

V&V Reference Report

L2 ASCDS Version : 8.5.1.1

Observation 5955 - L2 Version 3
Chandra X-Ray Center

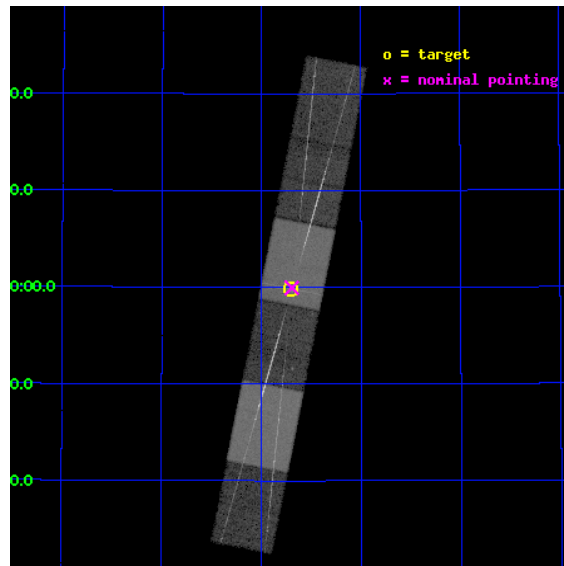
L2 Processing Date : Dec 28 2012

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1 Front

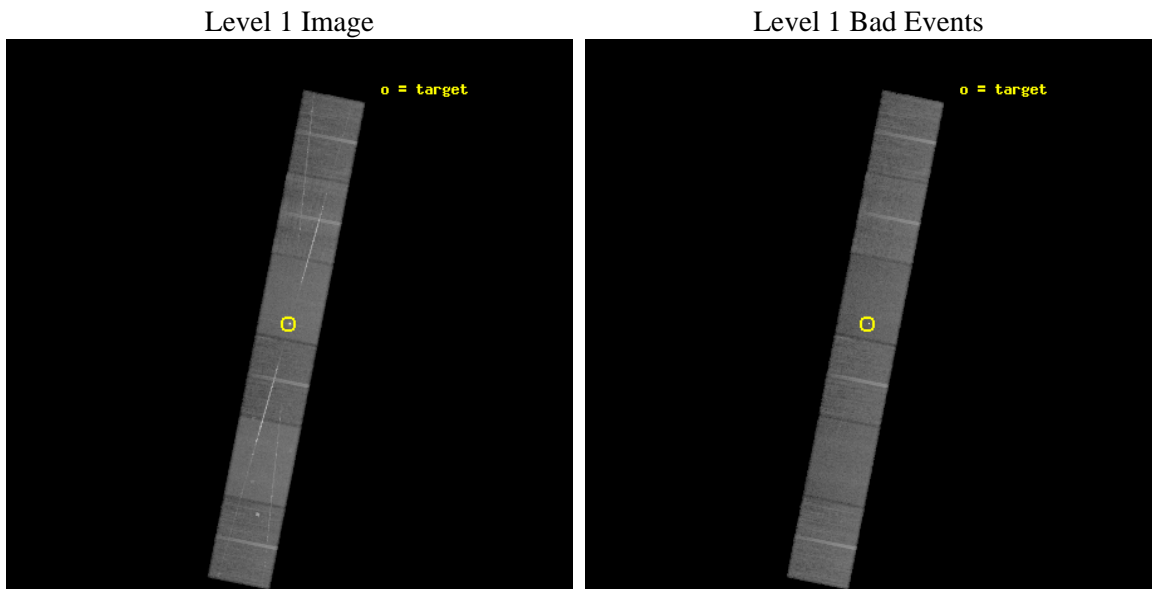
seq_num	290447	Sequence number
obs_id	5955	Observation id
title	AO6 Calibration Observations of Capella	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	Capella	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	79.17625	Observer's specified target RA [deg]
dec_targ	45.997889	Observer's specified target Dec [deg]
ra_nom	79.17347726359	Nominal RA [deg]
dec_nom	45.999013541189	Nominal Dec [deg]
roll_nom	281.22697457647	Nominal Roll [deg]
revision	3	Processing version of data
ontime	29147.5	Sum of GTIs [s]
livetime	28676.742593584	Livetime [s]
ontime4	29147.5	Sum of GTIs [s]
ontime5	29147.5	Sum of GTIs [s]
ontime6	29144.959009796	Sum of GTIs [s]
ontime7	29147.5	Sum of GTIs [s]
ontime8	29147.5	Sum of GTIs [s]
ontime9	29147.5	Sum of GTIs [s]
l2events	355185	Number of level 2 events



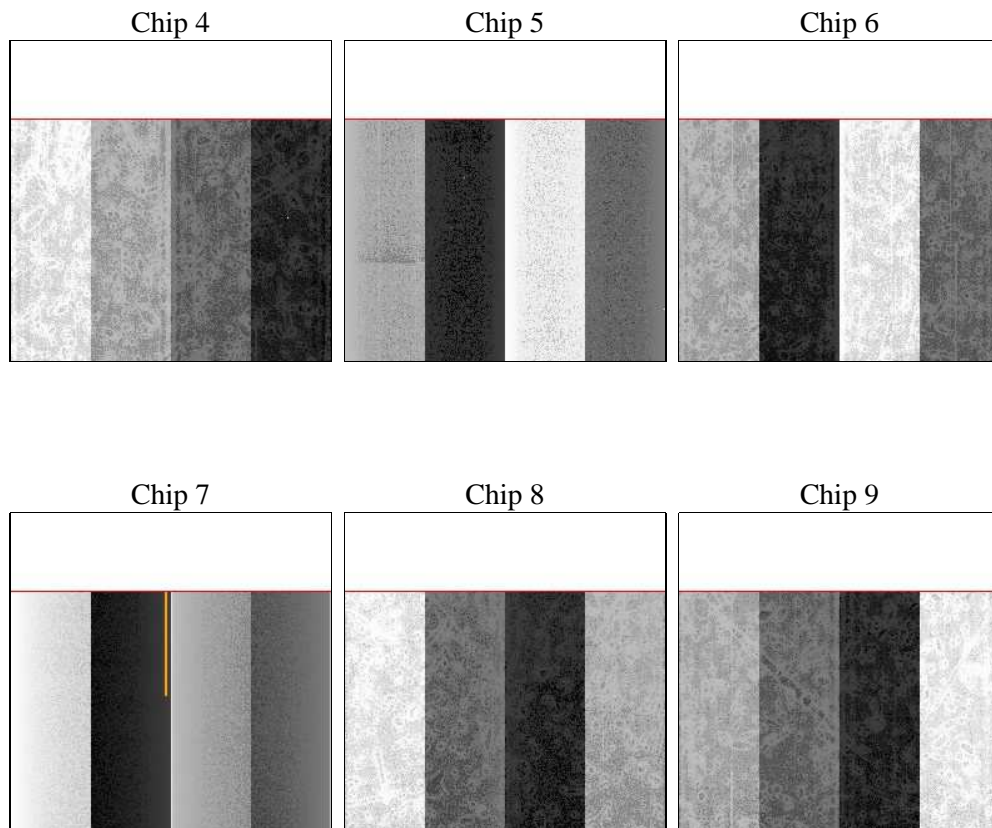
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	29000.000000	[s] Scheduled observation exposure time
ascdsver	8.5.1.1	Processing system revision	ontime	29147.5	Sum of GTIs [s]
caldbver	4.5.5	 	ontime4	29147.5	Sum of GTIs [s]
date	2012-12-21T02:01:59	Date and time of file creation	ontime5	29147.5	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	29144.959009796	Sum of GTIs [s]
			ontime7	29147.5	Sum of GTIs [s]
			ontime8	29147.5	Sum of GTIs [s]
			ontime9	29147.5	Sum of GTIs [s]
			l1events	1293392	Number of level 1 events

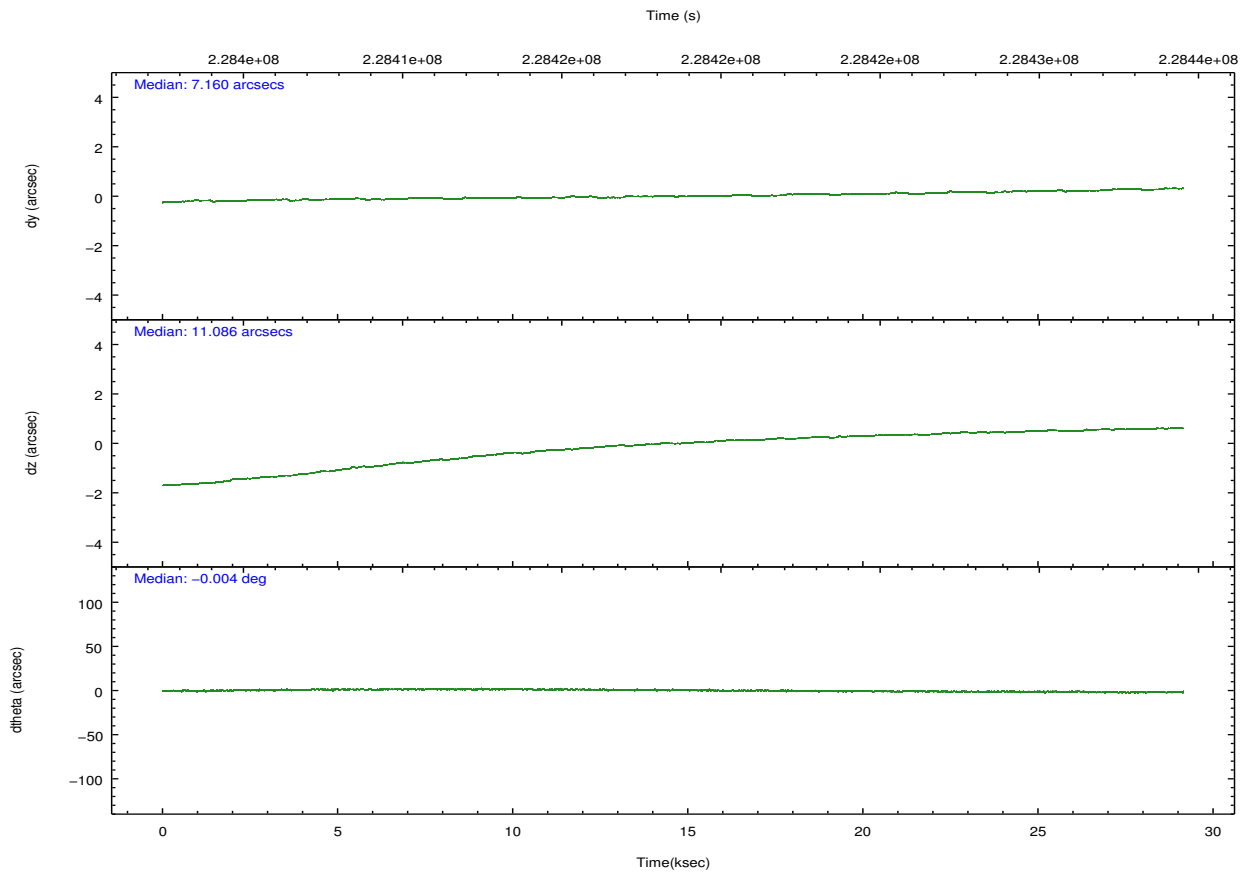
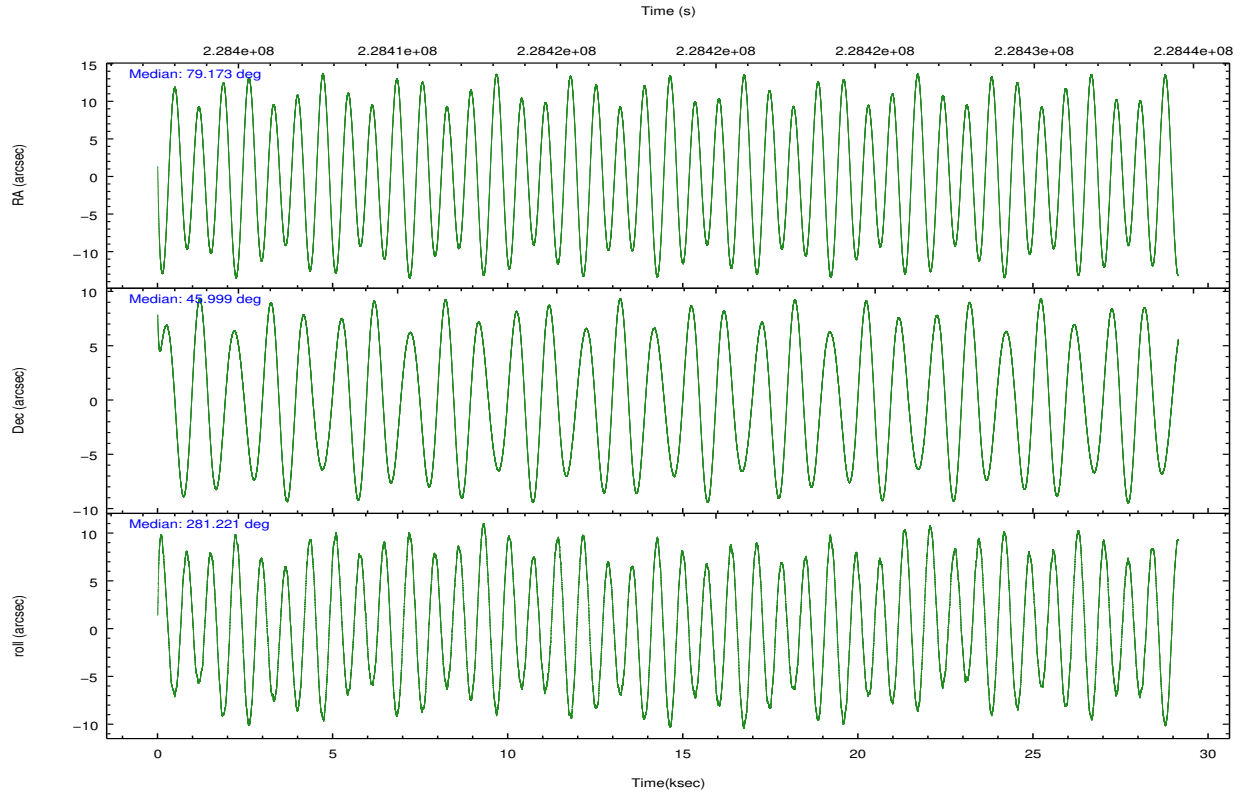
2.1.4 Events

	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	190614	265449	186636	249348	233473	167872	grade 0 events	16441	17514	25687	11989	34958	12929
rejected events	161665	134891	145963	140284	164559	142210		8%	6%	13%	4%	14%	7%
rejected %	84%	50%	78%	56%	70%	84%	grade 1 events	186	382	159	453	258	104
								0%	0%	0%	0%	0%	0%
							grade 2 events	4784	38319	5871	22452	11662	4374
								2%	14%	3%	9%	4%	2%
							grade 3 events	2271	7139	2545	10000	5444	2241
								1%	2%	1%	4%	2%	1%
							grade 4 events	2249	7023	2518	10061	4964	2162
								1%	2%	1%	4%	2%	1%
							grade 5 events	7190	18975	7531	22264	9769	8044
								3%	7%	4%	8%	4%	4%
							grade 6 events	3348	61080	4207	54995	12220	4067
								1%	23%	2%	22%	5%	2%
							grade 7 events	154145	115017	138118	117134	154198	133951
								80%	43%	74%	46%	66%	79%

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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	79.147239	79.17347726359019	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	46.019251	45.99901354118924	Subarray start row	1	1
[deg] Pointing Roll	281.089228	281.2269745764688	Subarray row count	774	774
[s] Window start time (MET)	227232064.184000	227232064.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	241833664.184000	241833664.184000	[s] Primary exposure time	0.000000	2.5
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-187.132523	-187.1254020033014			
[mm] SIM translation stage offset	-3	-3.007120579706367			
[s] Observation start time (MET)	228404077.184000	228403008.76276			
Observation start date	2005-03-28T13:33:33	2005-03-28T13:16:48			
[s] Observation end time (MET)	228433077.184000	228433866.38916			
Observation end date	2005-03-28T21:36:53	2005-03-28T21:51:06			
Read mode	TIMED	TIMED			

2.3 Aspect



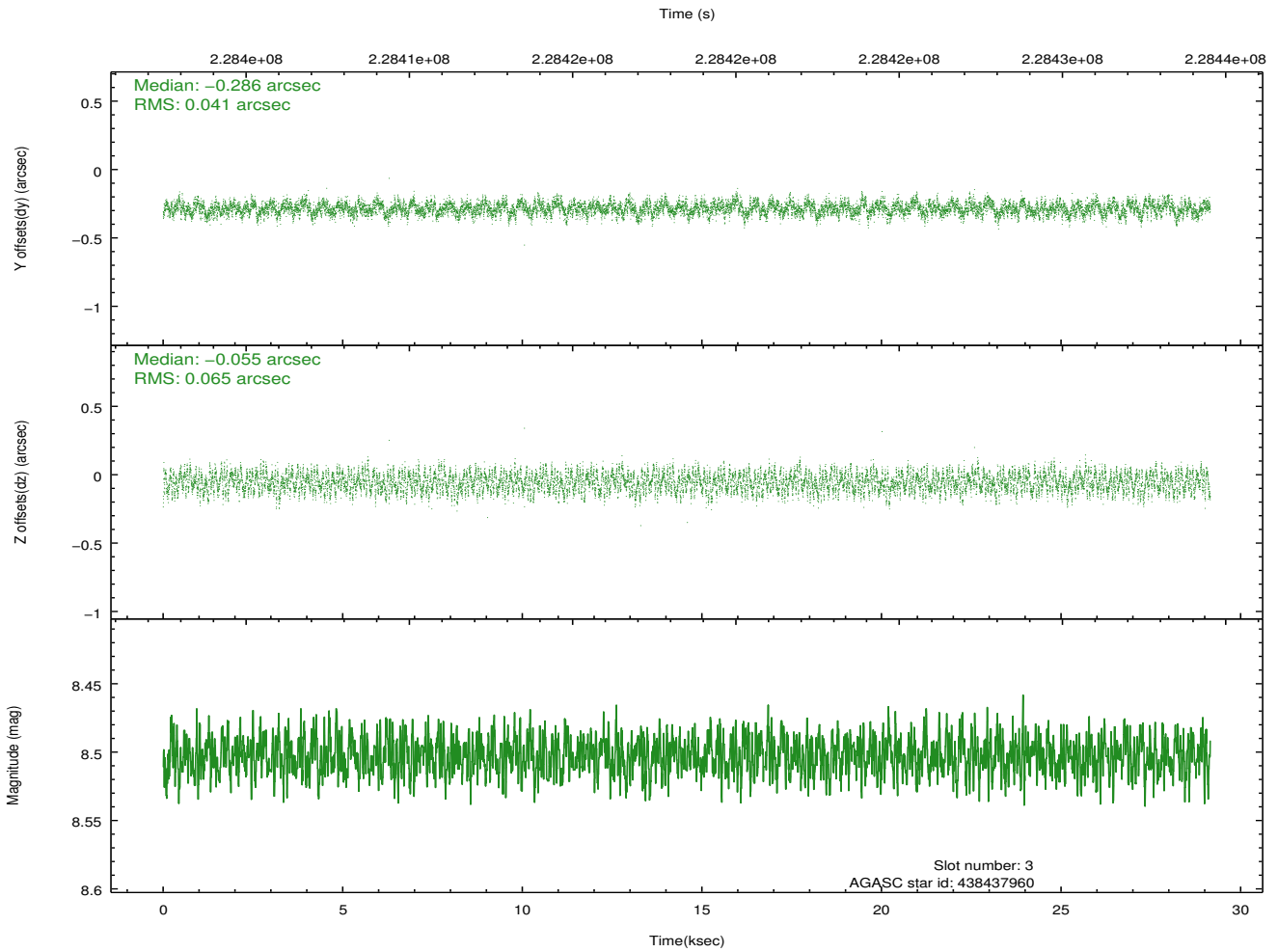
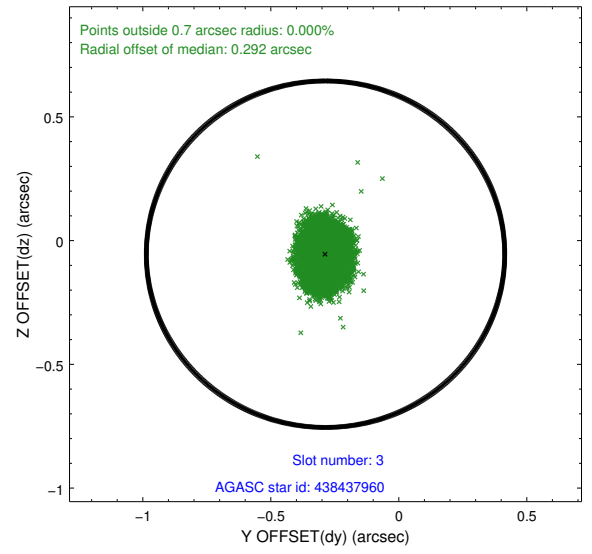
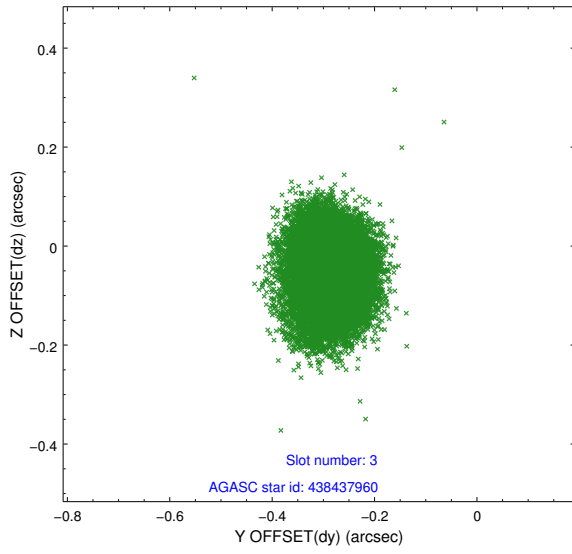
Slot Statistics

slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	7109	-0.054	-0.100	0.011	0.032	0.000000	0.000000	-759.79	-1794.31
1	FID	ACIS-S-4	7.18	7110	0.109	0.052	0.009	0.016	0.000000	0.000000	2153.62	114.20
2	FID	ACIS-S-5	7.23	7111	-0.087	0.055	0.011	0.029	0.000000	0.000000	-1812.55	107.99
3	GUIDE	438437960	8.50	14213	-0.286	-0.055	0.084	0.129	78.069023	46.438843	-2014.56	-2331.06
4	GUIDE	438460832	8.97	14216	0.165	0.051	0.078	0.128	78.414614	45.554782	1278.21	-2132.01
5	GUIDE	440150048	7.19	14215	-0.146	0.012	0.075	0.116	79.112838	46.416060	-1417.94	190.98
6	GUIDE	440163960	8.88	14215	0.192	0.021	0.081	0.130	79.298370	45.827072	751.92	239.55
7	GUIDE	438455912	9.25	14210	0.073	-0.025	0.108	0.175	78.251946	45.690923	715.32	-2433.89

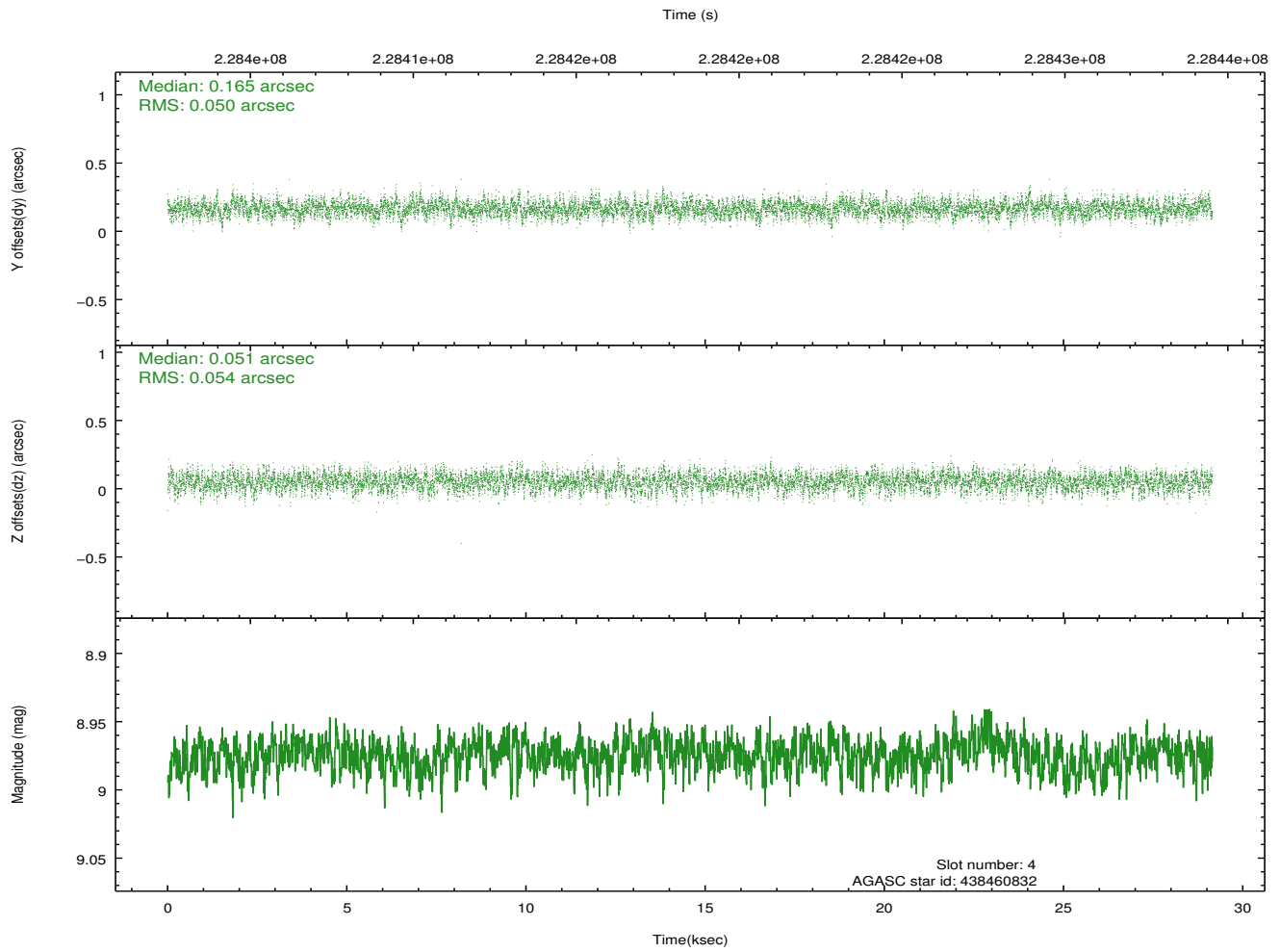
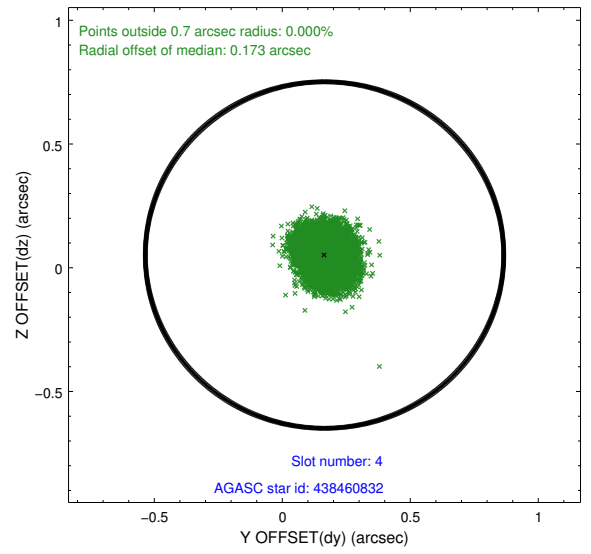
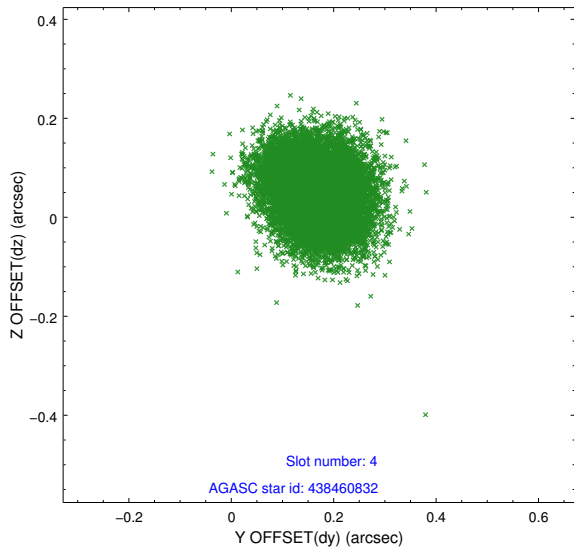
∞

2.4 Star Slots

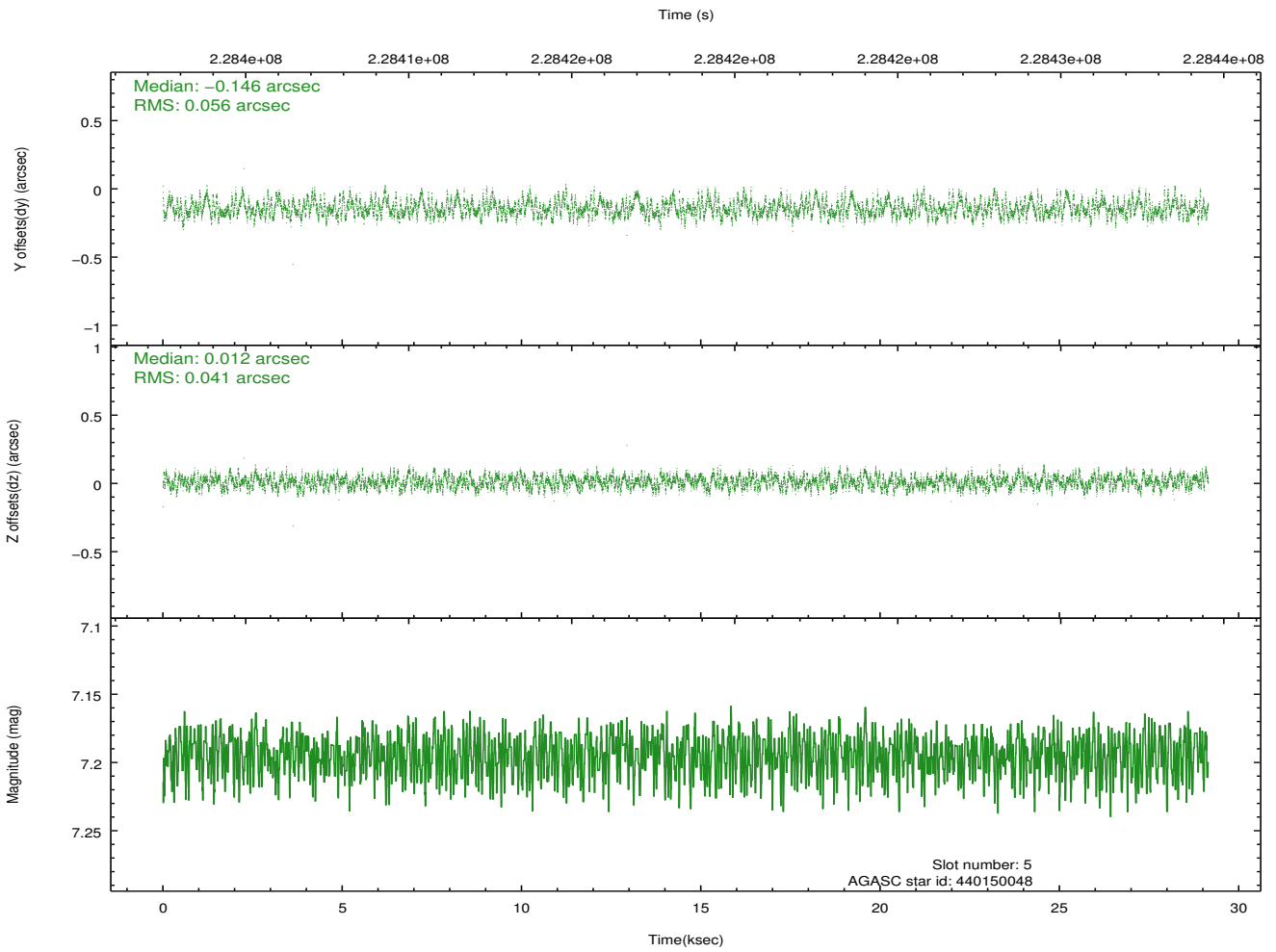
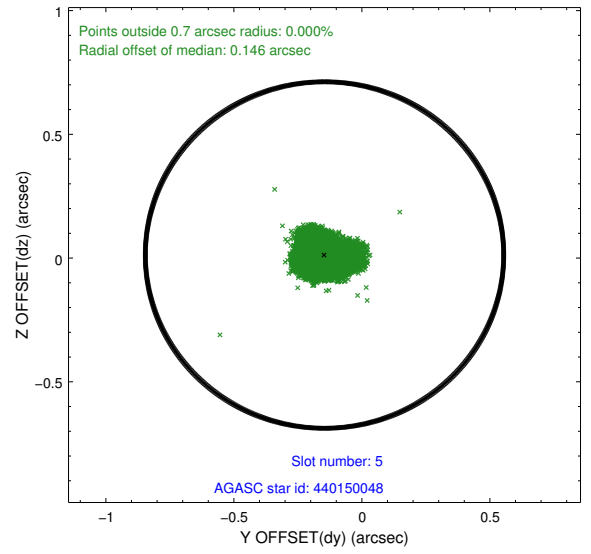
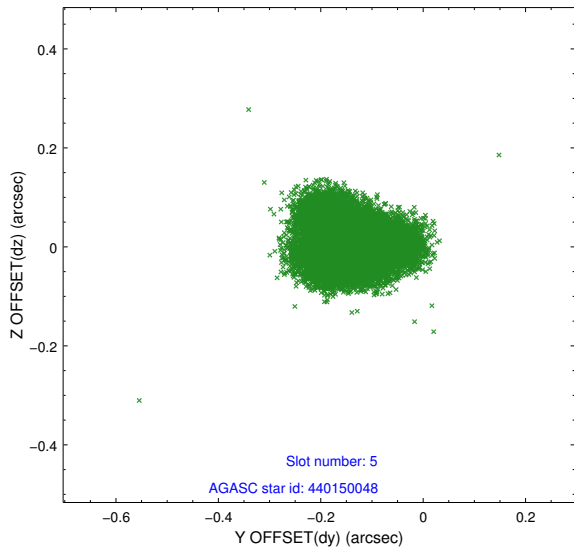
2.4.1 Slot 3



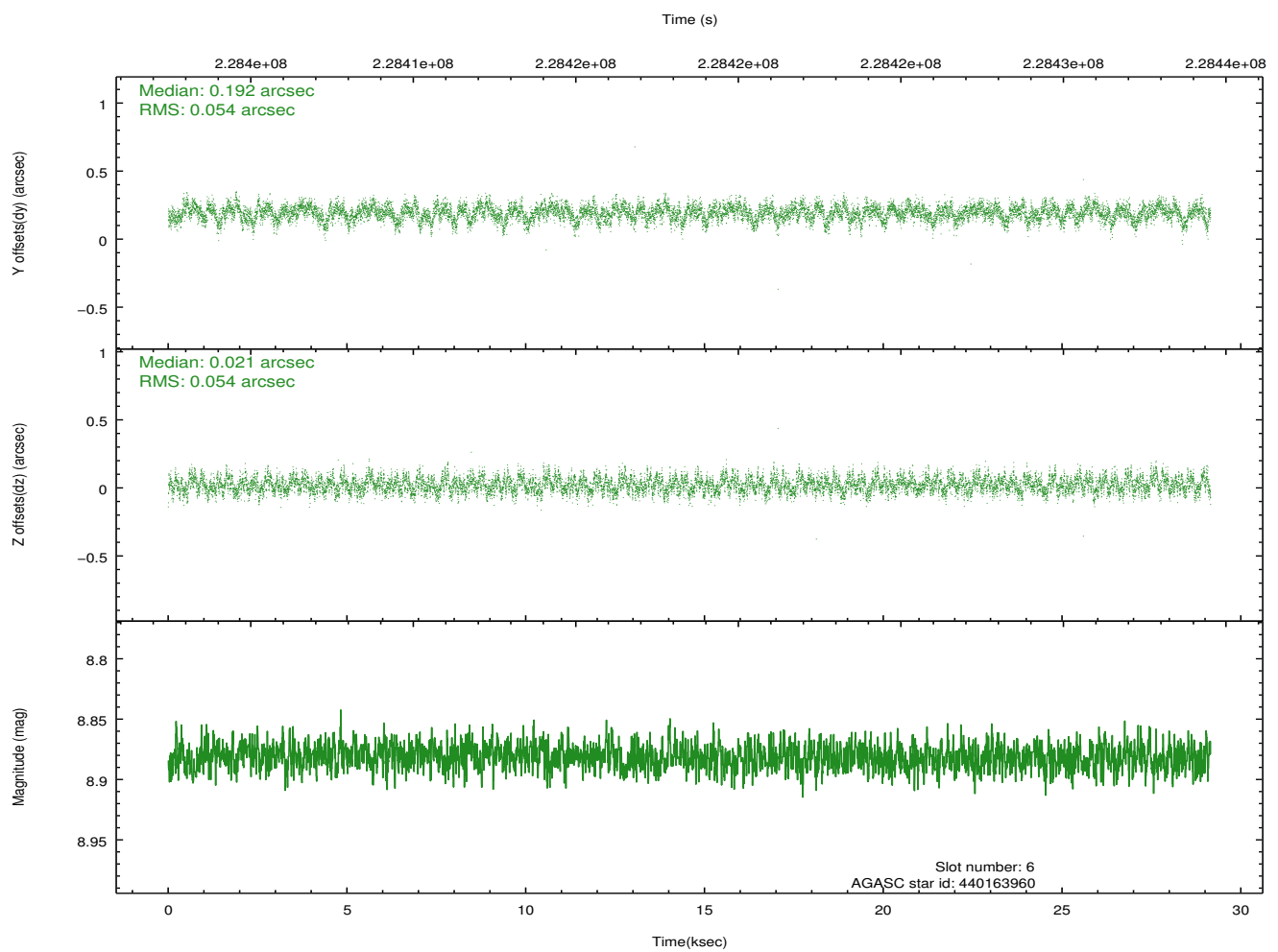
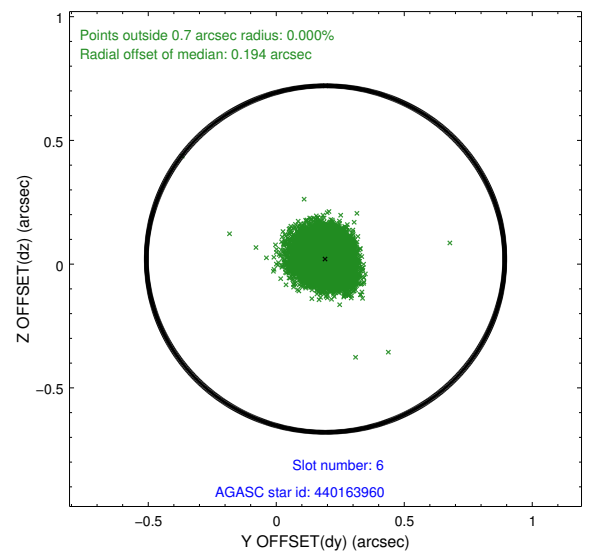
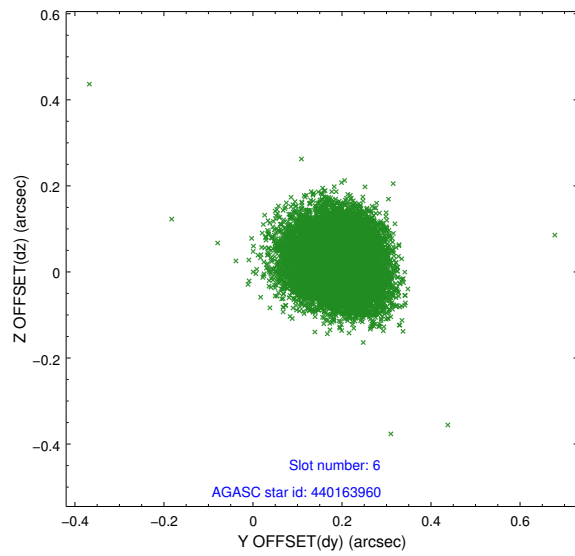
2.4.2 Slot 4



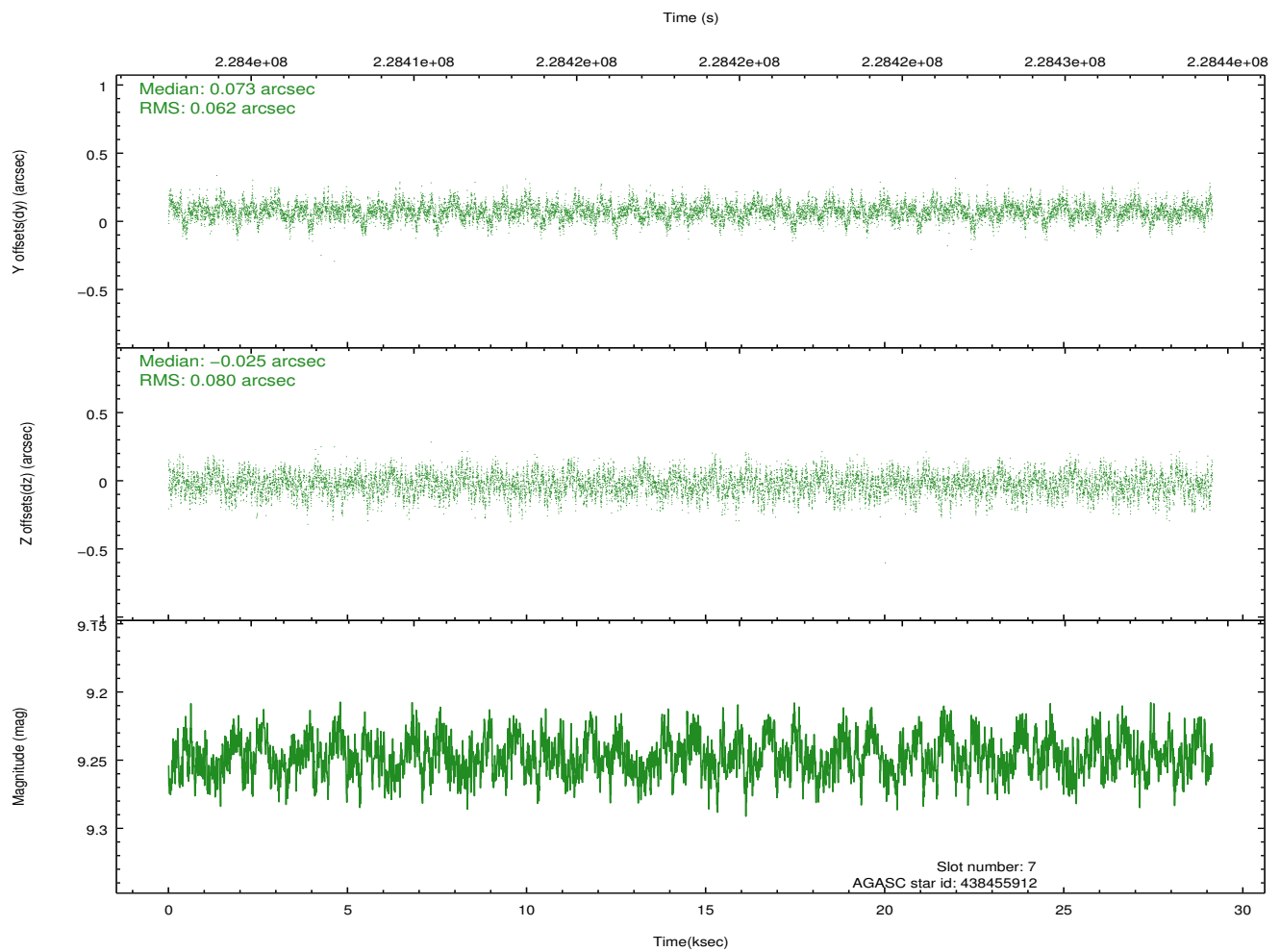
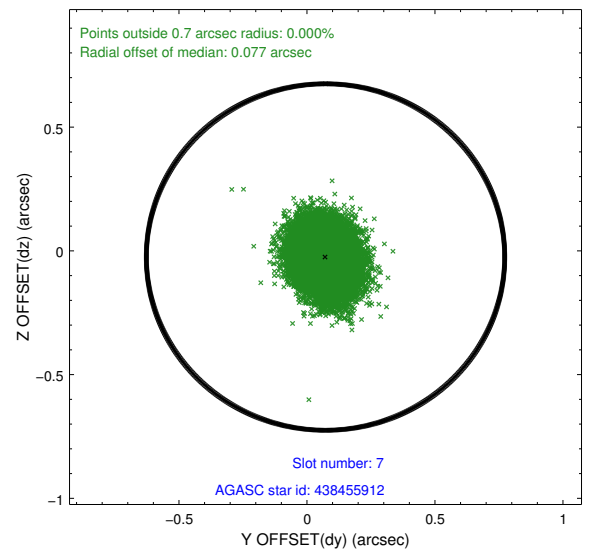
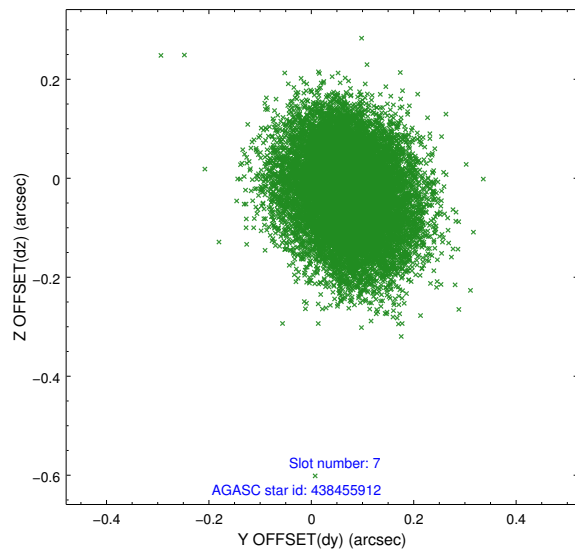
2.4.3 Slot 5



2.4.4 Slot 6

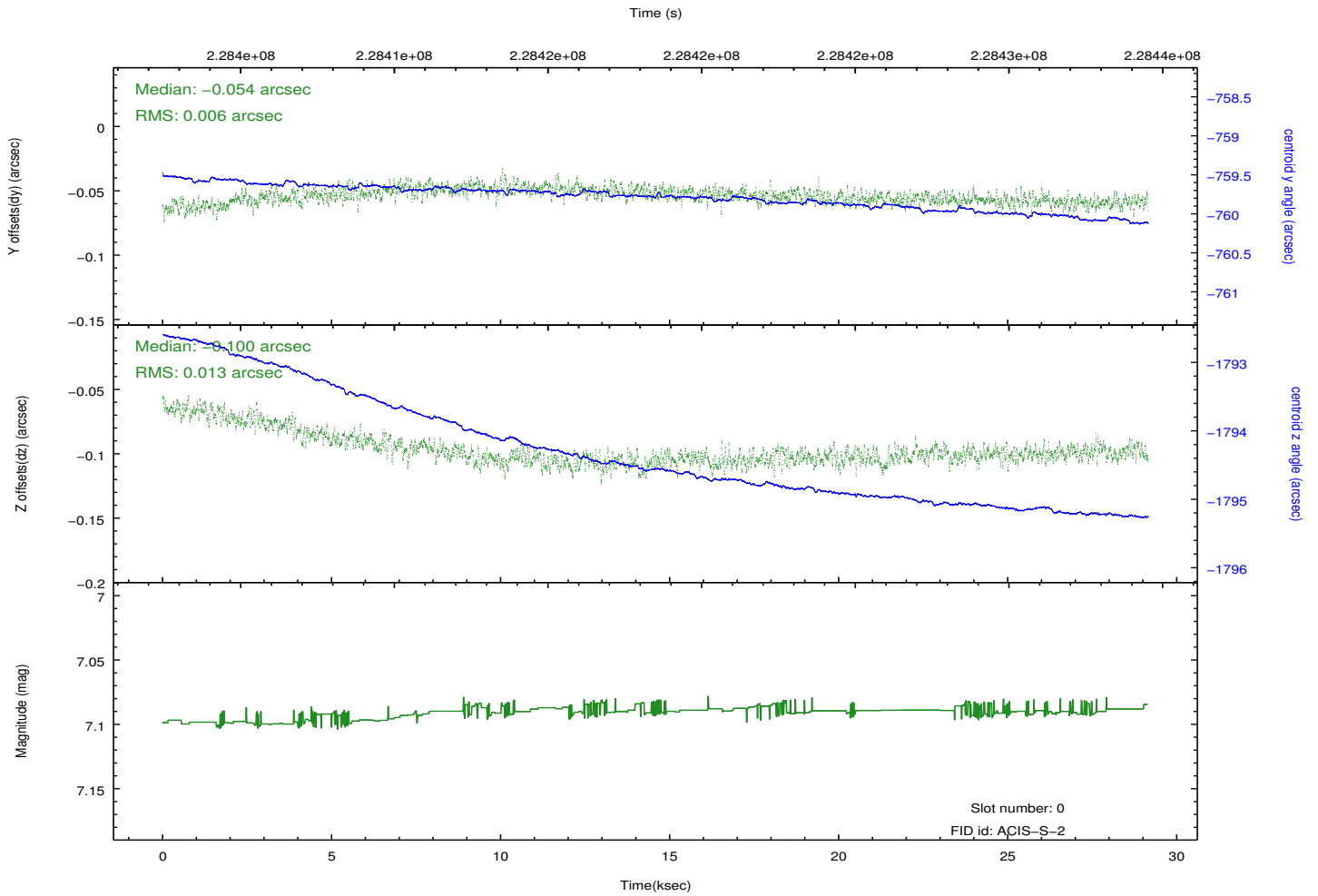
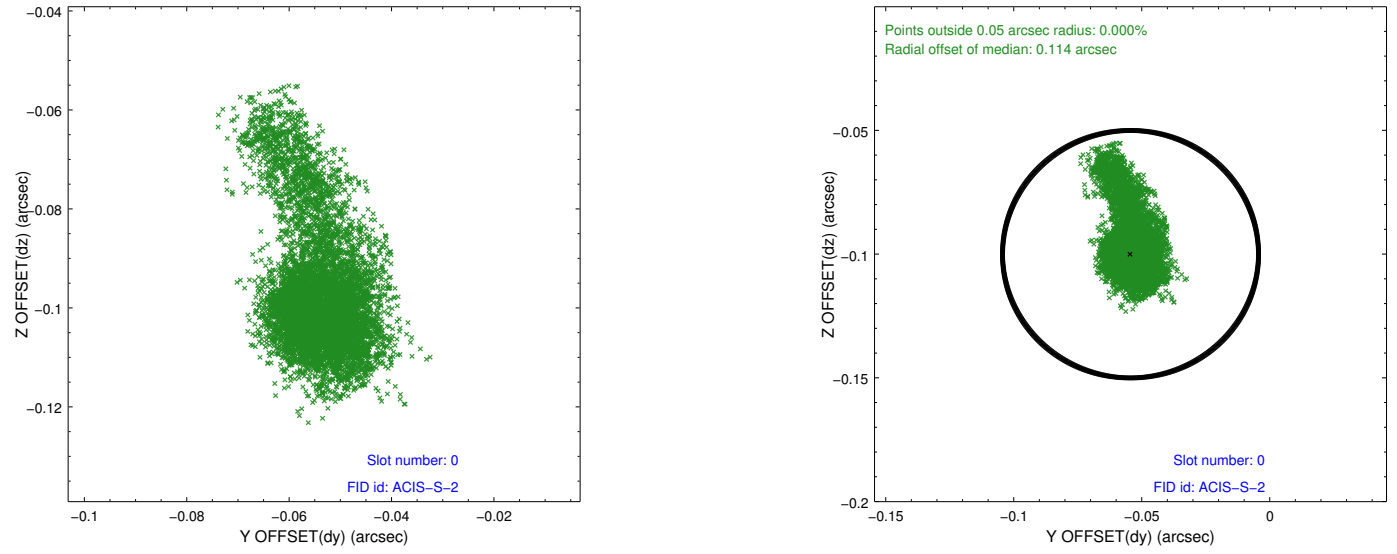


2.4.5 Slot 7

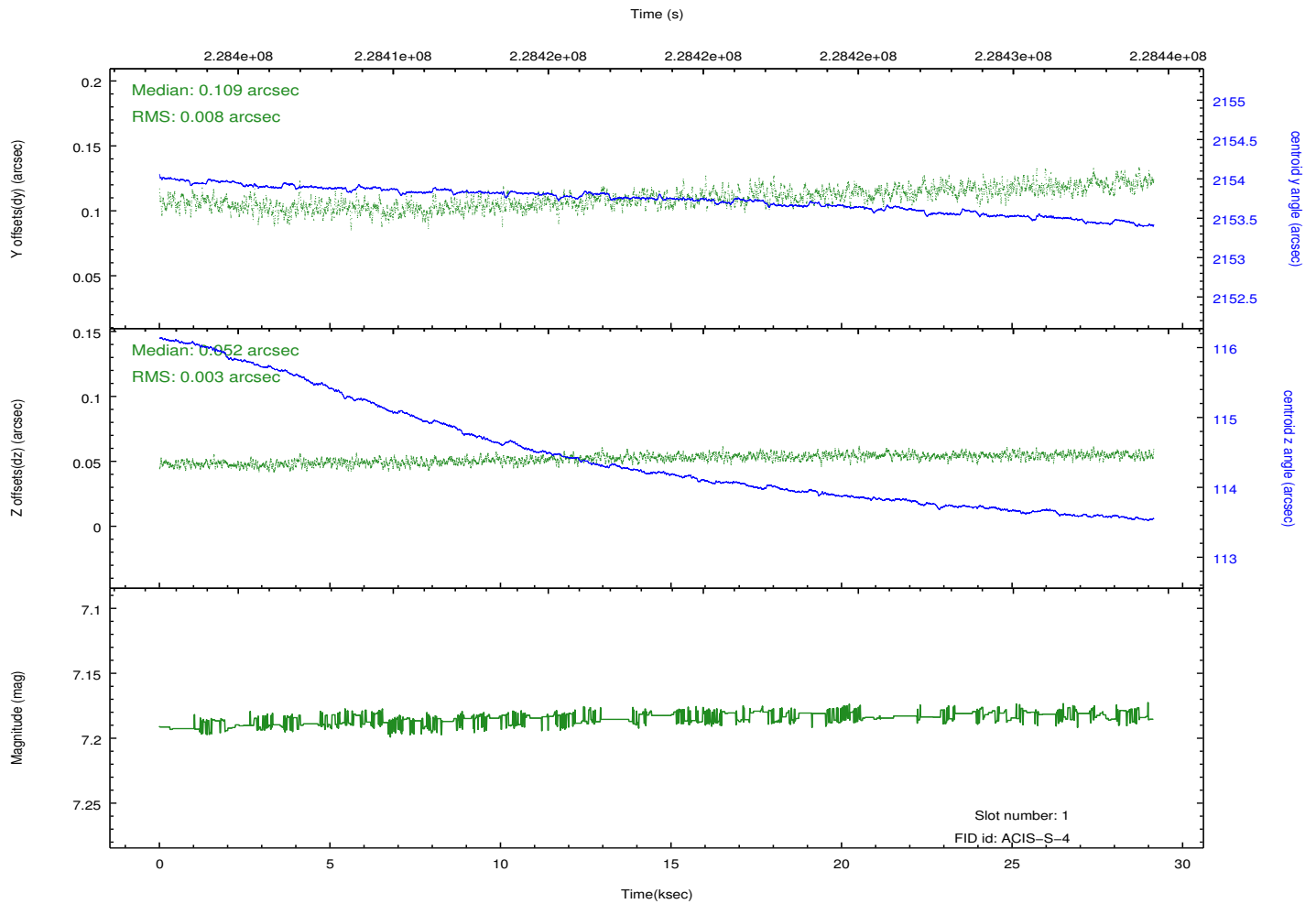
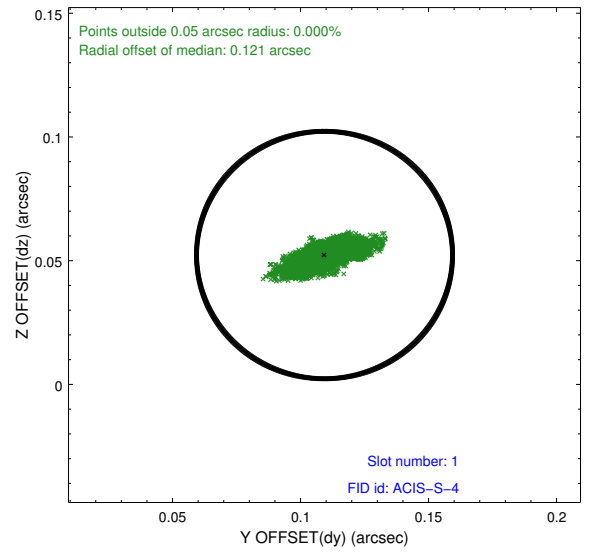
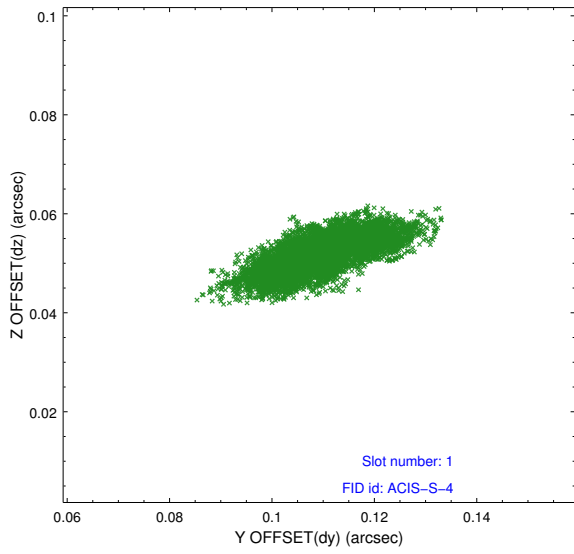


2.5 FID Slots

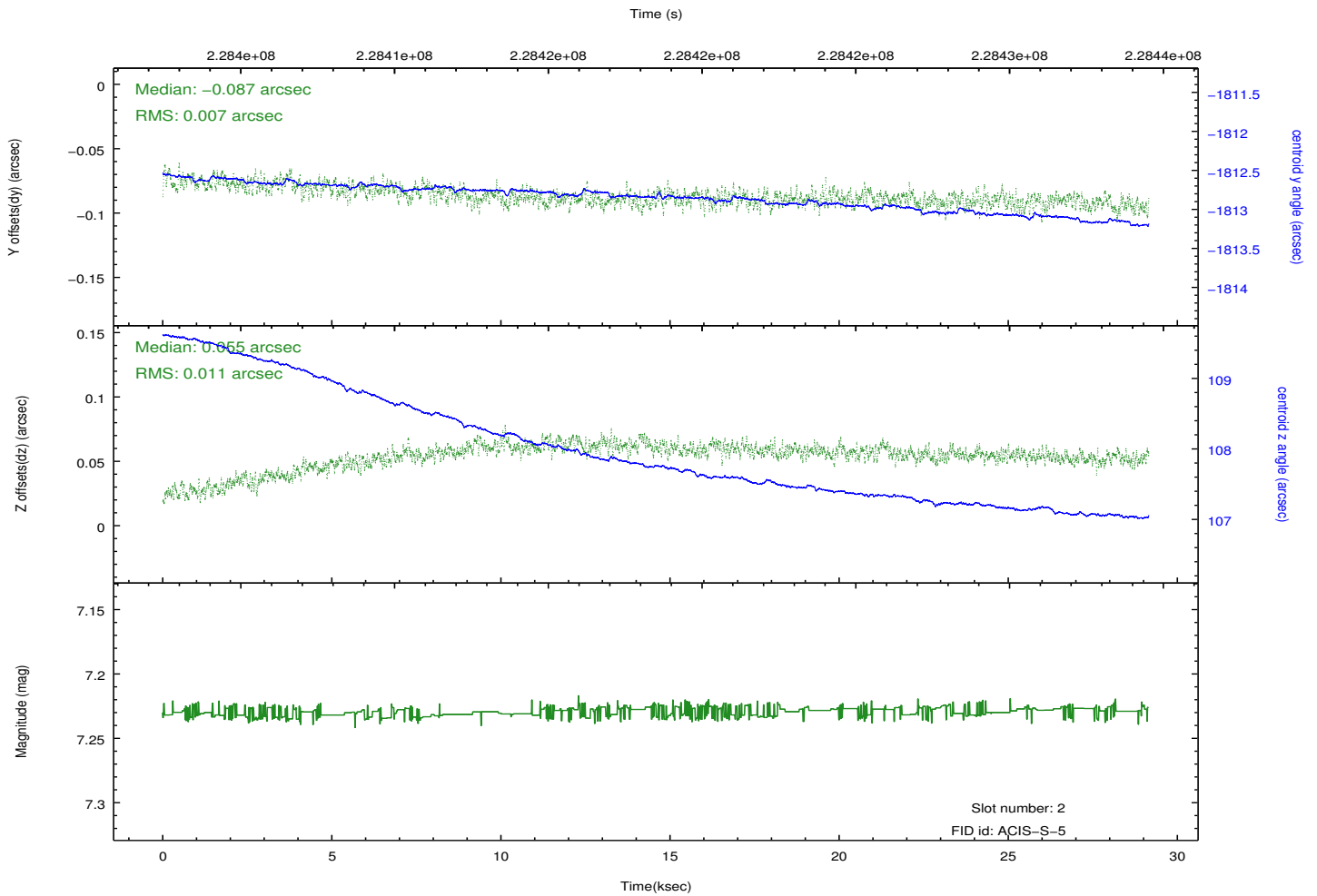
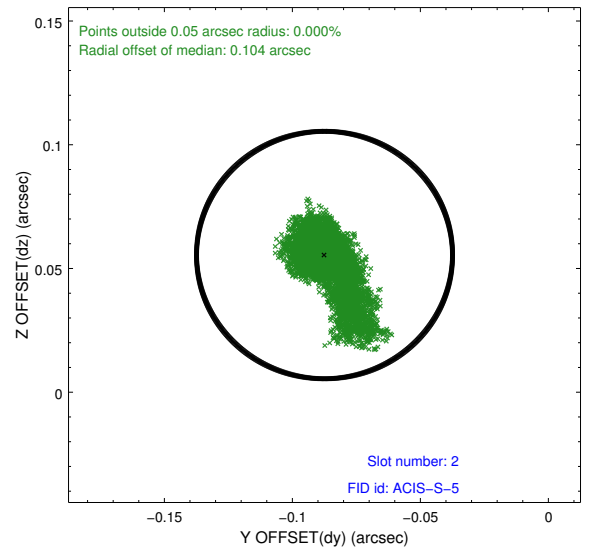
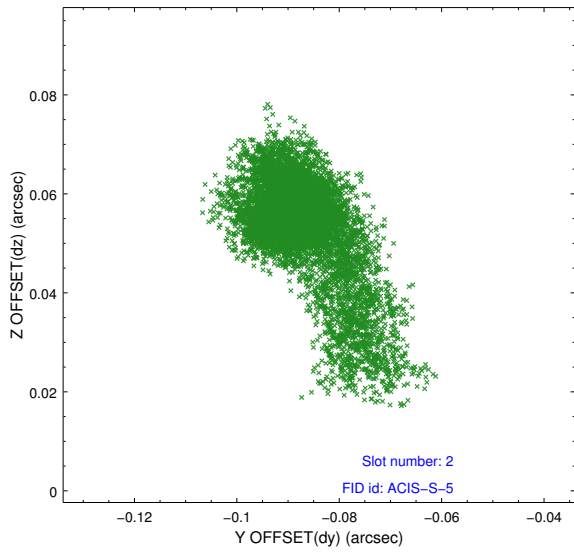
2.5.1 Slot 0



2.5.2 Slot 1

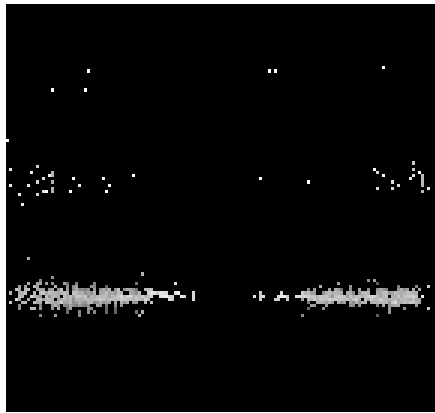


2.5.3 Slot 2

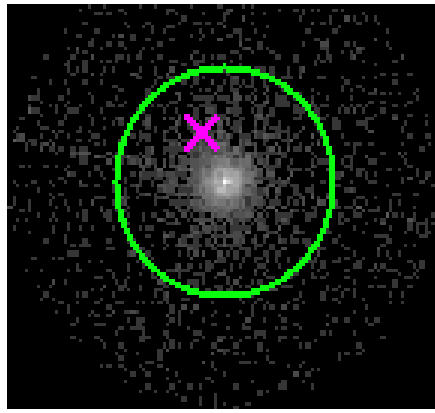


3 Gratings

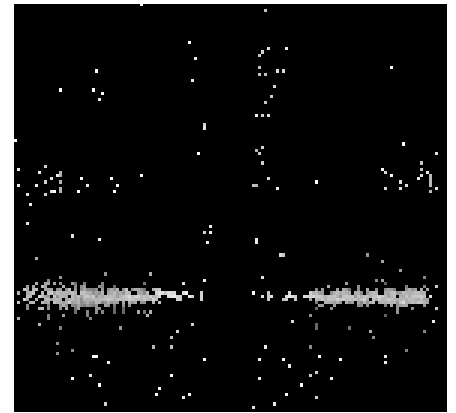
3.1 HEG Arm



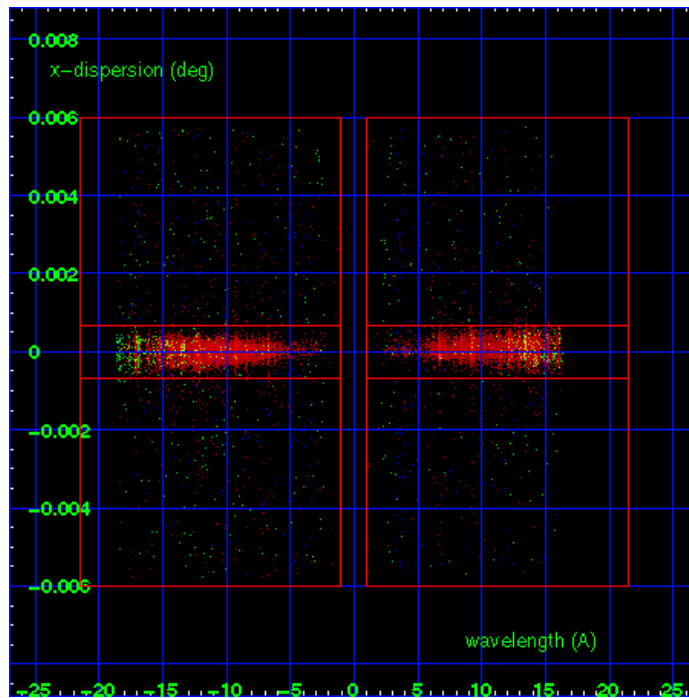
HEG Order Sort 123



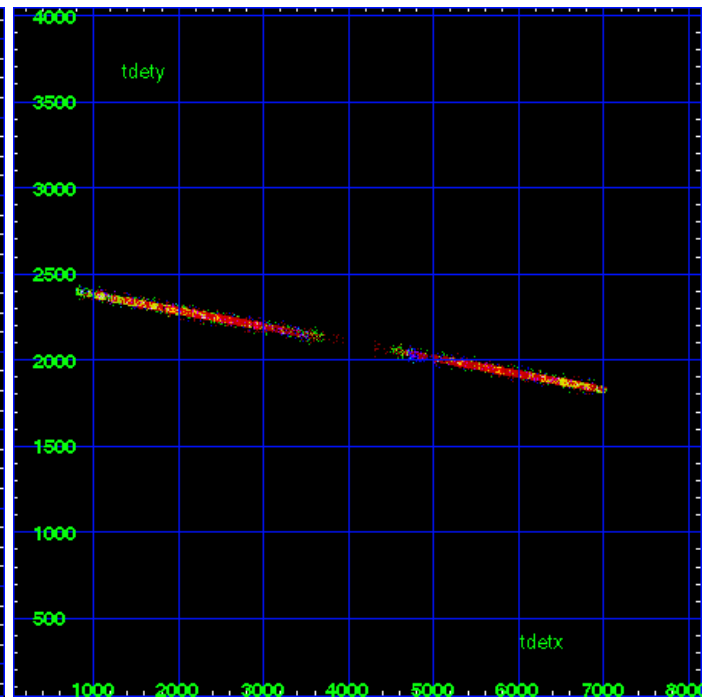
HEG Zero Order



HEG Order Sort ALL

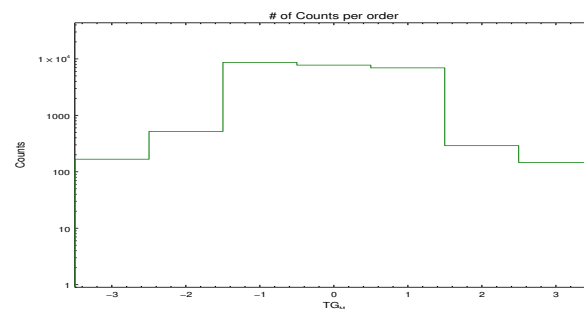


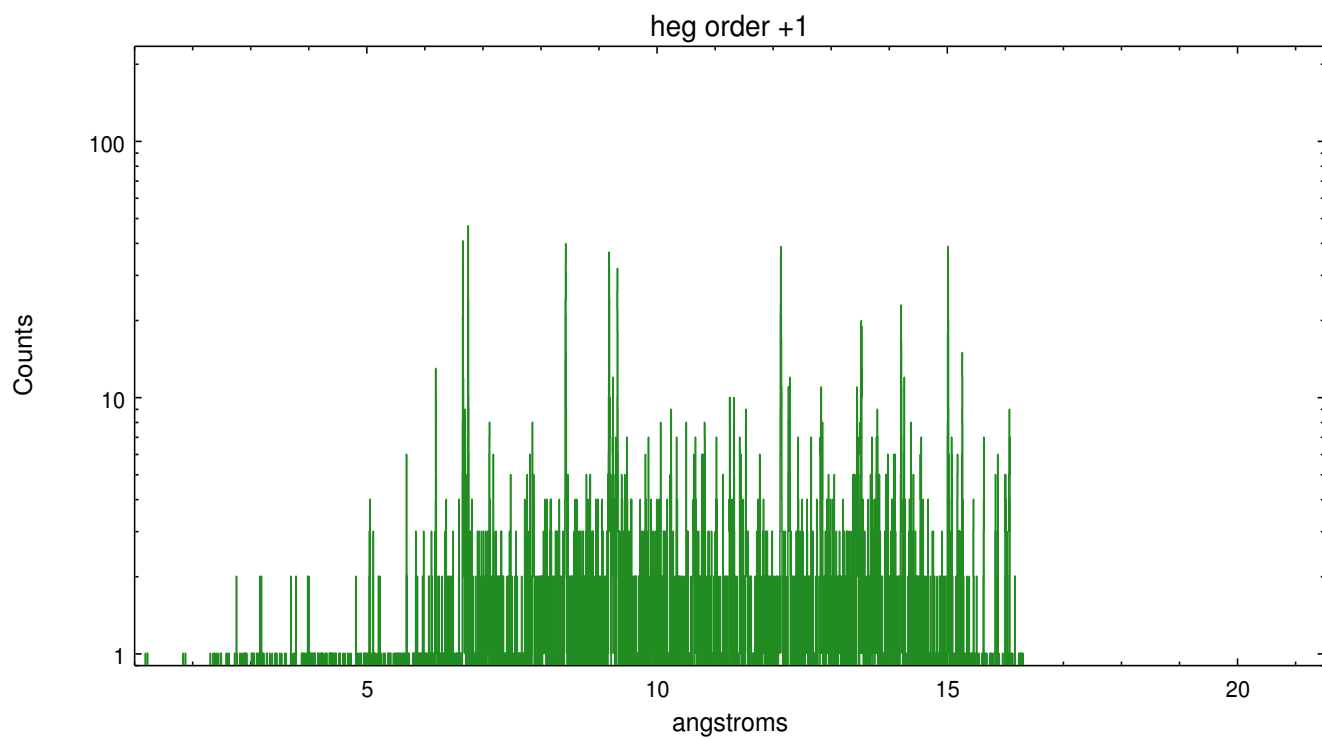
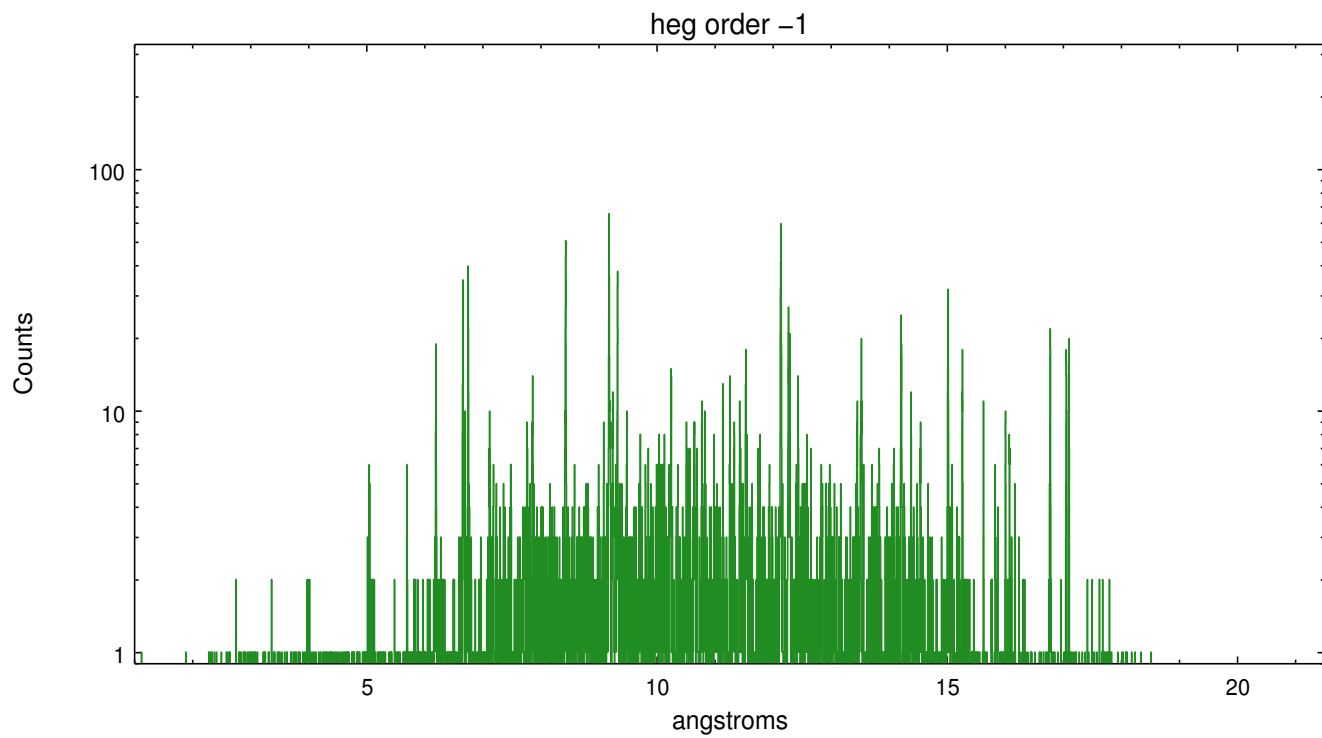
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	167	520	8718	7807	6984	291	146

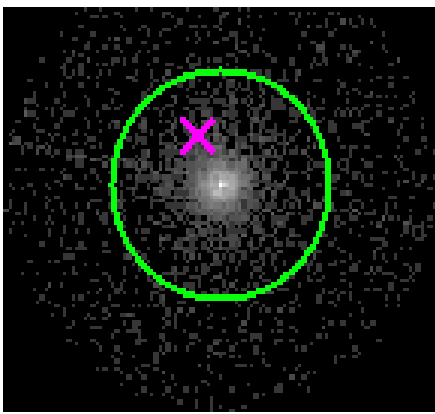




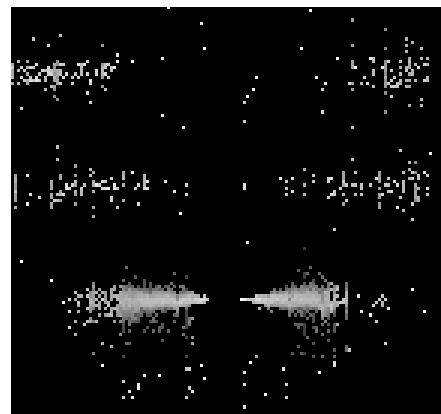
3.2 MEG Arm



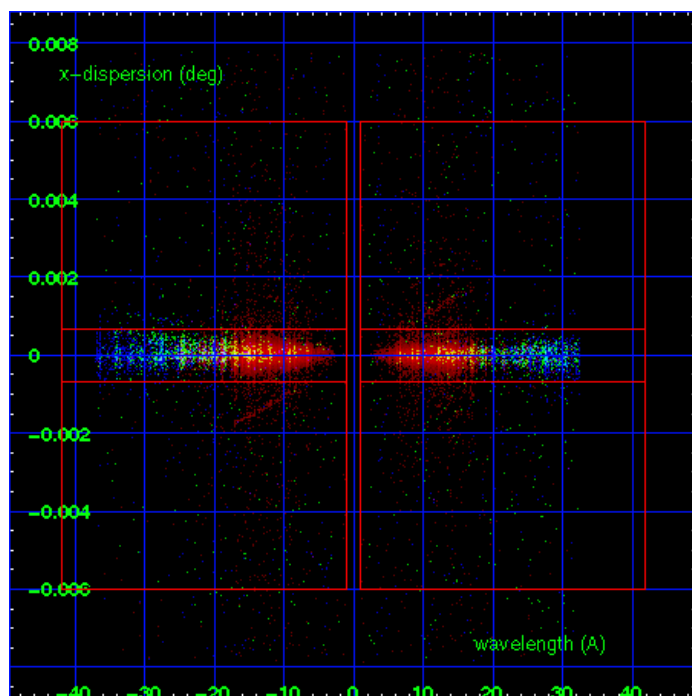
MEG Order Sort 123



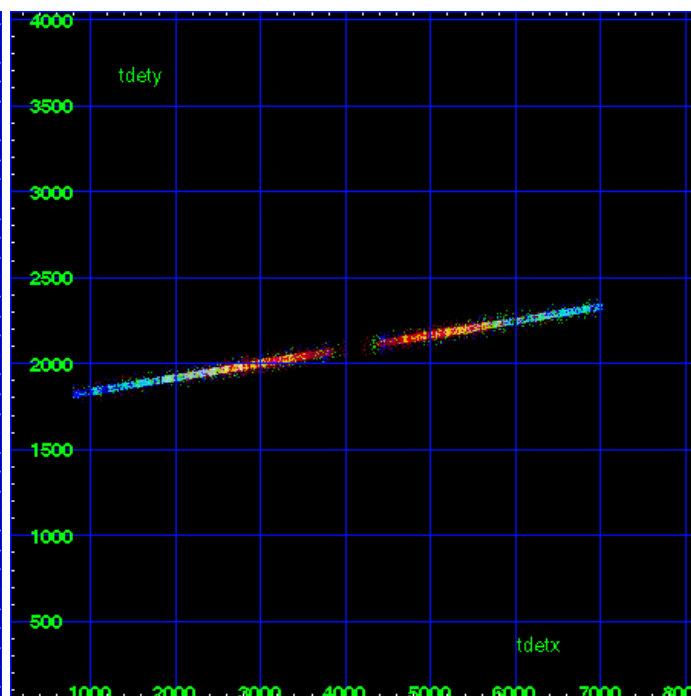
MEG Zero Order



MEG Order Sort ALL

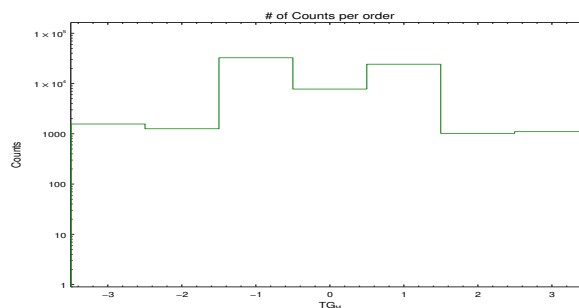


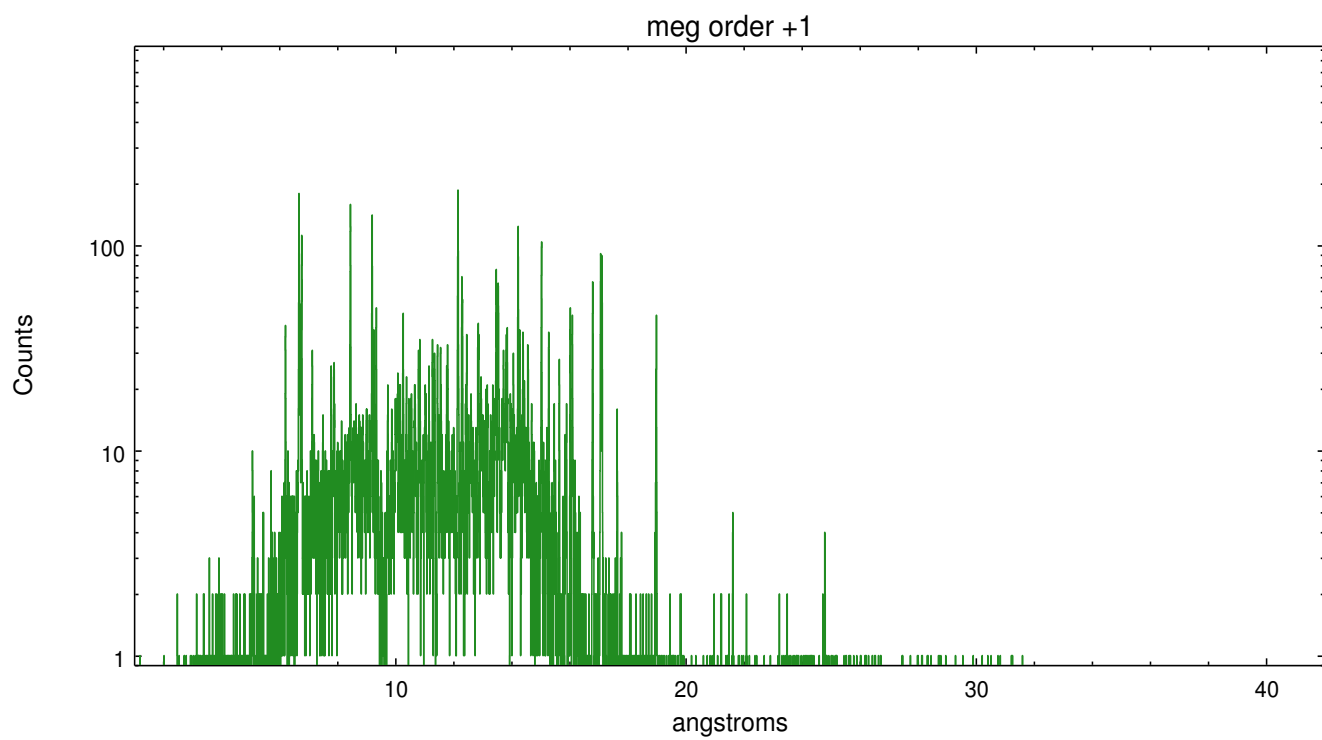
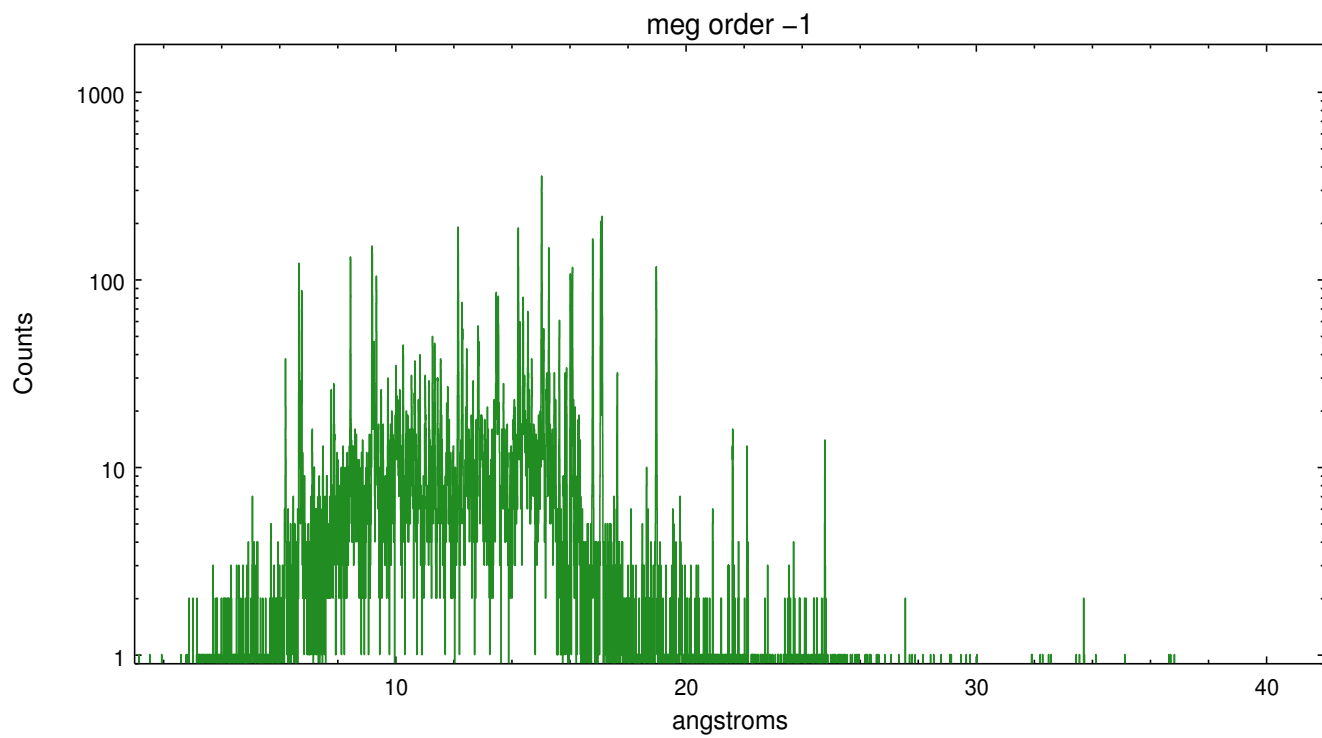
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1571	1264	32837	7807	24418	1023	1106





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.01.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	29.1475

A.2 Comments

Zeroth order piled up. Standard data processing software did not correctly locate the zeroth order due to pileup. Manual intervention was used to input the correct sky coordinates ($x=4101.29$, $y=4084.21$) into the `*src1a.fits` file table. These corrected coordinates were determined using a software tool developed by CXC called `tg_findzo`, available in CIAO. The tool calculates the point of intersection of the readout streak and the meg arm. The zeroth order source position determined by the standard pipeline processing using the tool `tgdetect` was not used in this processing. The newly determined zeroth order coordinates have been placed in the `*src1a.fits` file, replacing the coordinates determined by `tgdetect`. Note that these corrected coordinates of the zeroth order cannot be reproduced by running `tgdetect` on the data.