

V&V Reference Report

L2 ASCDS Version : 10.5.4

Observation 19744 - L2 Version 1
Chandra X-Ray Center

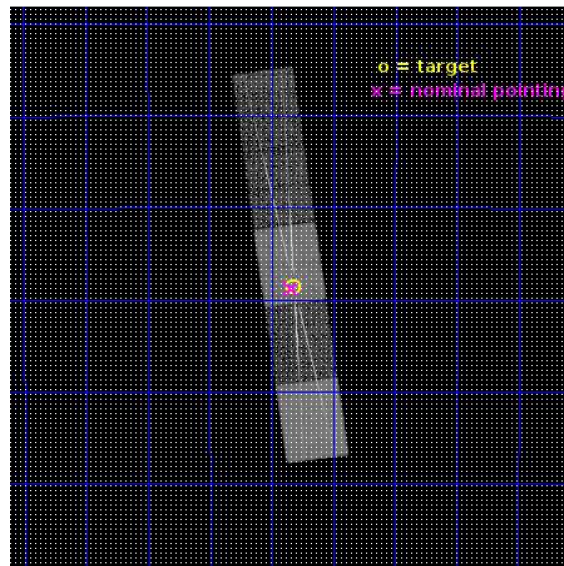
L2 Processing Date : Jun 13 2017

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1 Front

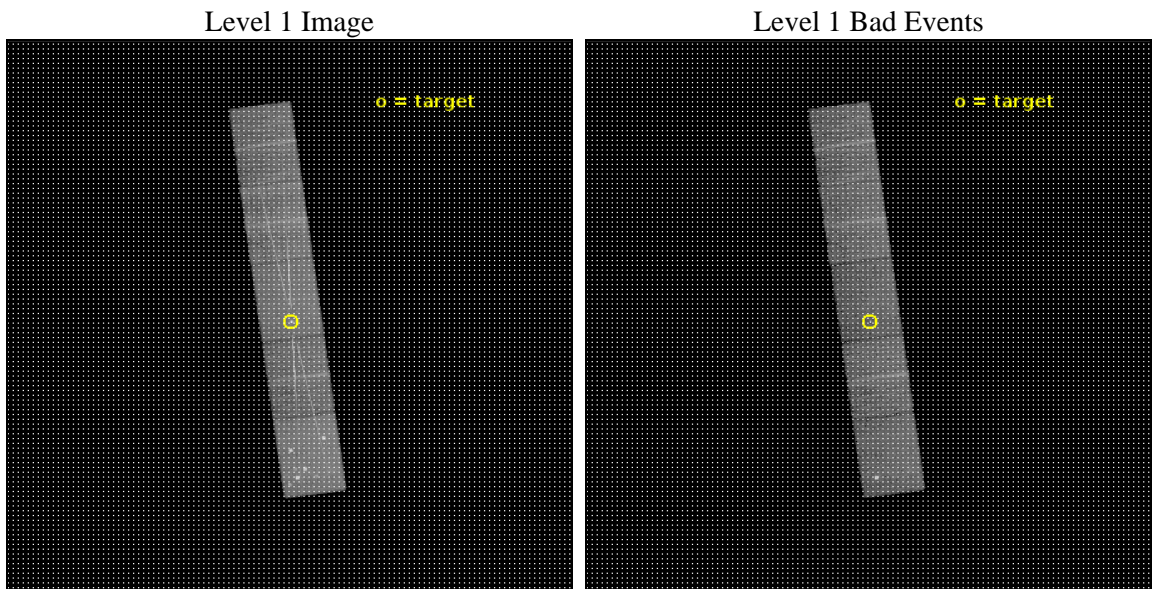
seq_num	703459	Sequence number
obs_id	19744	Observation id
title	The complex environment of the bright AGN IC4329a	Proposal title
observer	Jelle Kaastra	Principal investigator
object	IC4329a	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	207.330417	Observer's specified target RA [deg]
dec_targ	-30.309389	Observer's specified target Dec [deg]
ra_nom	207.33475903752	Nominal RA [deg]
dec_nom	-30.313654543	Nominal Dec [deg]
roll_nom	262.1588061447	Nominal Roll [deg]
revision	1	Processing version of data
ontime	12577.5	Sum of GTIs [s]
livetime	12374.362465762	Livetime [s]
ontime5	12577.5	Sum of GTIs [s]
ontime6	12577.5	Sum of GTIs [s]
ontime7	12577.5	Sum of GTIs [s]
ontime8	12577.5	Sum of GTIs [s]
ontime9	12577.5	Sum of GTIs [s]
l2events	153234	Number of level 2 events



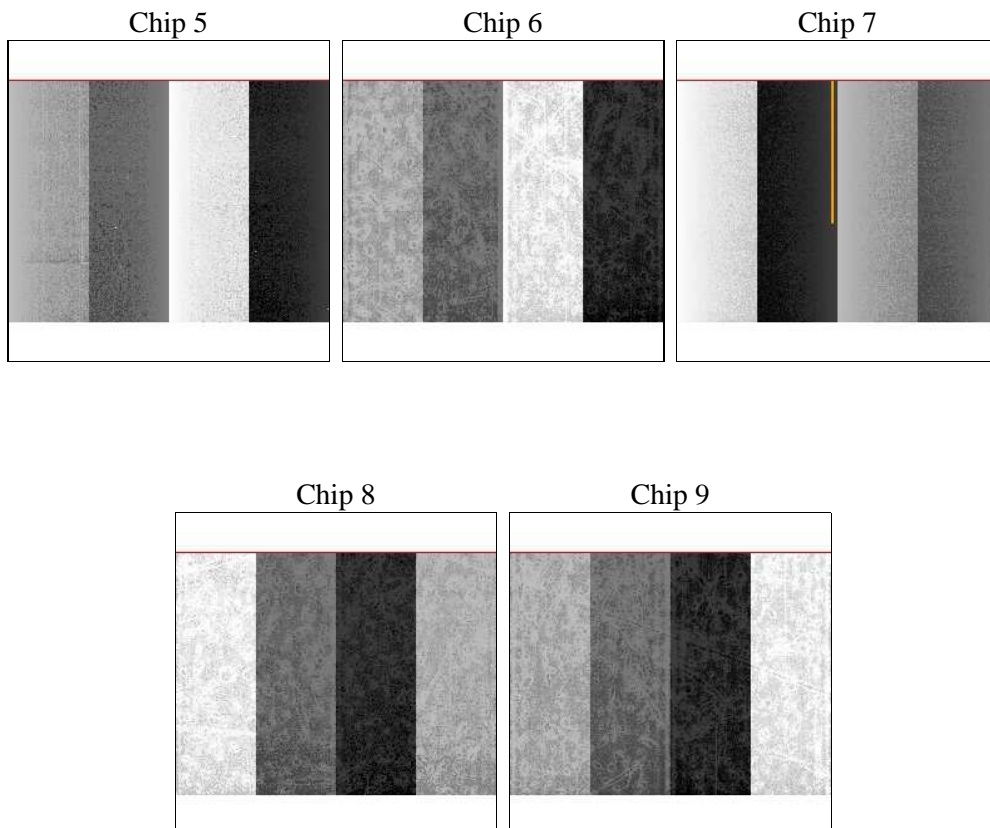
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	12497.510000	[s] Scheduled observation exposure time
ascdsver	10.5.4	Processing system revision	ontime	12577.5	Sum of GTIs [s]
caldsver	4.7.4	 	ontime5	12577.5	Sum of GTIs [s]
date	2017-06-13T03:31:07	Date and time of file creation	ontime6	12577.5	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	12577.5	Sum of GTIs [s]
			ontime8	12577.5	Sum of GTIs [s]
			ontime9	12577.5	Sum of GTIs [s]
			l1events	514913	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4125.08, 4126.89)	src1a sky pixel position

2.1.4 Events

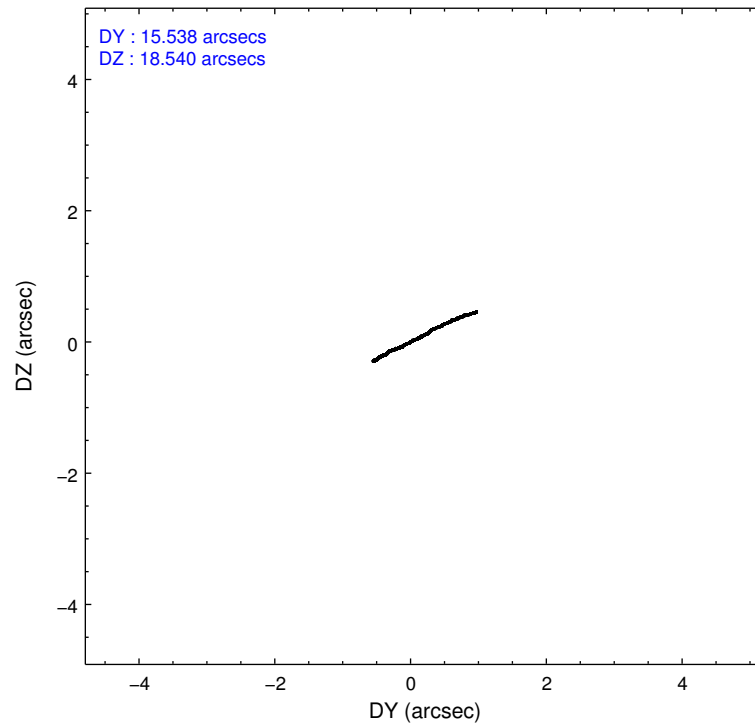
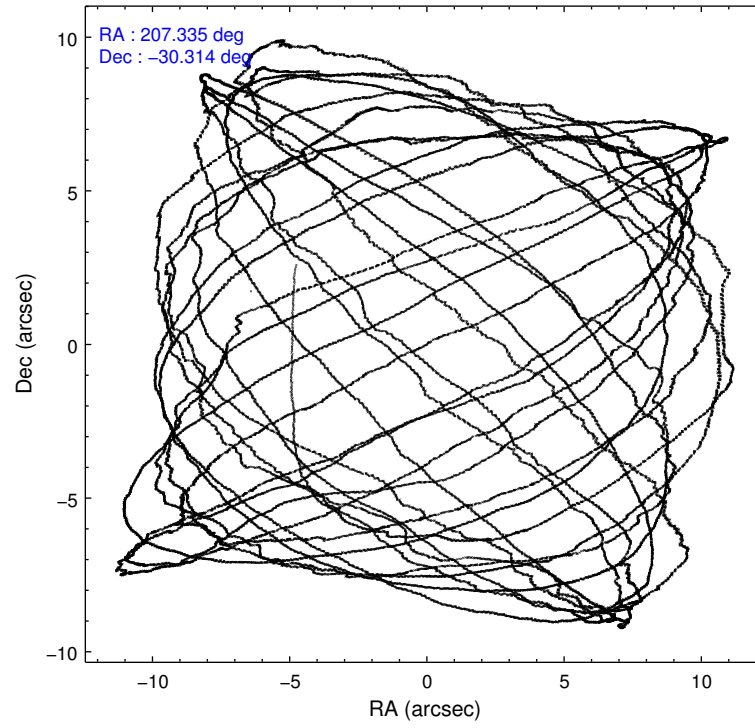
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	136089	89781	112779	100731	75533
rejected events	63833	66770	54336	71916	66093
rejected %	46%	74%	48%	71%	87%

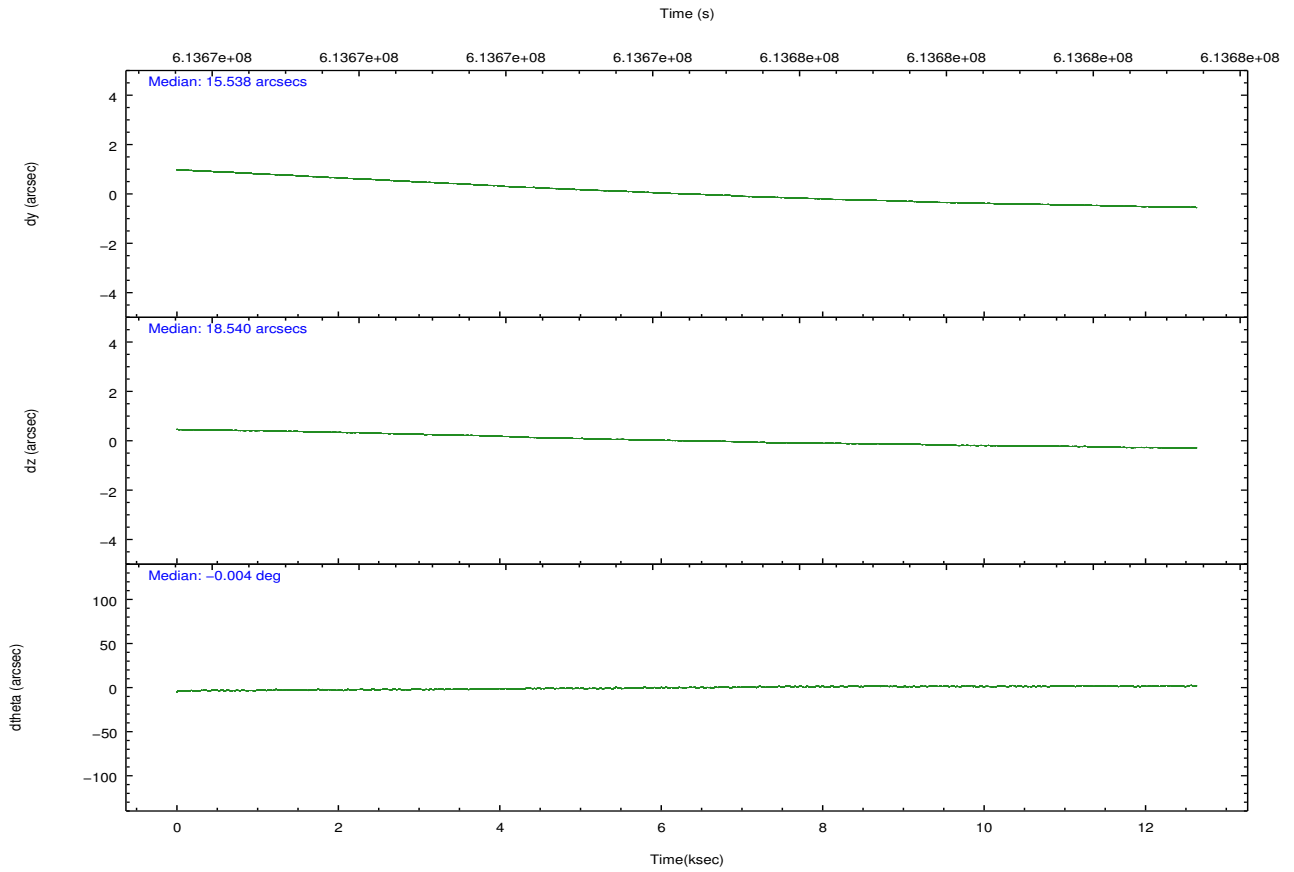
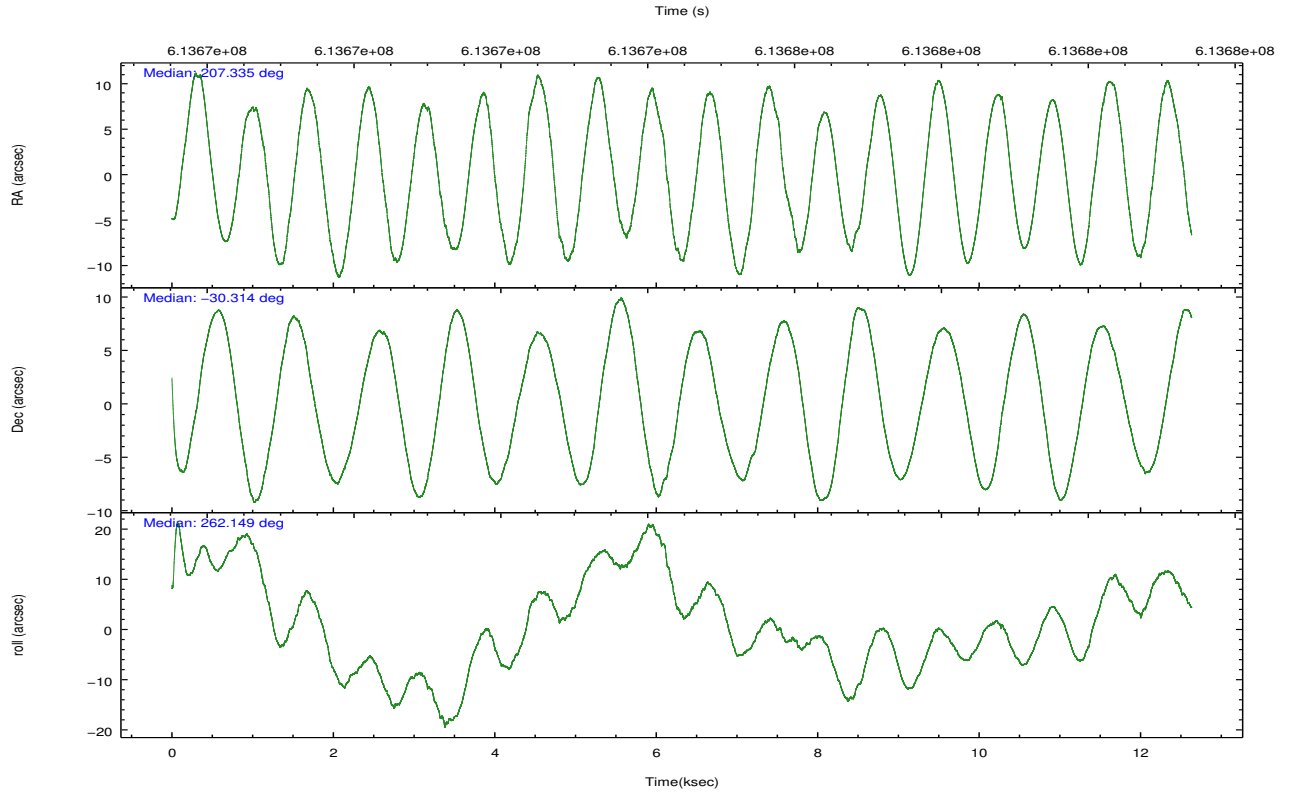
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	17484	13947	7304	10821	3816
	12%	15%	6%	10%	5%
grade 1 events	326	70	241	79	41
	0%	0%	0%	0%	0%
grade 2 events	20402	3849	13001	6324	1867
	14%	4%	11%	6%	2%
grade 3 events	1993	1342	5037	2533	970
	1%	1%	4%	2%	1%
grade 4 events	1757	1356	5120	2409	922
	1%	1%	4%	2%	1%
grade 5 events	7676	3304	9477	4781	3639
	5%	3%	8%	4%	4%
grade 6 events	30652	2524	28011	6745	1870
	22%	2%	24%	6%	2%
grade 7 events	55799	63389	44588	67039	62408
	41%	70%	39%	66%	82%

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	207.322335	207.3347590375177	CCD I2 on	N	N
[deg] Pointing Dec	-30.288388	-30.31365454300039	CCD I3 on	N	N
[deg] Pointing Roll	261.995924	262.1588061447046	CCD S0 on	O1	N
[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)	613668301.184000	613667243.86631	CCD S5 on	Y	Y
Observation start date	2017-06-12T15:23:52	2017-06-12T15:07:23	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	613680798.184000	613681022.94212	On-chip summing requested	N	N
Observation end date	2017-06-12T18:52:09	2017-06-12T18:57:02	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



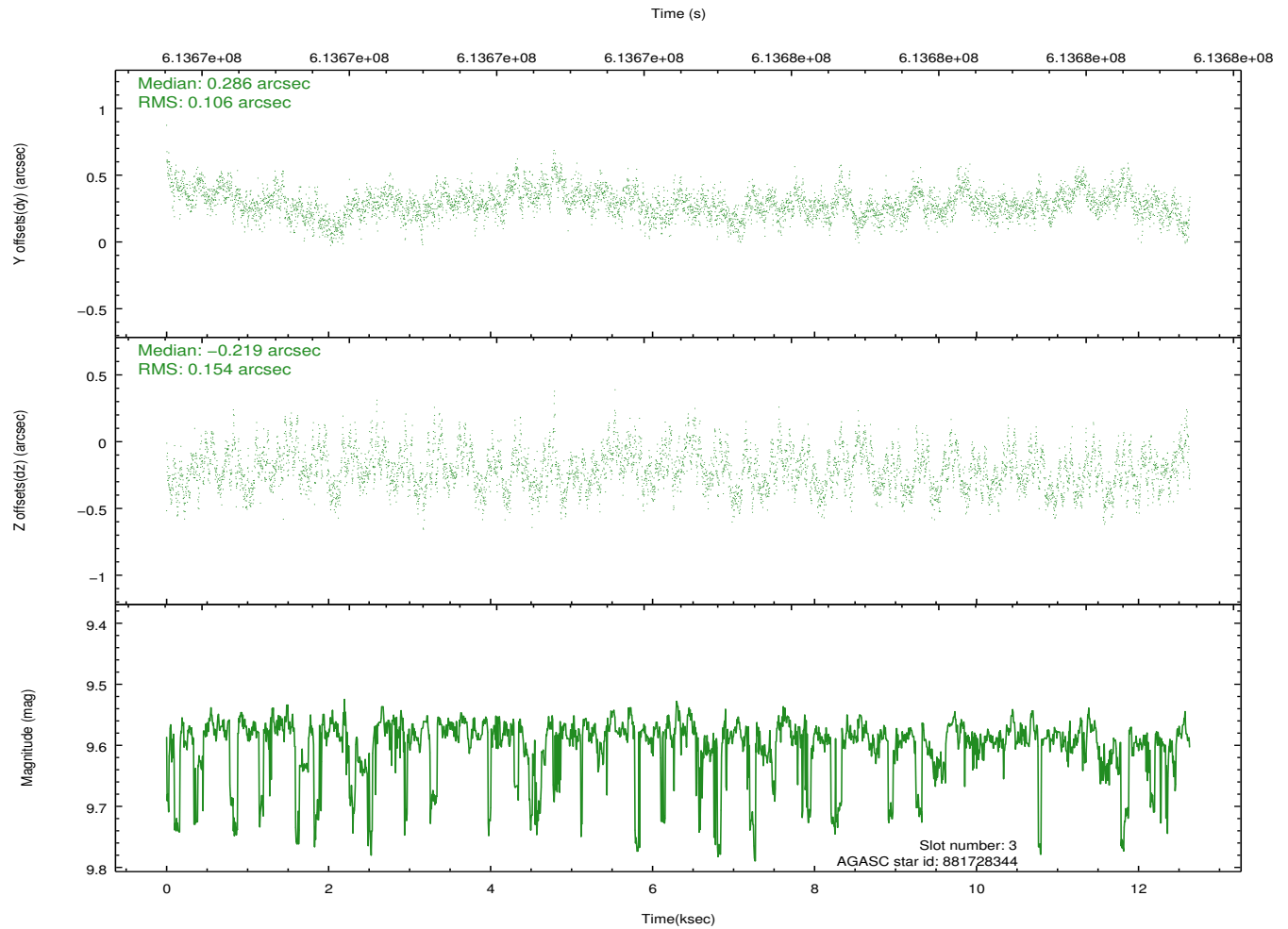
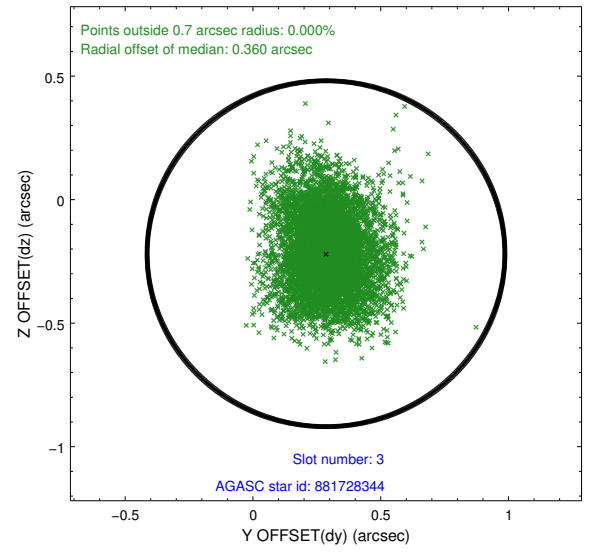
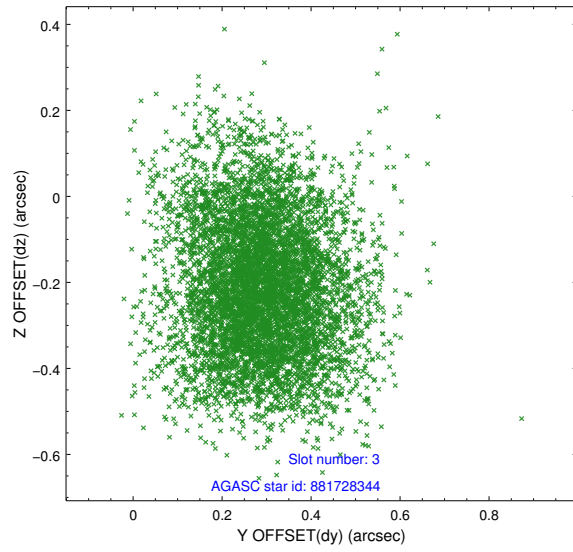


Slot Statistics

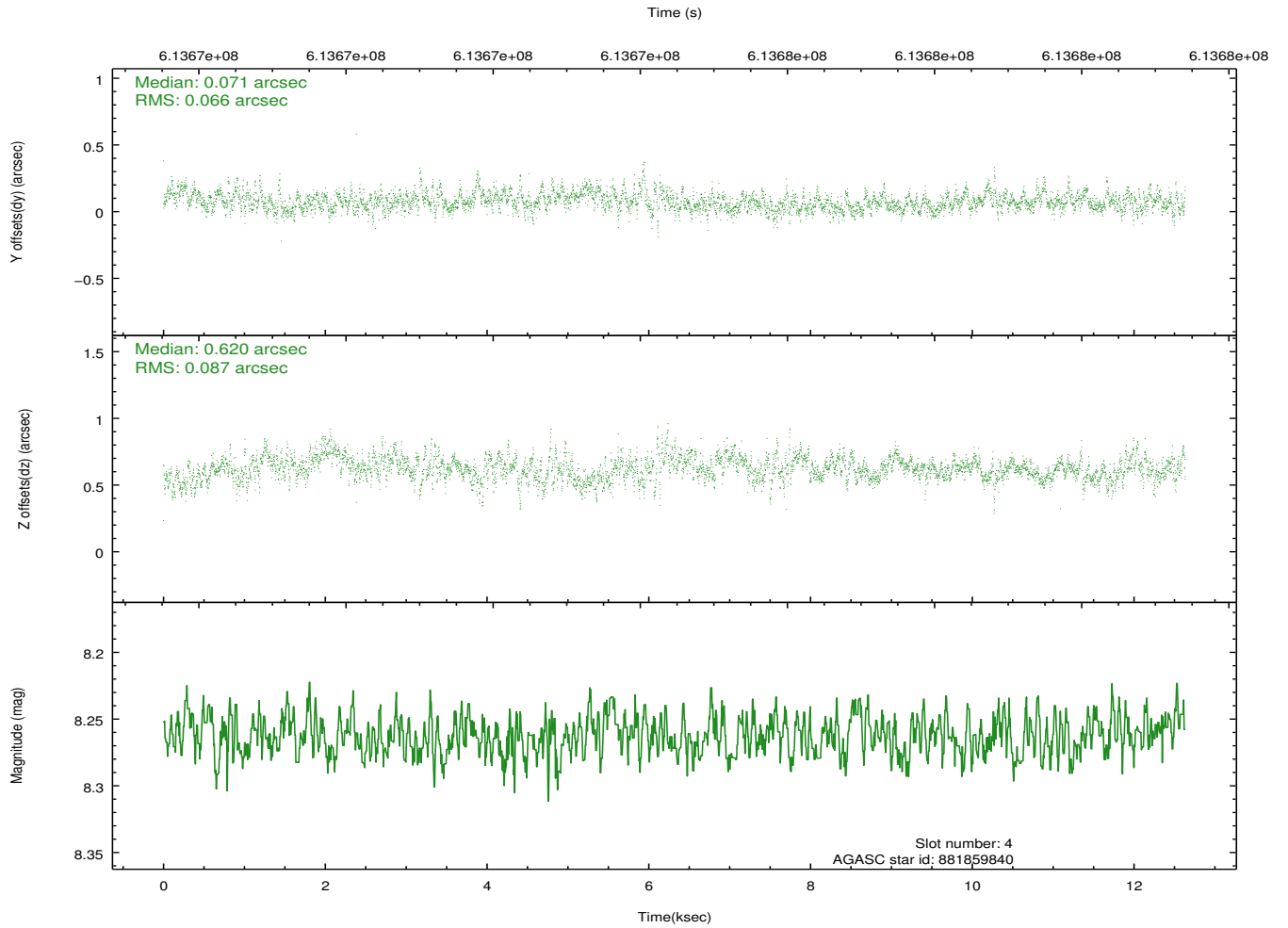
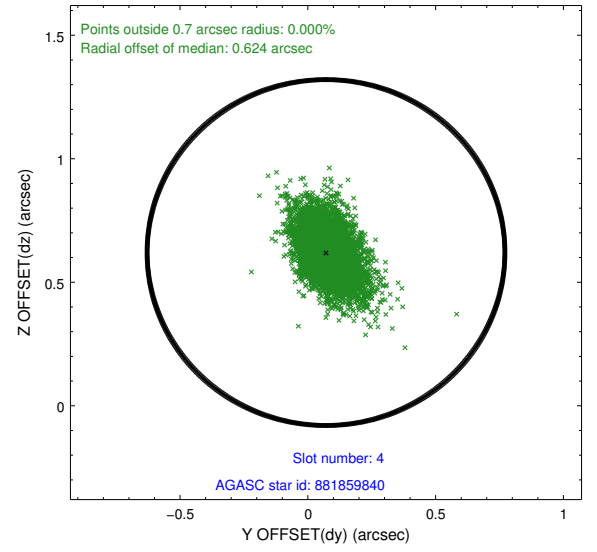
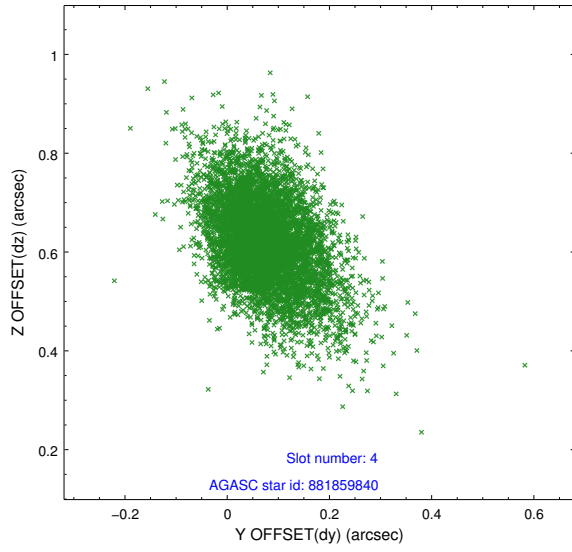
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.06	3082	-0.206	-0.116	0.012	0.018	0.000000	0.000000	-768.81	-1740.17
1	FID		ACIS-S-4	7.18	3081	0.499	0.130	0.006	0.011	0.000000	0.000000	2145.00	168.15
2	FID		ACIS-S-5	7.16	3082	-0.324	-0.007	0.012	0.019	0.000000	0.000000	-1821.27	162.13
3	GUIDE	used	881728344	9.59	6156	0.286	-0.219	0.199	0.324	206.739682	-29.671821	-1938.69	-2113.89
4	GUIDE	used	881859840	8.26	6164	0.071	0.620	0.110	0.199	207.221466	-29.661172	-2191.54	-626.33
5	GUIDE	used	954074720	9.38	6155	0.117	0.233	0.188	0.329	207.095076	-30.028141	-827.92	-832.05
6	GUIDE	used	954075880	7.12	6163	-0.284	-0.458	0.139	0.251	207.787300	-30.565970	791.49	1566.26
7	GUIDE	used	954078824	9.33	6154	-0.193	-0.174	0.179	0.303	207.889442	-30.427893	256.58	1814.36

2.4 Star Slots

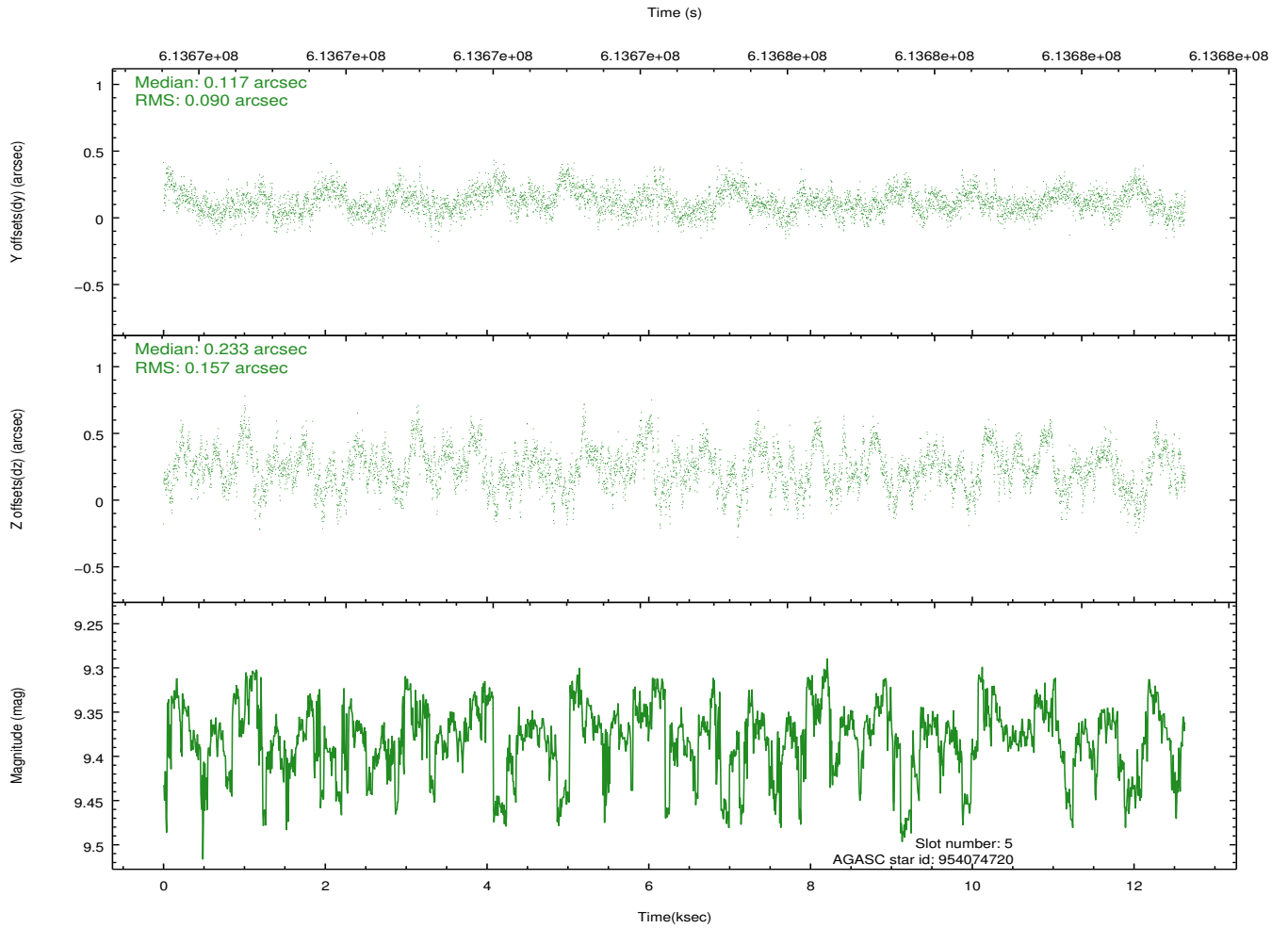
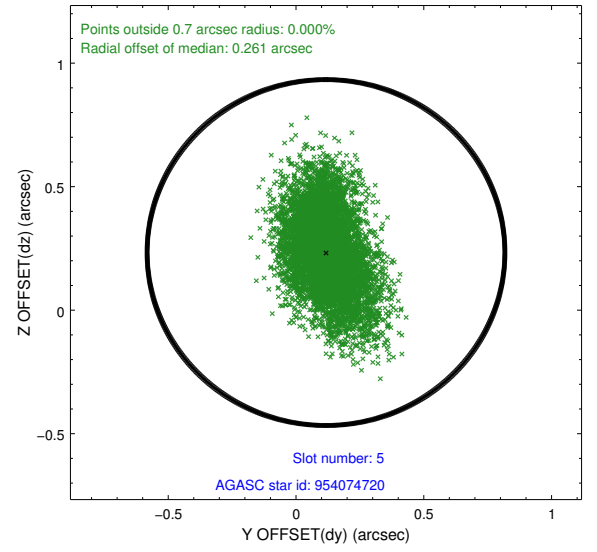
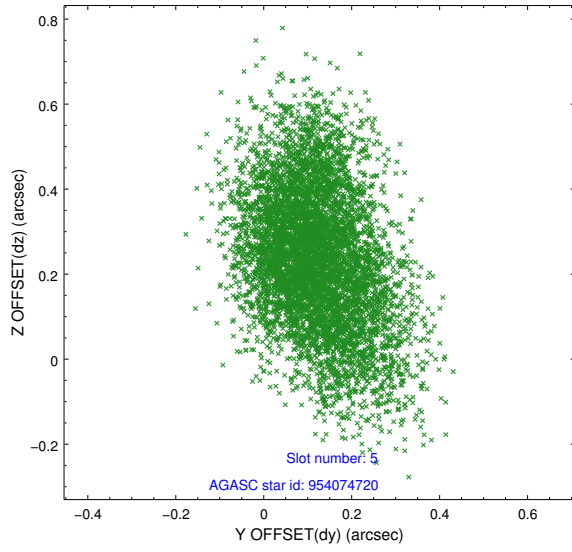
2.4.1 Slot 3



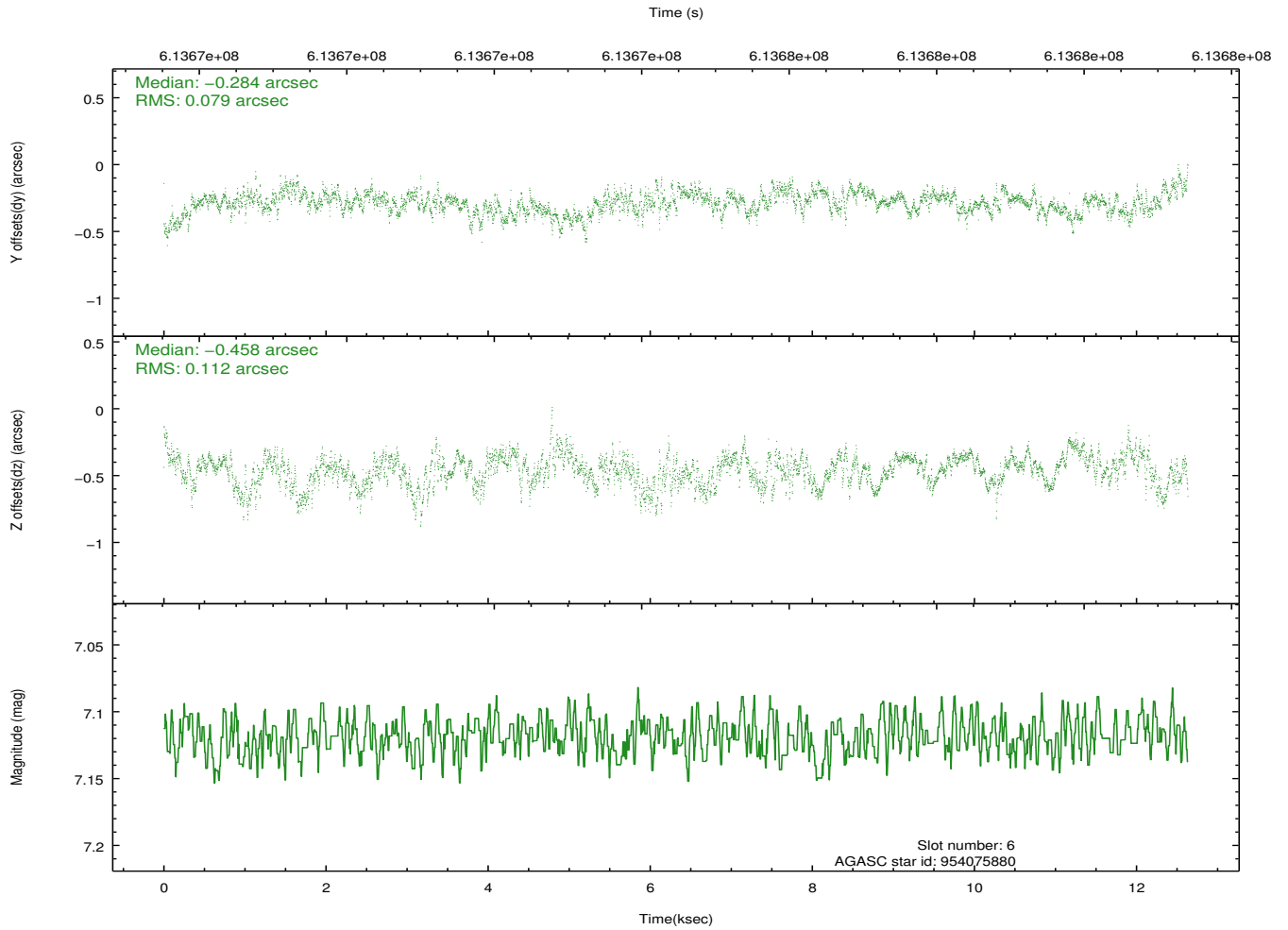
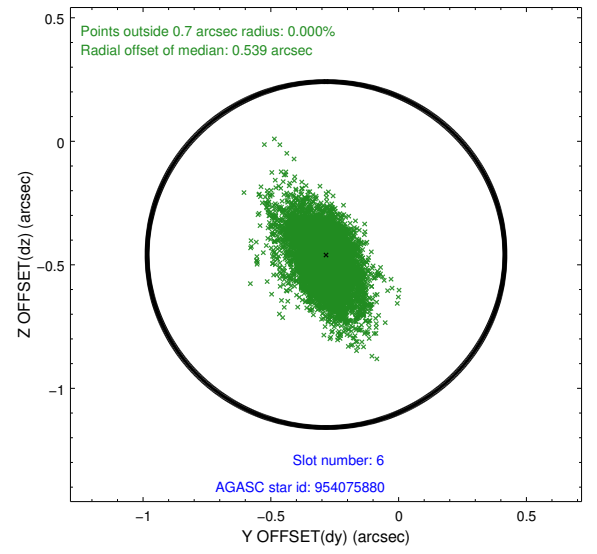
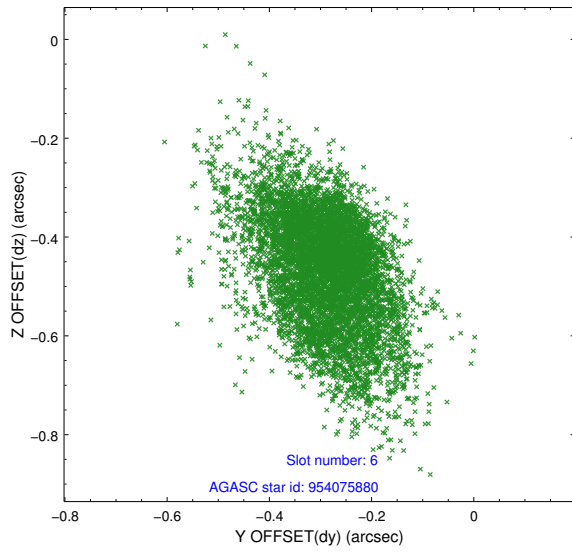
2.4.2 Slot 4



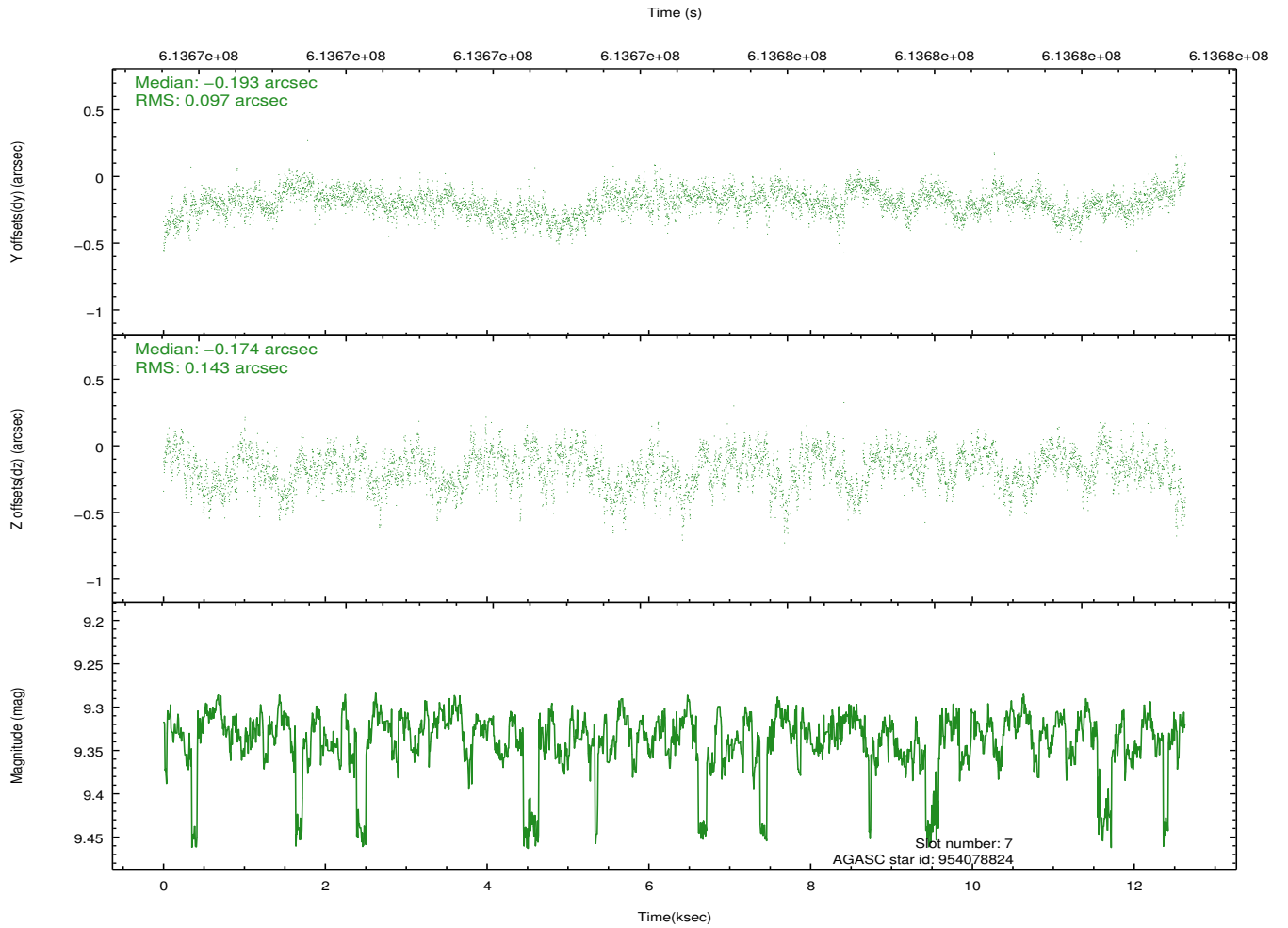
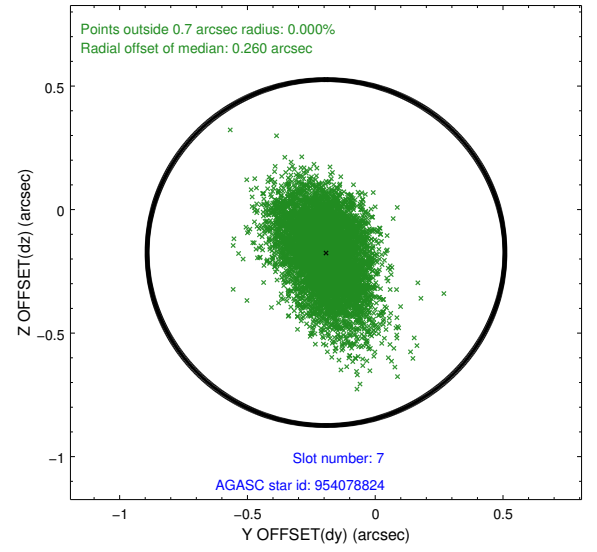
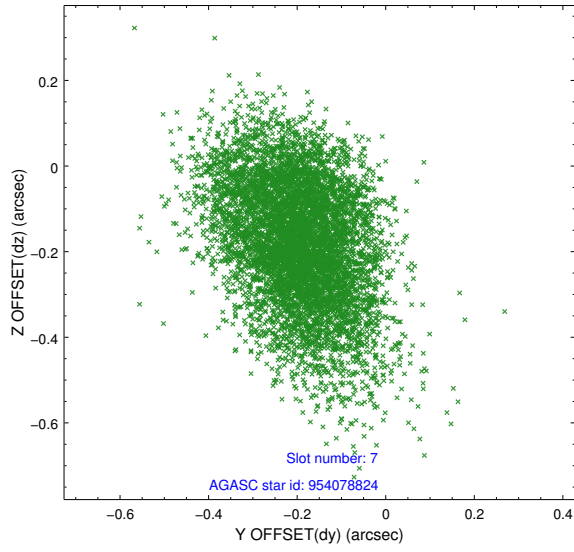
2.4.3 Slot 5



2.4.4 Slot 6

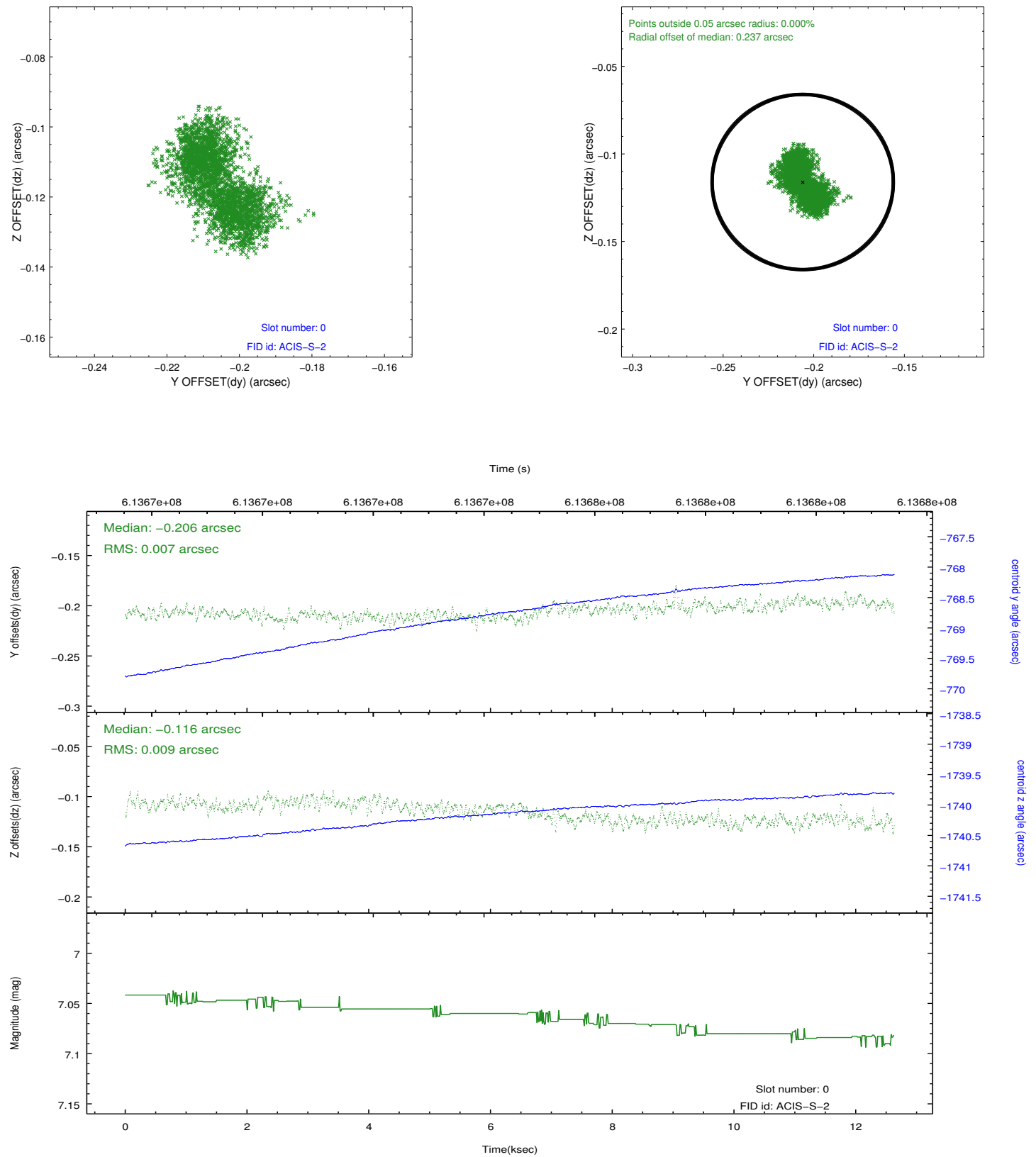


2.4.5 Slot 7

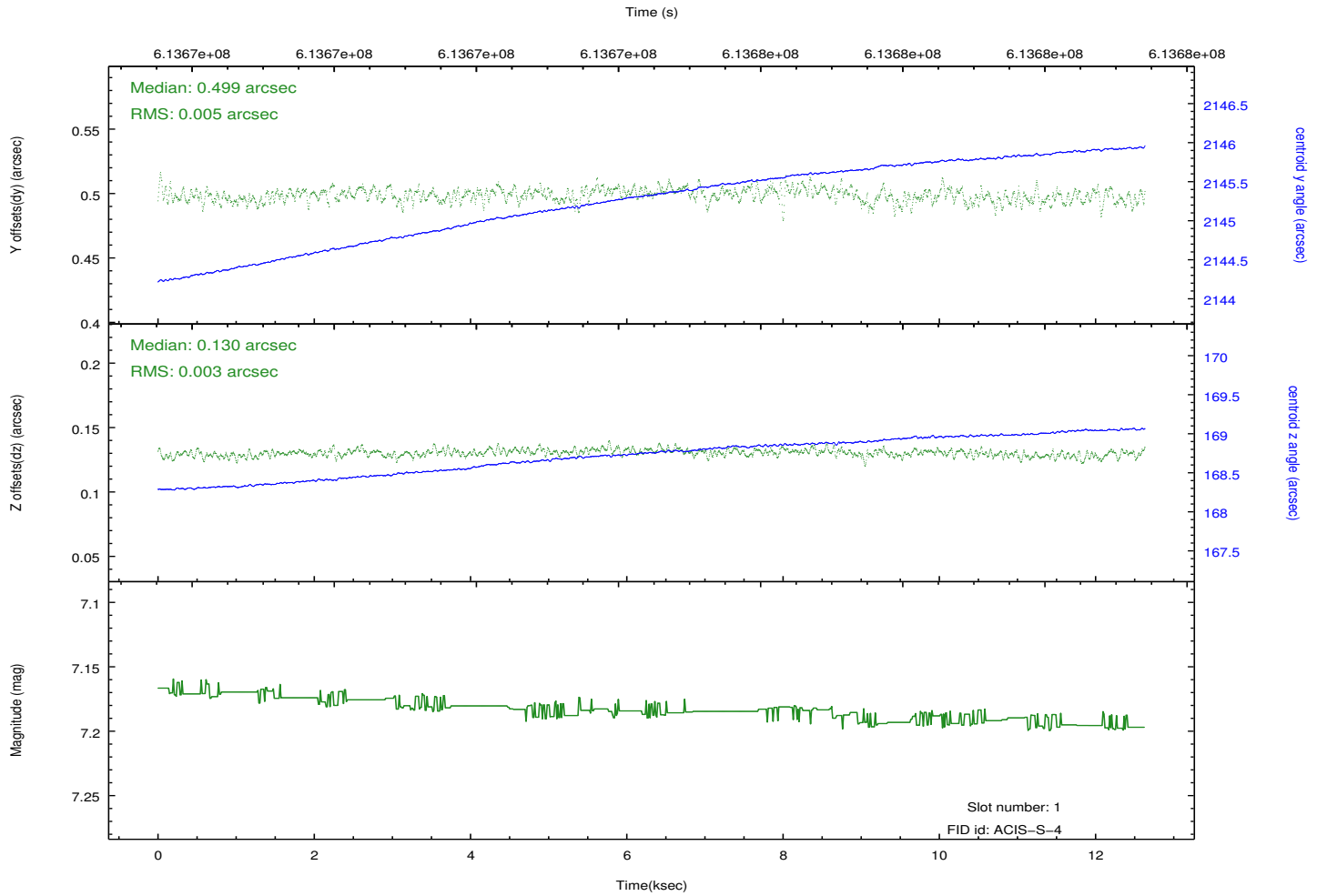
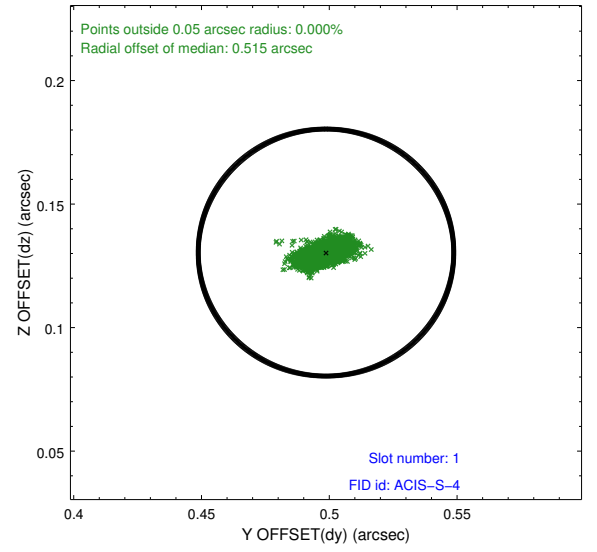
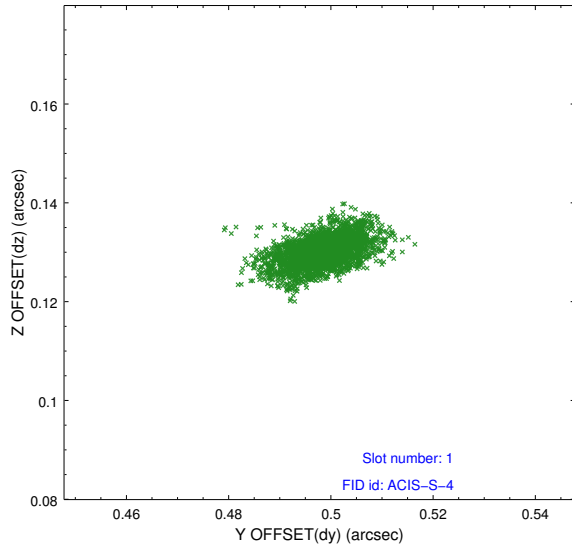


2.5 FID Slots

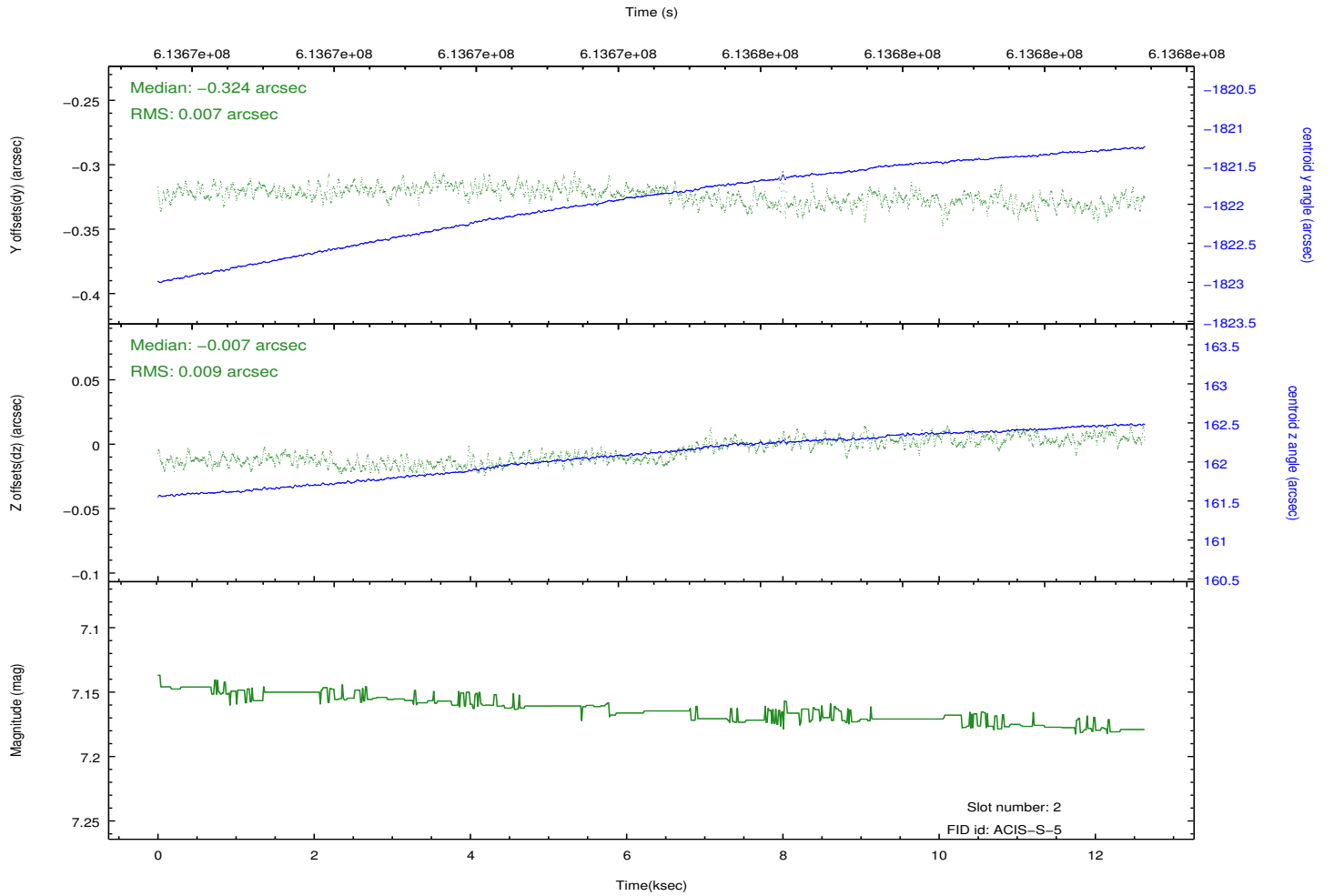
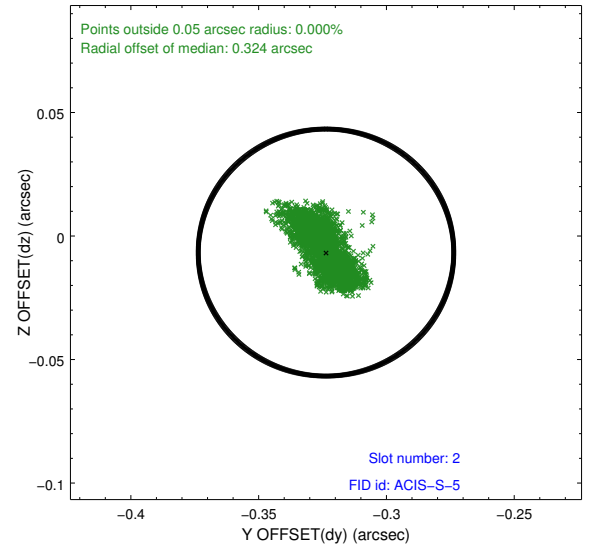
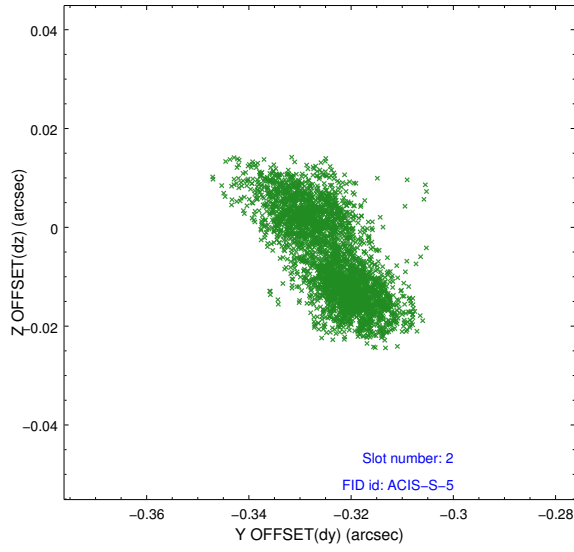
2.5.1 Slot 0



2.5.2 Slot 1

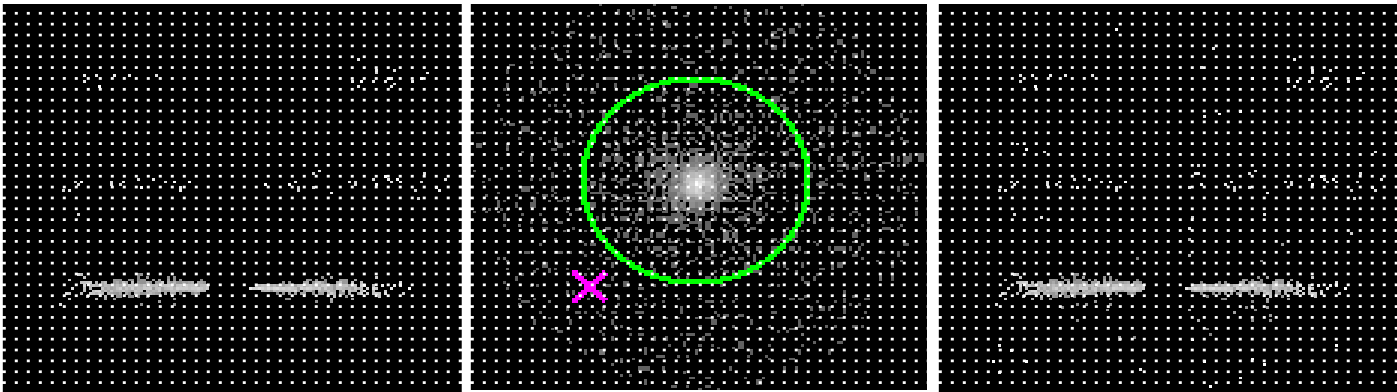


2.5.3 Slot 2



3 Gratings

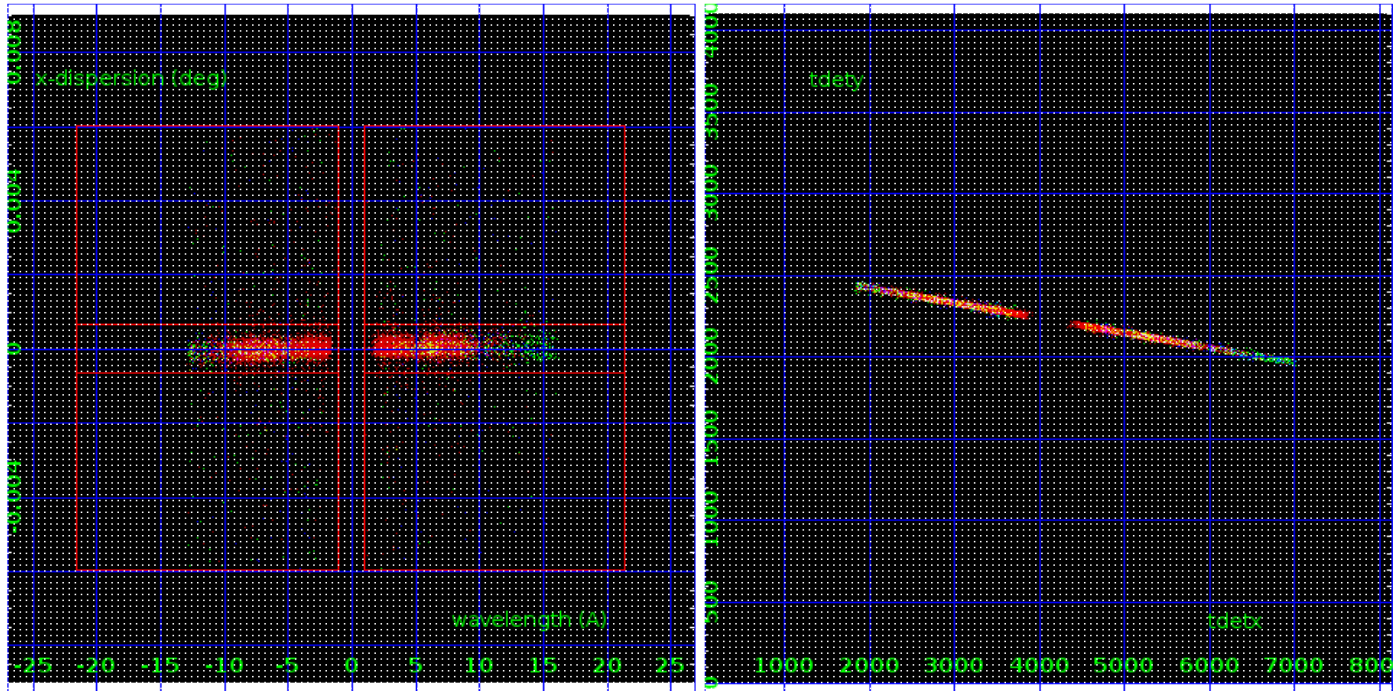
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

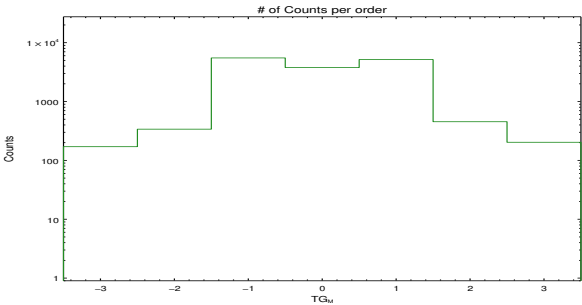
HEG Order Sort ALL

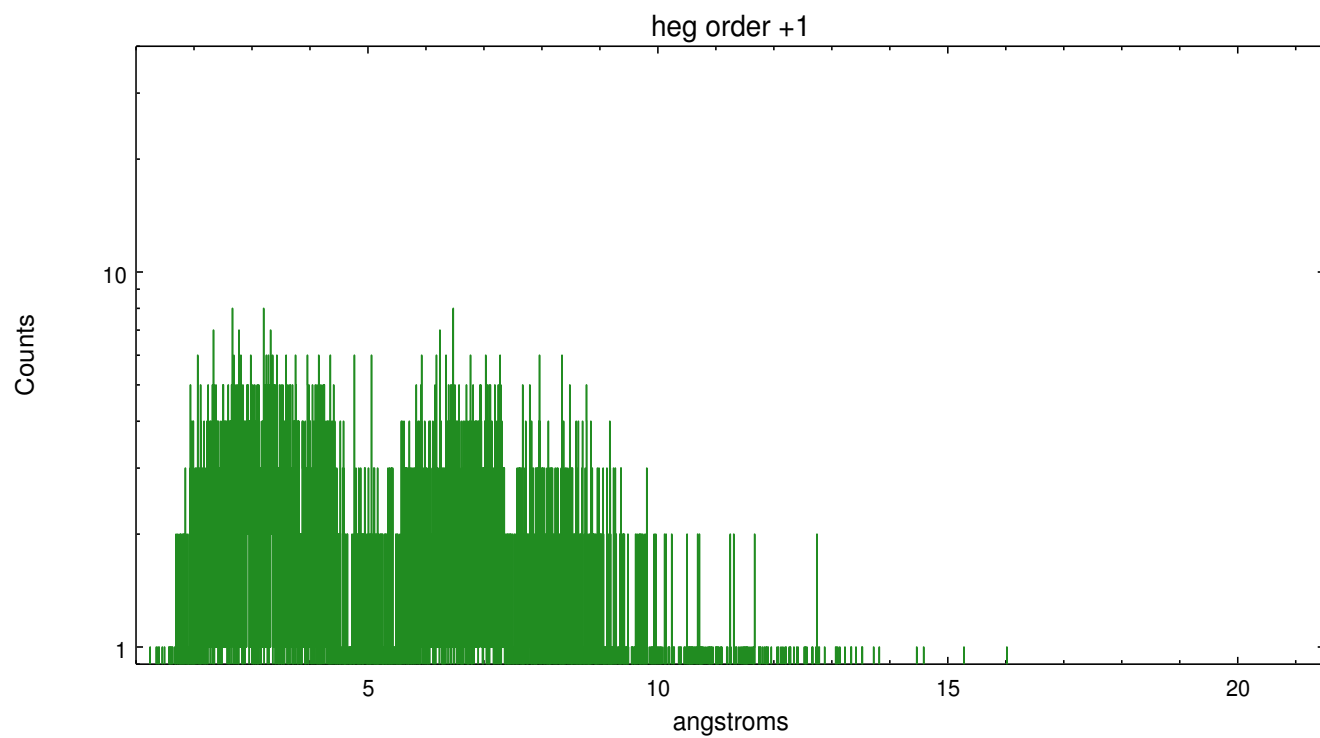
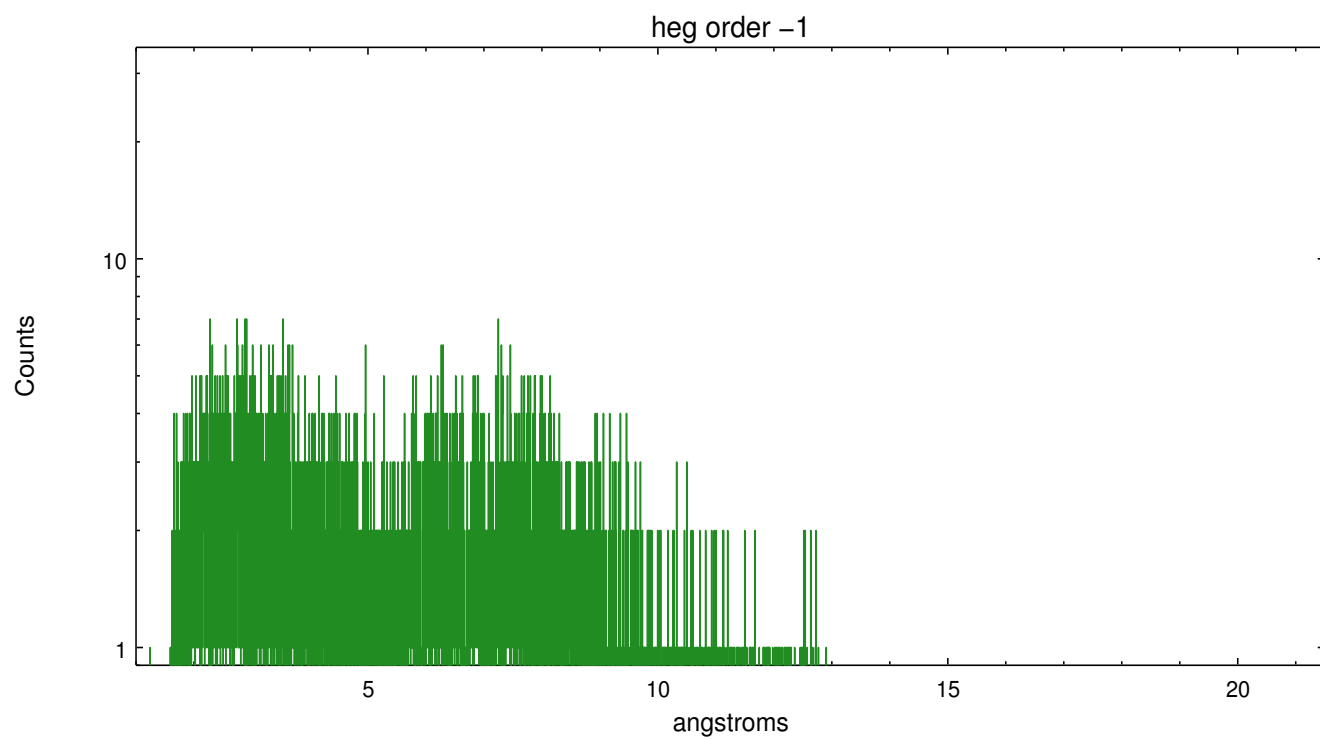


Spot Image HEG

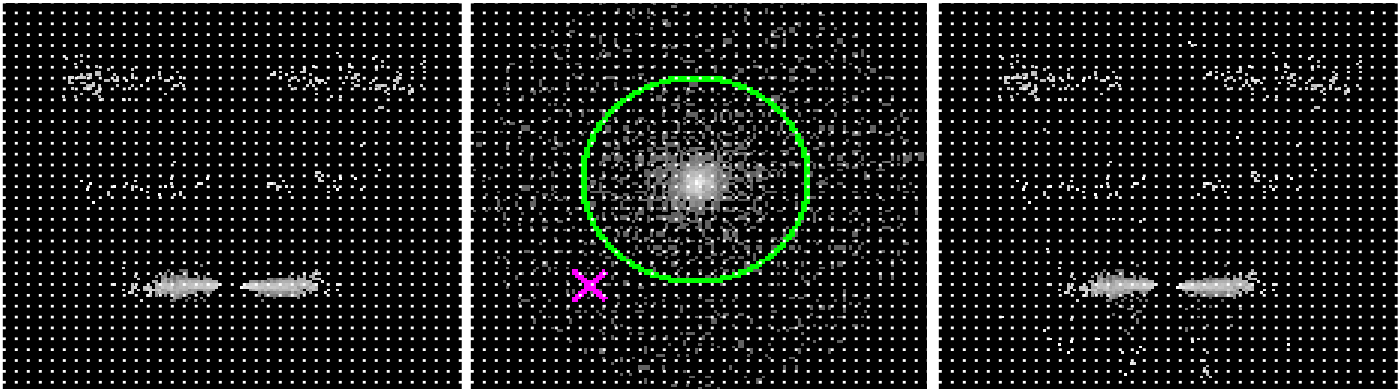
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	171	339	5507	3780	5158	454	203





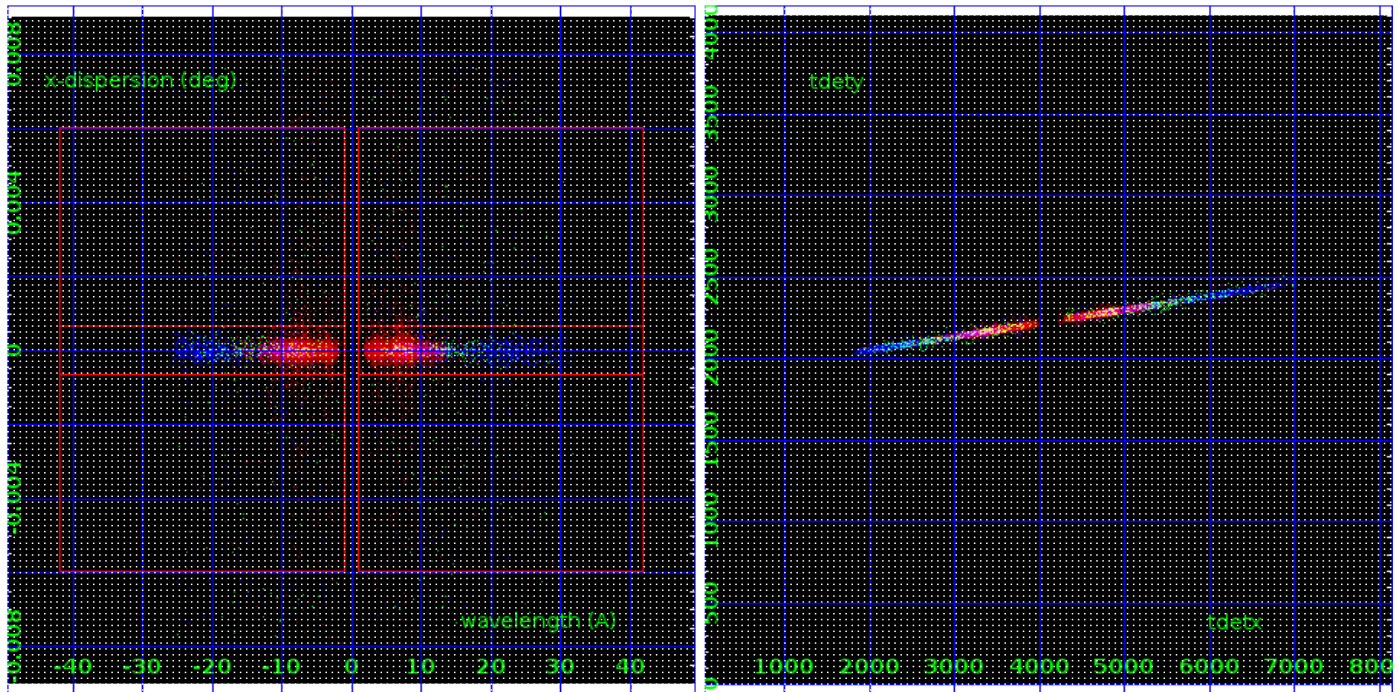
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

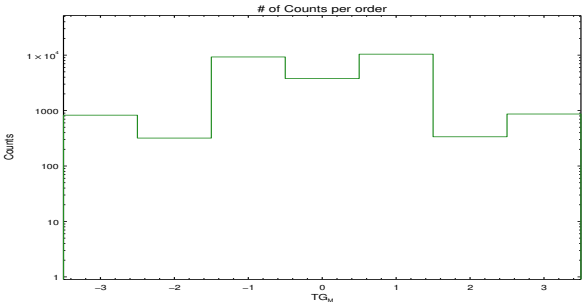
MEG Order Sort ALL

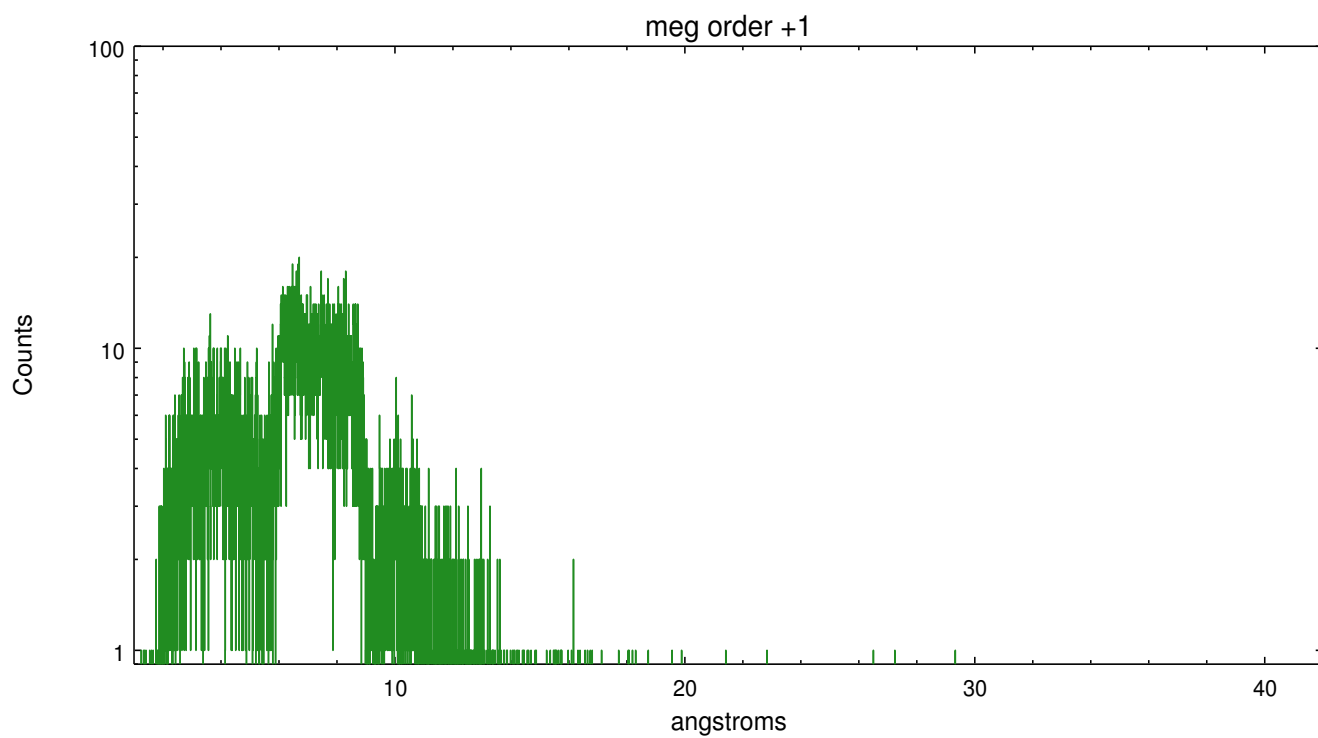
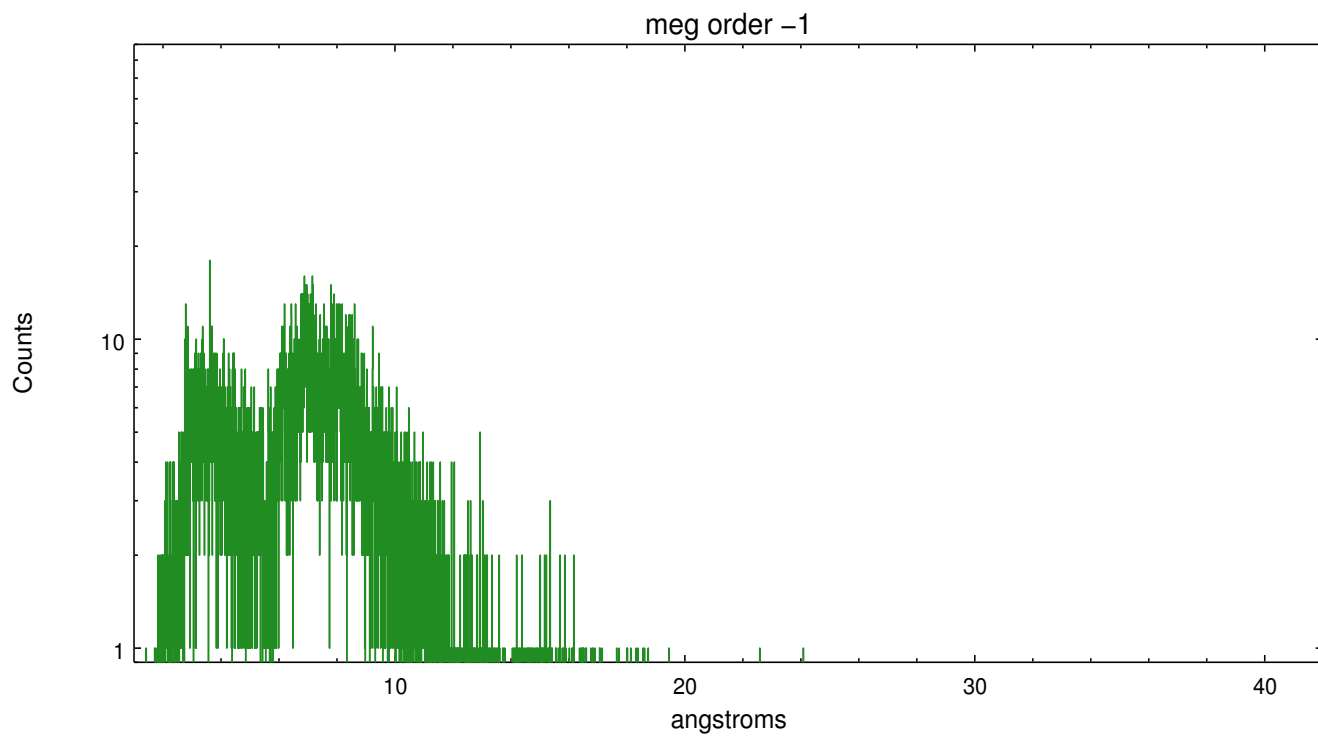


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	826	319	9277	3780	10409	337	867





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2017.06.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	12.5775

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.