

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 9847 - L2 Version 3
Chandra X-Ray Center

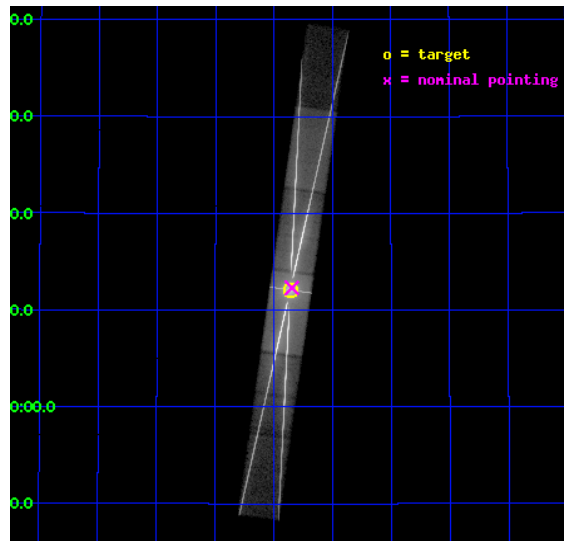
L2 Processing Date : May 14 2012

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1 Front

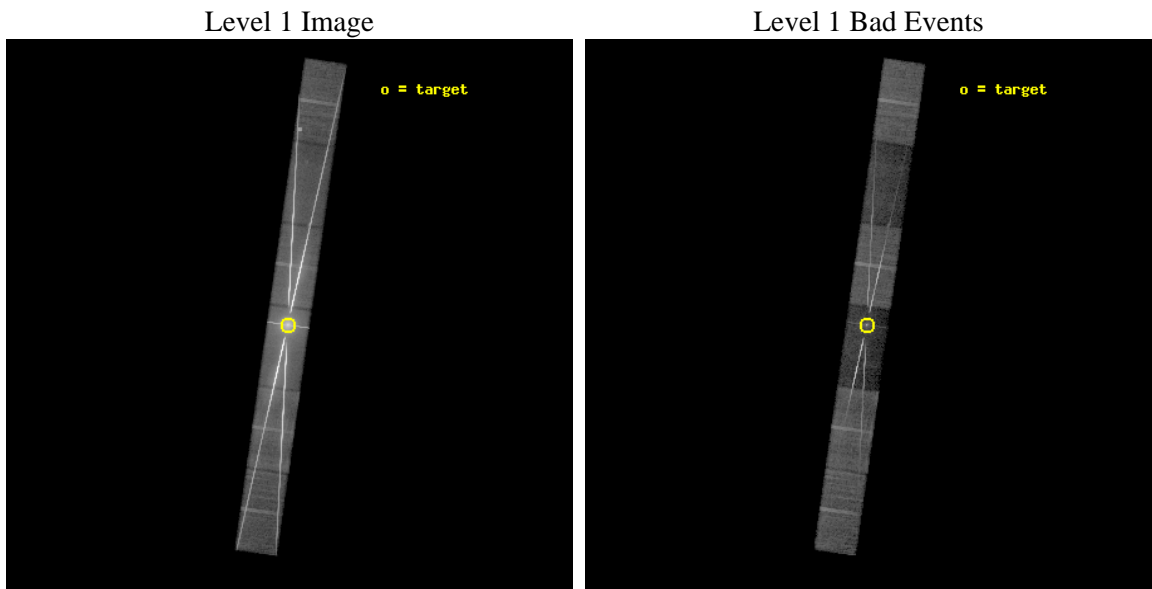
seq_num	400681	Sequence number
obs_id	9847	Observation id
title	Joint XMM-Newton/Chandra/RXTE Observations of Dips in Cyg X-1	Prop
observer	Dr. Joern Wilms	Principal investigator
object	Cyg X-1	Source name
dtycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	299.590417	Observer's specified target RA [deg]
dec_targ	35.201472	Observer's specified target Dec [deg]
ra_nom	299.58664084496	Nominal RA [deg]
dec_nom	35.205170098769	Nominal Dec [deg]
roll_nom	98.15879823566	Nominal Roll [deg]
revision	3	Processing version of data
ontime	19310.29986465	Sum of GTIs [s]
livetime	18855.115201204	Livetime [s]
ontime4	19308.558844507	Sum of GTIs [s]
ontime5	19310.29986465	Sum of GTIs [s]
ontime6	19308.55885458	Sum of GTIs [s]
ontime7	19310.29986465	Sum of GTIs [s]
ontime8	19310.29986465	Sum of GTIs [s]
ontime9	19310.29986465	Sum of GTIs [s]
l2events	2286281	Number of level 2 events



2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	19000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	19310.29986465	Sum of GTIs [s]
caldsver	4.4.9	 	ontime4	19308.558844507	Sum of GTIs [s]
date	2012-05-13T02:19:57	Date and time of file creation	ontime5	19310.29986465	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	19308.55885458	Sum of GTIs [s]
			ontime7	19310.29986465	Sum of GTIs [s]
			ontime8	19310.29986465	Sum of GTIs [s]
			ontime9	19310.29986465	Sum of GTIs [s]
			l1events	2841040	Number of level 1 events

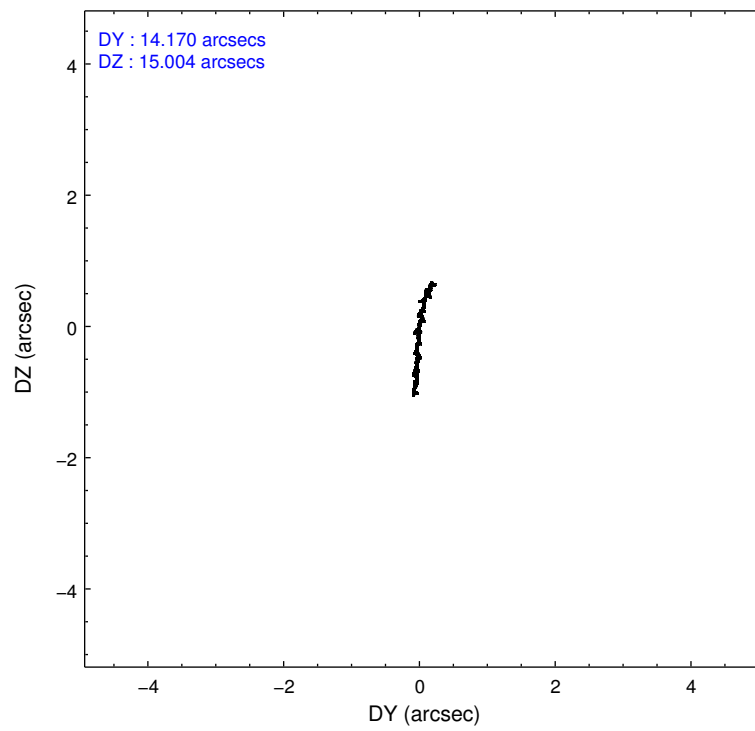
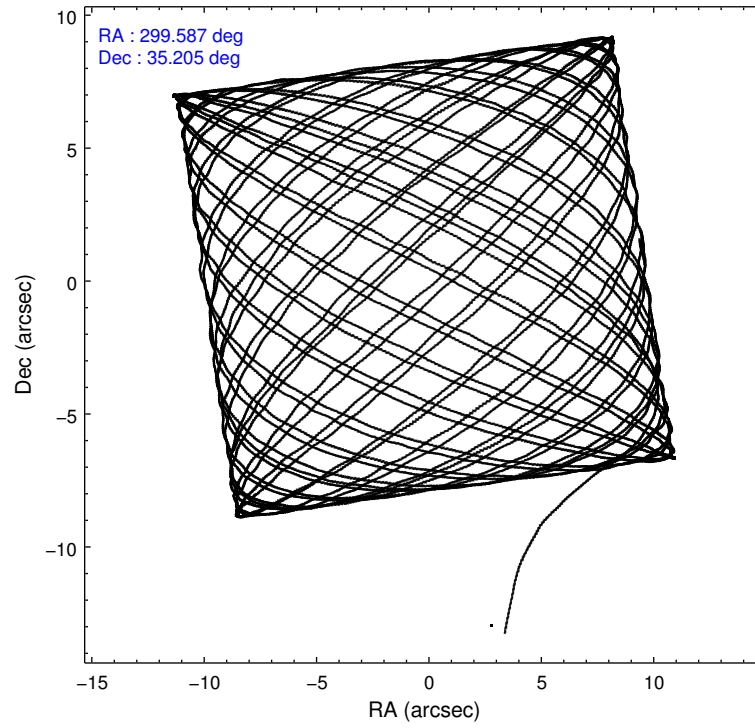
2.1.3 Events

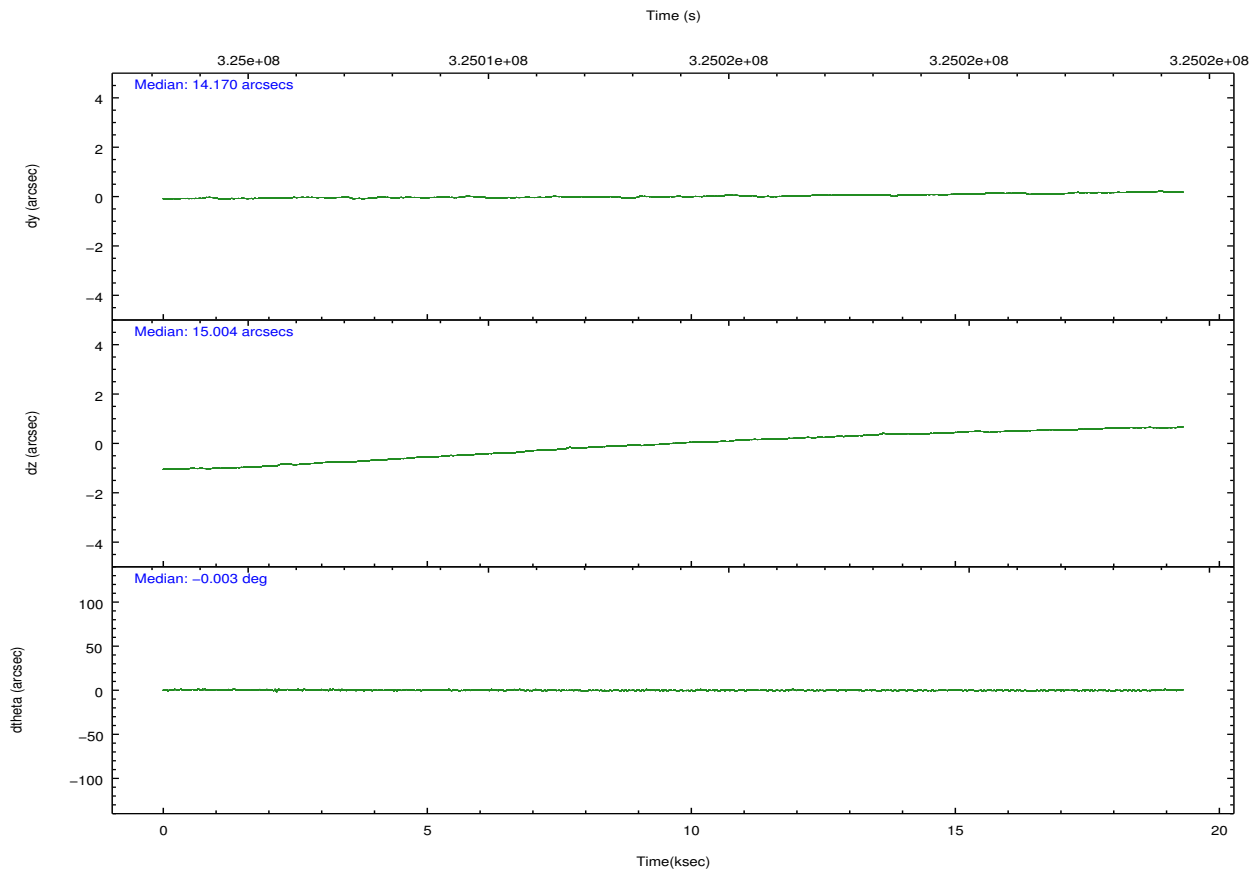
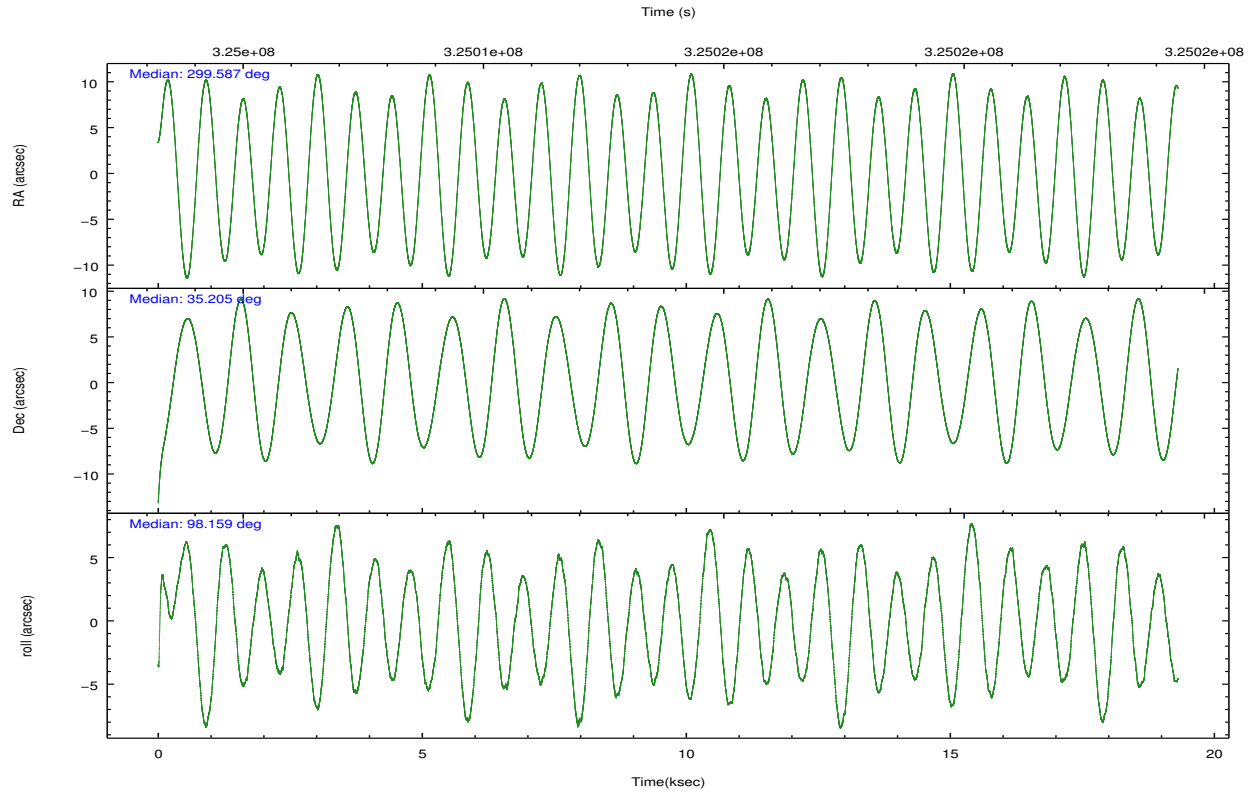
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	113821	228787	945551	1027104	401384	124393	grade 0 events	28542	50886	601251	172532	248696	49277
rejected events	74992	30251	112278	88174	74886	58800		25%	22%	63%	16%	61%	39%
rejected %	65%	13%	11%	8%	18%	47%	grade 1 events	129	333	17707	4906	3104	183
								0%	0%	1%	0%	0%	0%
							grade 2 events	5231	70251	113470	253977	38454	8215
								4%	30%	12%	24%	9%	6%
							grade 3 events	1785	15551	39174	93148	12991	2832
								1%	6%	4%	9%	3%	2%
							grade 4 events	1785	15279	38224	92255	12977	2844
								1%	6%	4%	8%	3%	2%
							grade 5 events	1230	6130	13884	28191	3967	1461
								1%	2%	1%	2%	0%	1%
							grade 6 events	1651	47160	44102	330741	14318	2628
								1%	20%	4%	32%	3%	2%
							grade 7 events	73468	23197	77739	51354	66877	56953
								64%	10%	8%	4%	16%	45%

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	GRADED	GRADED	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	299.607644	299.5866408449551	CCD I2 on	N	N
[deg] Pointing Dec	35.183928	35.20517009876924	CCD I3 on	N	N
[deg] Pointing Roll	97.990073	98.15879823565992	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	-183.992523	-183.9875365069546	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-6.14	-6.144986076053243	CCD S4 on	Y	Y
Phase constraints	Y	Y	CCD S5 on	Y	Y
[d] Phase period	5.599829	5.599829	Number of optional ACIS chips dropped	0	0
[d] Phase epoch (MJD)	54137.875470	54137.875470	On-chip summing requested	N	N
Phase start	0.950000	0.950000	Subarray requested	CUSTOM	1/2
Phase end	0.050000	0.050000	Subarray start row	1	1
Phase start error	0.050000	0.050000	Subarray row count	512	512
Phase end error	0.050000	0.050000	Alternating exposures requested	N	N
[s] Observation start time (MET)	325004502.184000	325003496.66285	[s] Primary exposure time	0.000000	1.7
Observation start date	2008-04-19T15:00:37	2008-04-19T14:44:56			
[s] Observation end time (MET)	325023502.184000	325024366.68887			
Observation end date	2008-04-19T20:17:17	2008-04-19T20:32:46			
Read mode	TIMED	TIMED			

2.3 Aspect



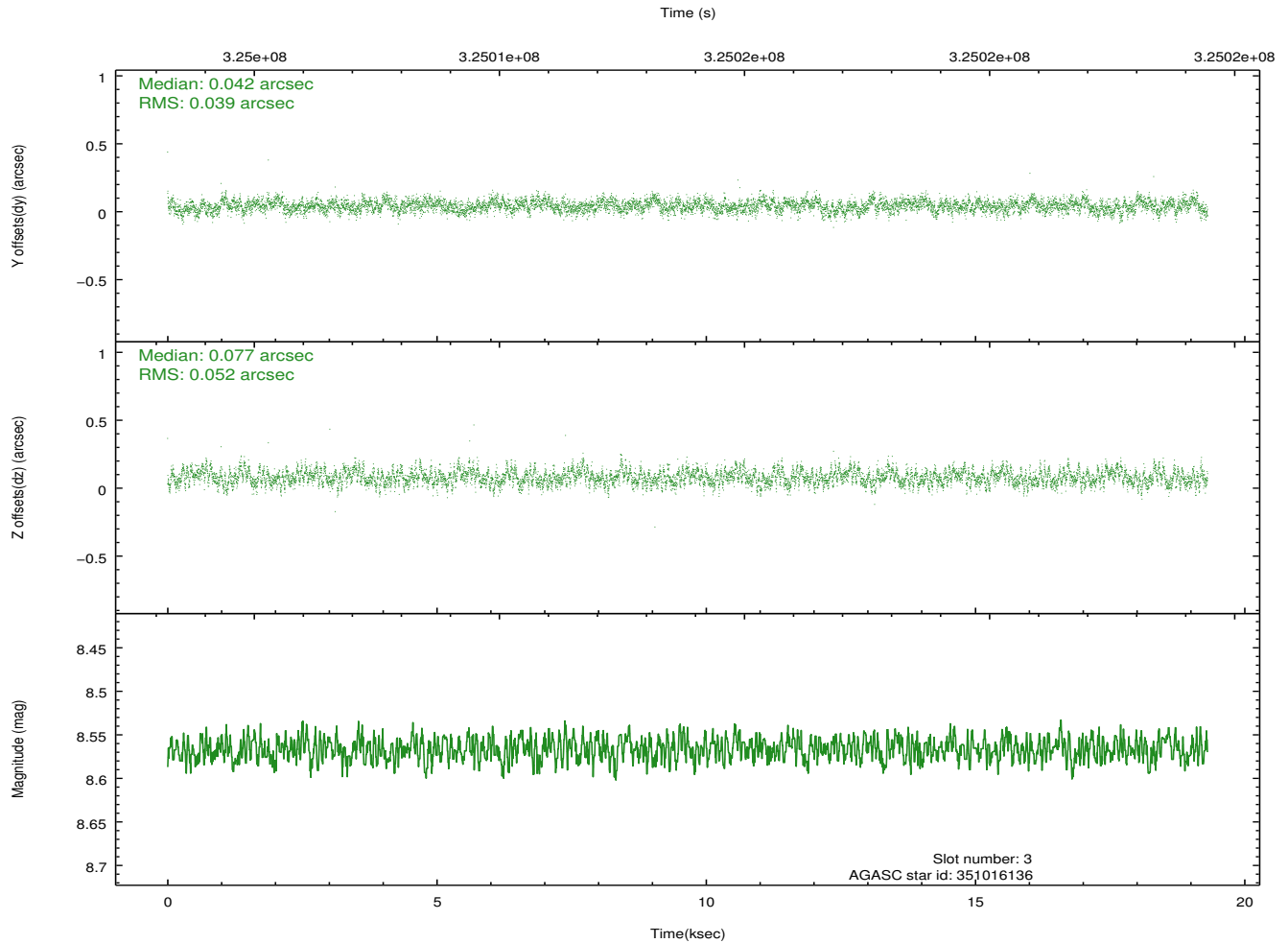
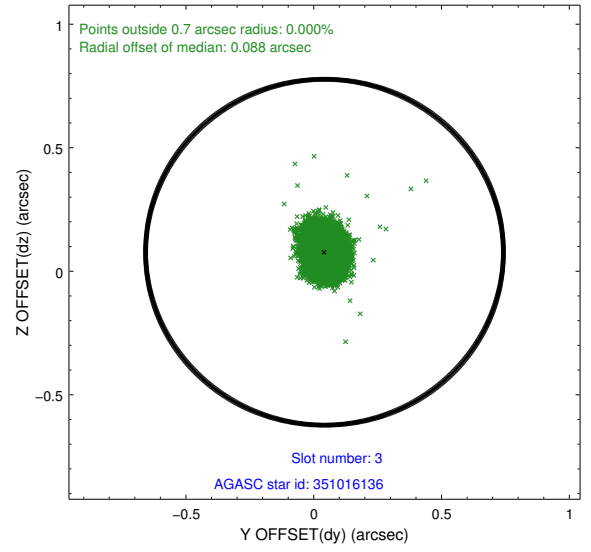
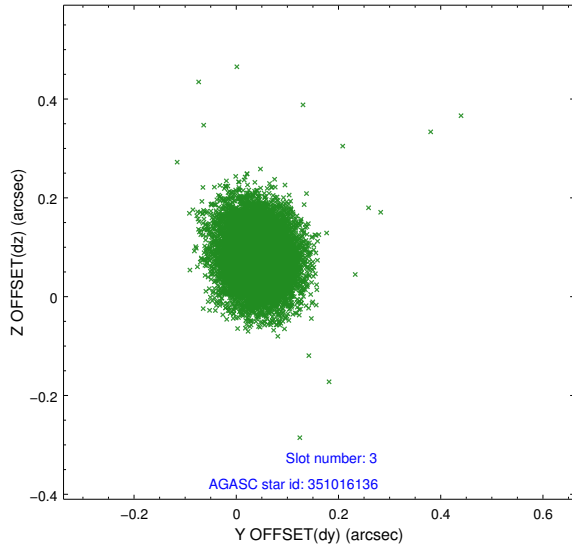


Slot Statistics

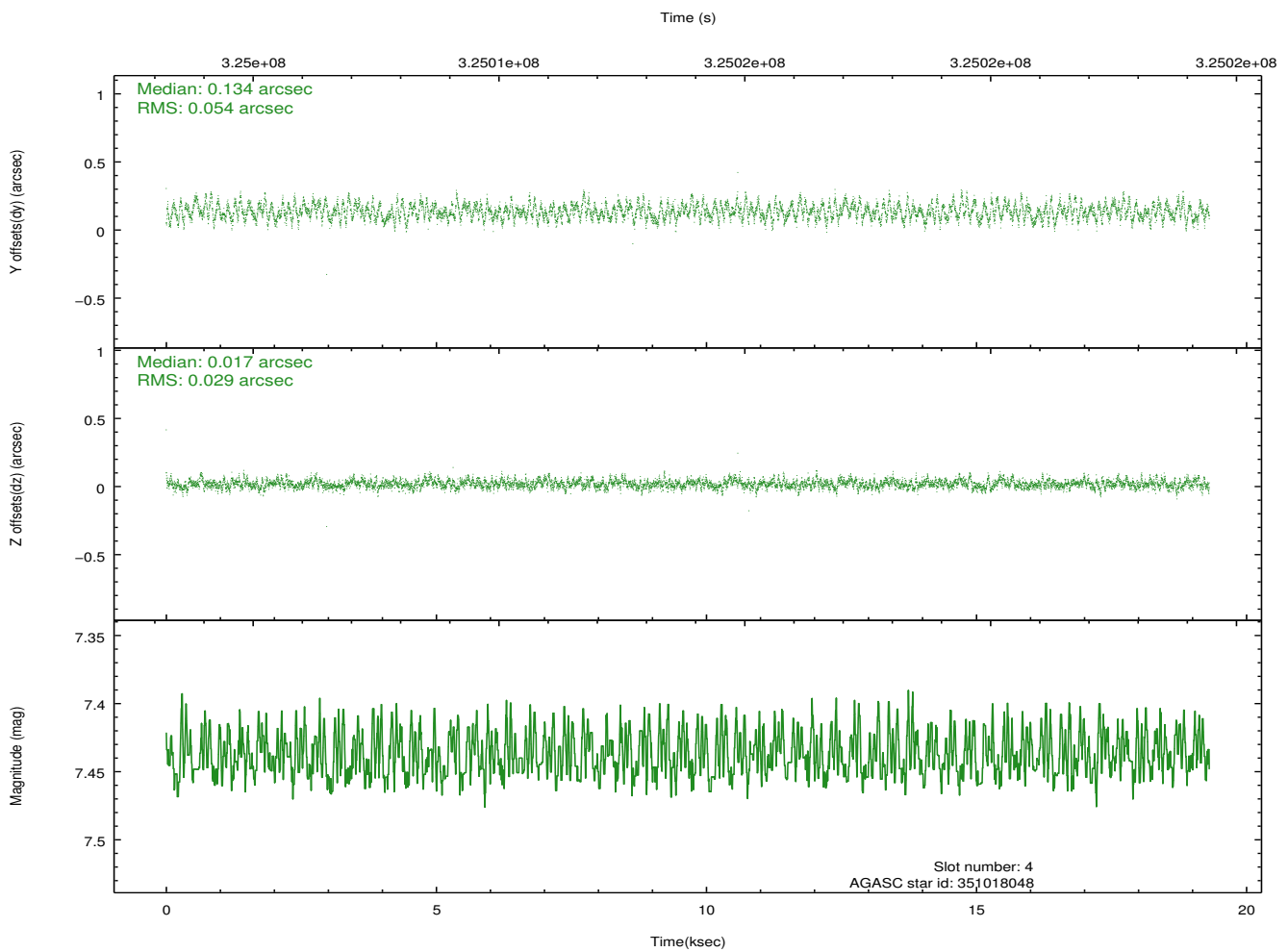
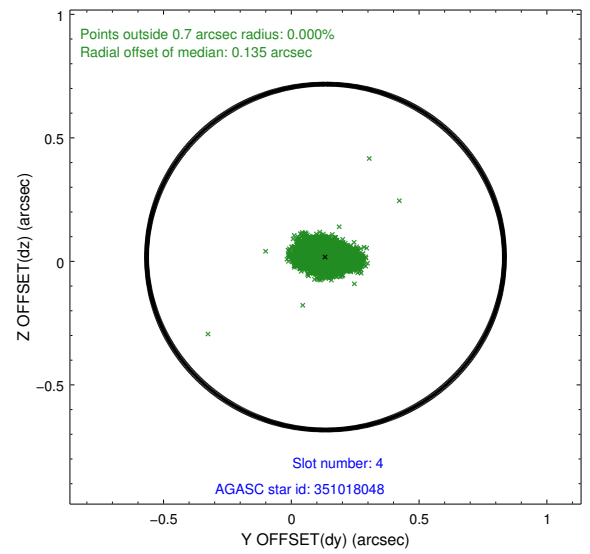
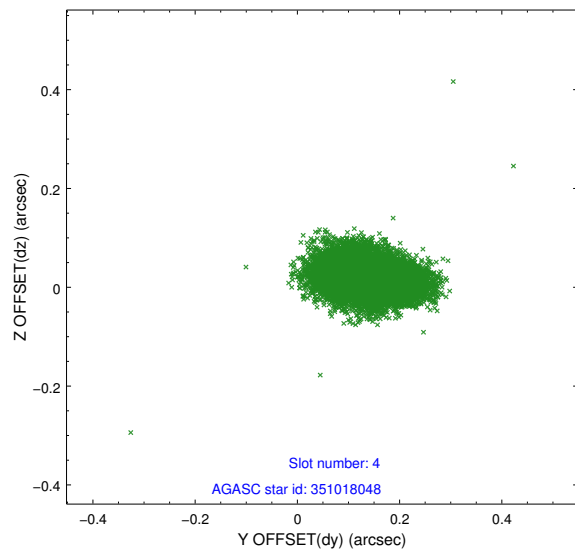
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.88	4711	-0.137	-0.106	0.013	0.023	0.000000	0.000000	-766.88	-1863.03
1	FID	ACIS-S-4	6.96	4710	0.112	0.078	0.007	0.011	0.000000	0.000000	2146.59	45.33
2	FID	ACIS-S-6	7.17	4710	-0.003	0.035	0.011	0.024	0.000000	0.000000	395.54	682.94
3	GUIDE	351016136	8.57	9418	0.042	0.077	0.068	0.111	300.302636	34.786391	-1695.52	-1836.63
4	GUIDE	351018048	7.44	9422	0.134	0.017	0.064	0.106	299.715174	35.497760	1075.45	-469.29
5	GUIDE	351023656	8.18	9421	0.237	0.084	0.063	0.099	299.727900	34.661972	-1909.48	-91.16
6	GUIDE	351406096	8.89	9416	-0.228	-0.056	0.066	0.108	299.076637	35.711249	2099.66	1272.94
7	GUIDE	351406432	8.84	9419	-0.186	-0.127	0.074	0.118	299.163921	35.698316	2017.25	1027.28

2.4 Star Slots

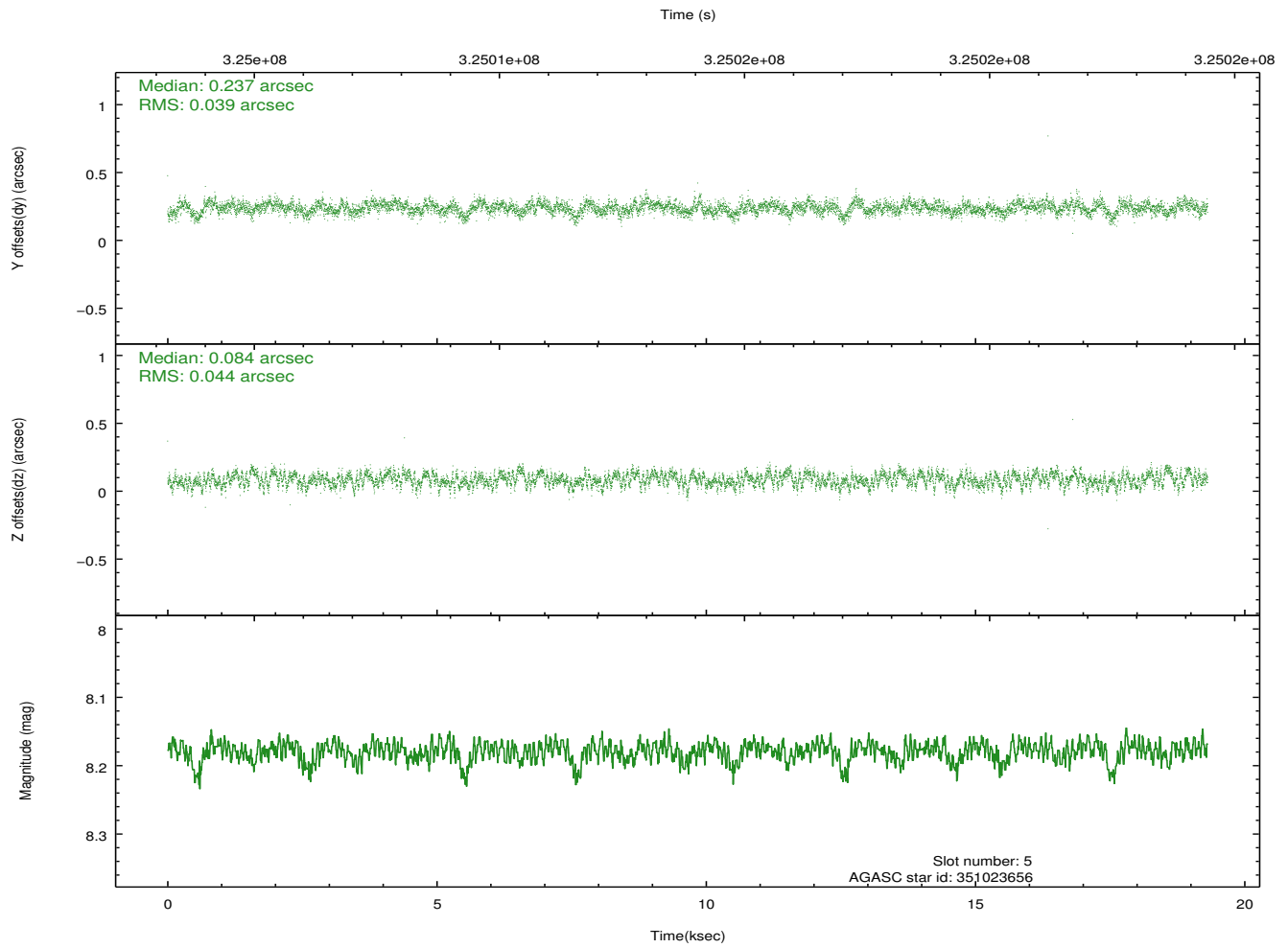
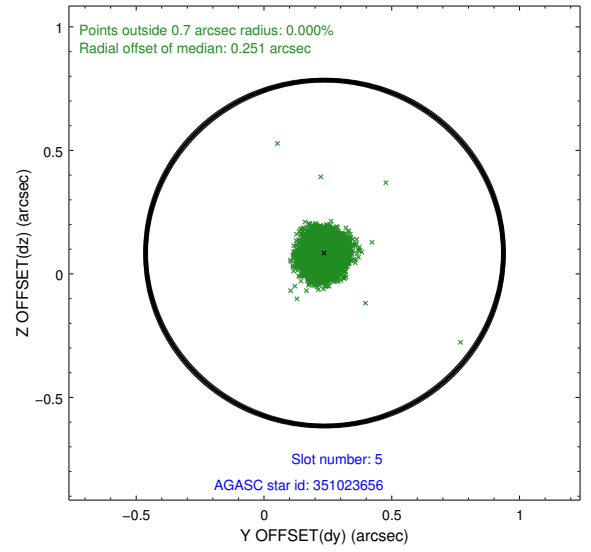
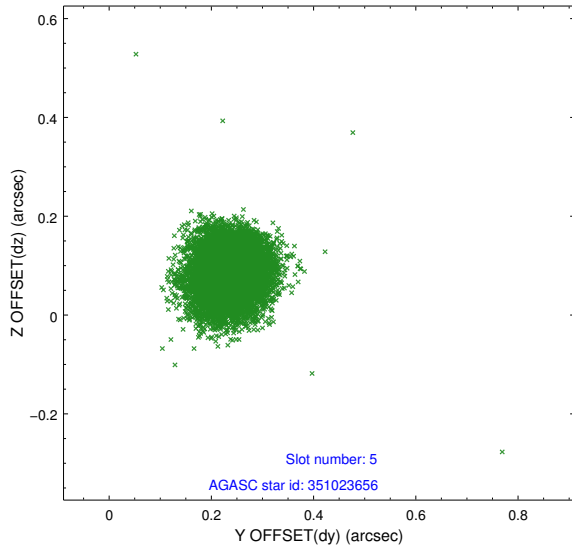
2.4.1 Slot 3



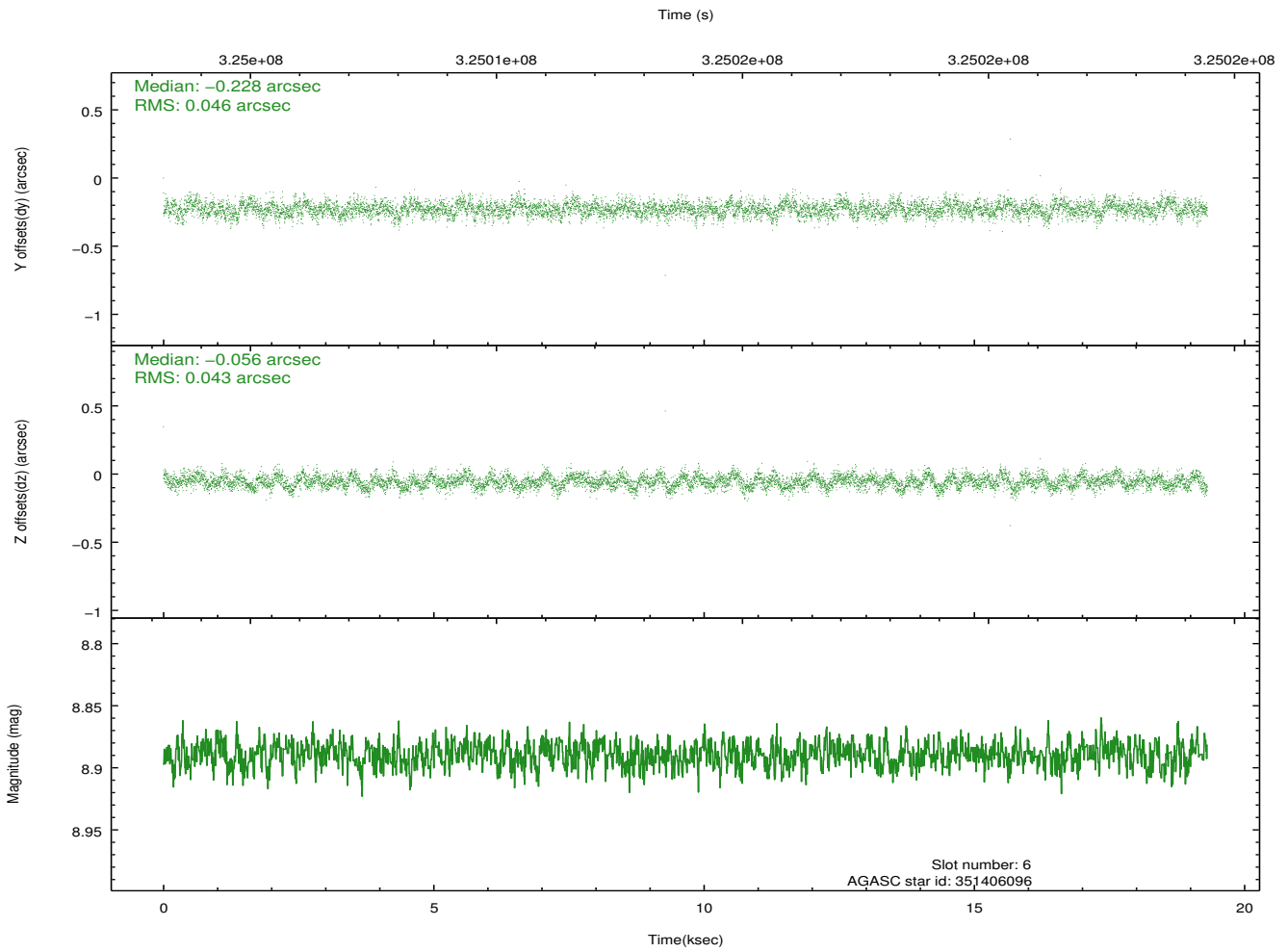
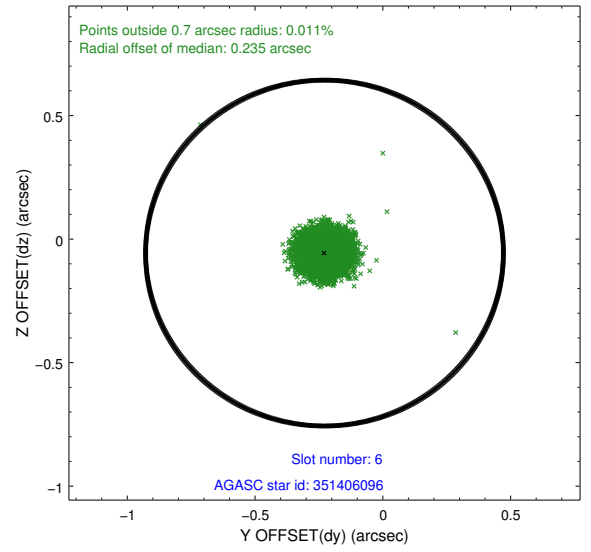
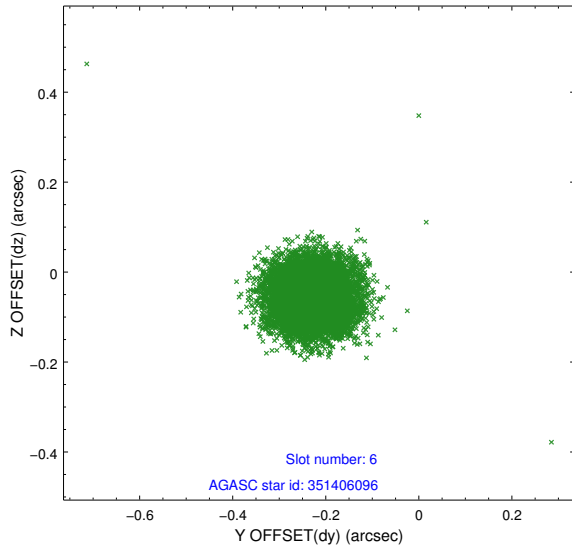
2.4.2 Slot 4



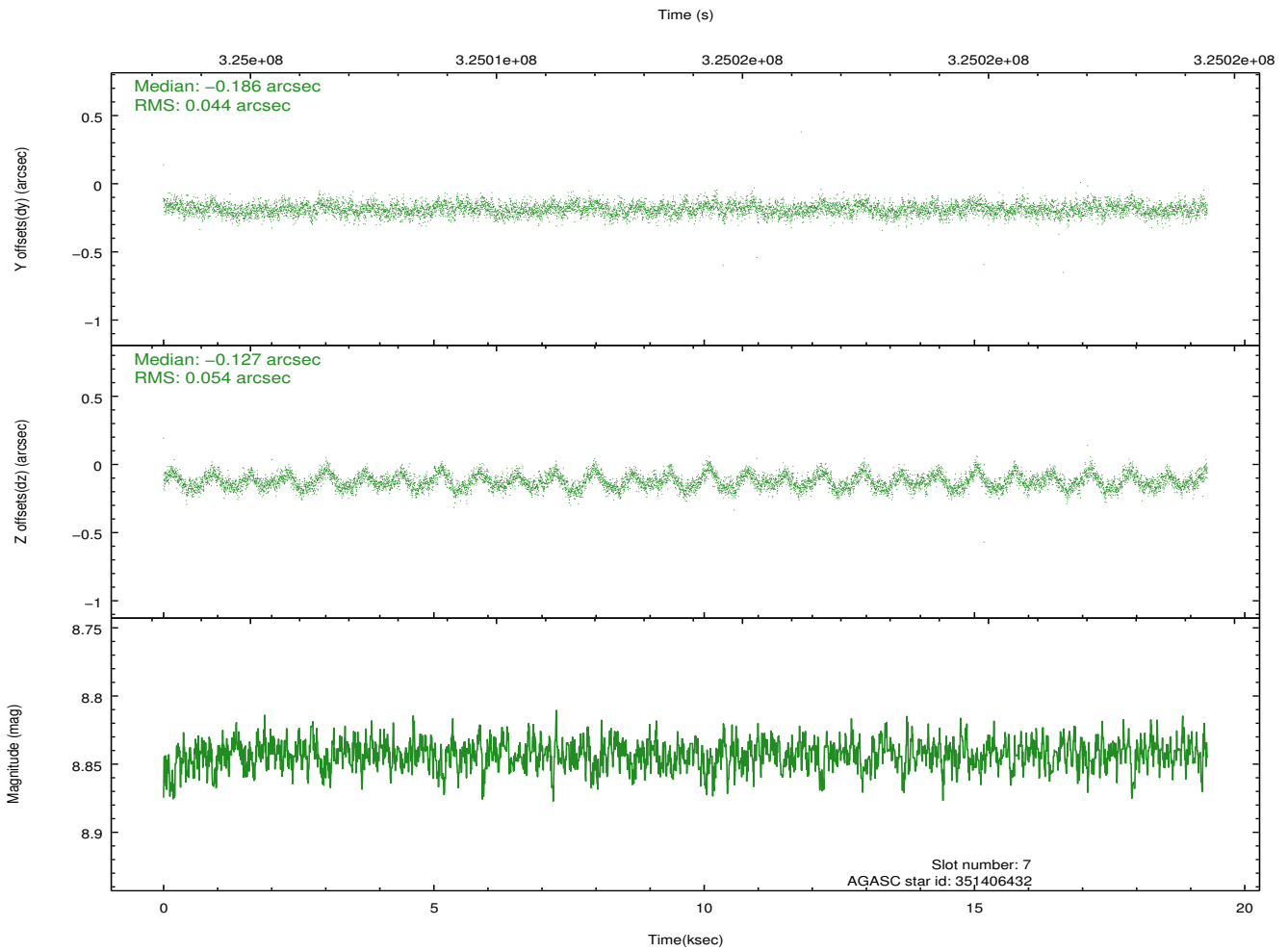
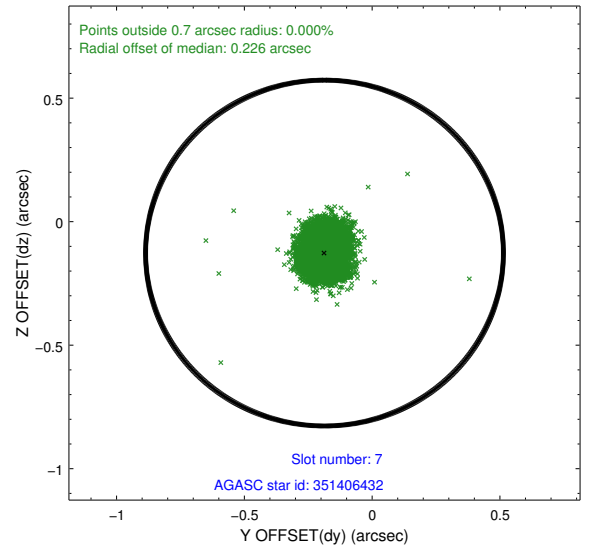
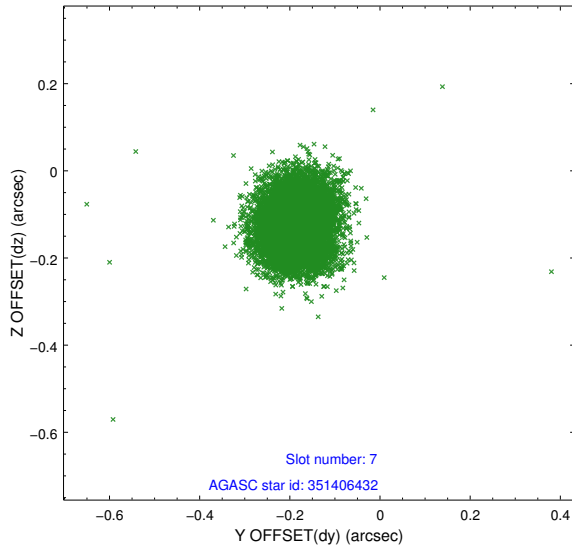
2.4.3 Slot 5



2.4.4 Slot 6

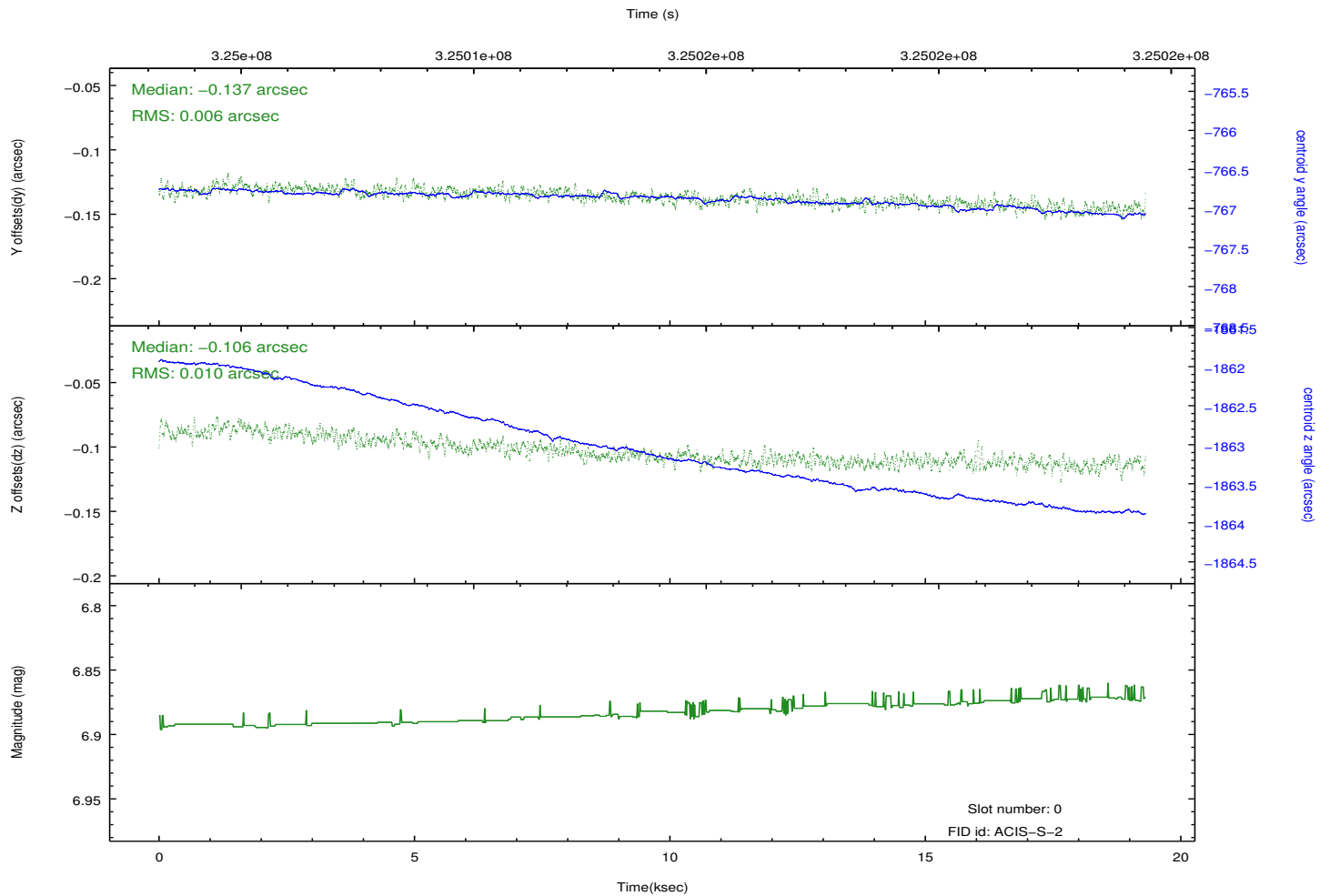
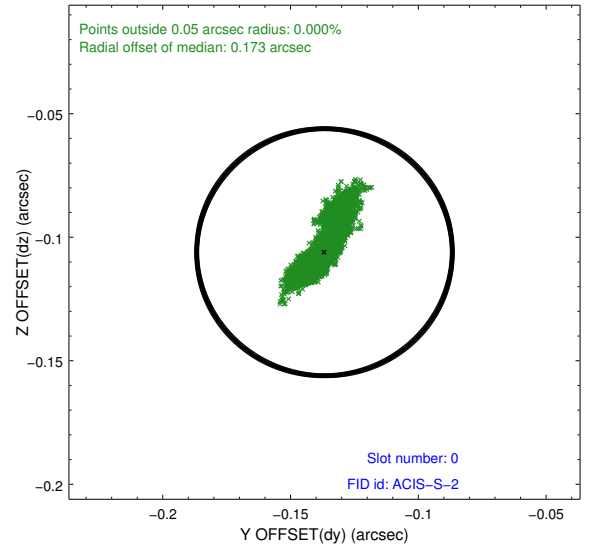
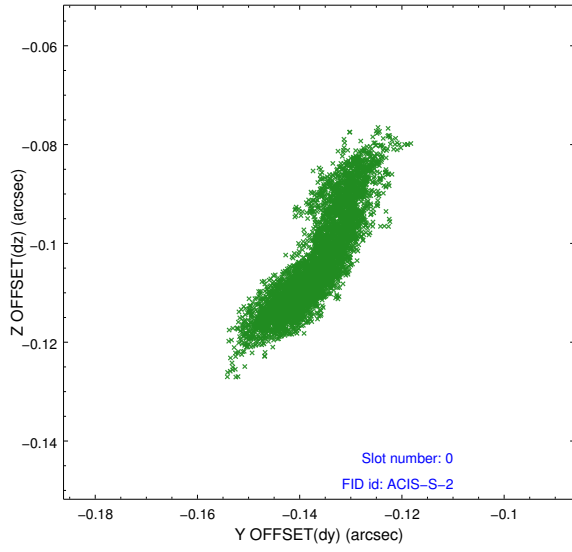


2.4.5 Slot 7

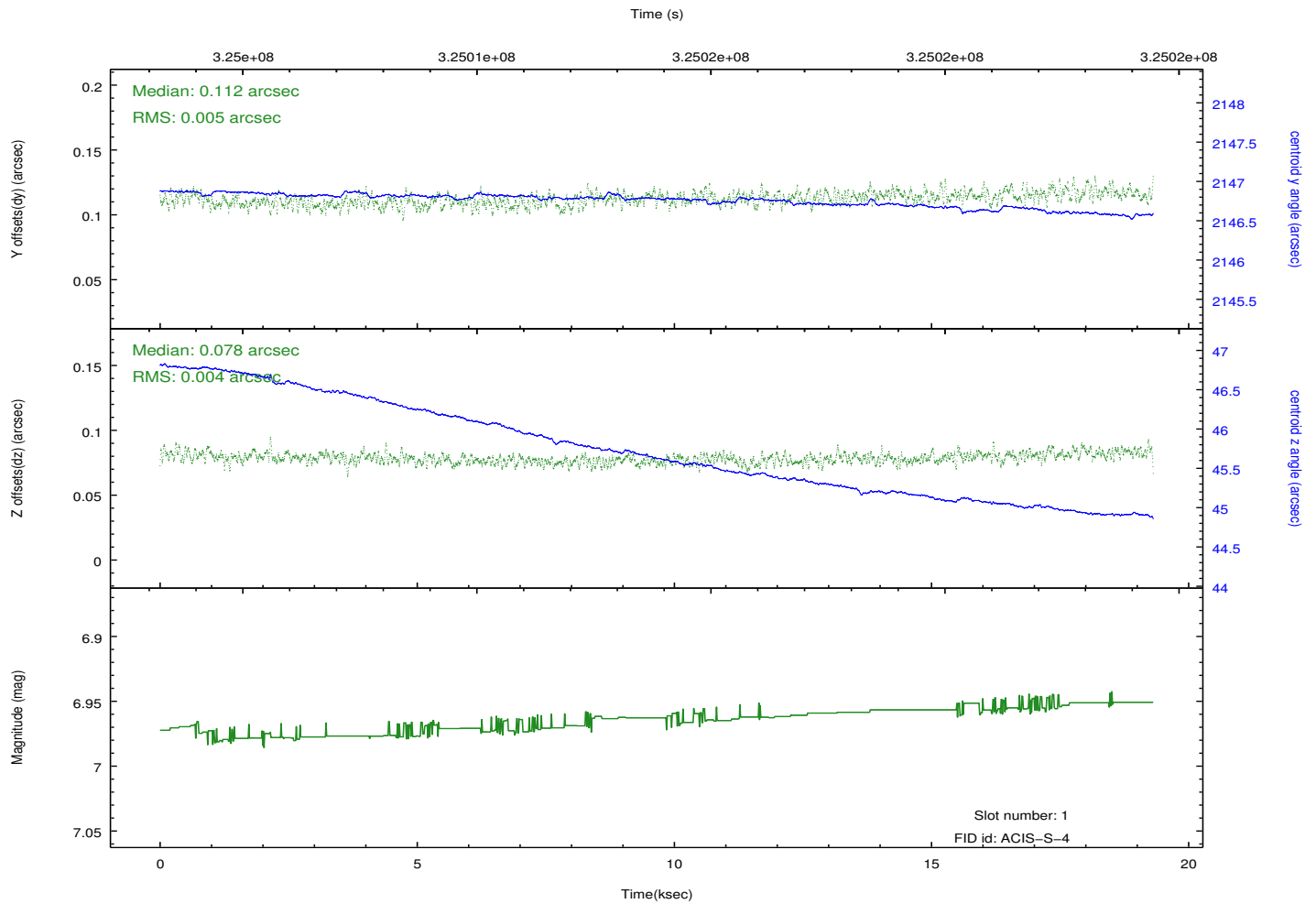
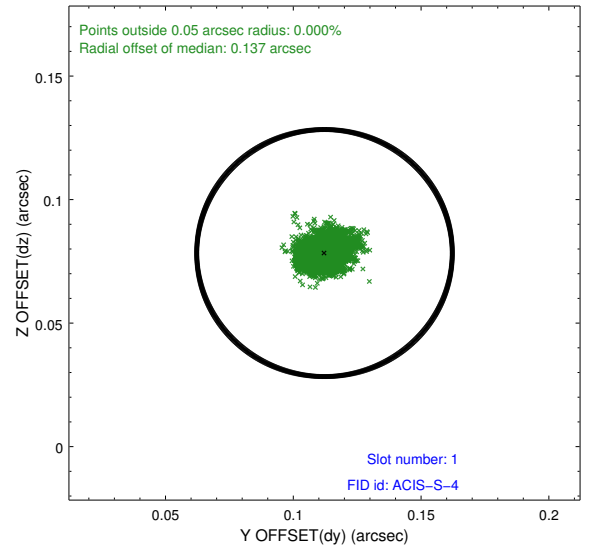
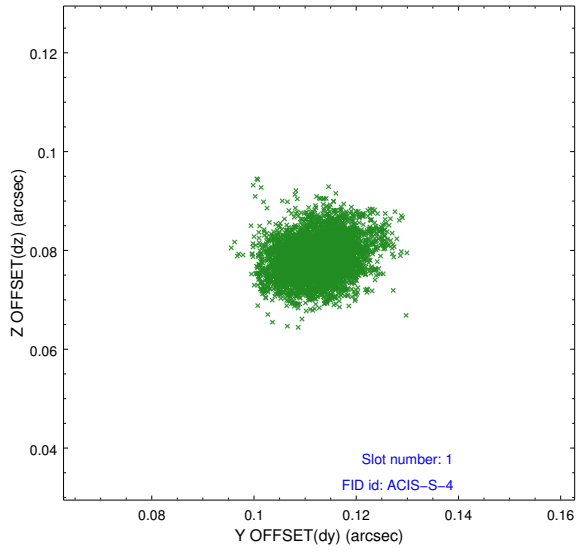


2.5 FID Slots

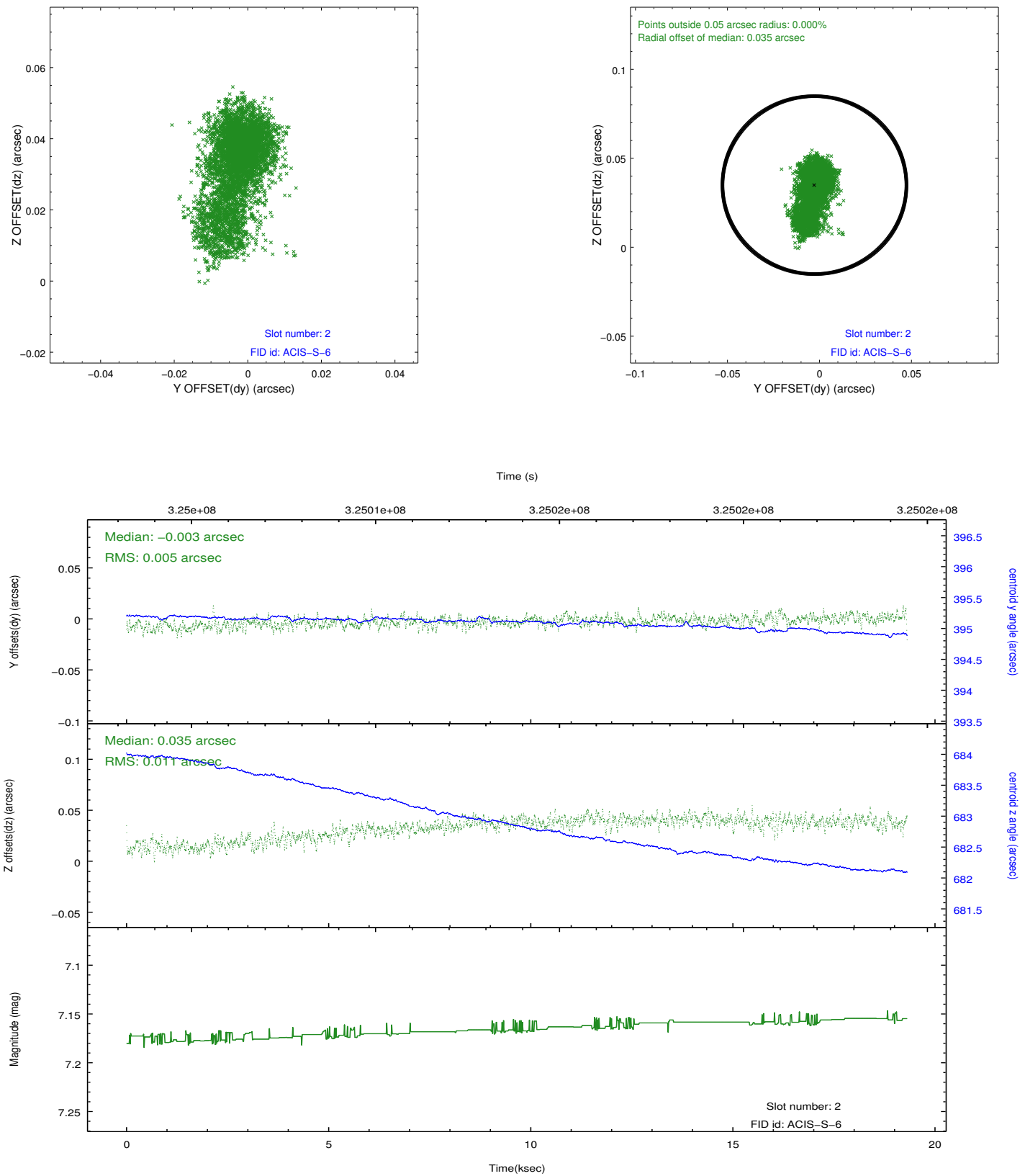
2.5.1 Slot 0



2.5.2 Slot 1

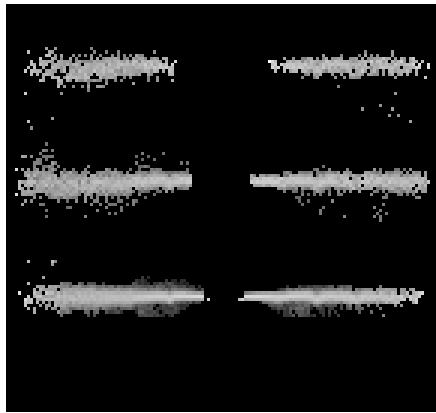


2.5.3 Slot 2

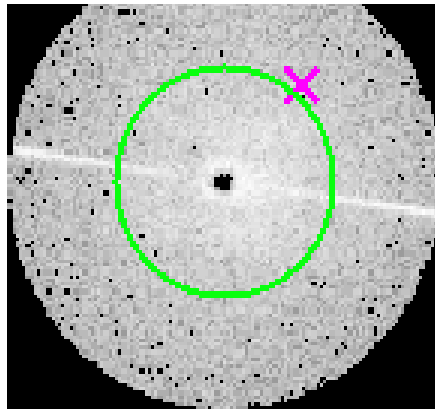


3 Gratings

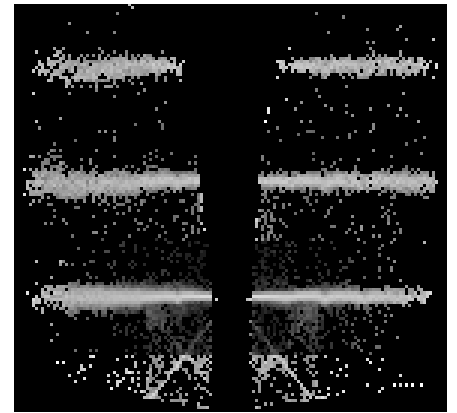
3.1 HEG Arm



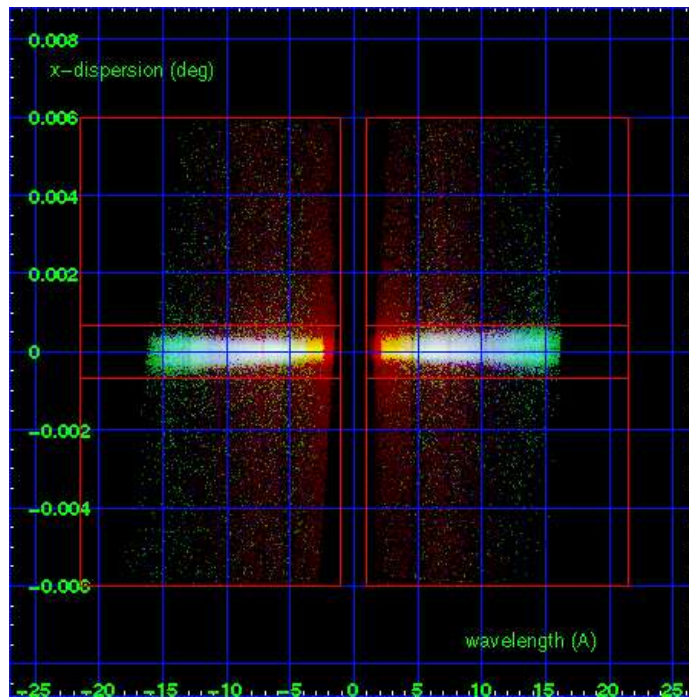
HEG Order Sort 123



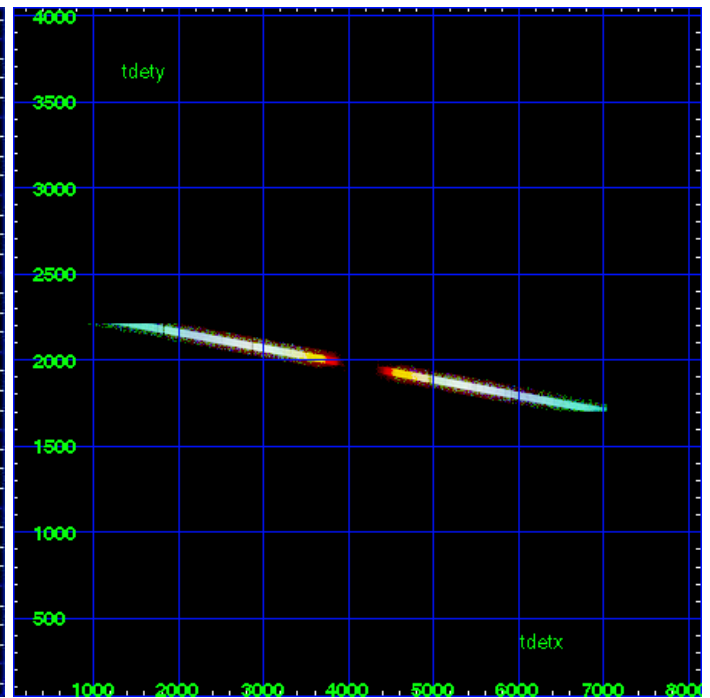
HEG Zero Order



HEG Order Sort ALL

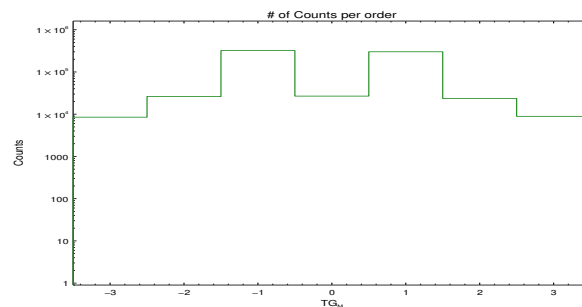


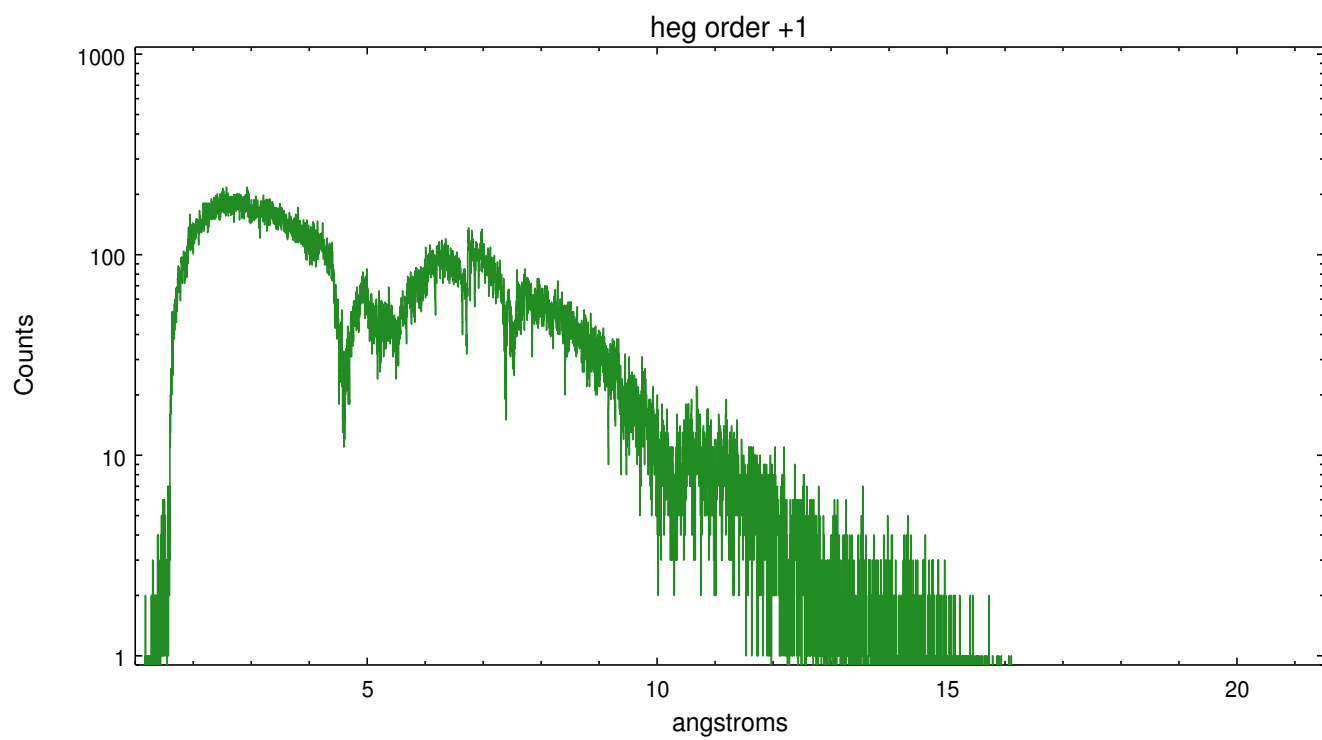
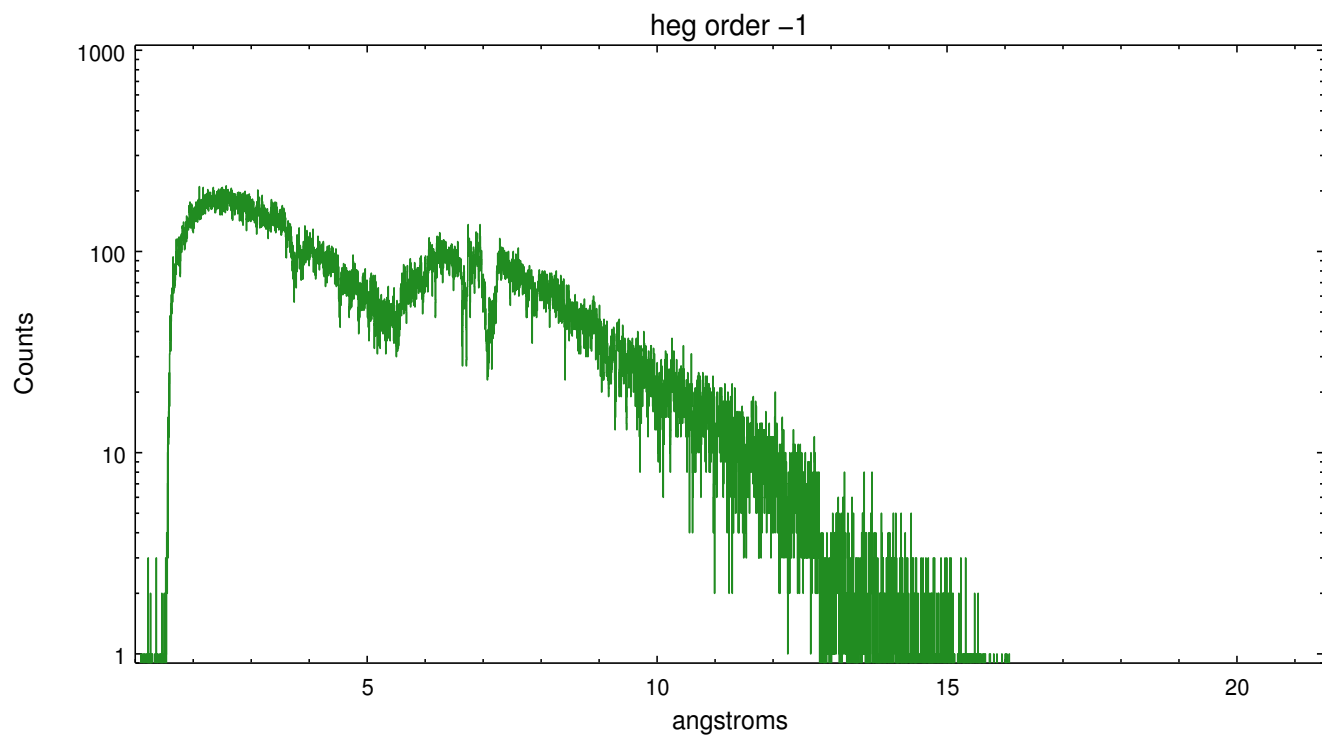
Spot Image HEG



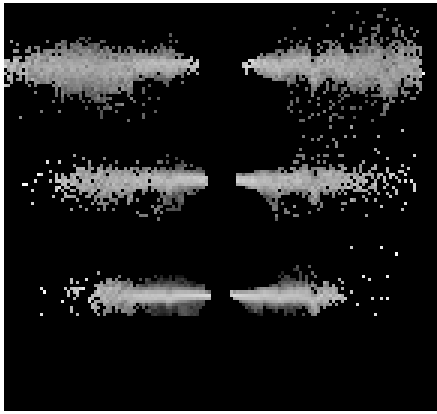
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	8494	26162	321261	26800	300749	23538	8884

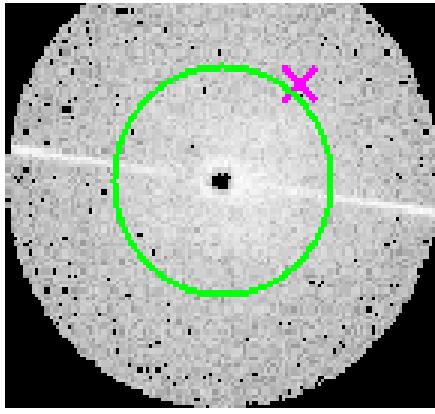




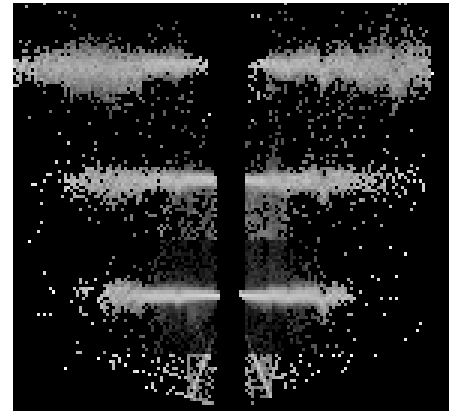
3.2 MEG Arm



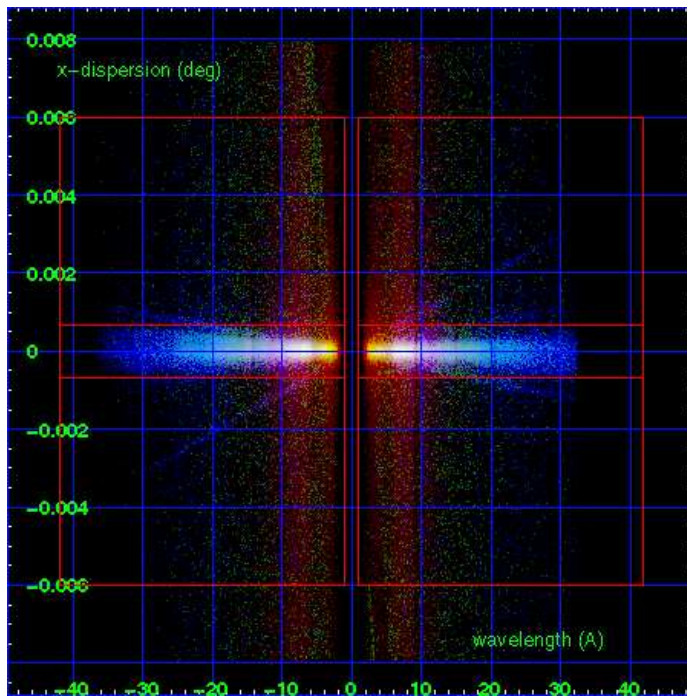
MEG Order Sort 123



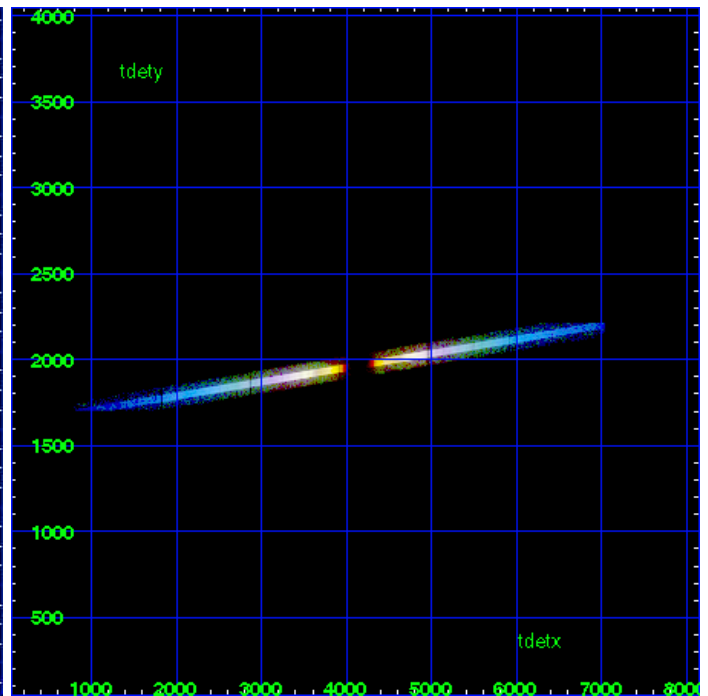
MEG Zero Order



MEG Order Sort ALL

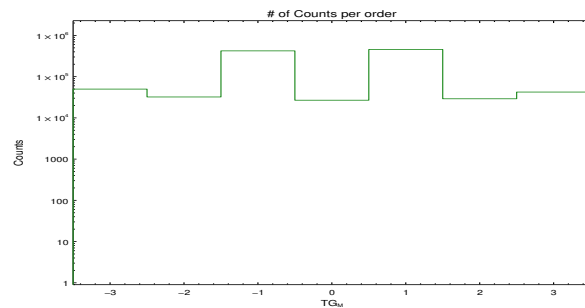


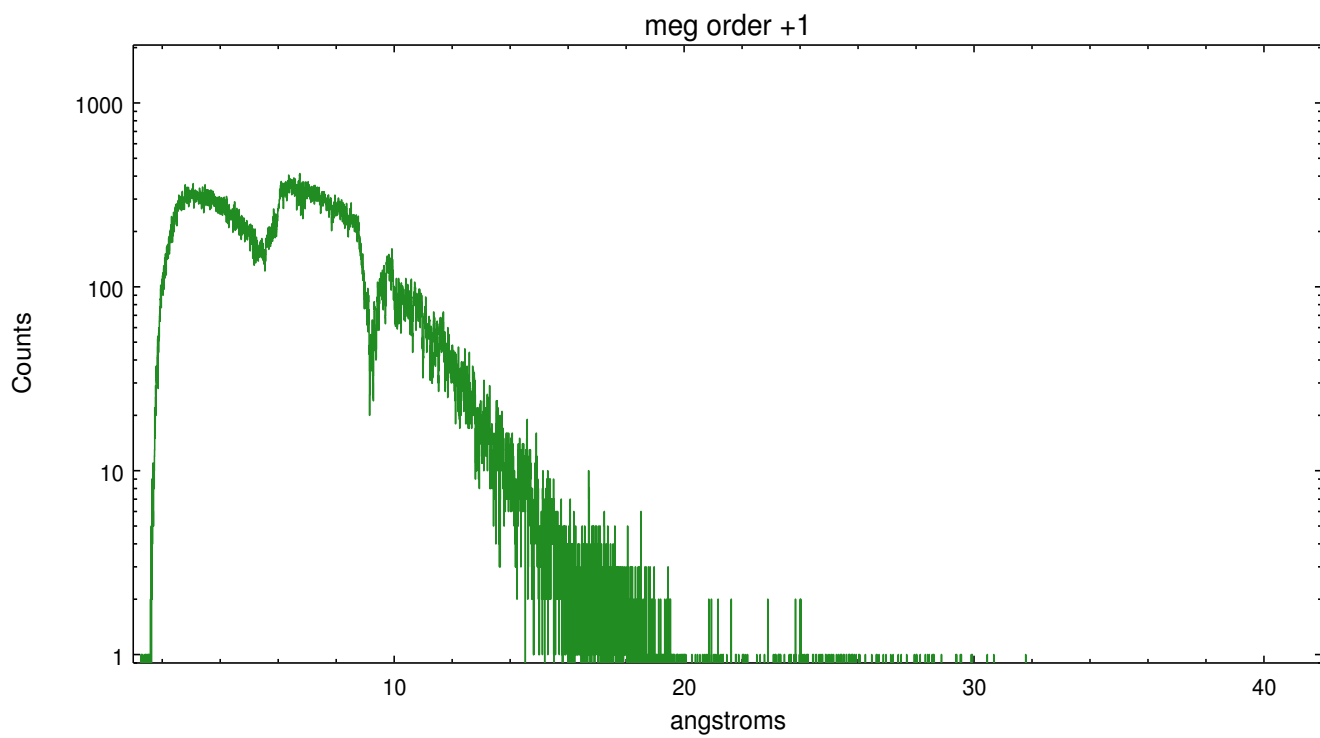
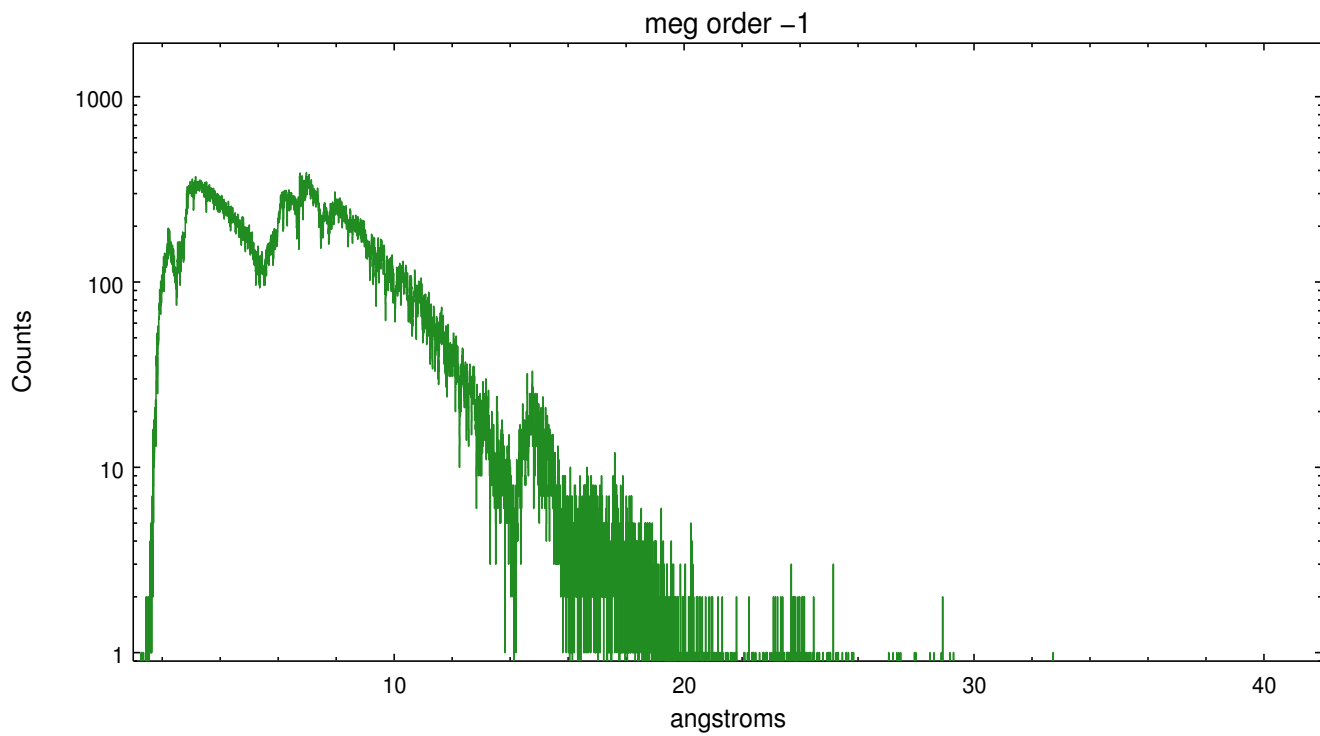
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	49886	32160	422374	26800	455500	29086	42291





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.05.17
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	19.3102998

A.2 Comments

Coordinated with XMM and RXTE. ===== Standard data processing software did not correctly locate the zeroth order because a spatial exclusion window was used to sample 1/10 of the zeroth order counts. Manual intervention was used to input the correct sky coordinates (x=4074.29,y=4070.67) into the *src1a.fits file table. These corrected coordinates were determined using a software tool developed by CXC called findzero, which is expected to be released in CIAO (currently in ISIS). The tool calculates the point of intersection of the readout streak and the meg arm (preferred position), or the readout streak and the heg 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.=====Zeroth order and spectral arms piled up. Zeroth order and spectral arms are piled up.