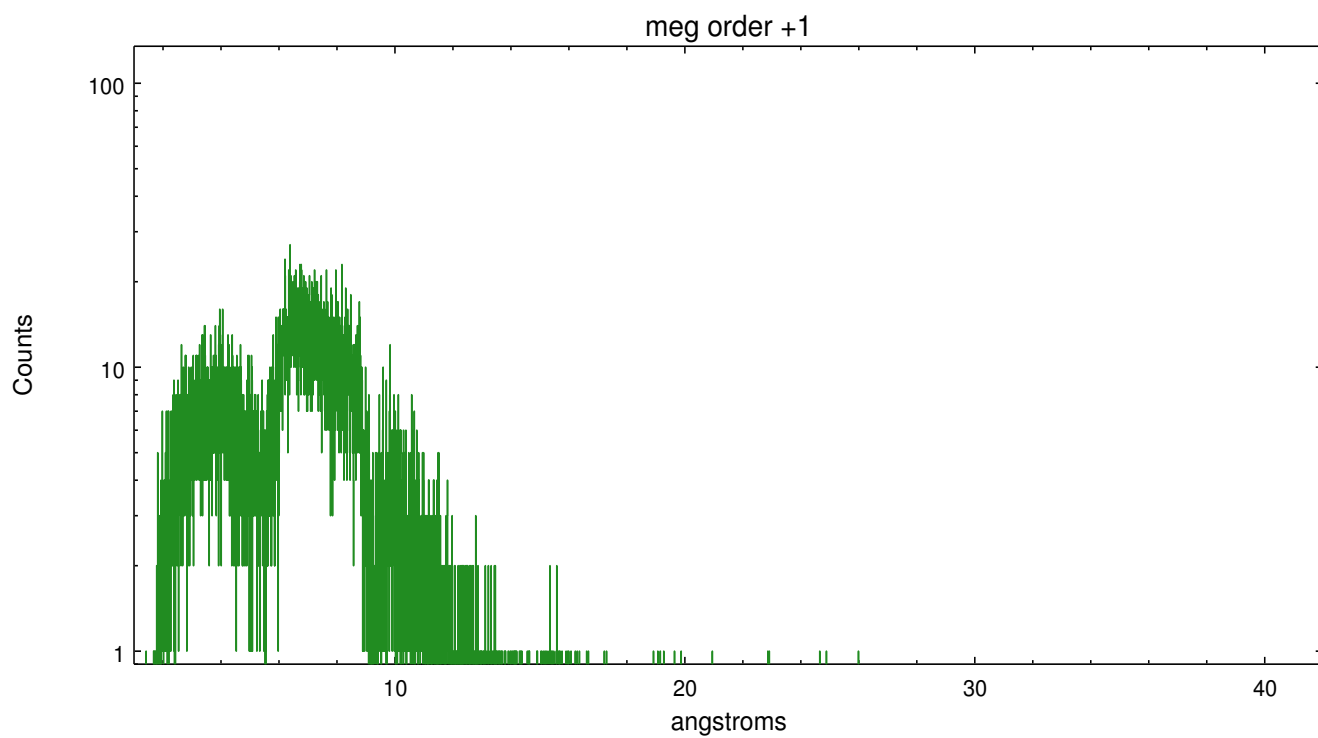
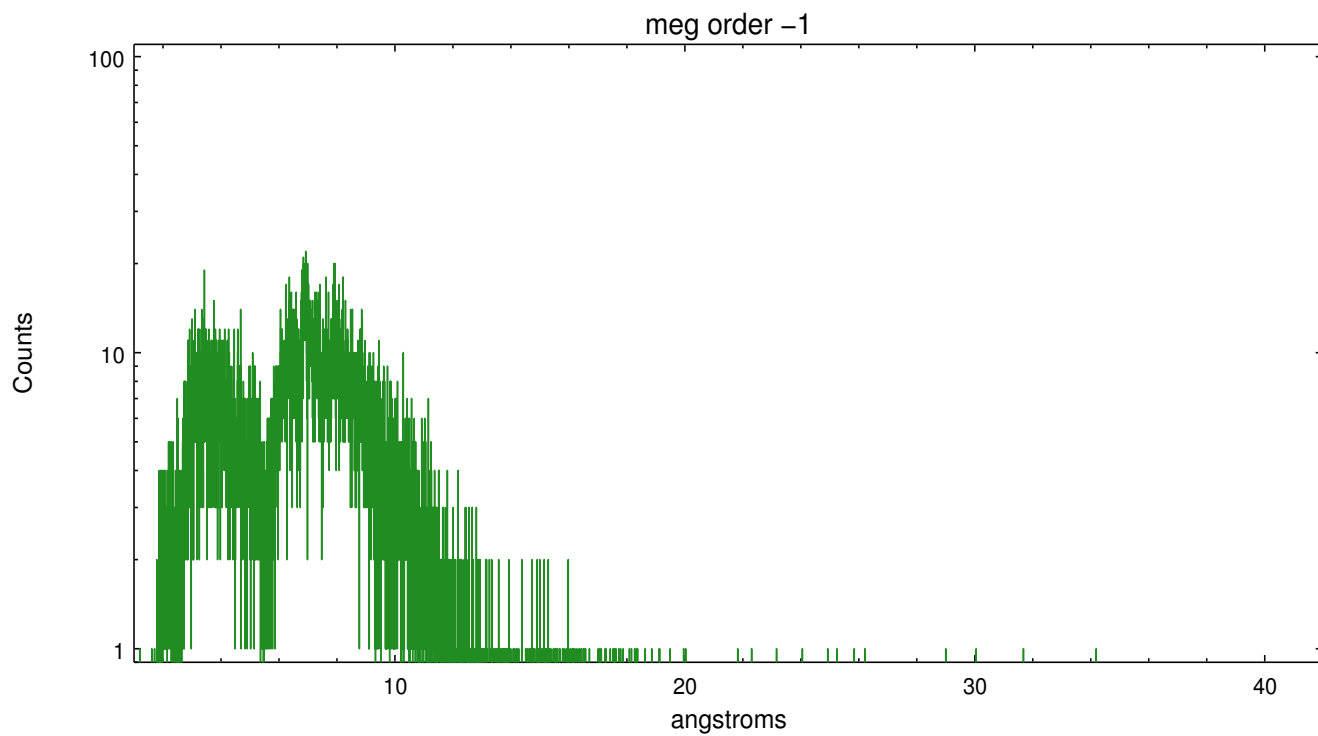


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1399	552	12219	6144	13795	493	1147





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2017.06.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.08

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.