

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 12206 - L2 Version 2
Chandra X-Ray Center

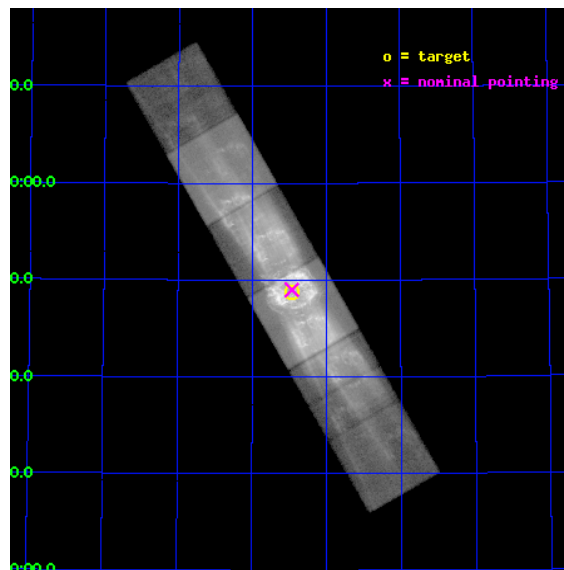
L2 Processing Date : Jun 25 2012

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1 Front

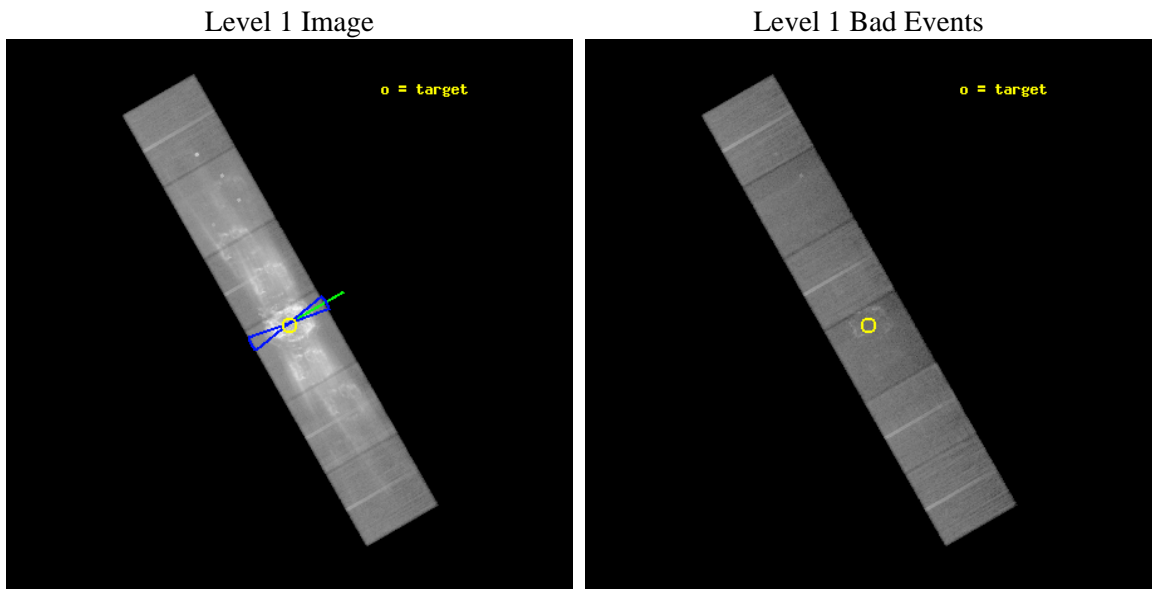
seq_num	501159	Sequence number
obs_id	12206	Observation id
title	2nd Epoch High Resolution Spectra of Cassiopeia A: Plasma Evolution and Doppler Mapping	Proposal title
observer	Prof Claude Canizares	Principal investigator
object	Cassiopeia A	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	350.86625	Observer's specified target RA [deg]
dec_targ	58.811806	Observer's specified target Dec [deg]
ra_nom	350.86598040194	Nominal RA [deg]
dec_nom	58.816652323074	Nominal Dec [deg]
roll_nom	60.156843247988	Nominal Roll [deg]
revision	2	Processing version of data
ontime	35046.267524481	Sum of GTIs [s]
livetime	34602.490582757	Livetime [s]
ontime4	35046.308564484	Sum of GTIs [s]
ontime5	35046.226484478	Sum of GTIs [s]
ontime6	35046.185444474	Sum of GTIs [s]
ontime7	35046.267524481	Sum of GTIs [s]
ontime8	35046.144404471	Sum of GTIs [s]
ontime9	35046.103364468	Sum of GTIs [s]
l2events	4028191	Number of level 2 events



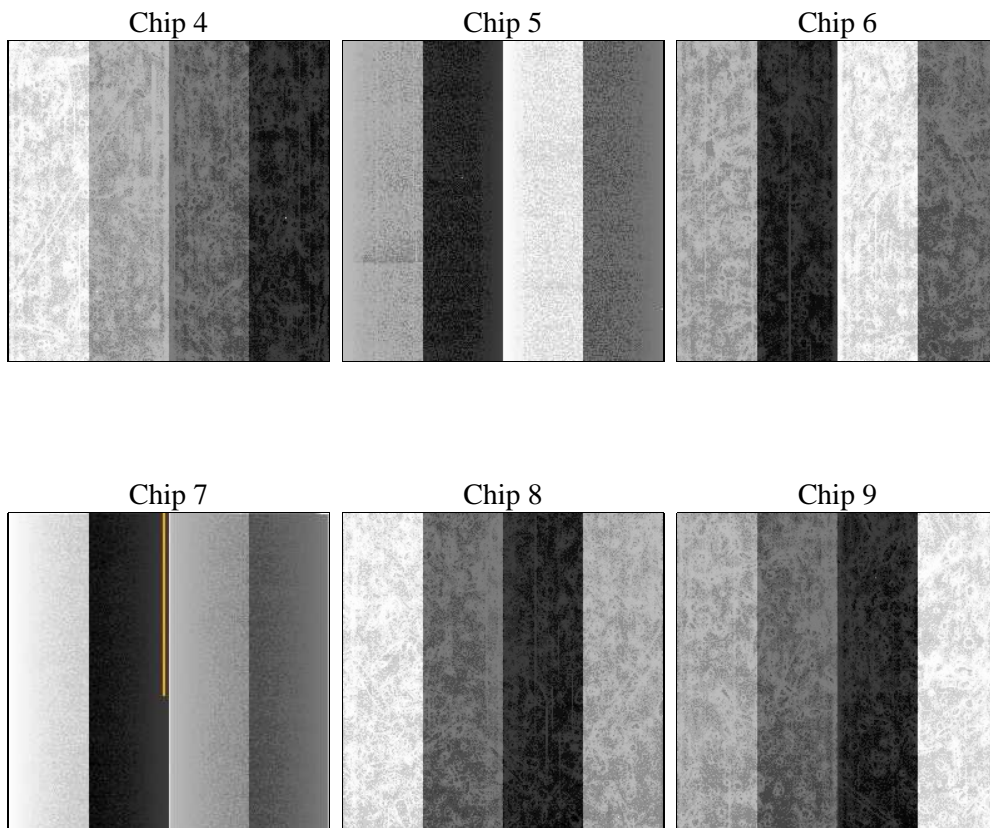
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	35000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	35046.267524481	Sum of GTIs [s]
caldbver	4.4.10	 	ontime4	35046.308564484	Sum of GTIs [s]
date	2012-06-24T22:22:31	Date and time of file creation	ontime5	35046.226484478	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	35046.185444474	Sum of GTIs [s]
			ontime7	35046.267524481	Sum of GTIs [s]
			ontime8	35046.144404471	Sum of GTIs [s]
			ontime9	35046.103364468	Sum of GTIs [s]
			l1events	5667500	Number of level 1 events

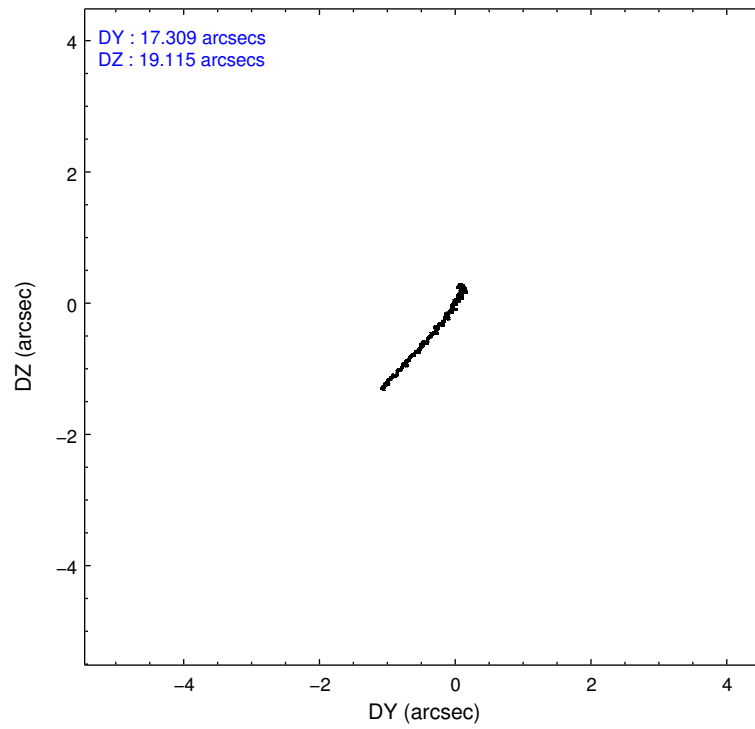
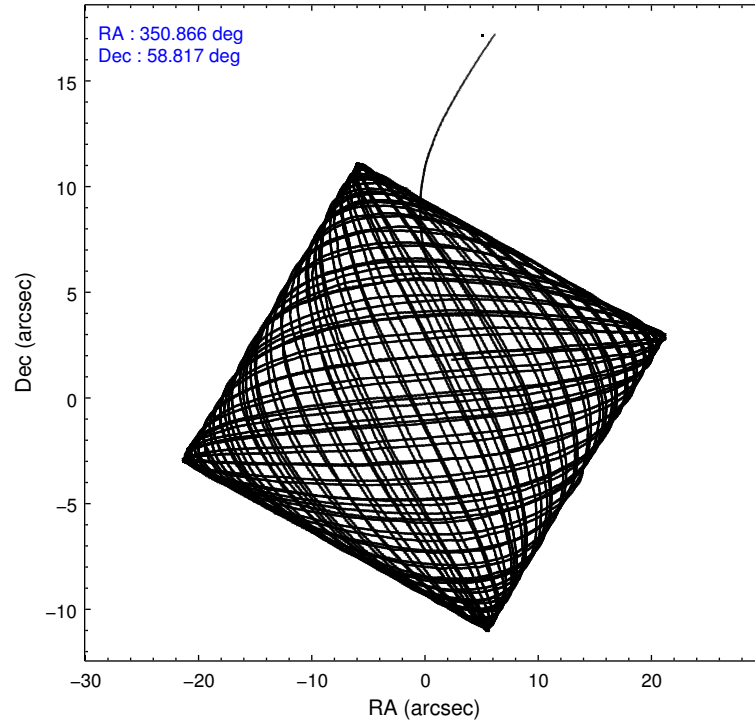
2.1.4 Events

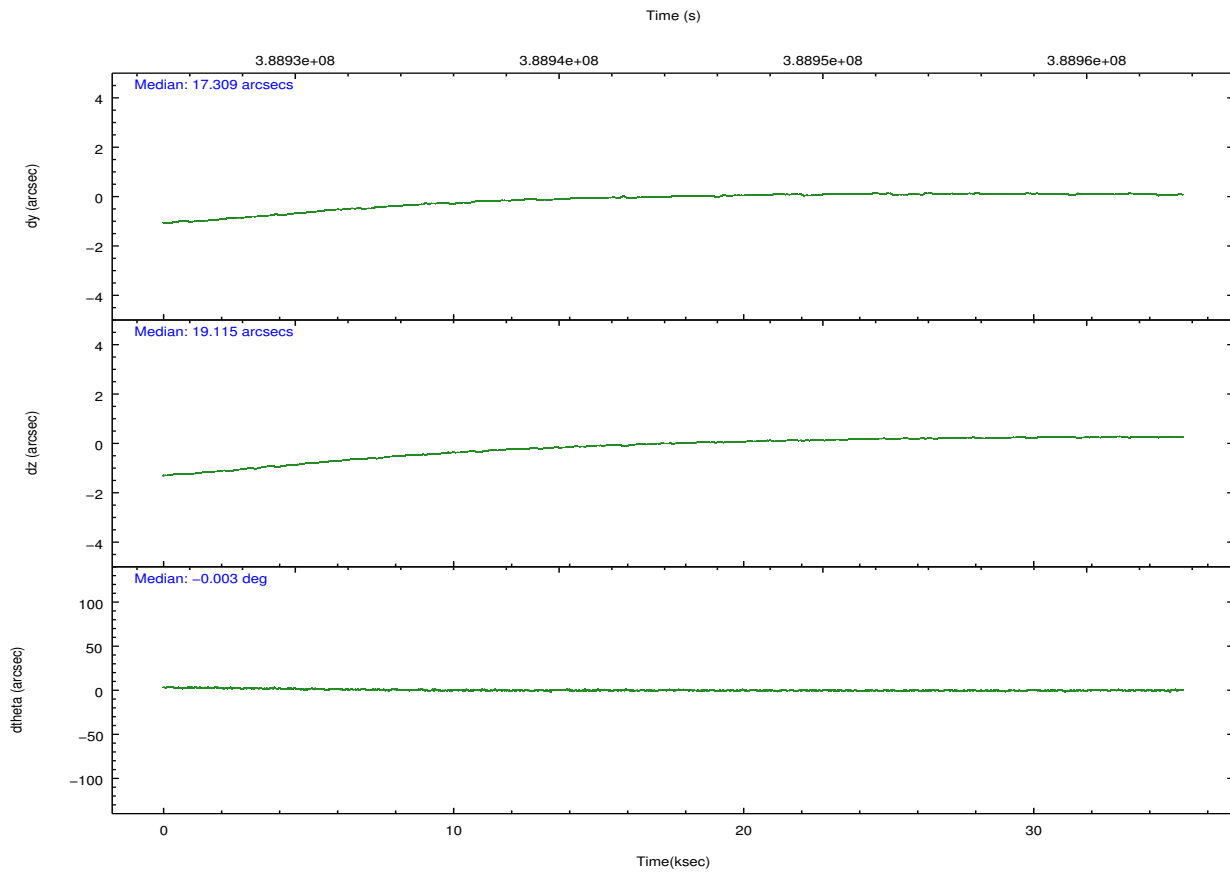
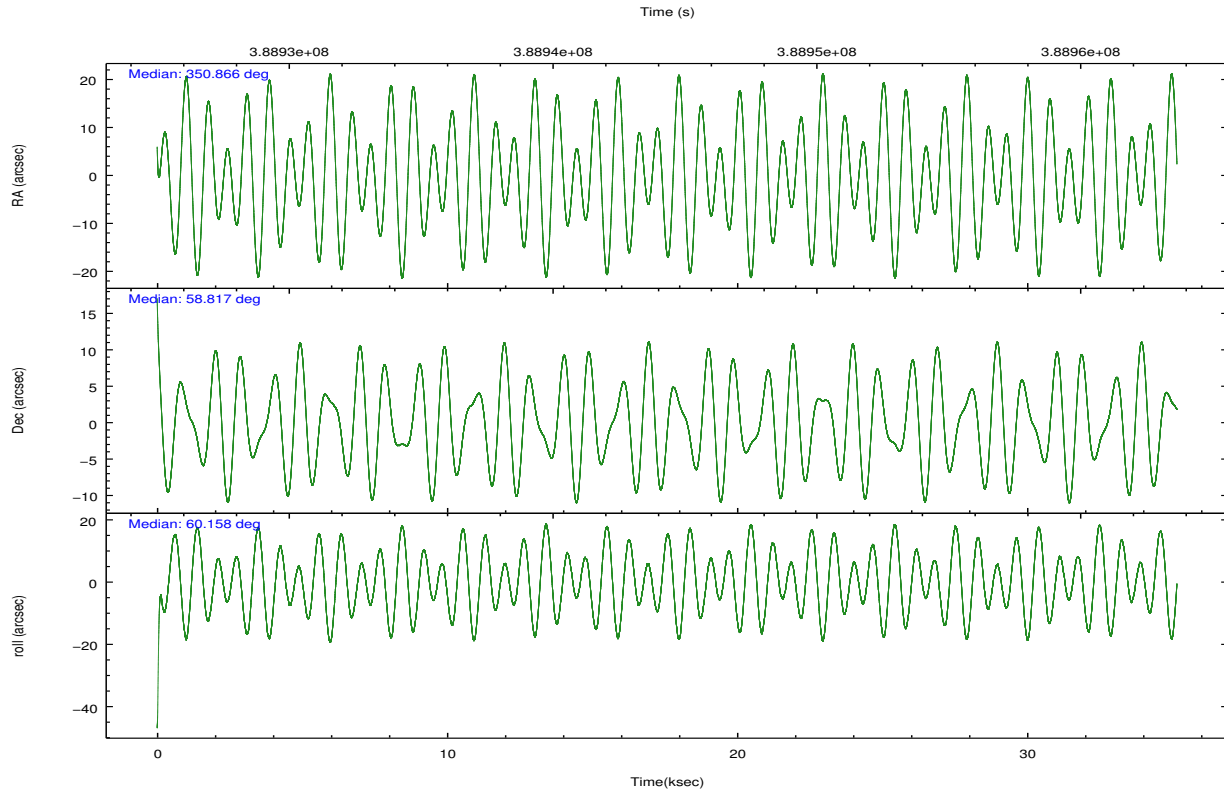
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	371243	664017	1172543	2366409	749567	343721	grade 0 events	65386	110653	726862	461908	355931	72654
rejected events	277580	202961	256737	194095	262850	238091		17%	16%	61%	19%	47%	21%
rejected %	74%	30%	21%	8%	35%	69%	grade 1 events	637	1404	3976	1867	1889	504
								0%	0%	0%	0%	0%	0%
							grade 2 events	12767	139986	100236	565614	59103	14192
								3%	21%	8%	23%	7%	4%
							grade 3 events	4680	32137	31092	248022	21363	5660
								1%	4%	2%	10%	2%	1%
							grade 4 events	4648	32002	31124	244426	20258	5378
								1%	4%	2%	10%	2%	1%
							grade 5 events	12016	33501	15421	47584	18454	13236
								3%	5%	1%	2%	2%	3%
							grade 6 events	6199	146348	26659	652714	30149	7757
								1%	22%	2%	27%	4%	2%
							grade 7 events	264910	167986	237173	144274	242420	224340
								71%	25%	20%	6%	32%	65%

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	350.866823	350.8659804019428	Subarray requested	NONE	NONE
[deg] Pointing Dec	58.789312	58.81665232307448	Alternating exposures requested	N	N
[deg] Pointing Roll	59.999510	60.15684324798764	[s] Primary exposure time	0.000000	3.2
[deg] Roll angle	61.000000	61.000000			
[deg] Roll tolerance	10.000000	10.000000			
Roll constraint allows 180D rotation	Y	Y			
[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)	388926895.184000	388925619.20575			
Observation start date	2010-04-29T11:13:49	2010-04-29T10:53:39			
[s] Observation end time (MET)	388961895.184000	388963238.75766			
Observation end date	2010-04-29T20:57:09	2010-04-29T21:20:38			
Read mode	TIMED	TIMED			

2.3 Aspect



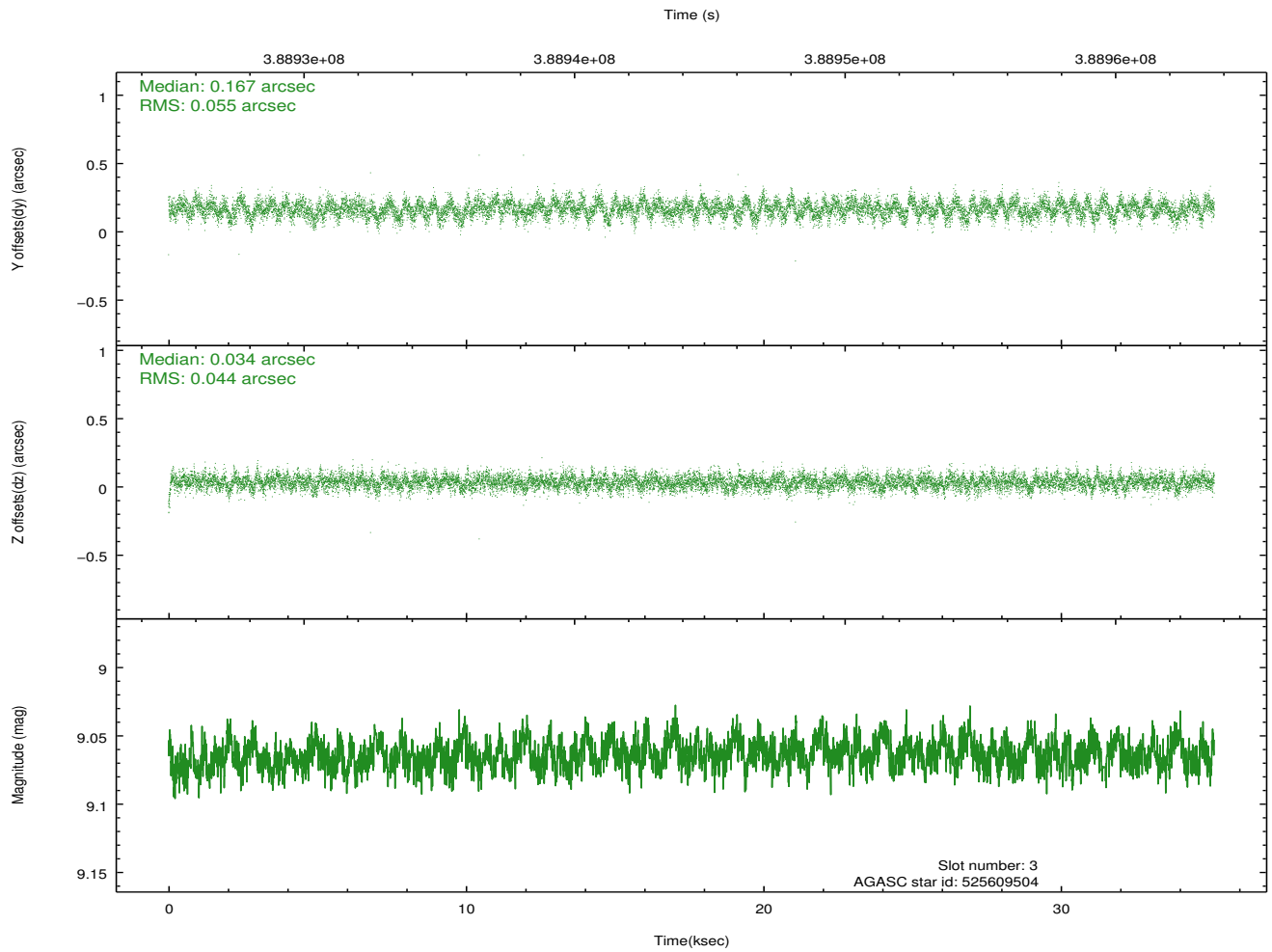
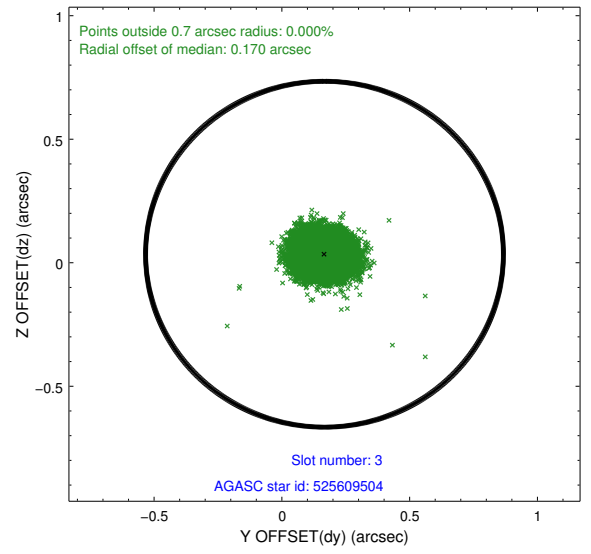
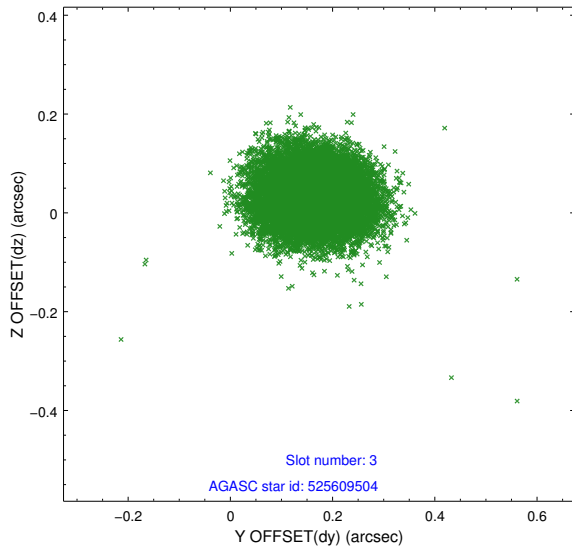


Slot Statistics

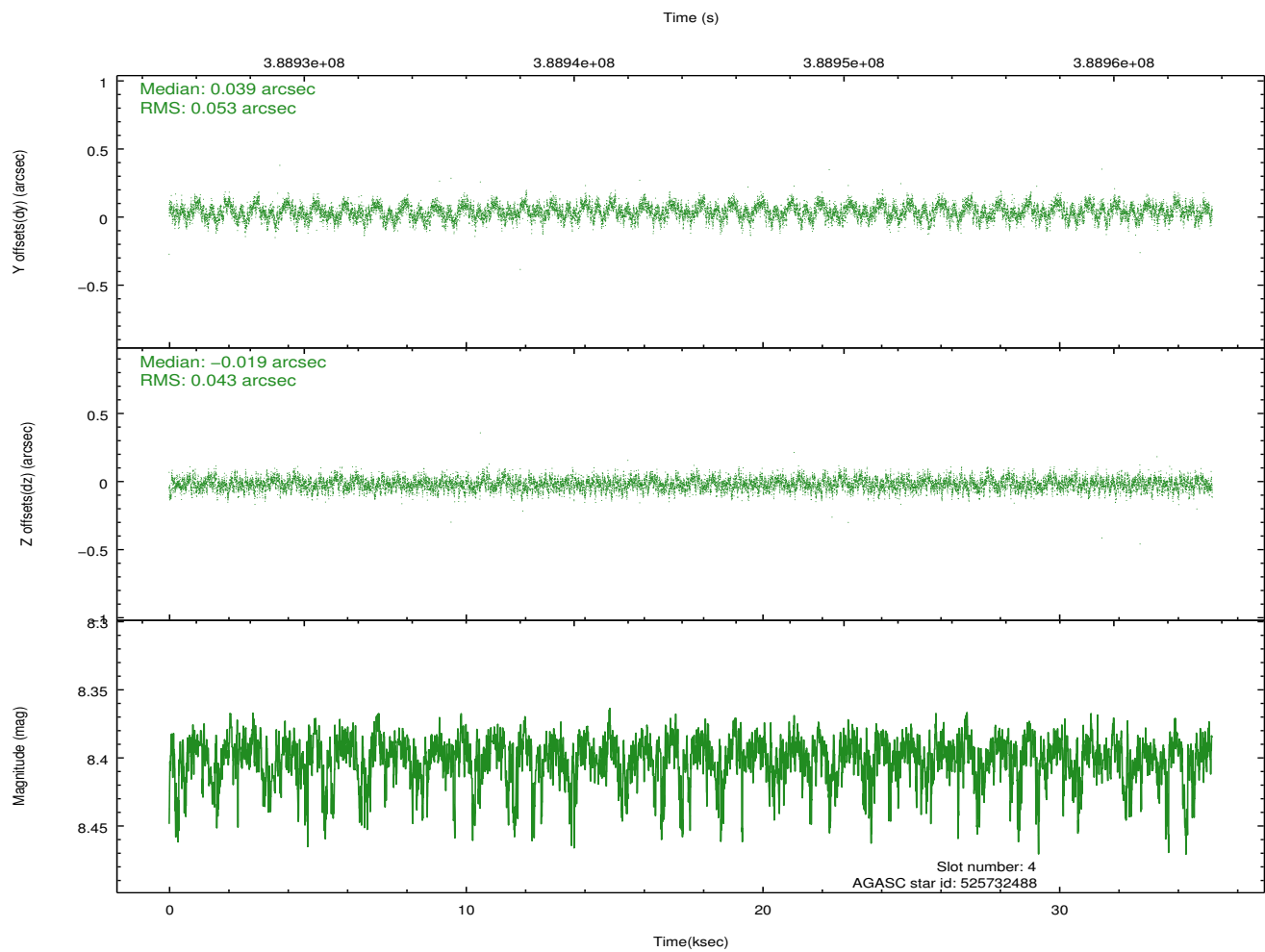
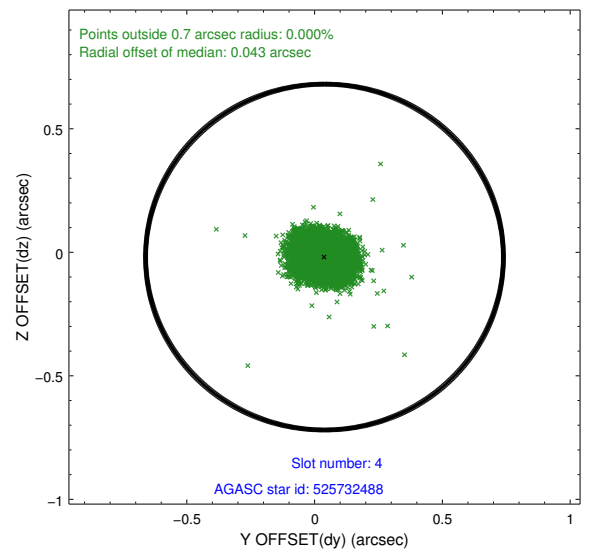
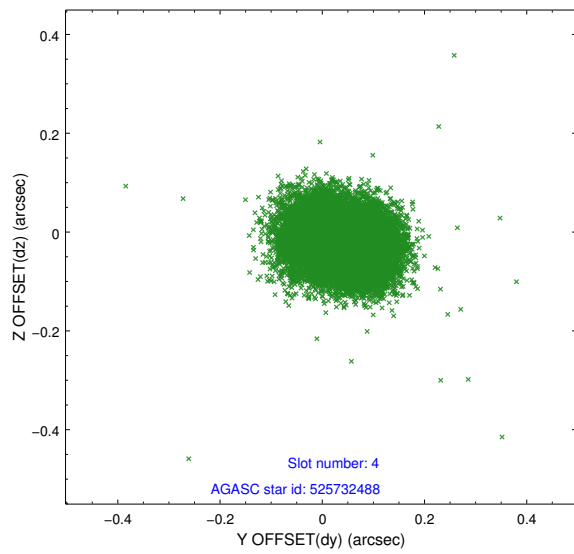
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.87	8574	-0.088	-0.040	0.010	0.019	0.000000	0.000000	-770.29	-1740.45
1	FID	ACIS-S-4	6.95	8576	0.124	0.045	0.008	0.014	0.000000	0.000000	2143.21	168.03
2	FID	ACIS-S-6	7.09	8576	-0.064	0.001	0.008	0.013	0.000000	0.000000	391.81	805.45
3	GUIDE	525609504	9.06	17135	0.167	0.034	0.074	0.121	349.896632	58.356658	-2253.41	815.26
4	GUIDE	525732488	8.40	17145	0.039	-0.019	0.072	0.116	350.087090	58.516915	-1574.68	783.62
5	GUIDE	525732528	9.37	17135	-0.074	0.250	0.124	0.200	351.607241	59.298932	2275.68	-256.98
6	GUIDE	525735456	6.76	17151	-0.269	-0.344	0.055	0.087	350.628183	59.307249	1396.12	1312.33
7	GUIDE	525735976	8.84	17134	0.137	0.080	0.073	0.117	350.142956	58.277622	-2273.73	269.70

2.4 Star Slots

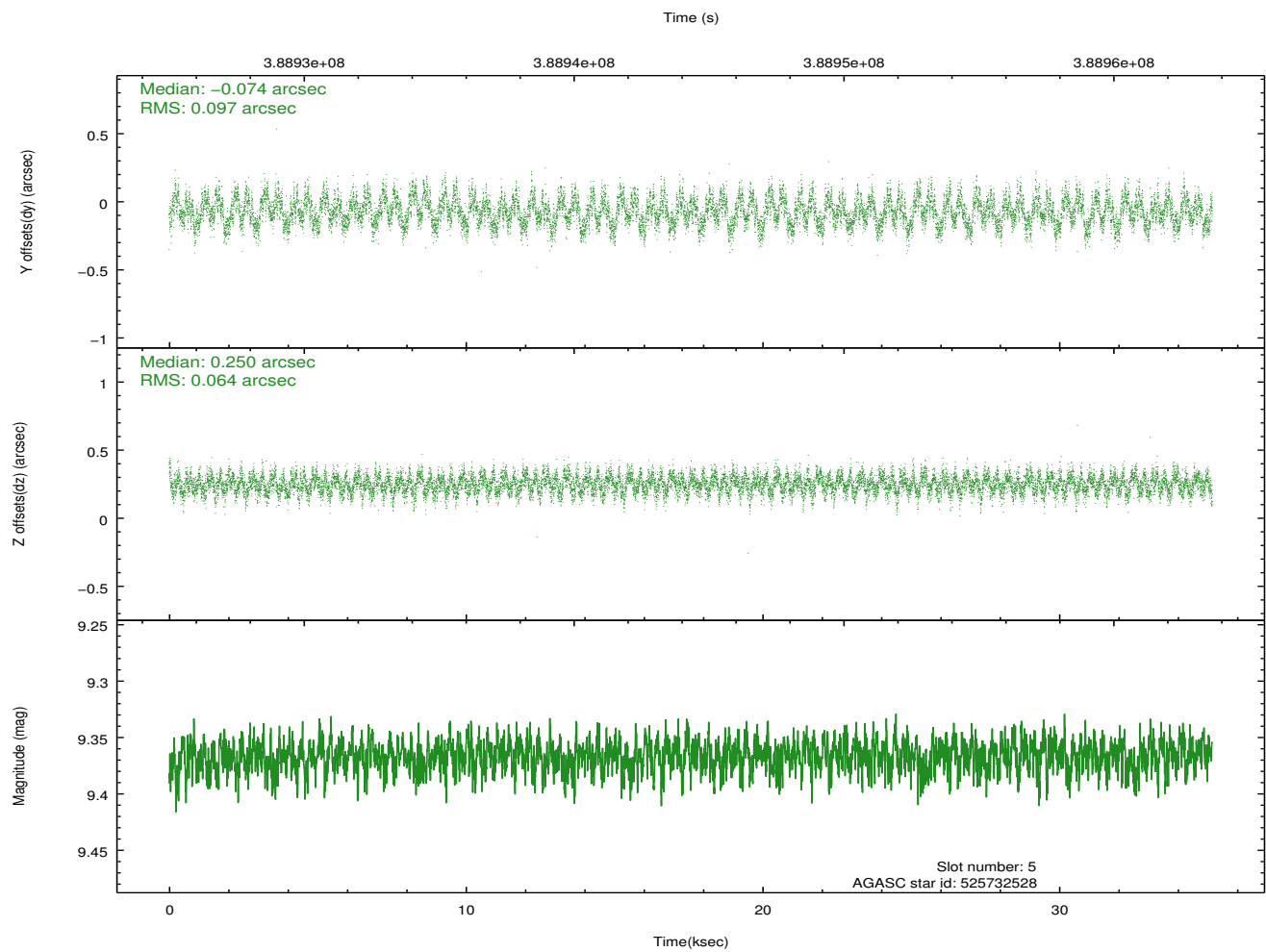
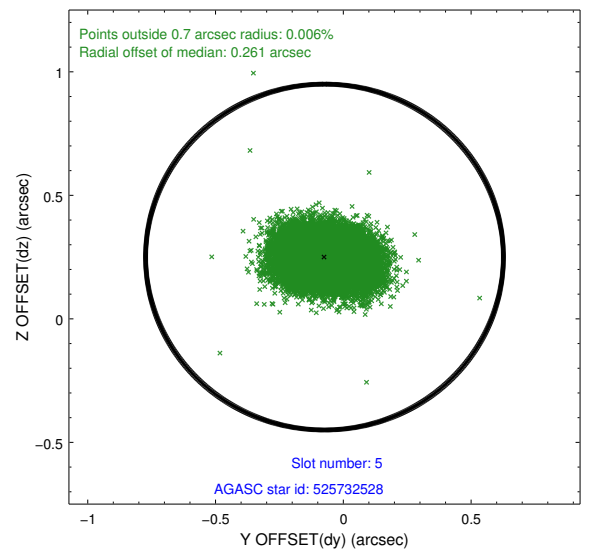
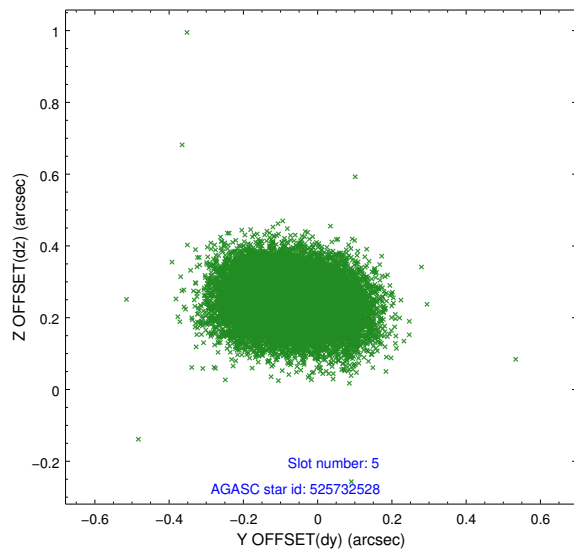
2.4.1 Slot 3



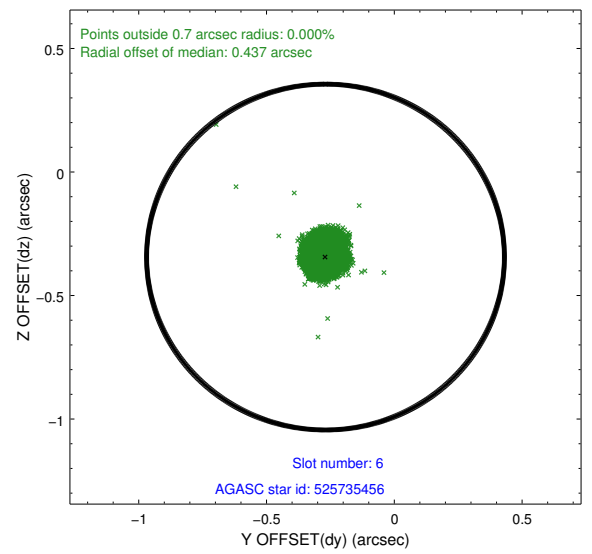
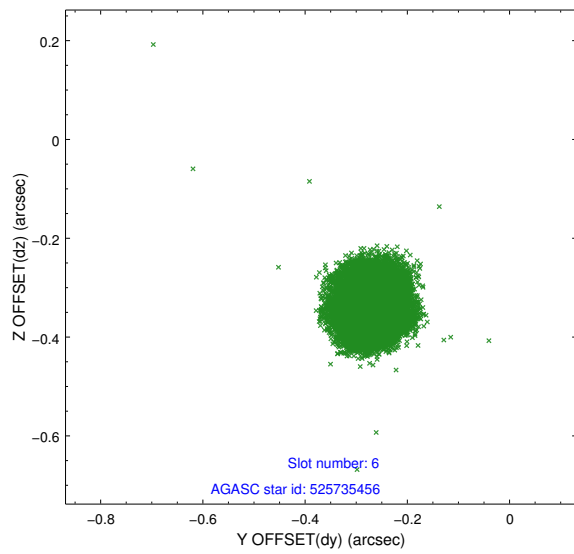
2.4.2 Slot 4



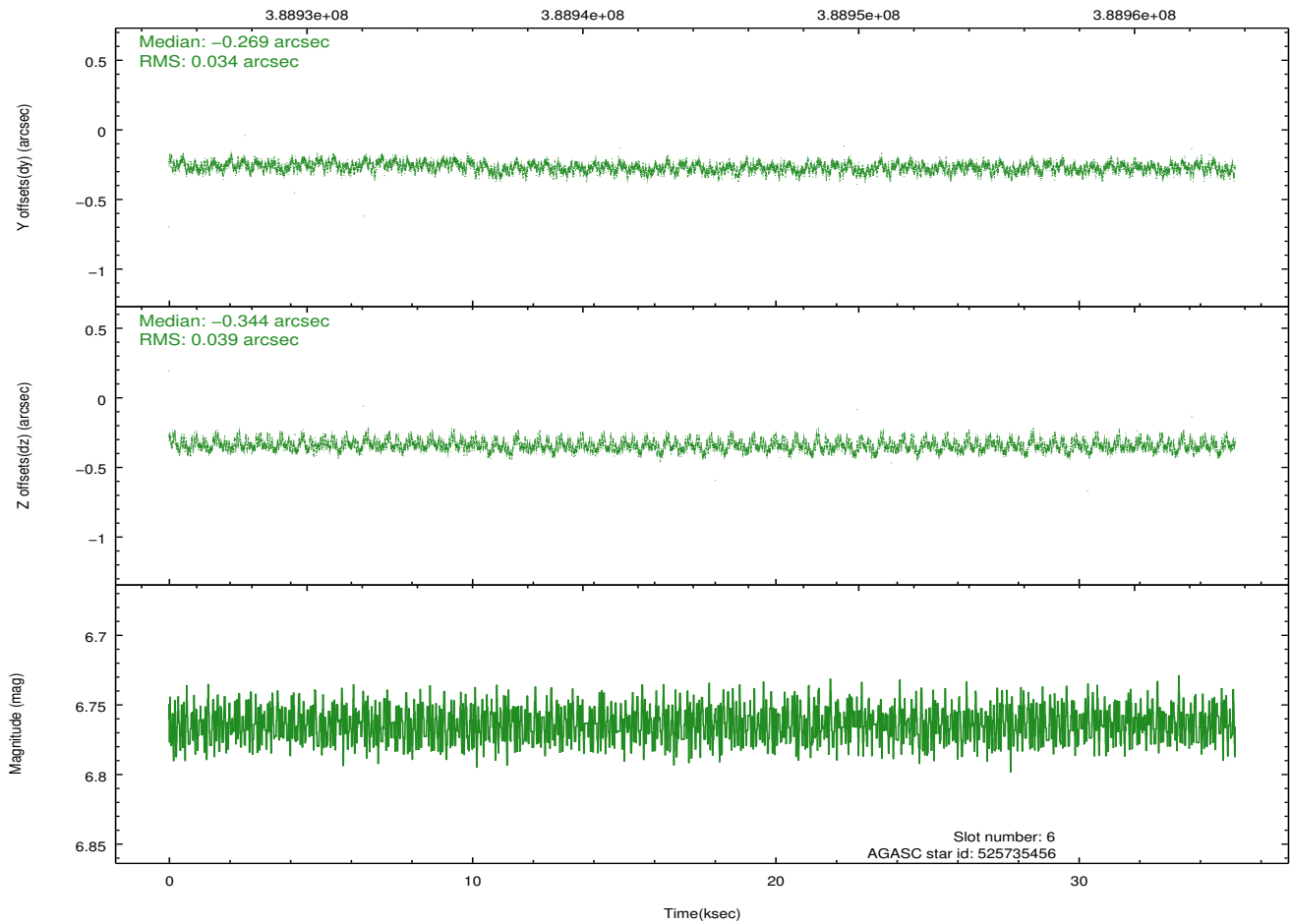
2.4.3 Slot 5



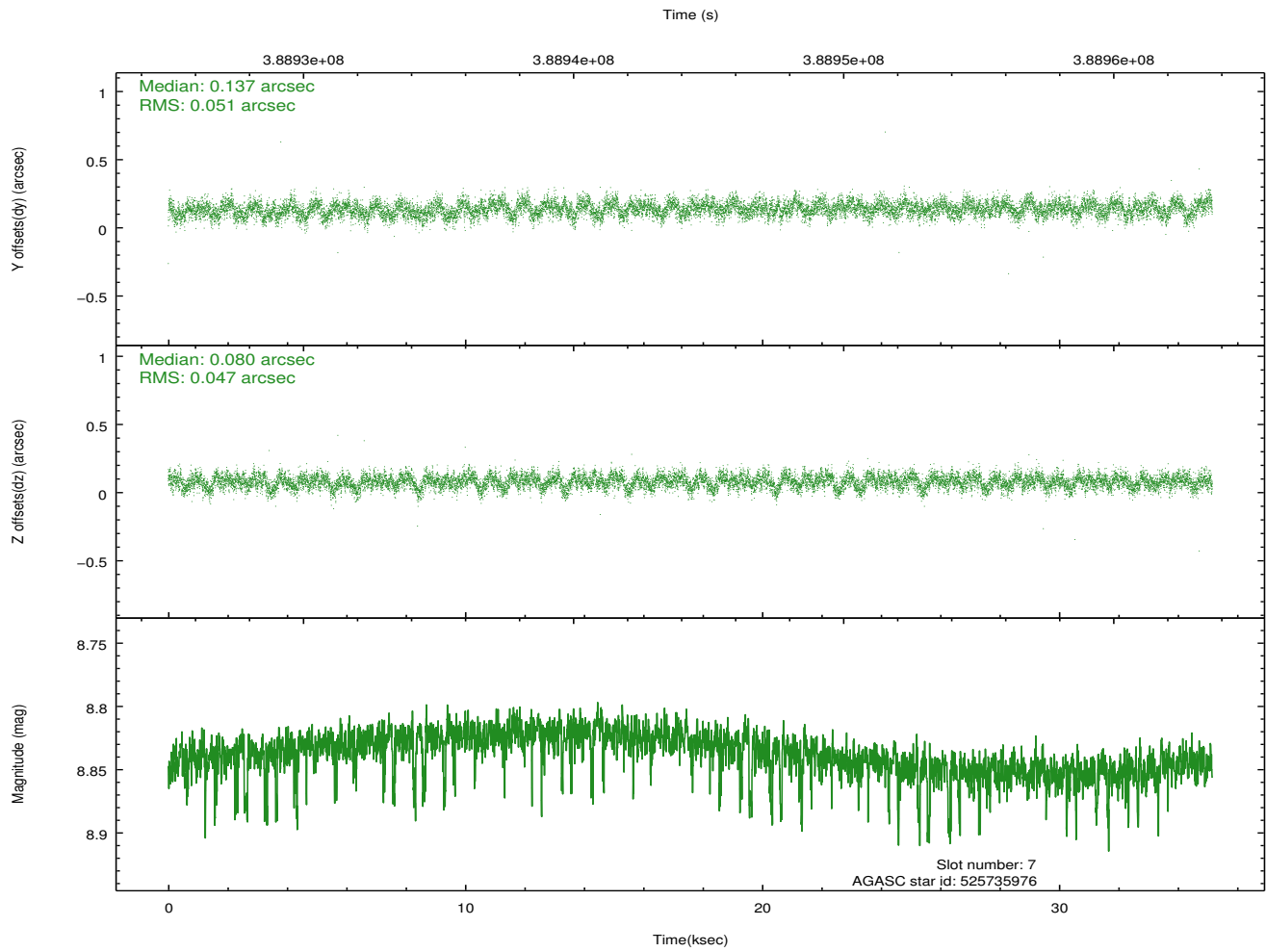
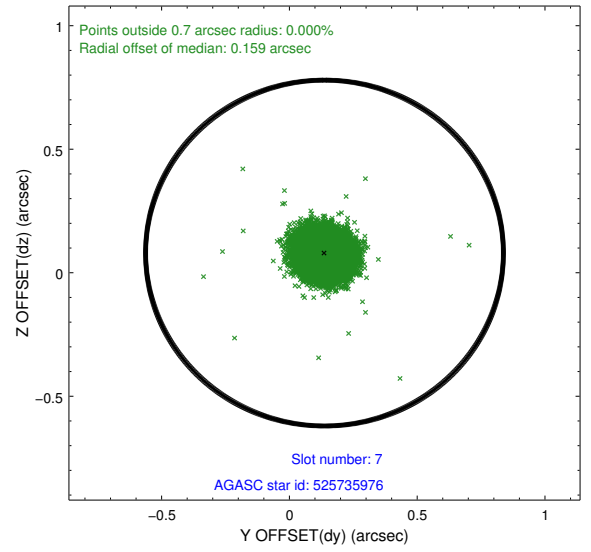
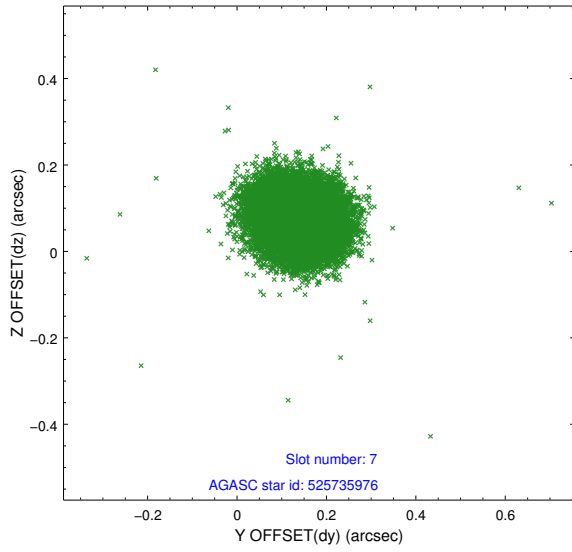
2.4.4 Slot 6



Time (s)

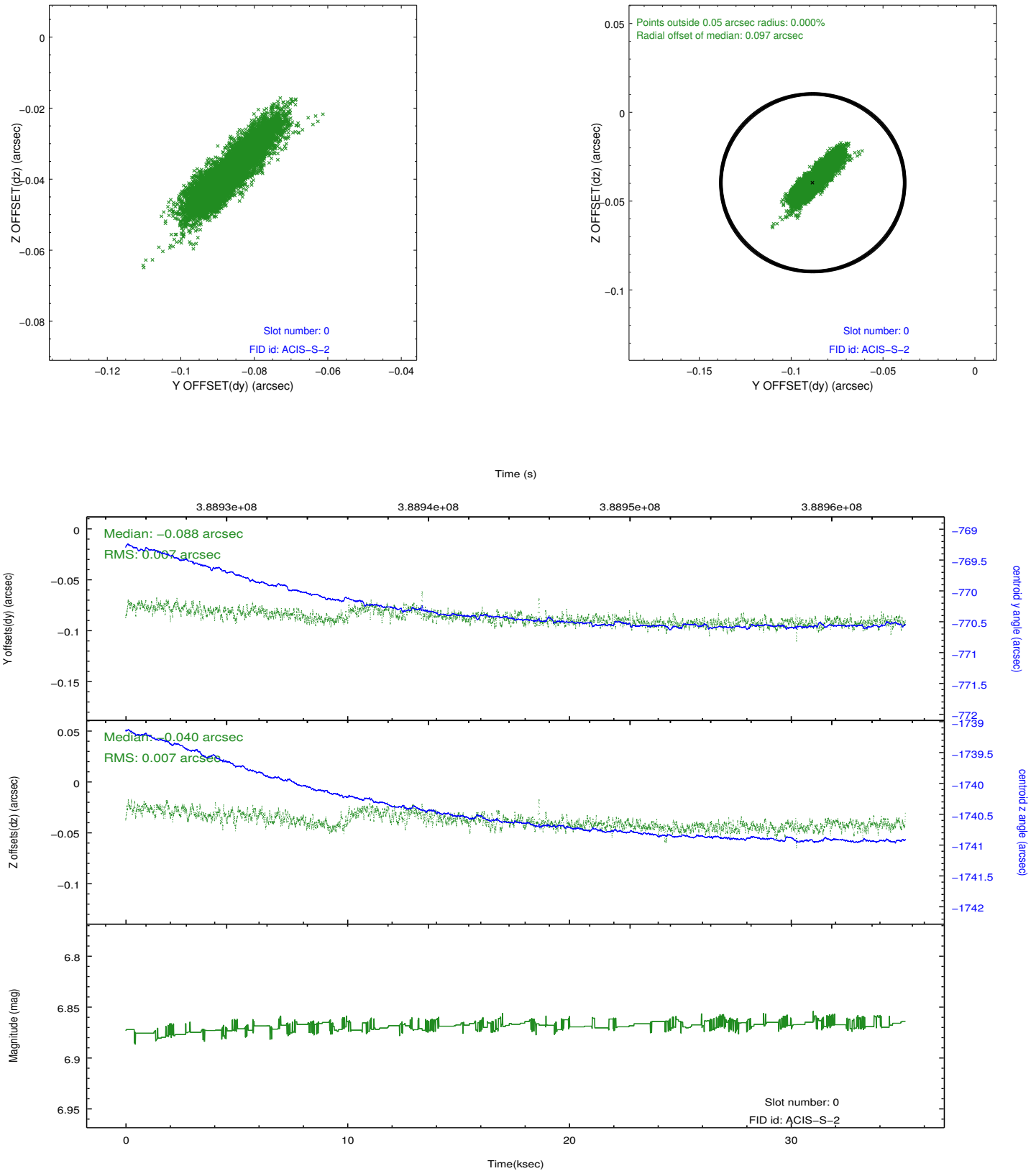


2.4.5 Slot 7

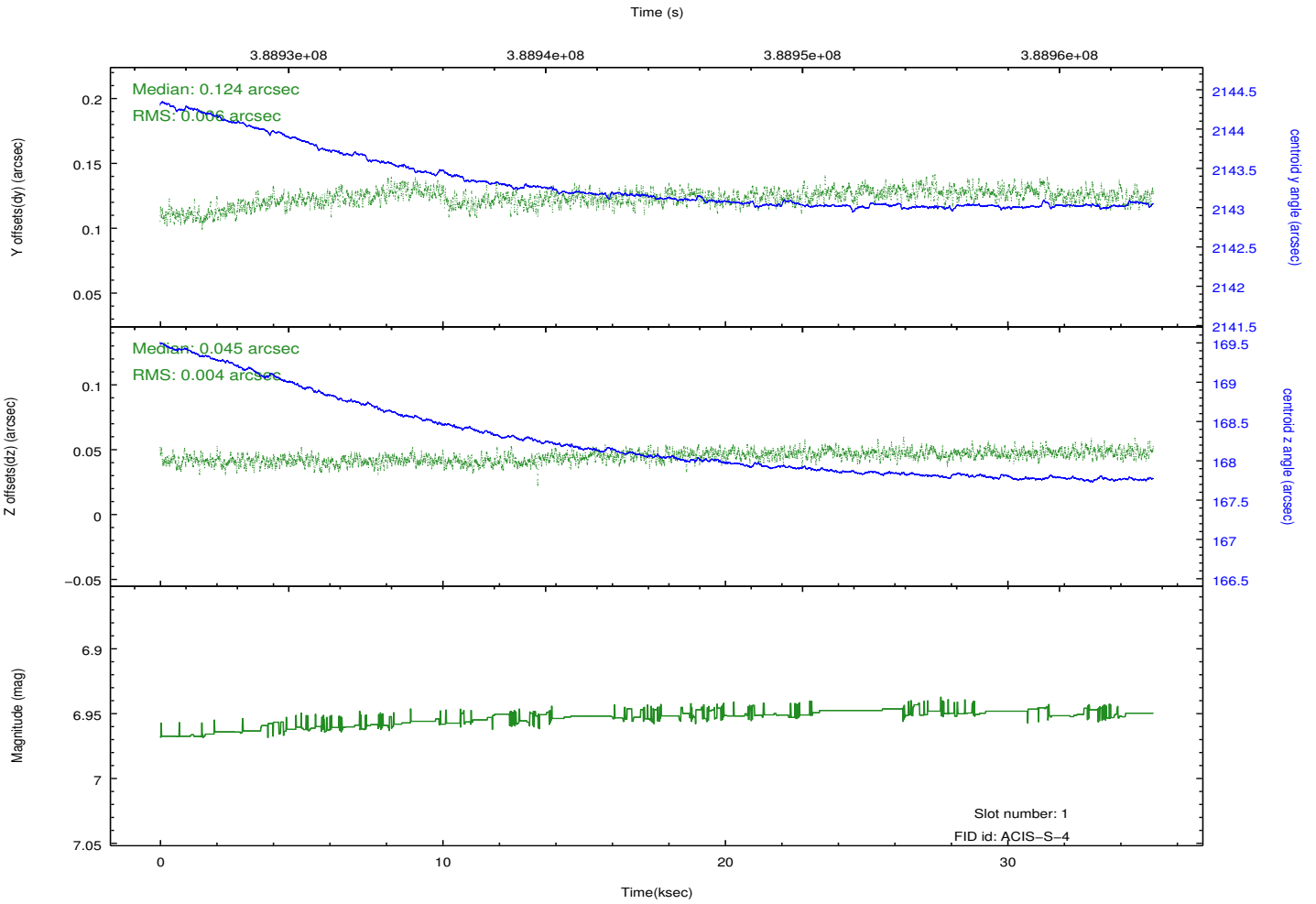
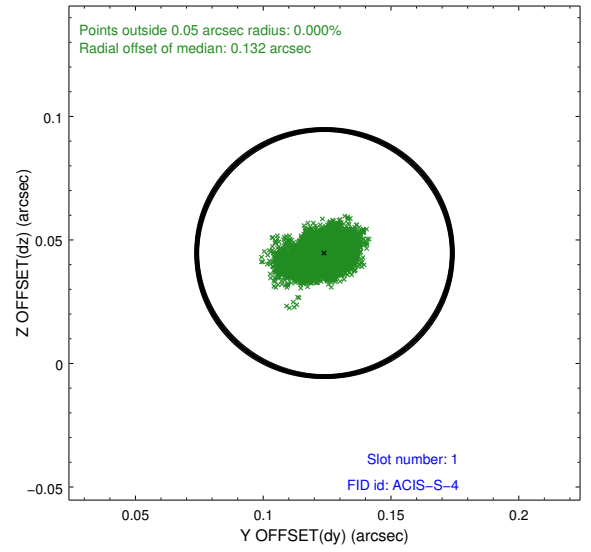
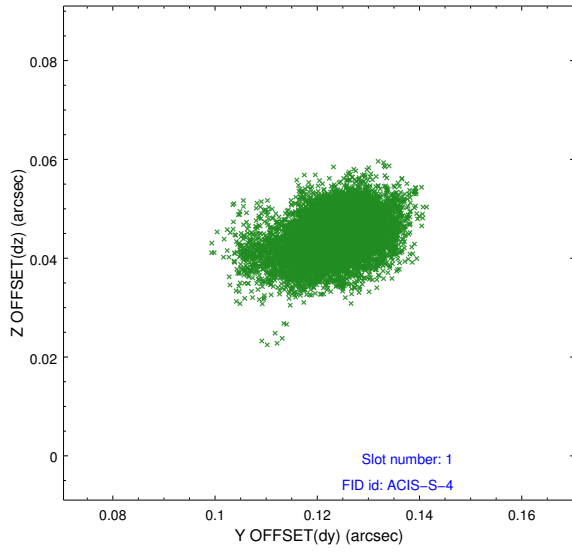


2.5 FID Slots

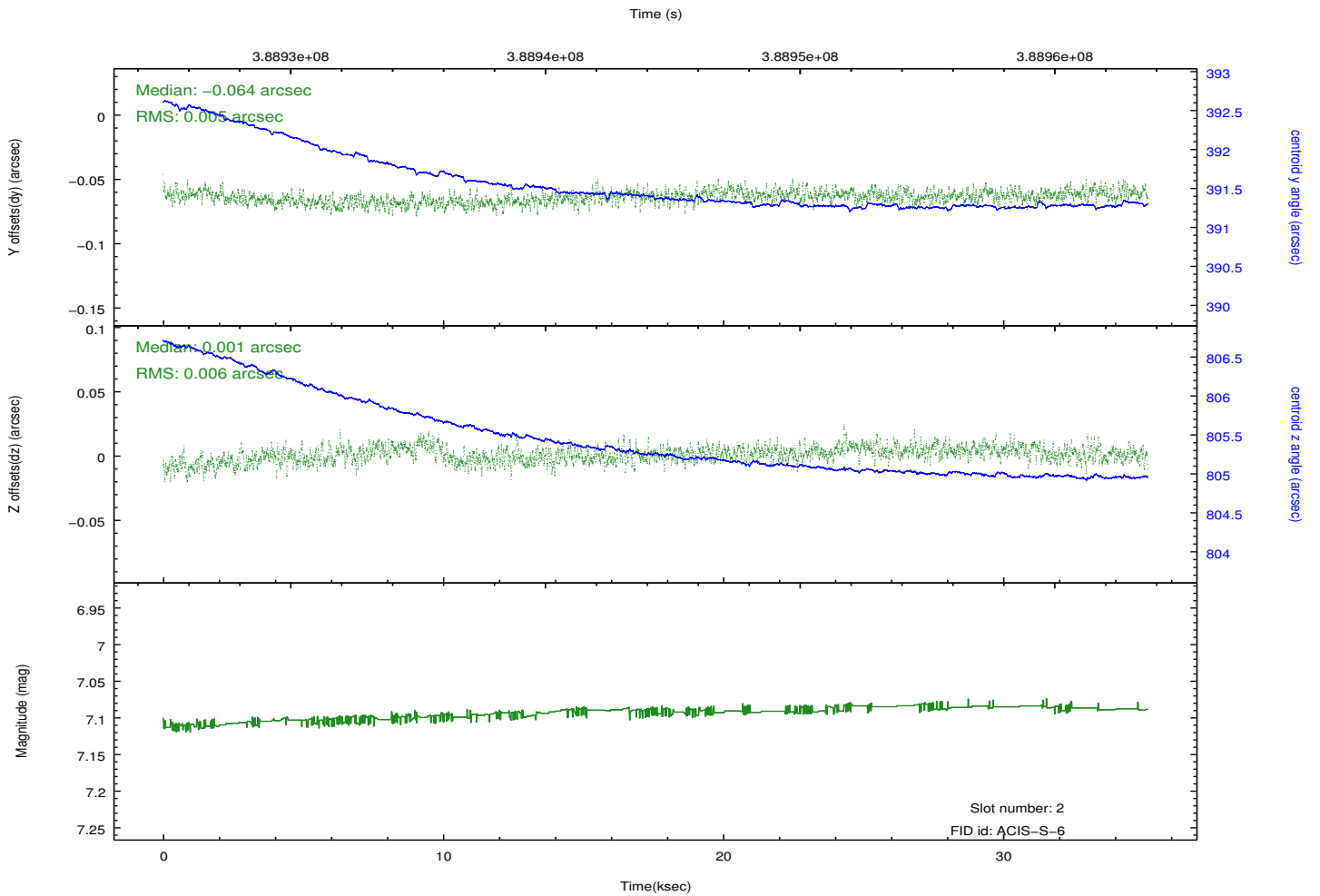
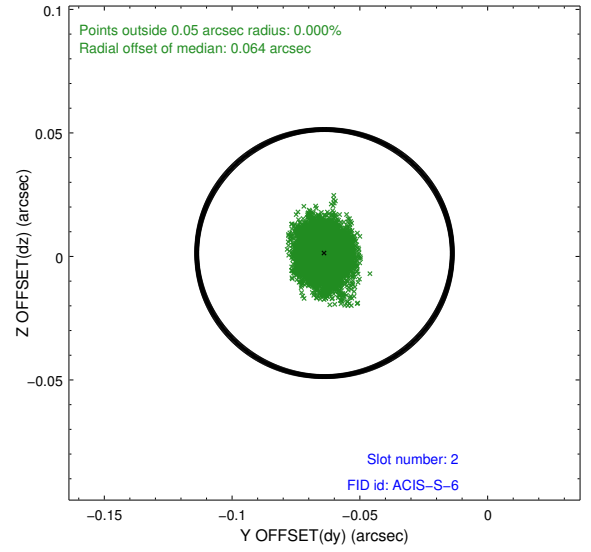
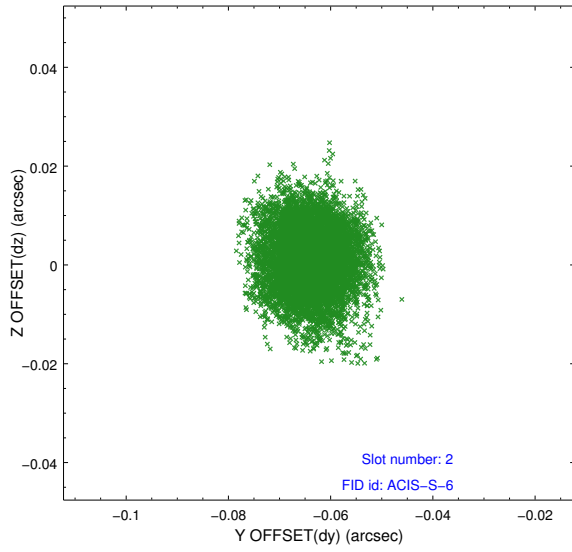
2.5.1 Slot 0



2.5.2 Slot 1

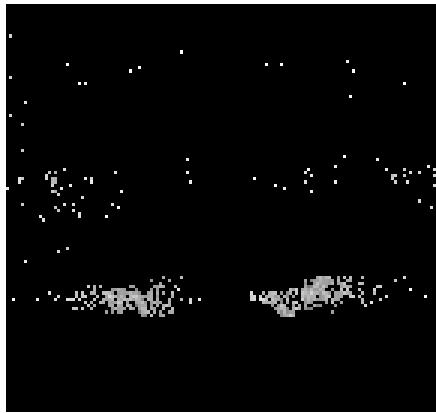


2.5.3 Slot 2

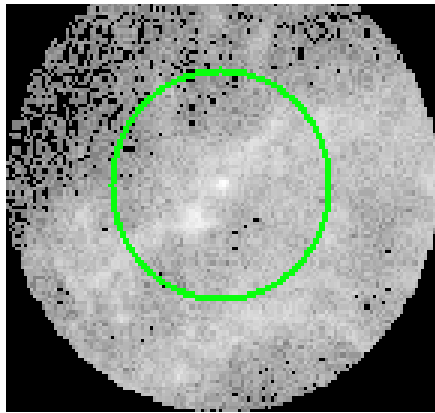


3 Gratings

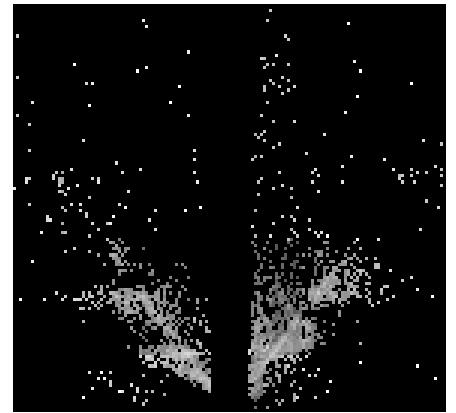
3.1 HEG Arm



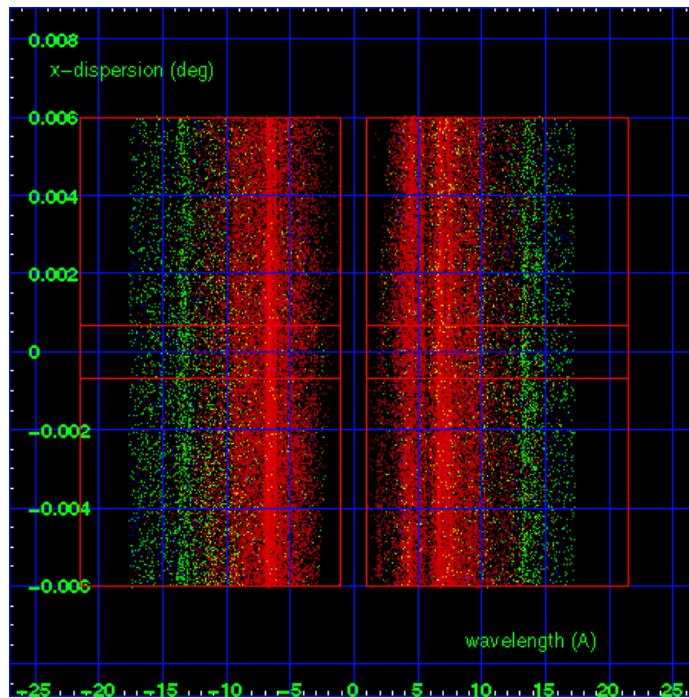
HEG Order Sort 123



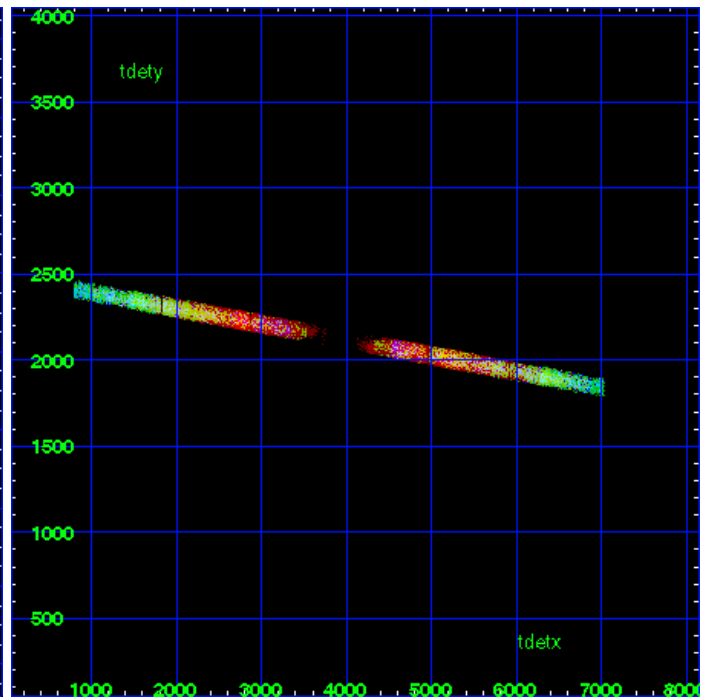
HEG Zero Order



HEG Order Sort ALL

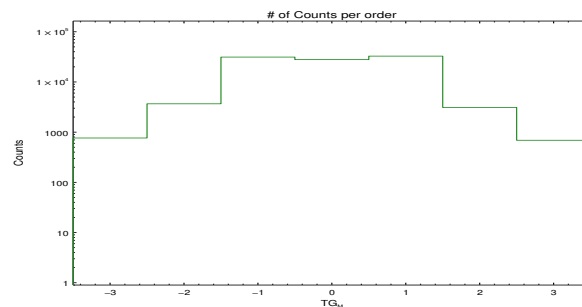


Spot Image HEG

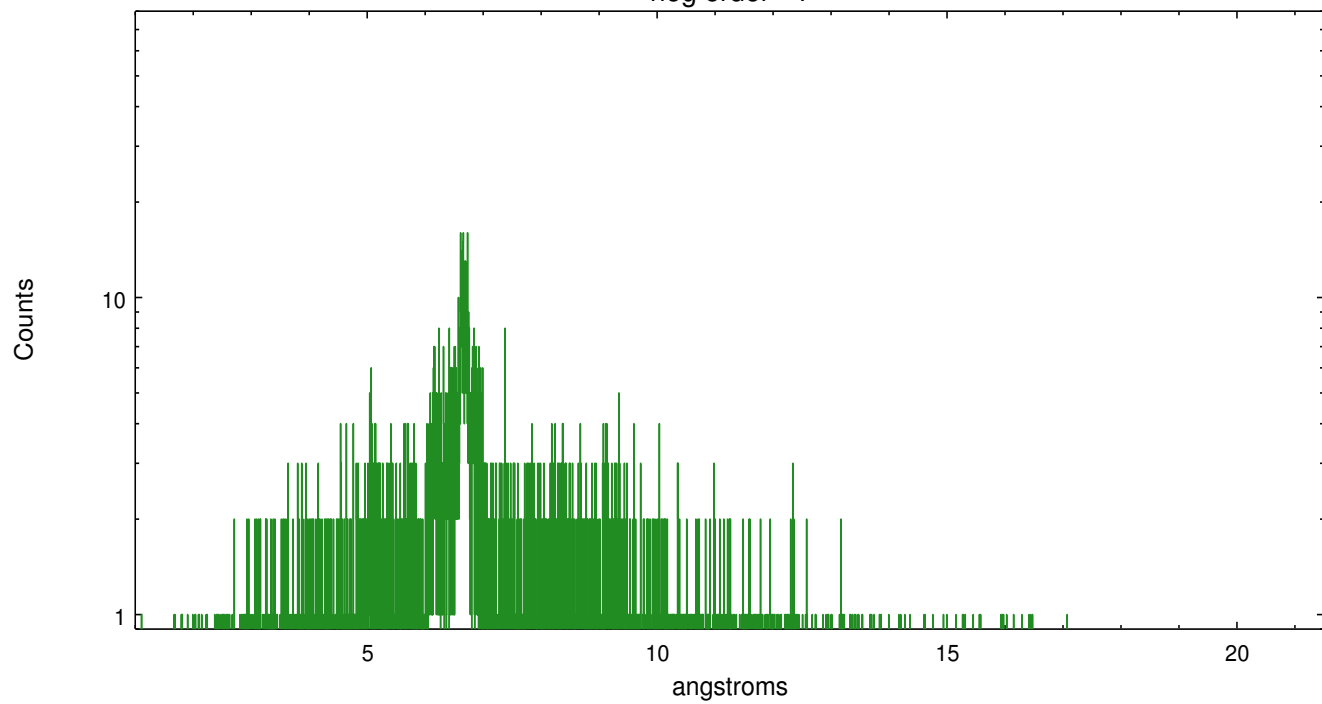


Full Detector HEG

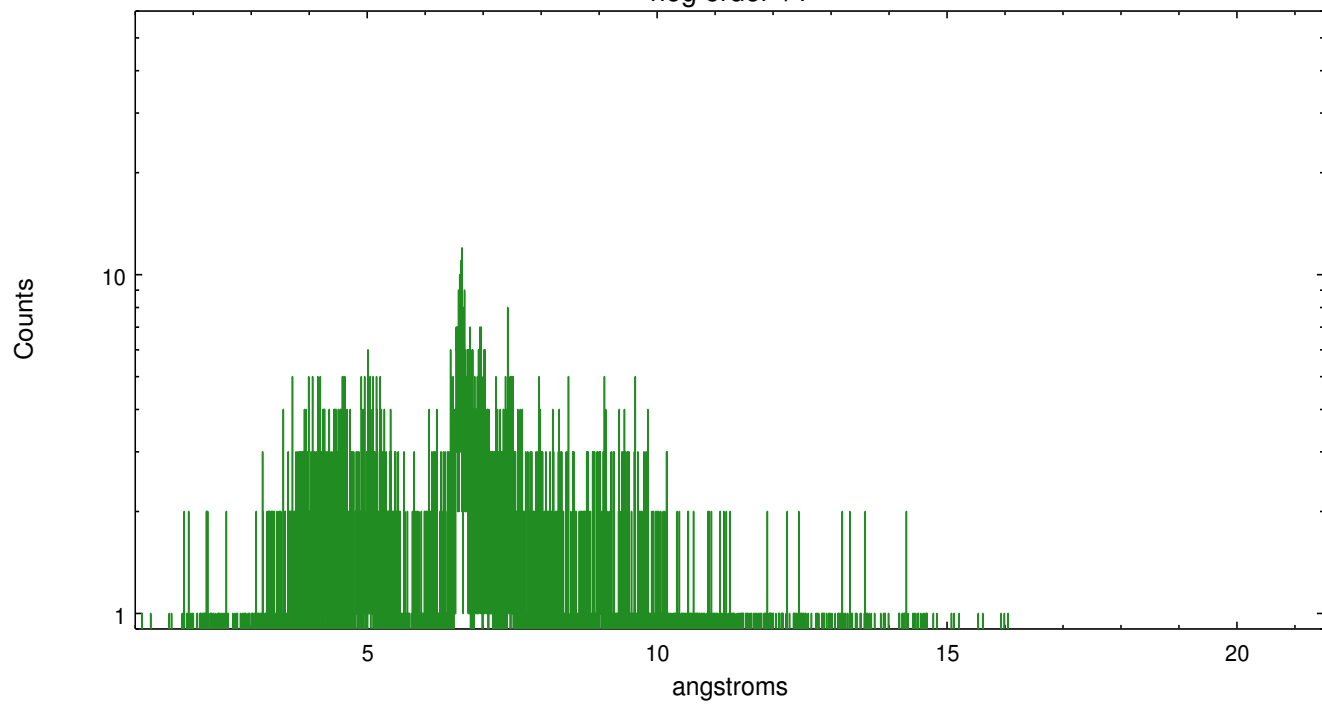
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	765	3674	31296	27871	32699	3104	689



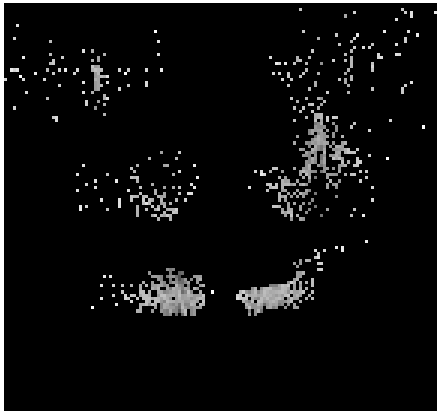
heg order -1



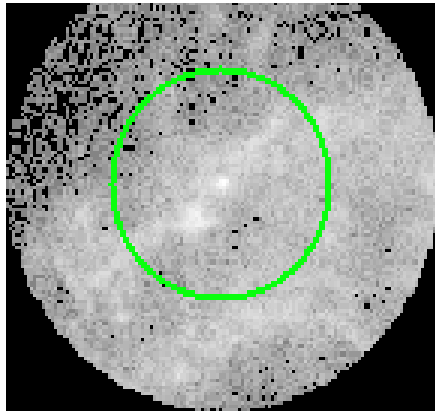
heg order +1



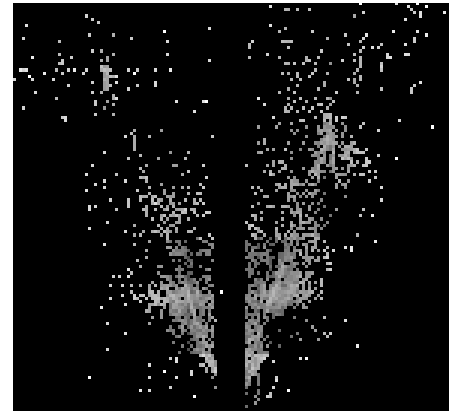
3.2 MEG Arm



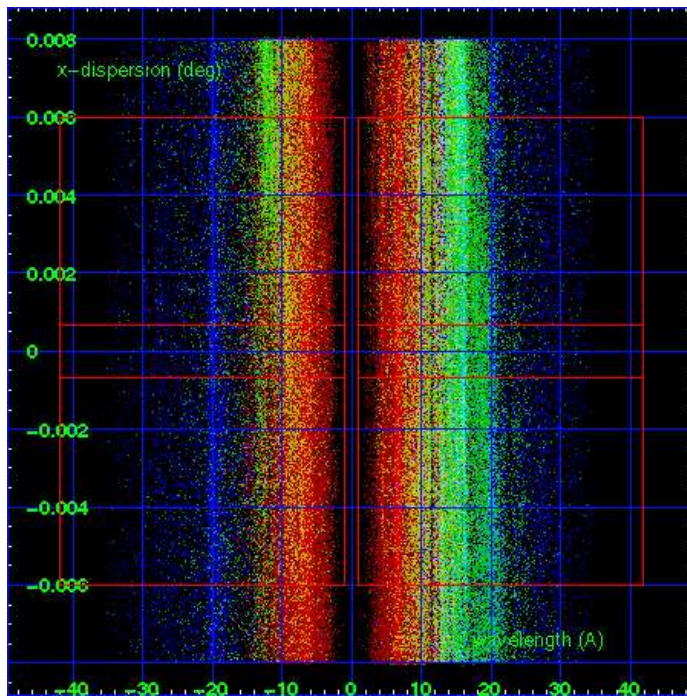
MEG Order Sort 123



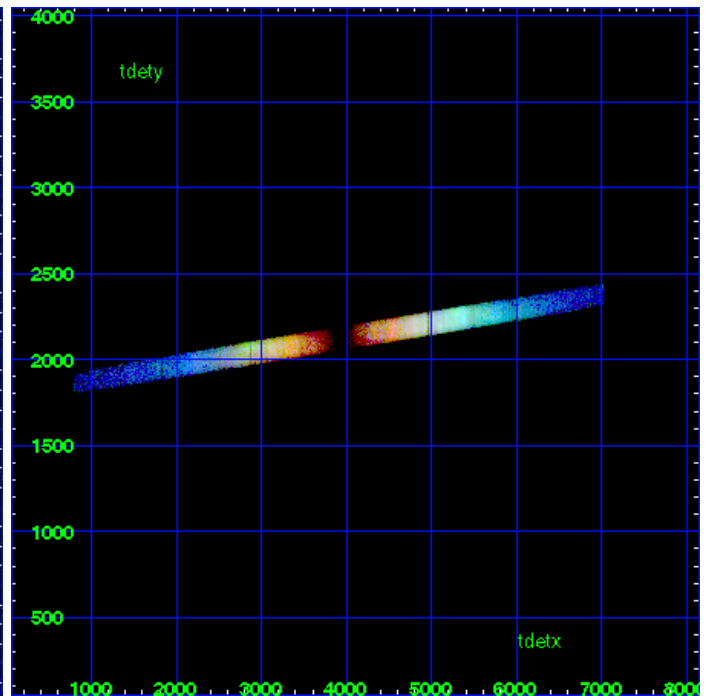
MEG Zero Order



MEG Order Sort ALL

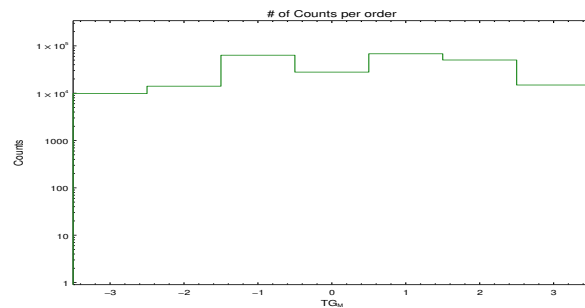


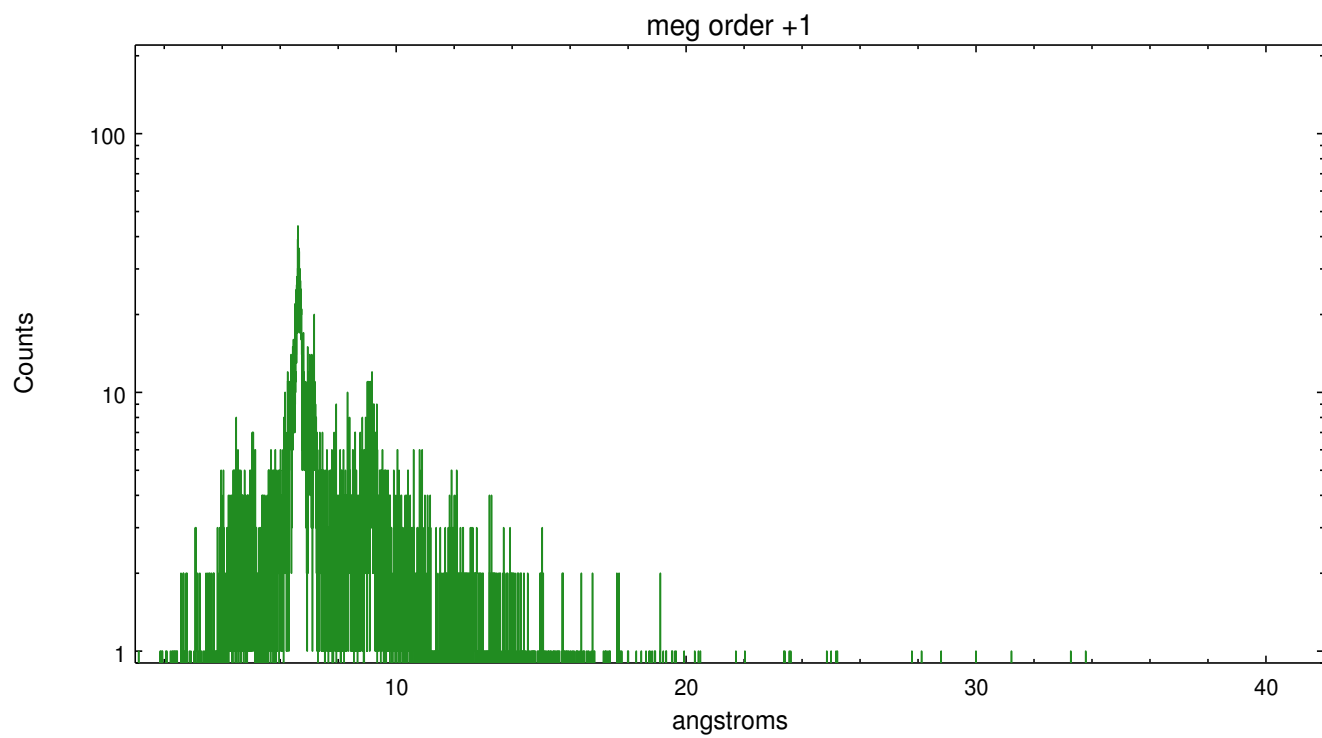
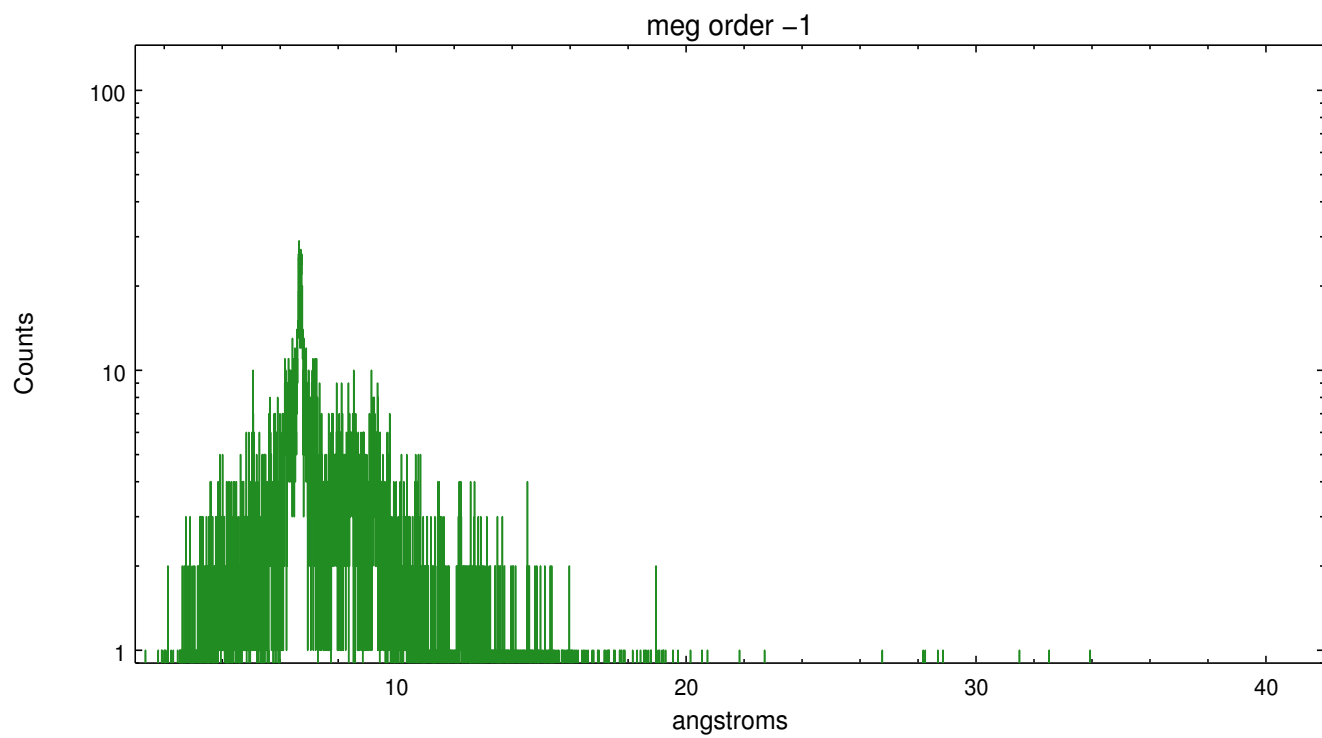
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	9810	14051	63437	27871	68066	50260	14885





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.06.26
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	35.046267525196

A.2 Comments

THIS IS AN EXAMPLE SPECTRAL EXTRACTION. Very Extended source - special analysis needed. WARNING::Zeroth order position was manually selected to correspond to a bright Si feature in the North (R6 in Lazendic et al. 2006) and shows a high Si f/r line ratio. The sky position of the zeroth order is x=4075.375, y=4276.125.

This extraction position is the same zeroth order position used in TGCat for this obsid.

The user will need to select a region or source of interest, then use software tools such as CIAO to specify the coordinates of the zeroth order source of interest before running the tools to resolve the dispersed events. The spectral data supplied in this processing are only energy-calibrated for the particular emission knot selected. Roll angle constraint met. === WARNING: there are no standard ciao tools for analysis of grating spectra from extended sources. The shape of an emission 'line' will be the shape of the zero order spatial structure convolved with the instrumental LSF. Grating extractions can be used, but need to be combined with custom spatial-spectral analysis, since wavelength is multi-valued at any particular diffraction angle.