

V&V Reference Report

L2 ASCDS Version : 10.5.4

Observation 19890 - L2 Version 1
Chandra X-Ray Center

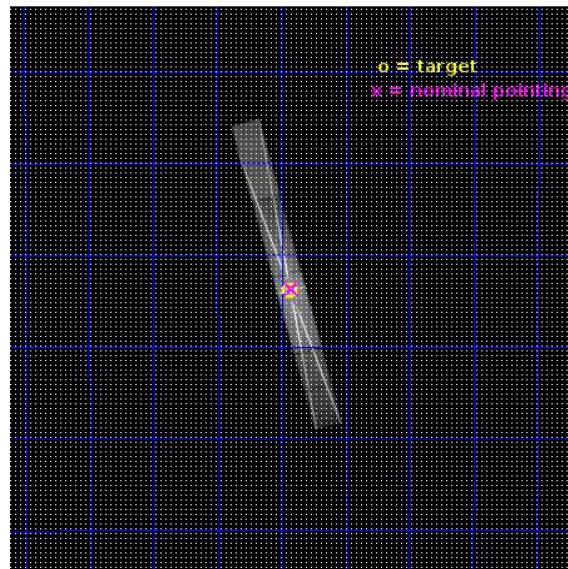
L2 Processing Date : May 24 2017

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
3	Gratings	17
3.1	HEG Arm	17
3.2	MEG Arm	19
A	Summary	21
A.1	Status	21
A.2	Comments	21

1 Front

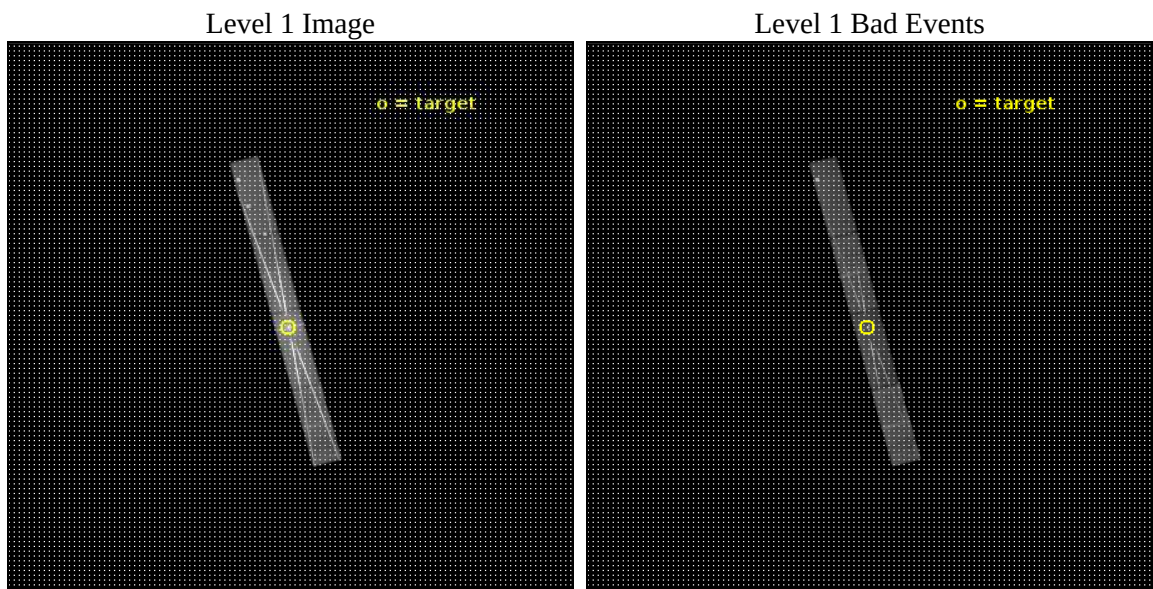
seq_num	901341	Sequence number
obs_id	19890	Observation id
title	Detect Broad High Z Lines in GX 3+1	Proposal title
observer	Claude Canizares	Principal investigator
object	GX 3+1	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	266.983333	Observer's specified target RA [deg]
dec_targ	-26.5635	Observer's specified target Dec [deg]
ra_nom	266.9806620266	Nominal RA [deg]
dec_nom	-26.561378958036	Nominal Dec [deg]
roll_nom	75.15542678442	Nominal Roll [deg]
revision	1	Processing version of data
ontime	30079.20119524	Sum of GTIs [s]
livetime	29084.510921717	Livetime [s]
ontime5	30079.20119524	Sum of GTIs [s]
ontime6	30077.960134983	Sum of GTIs [s]
ontime7	30079.20119524	Sum of GTIs [s]
ontime8	30079.20119524	Sum of GTIs [s]
l2events	2507662	Number of level 2 events



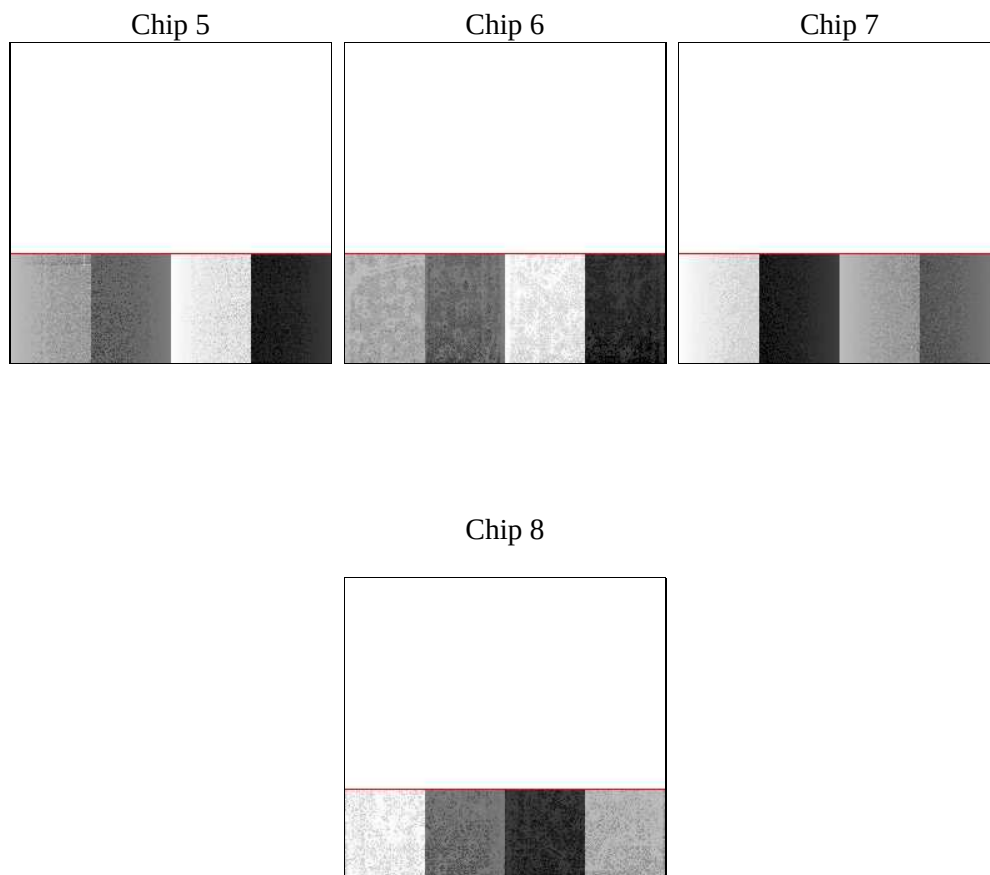
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	10.5.4	Processing system revision	ontime	30079.20119524	Sum of GTIs [s]
caldsver	4.7.4	 	ontime5	30079.20119524	Sum of GTIs [s]
date	2017-05-24T06:32:29	Date and time of file creation	ontime6	30077.960134983	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	30079.20119524	Sum of GTIs [s]
			ontime8	30079.20119524	Sum of GTIs [s]
			l1events	3018943	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4076.68, 4080.36)	src1a sky pixel position
			zo_pos_tgd	(4077.18, 4081.73)	src1a sky pixel position via radetect

2.1.4 Events

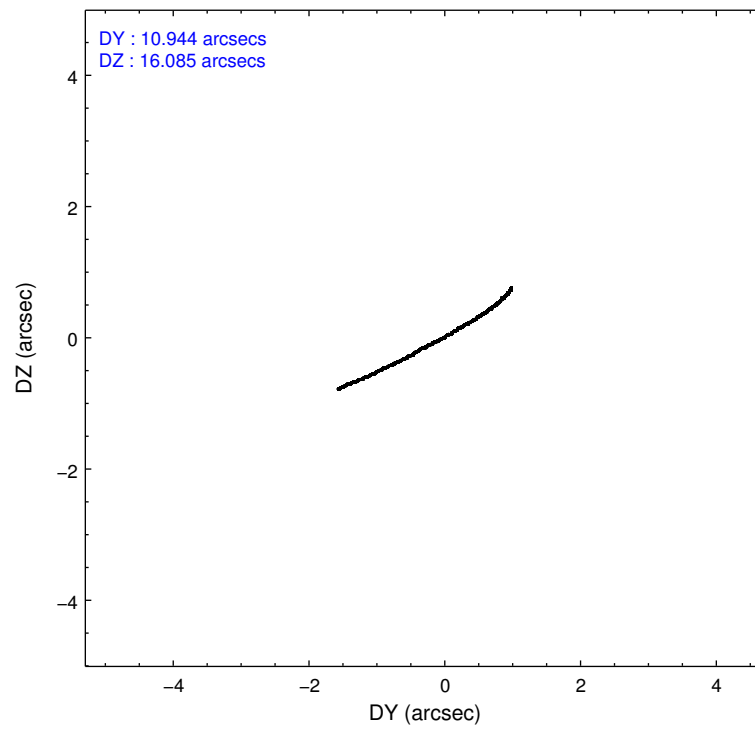
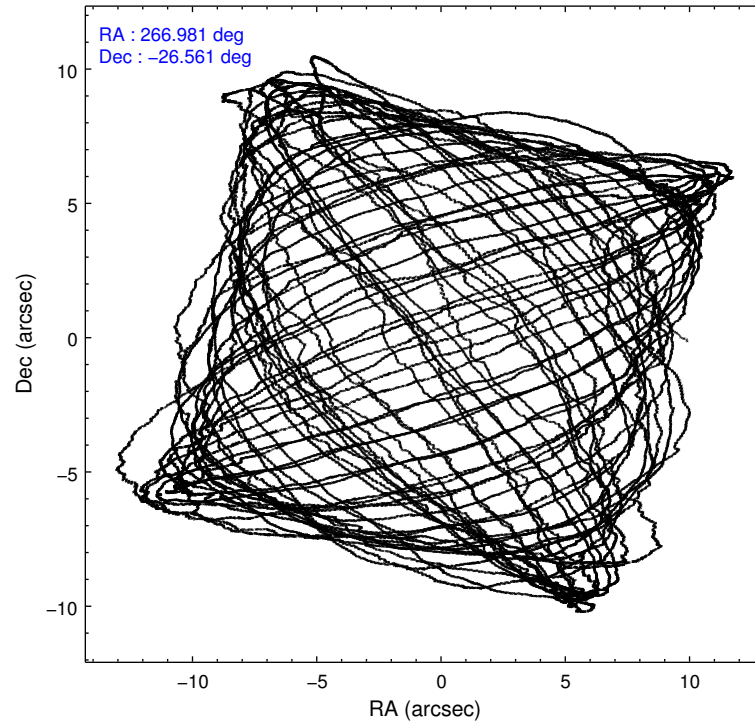
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	269314	1041238	1378349	330042
rejected events	79883	101563	112603	82717
rejected %	29%	9%	8%	25%

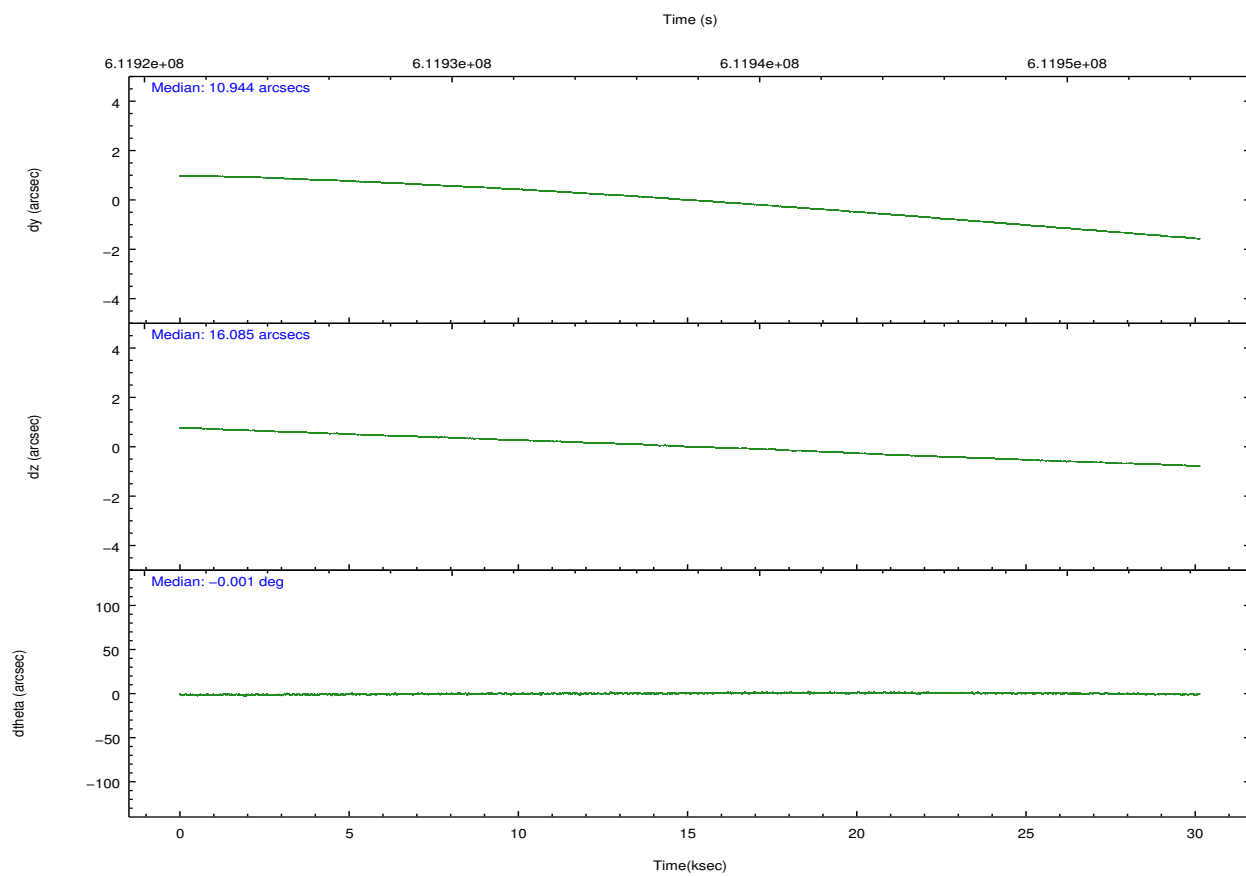
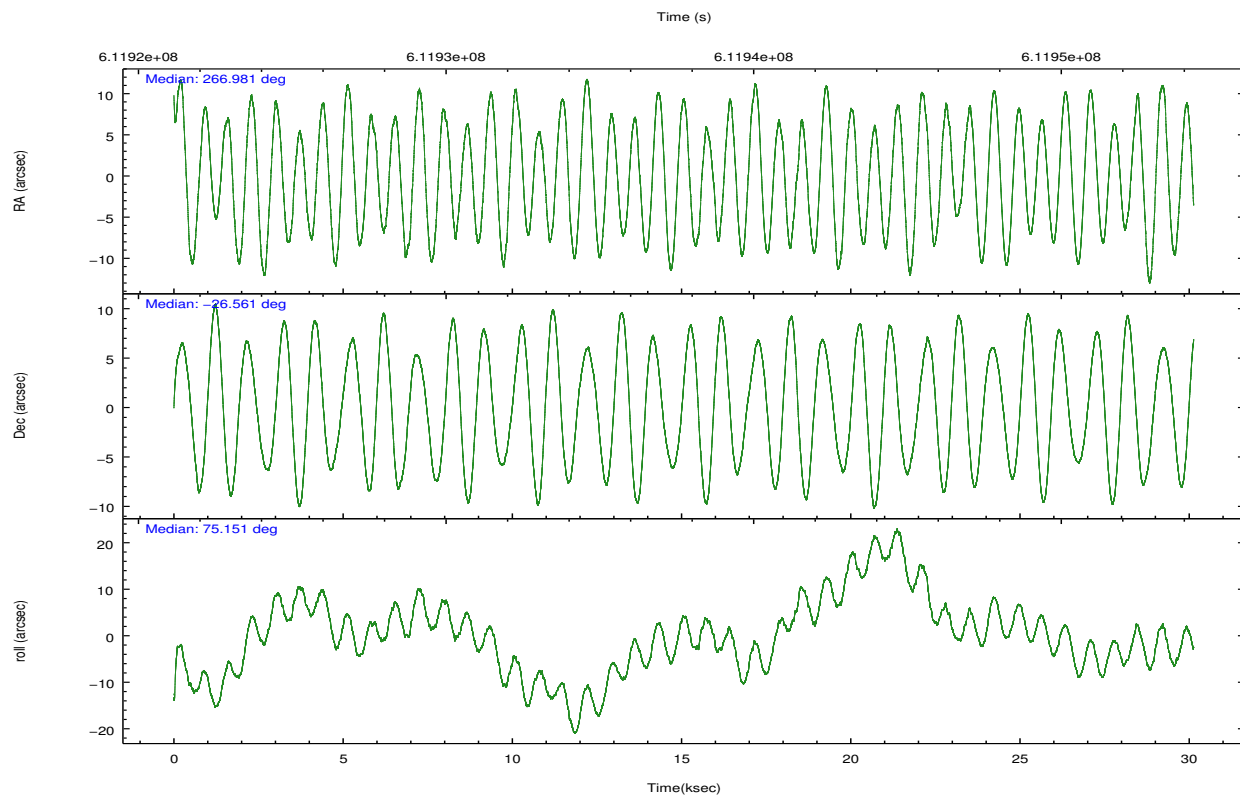
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	57768	670186	236763	178923
	21%	64%	17%	54%
grade 1 events	353	10206	5047	901
	0%	0%	0%	0%
grade 2 events	48889	127676	309280	31551
	18%	12%	22%	9%
grade 3 events	16563	43659	132740	11496
	6%	4%	9%	3%
grade 4 events	16753	43651	132033	11074
	6%	4%	9%	3%
grade 5 events	13939	12359	33452	5660
	5%	1%	2%	1%
grade 6 events	49468	54565	455016	14296
	18%	5%	33%	4%
grade 7 events	65581	78936	74018	76141
	24%	7%	5%	23%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-5678	ACIS-5678	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	266.989054	266.9806620266025	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-26.587776	-26.5613789580359	Subarray start row	1	1
[deg] Pointing Roll	75.002563	75.15542678441965	Subarray row count	350	350
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	N	N
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.000000	1.2
[mm] SIM translation stage pos	-182.132523	-182.1370004450064			
[mm] SIM translation stage offset	-8	-7.995522138001405			
[s] Observation start time (MET)	611922775.184000	611921805.08974			
Observation start date	2017-05-23T10:31:46	2017-05-23T10:16:45			
[s] Observation end time (MET)	611952775.184000	611953771.2541			
Observation end date	2017-05-23T18:51:46	2017-05-23T19:09:31			
Read mode	TIMED	TIMED			

2.3 Aspect



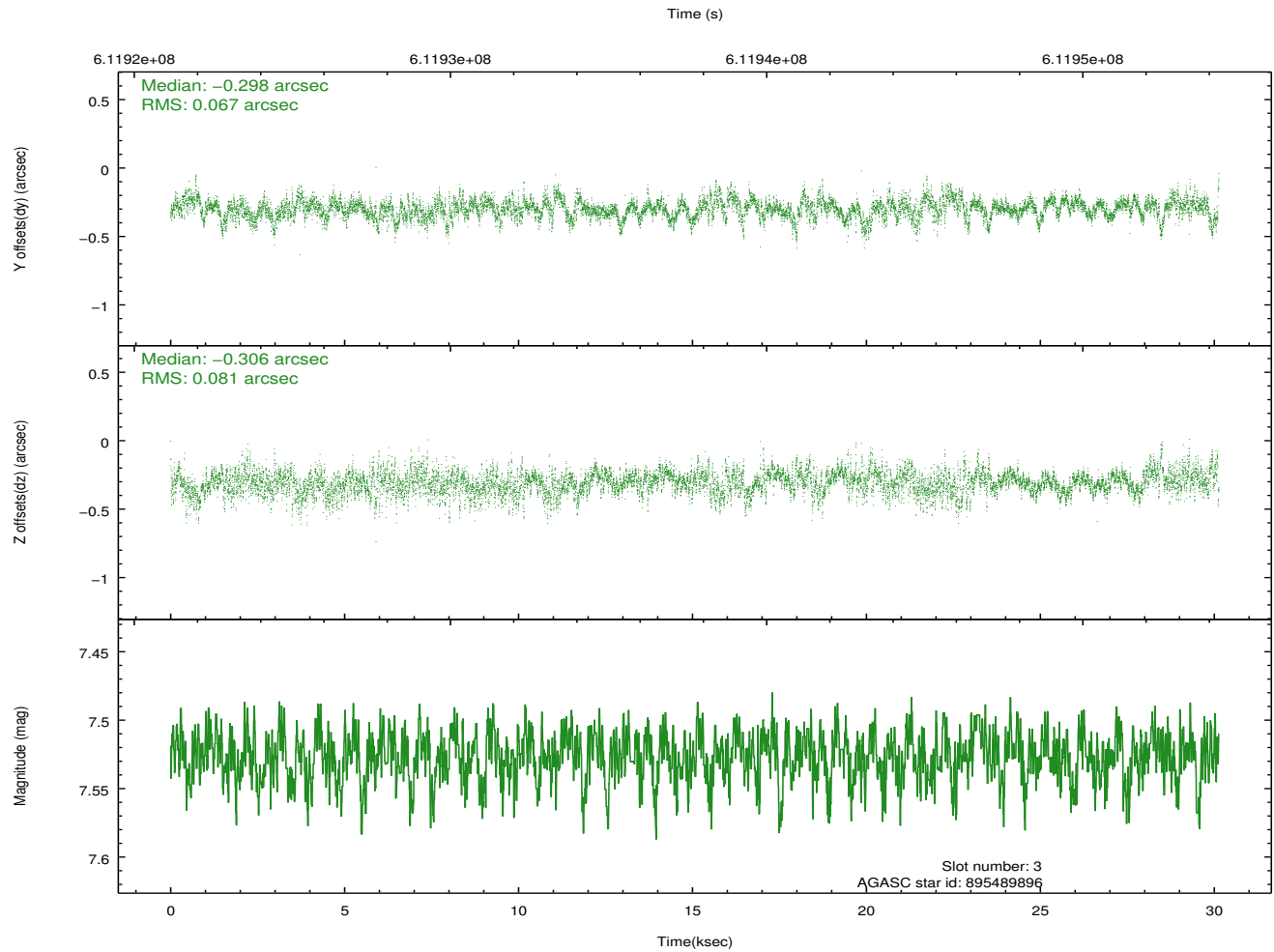
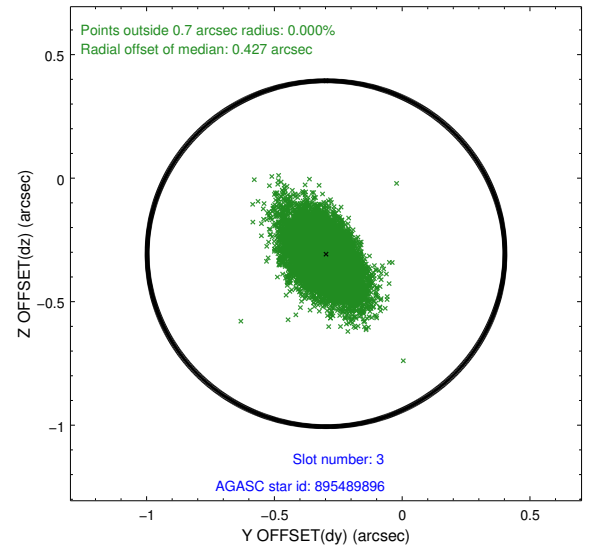
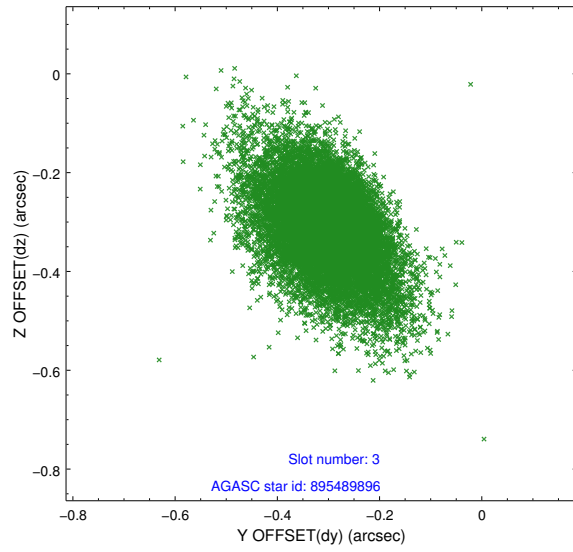


Slot Statistics

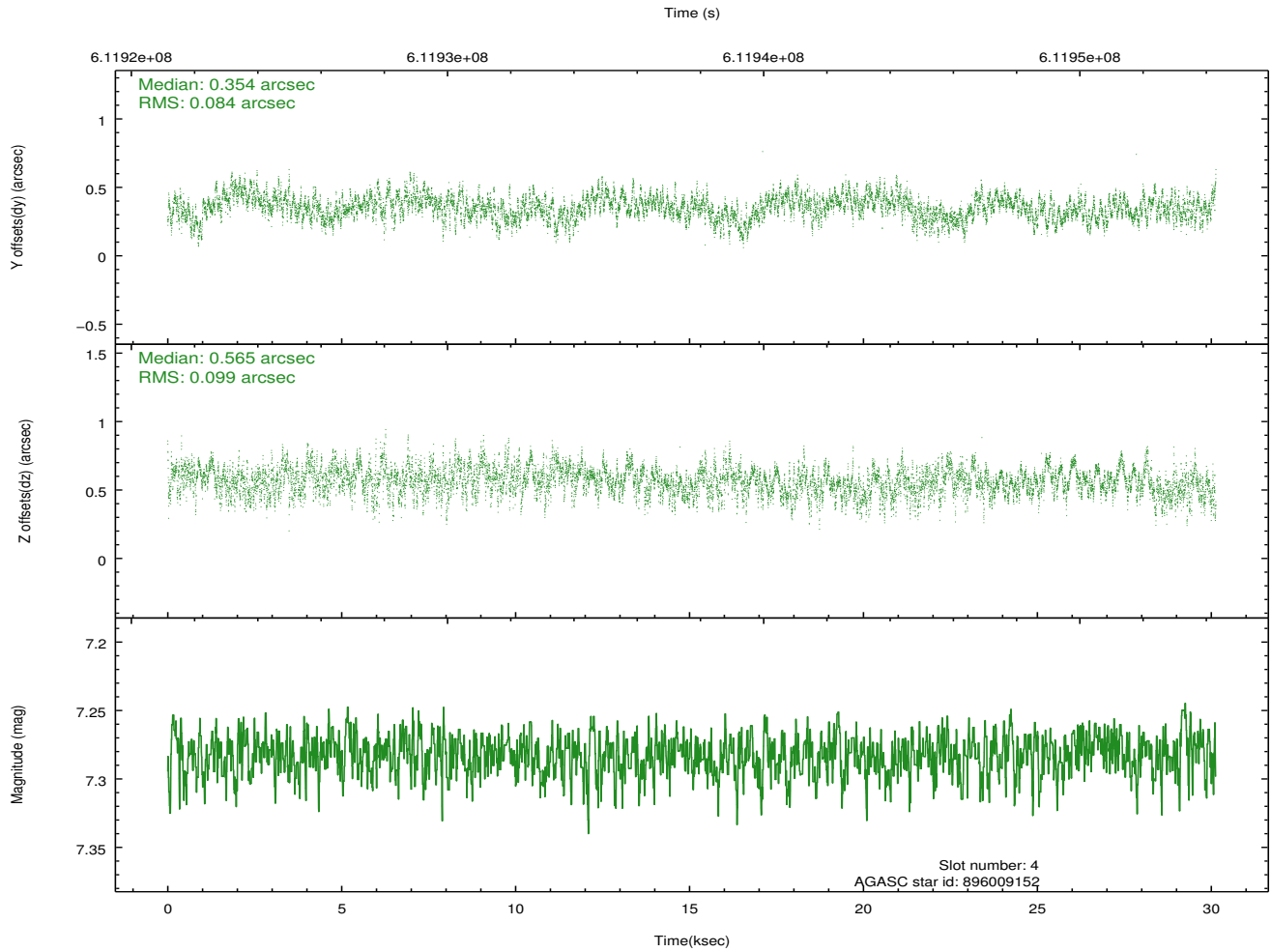
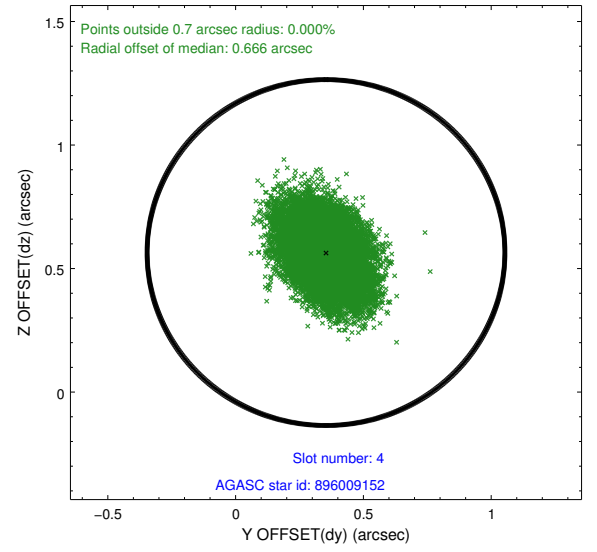
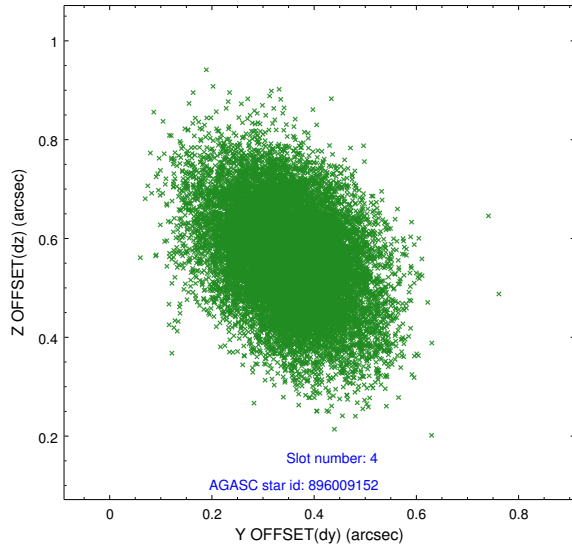
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.01	7350	-0.284	-0.208	0.011	0.029	0.000000	0.000000	-763.51	-1902.37
1	FID		ACIS-S-4	7.10	7350	0.298	0.156	0.013	0.028	0.000000	0.000000	2150.41	6.21
2	FID		ACIS-S-6	7.34	7349	-0.041	0.057	0.014	0.022	0.000000	0.000000	398.94	643.68
3	GUIDE	used	895489896	7.53	14696	-0.298	-0.306	0.105	0.193	266.605795	-26.200300	1025.08	1556.28
4	GUIDE	used	896009152	7.28	14697	0.354	0.565	0.137	0.229	267.588100	-27.061669	-1155.37	-2296.85
5	GUIDE	used	896013040	7.31	14698	0.133	0.092	0.114	0.203	266.506589	-26.972299	-1740.37	1136.28
6	GUIDE	used	896015112	9.14	14685	-0.245	-0.253	0.138	0.236	266.684847	-26.286161	793.38	1229.22
7	GUIDE	used	896009584	9.22	14685	0.052	-0.090	0.155	0.251	266.891313	-26.347528	754.01	528.60

2.4 Star Slots

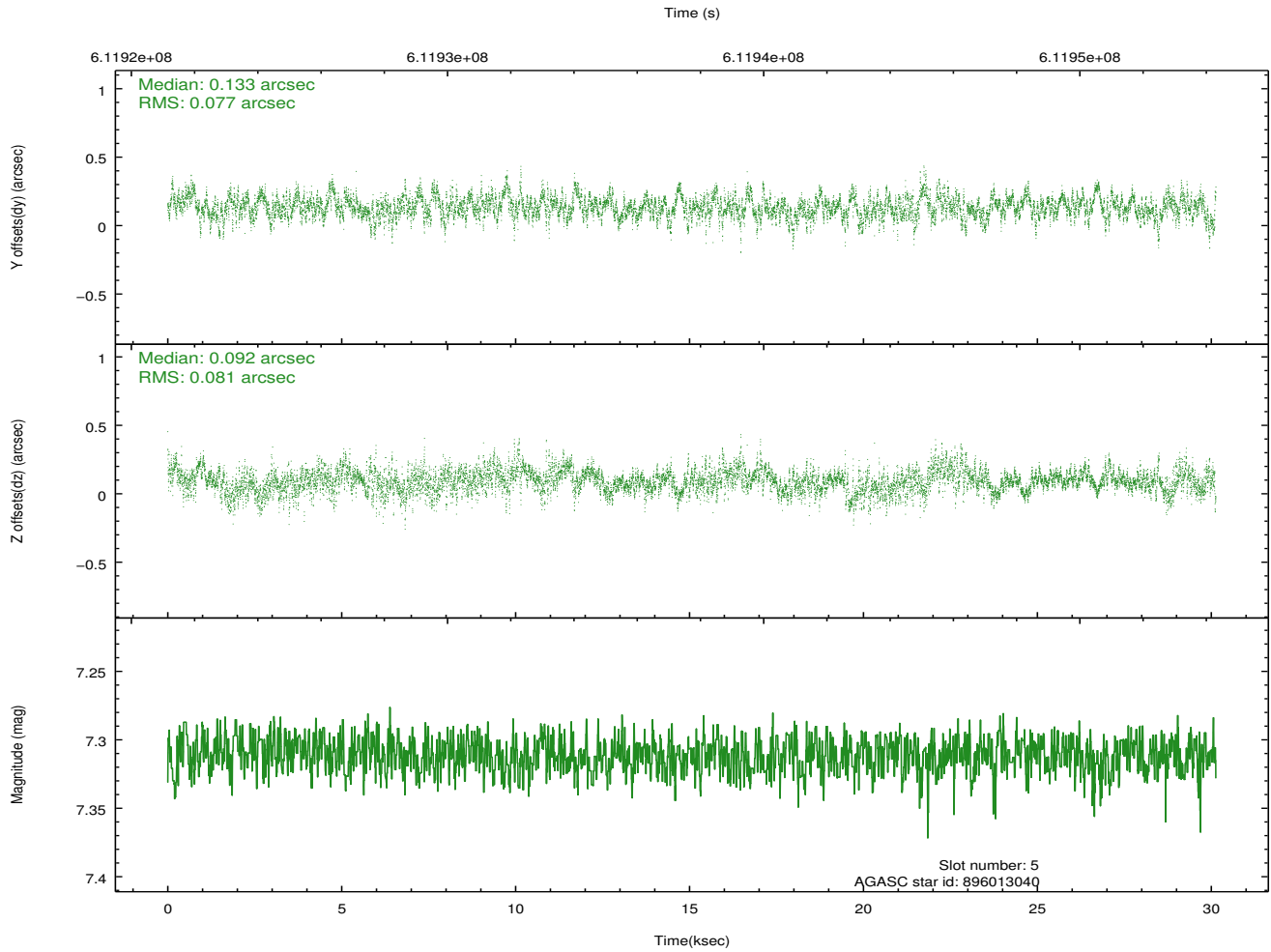
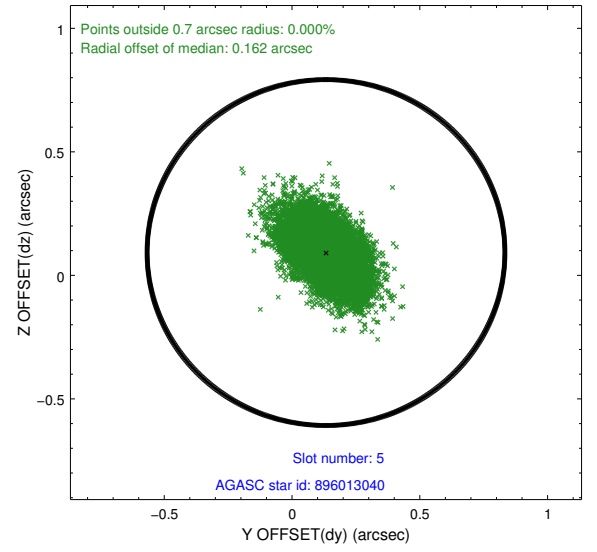
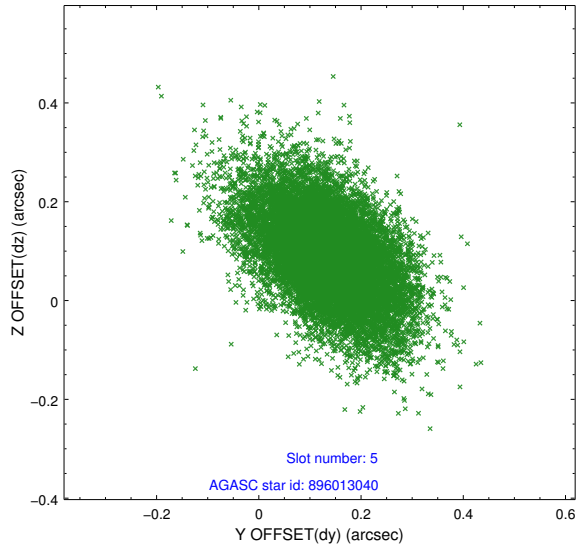
2.4.1 Slot 3



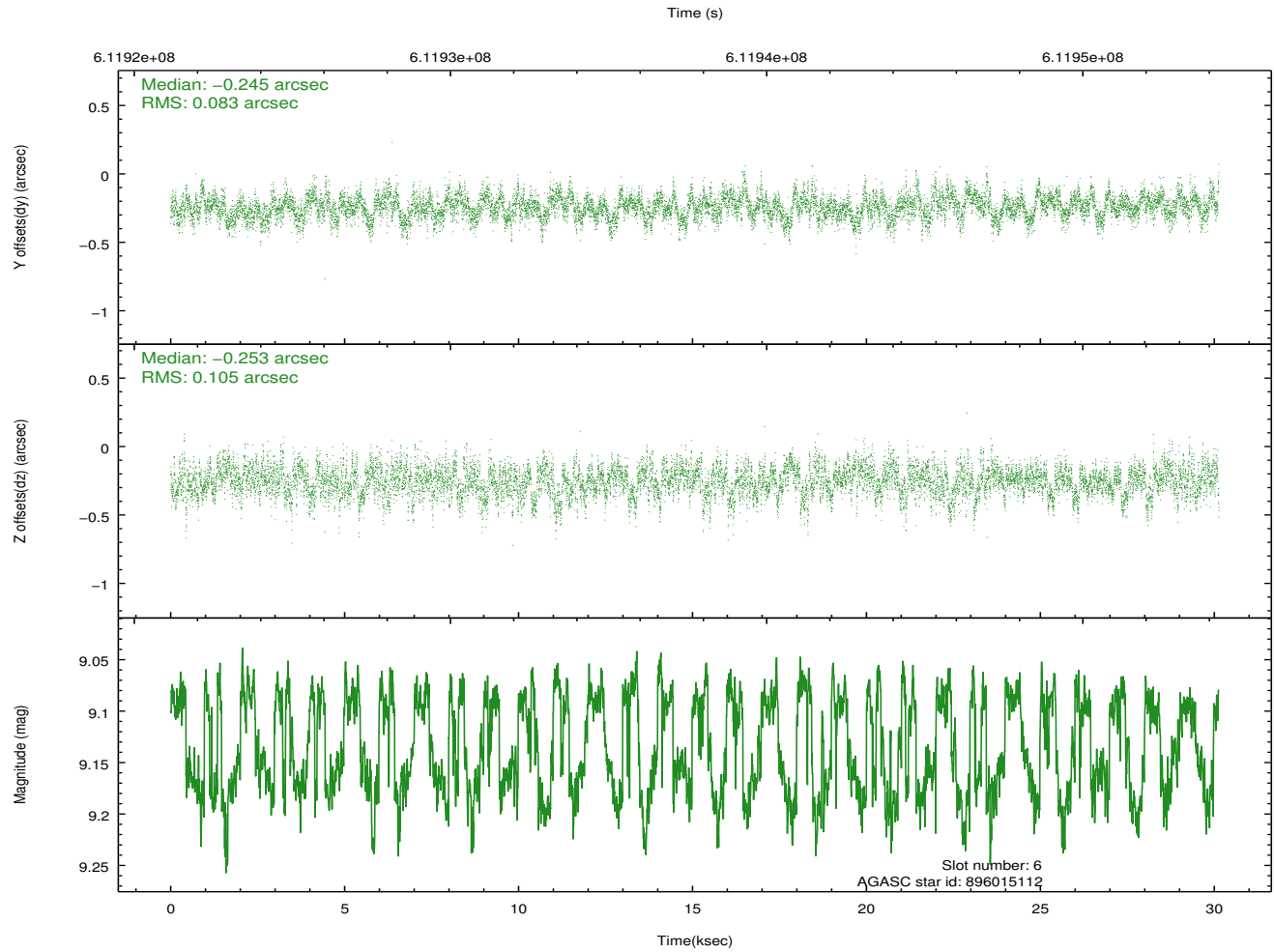
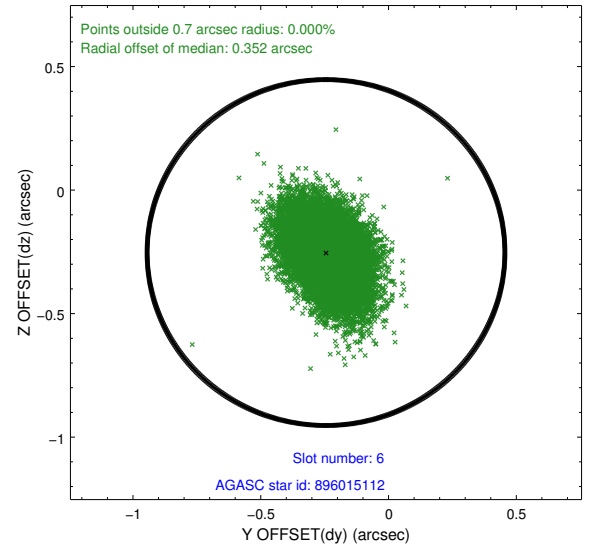
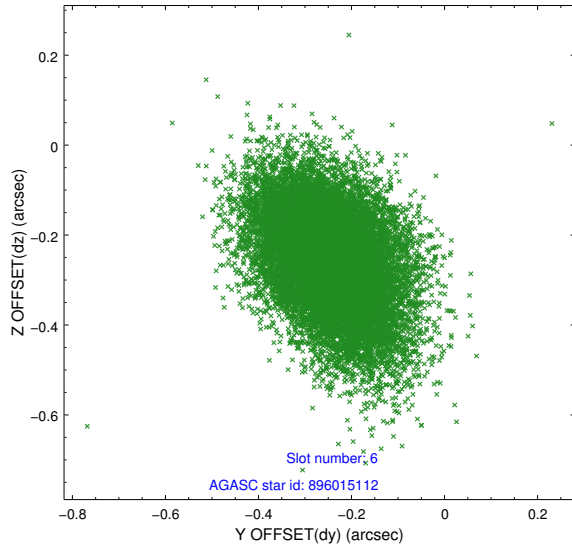
2.4.2 Slot 4



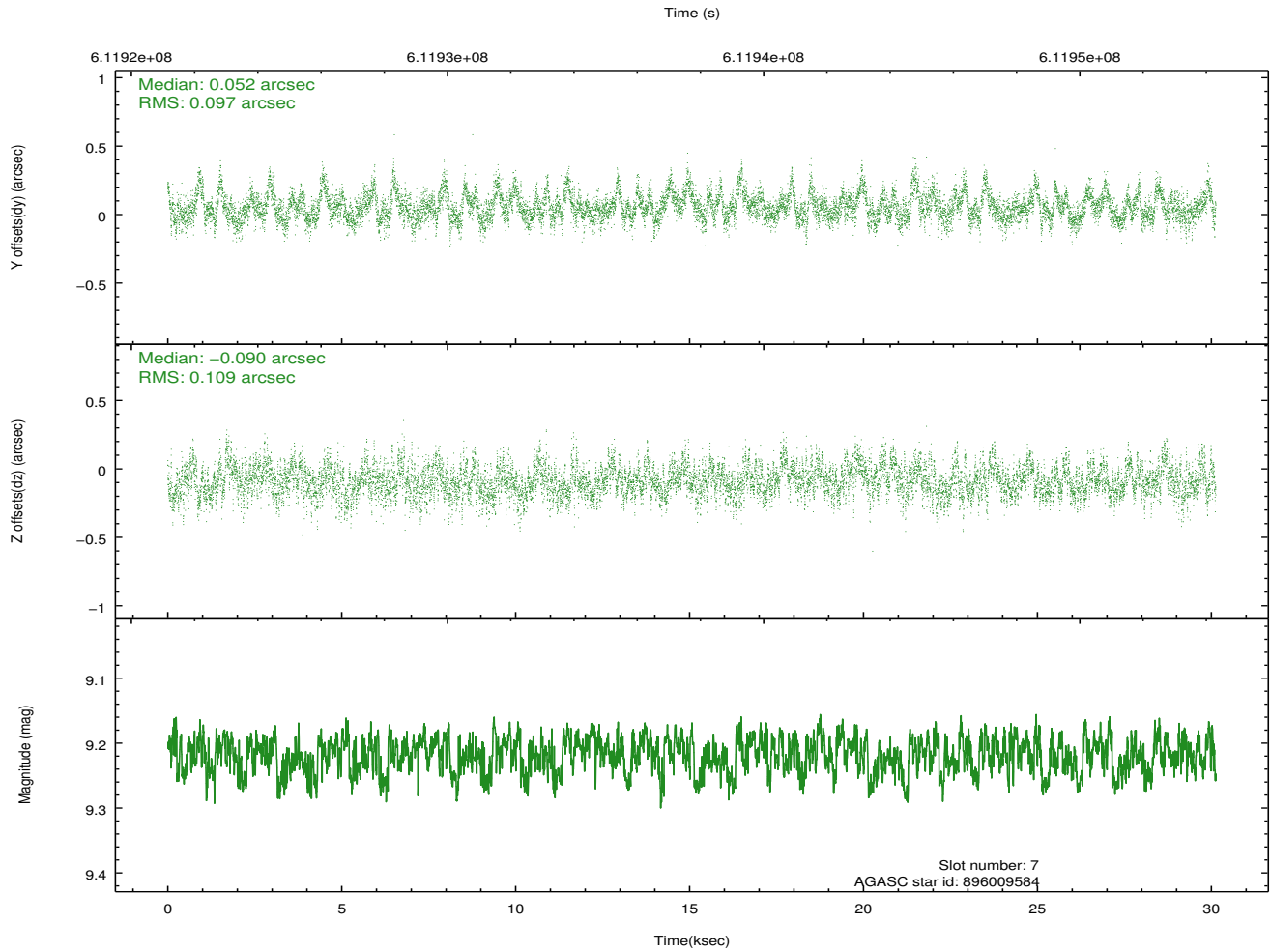
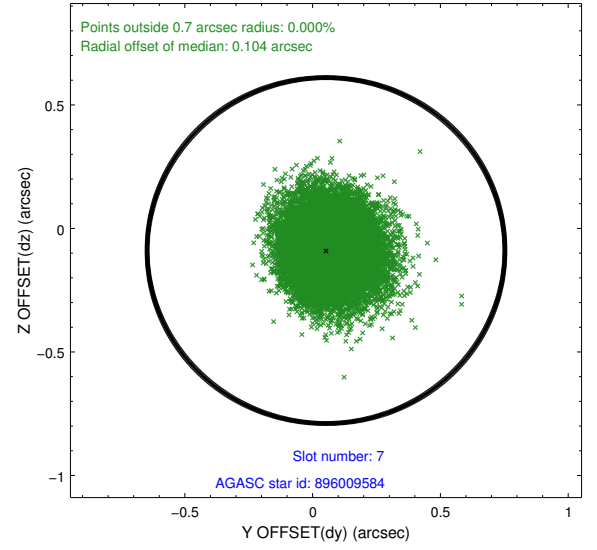
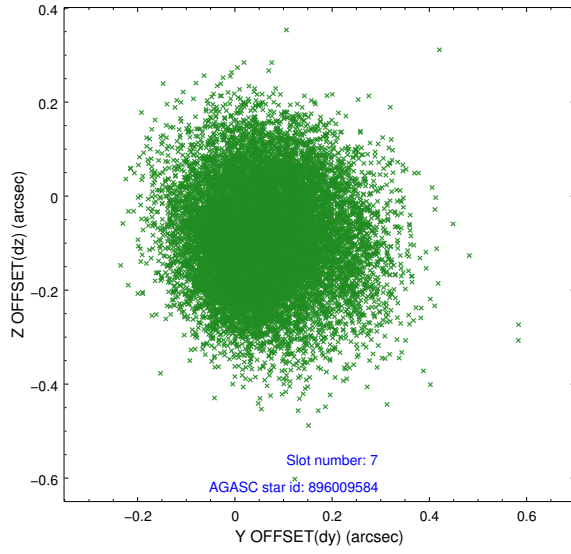
2.4.3 Slot 5



2.4.4 Slot 6

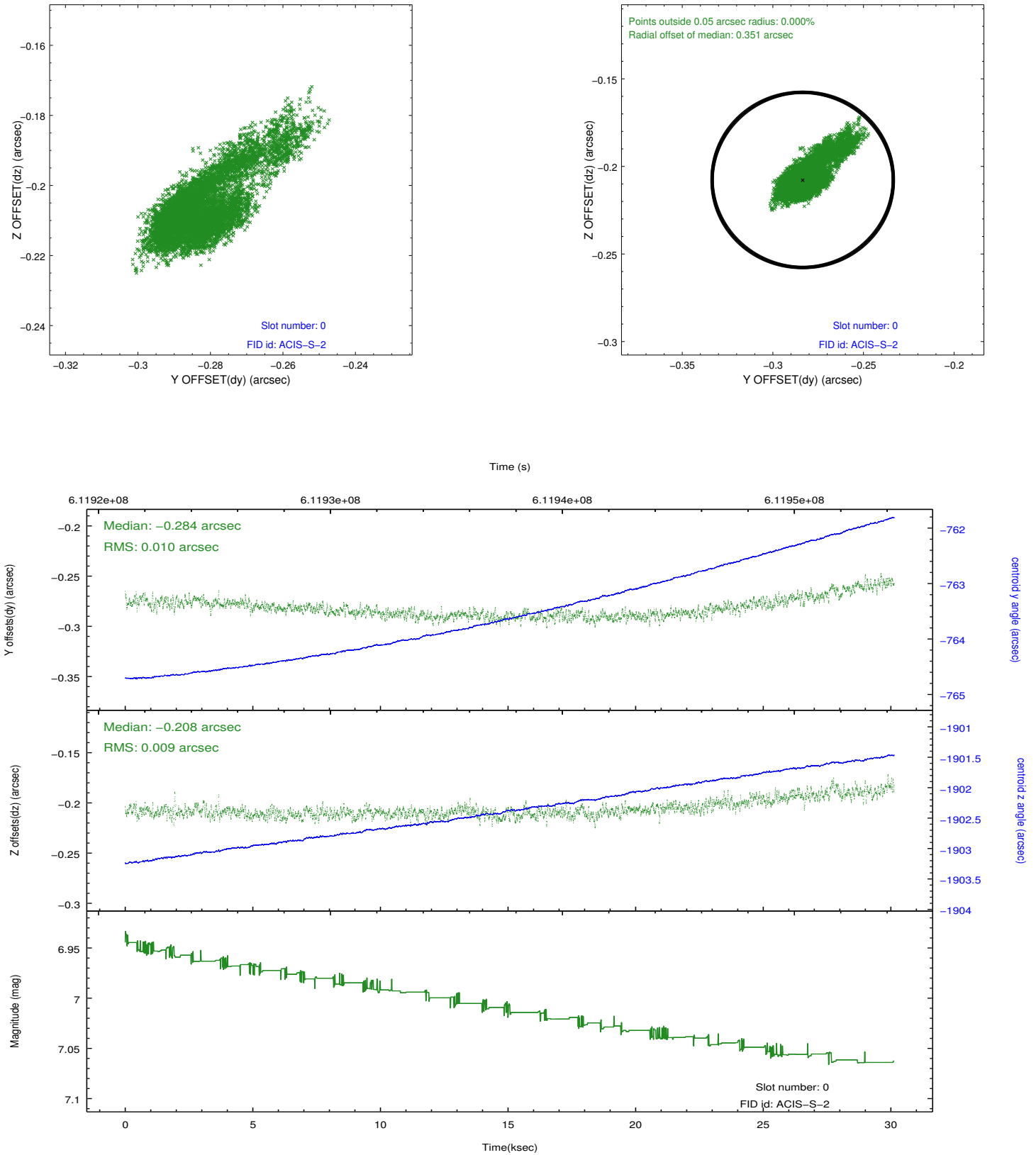


2.4.5 Slot 7

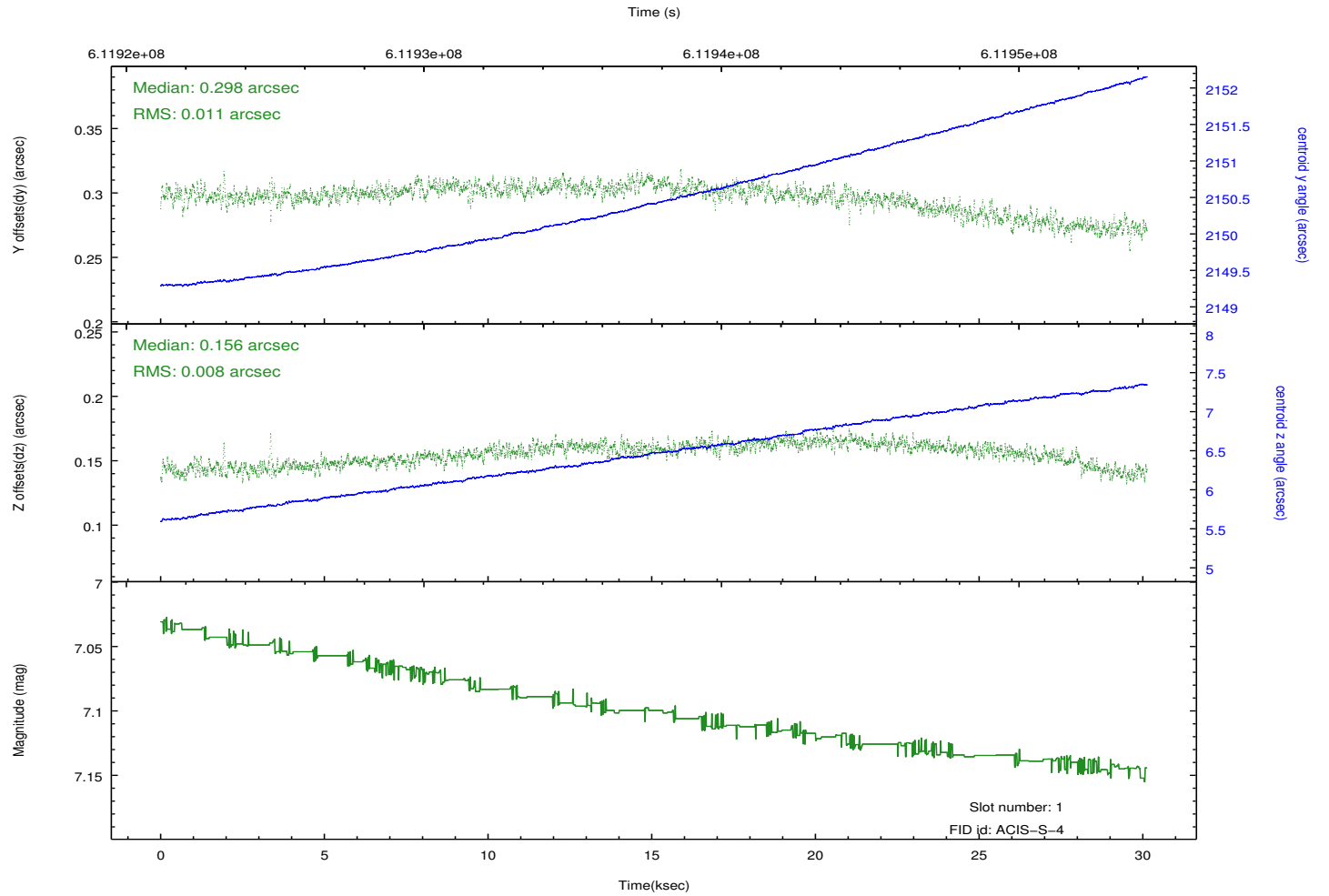
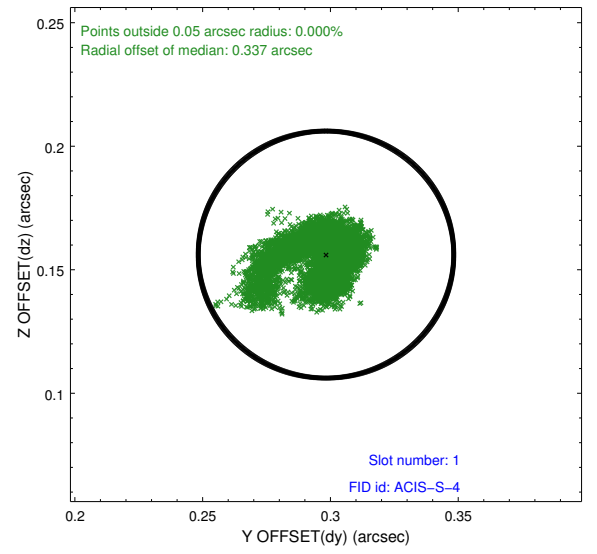
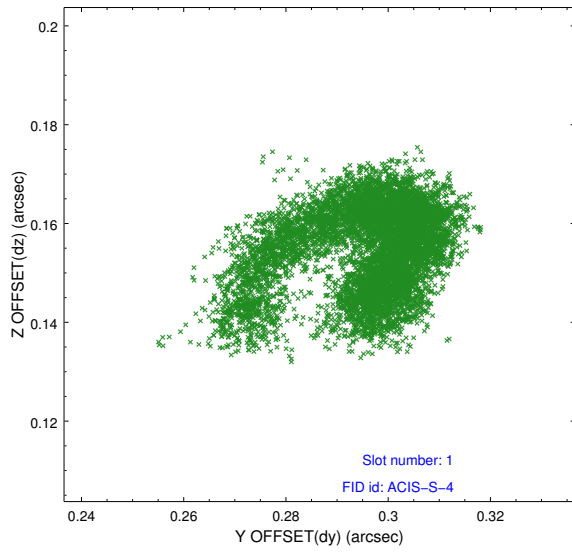


2.5 FID Slots

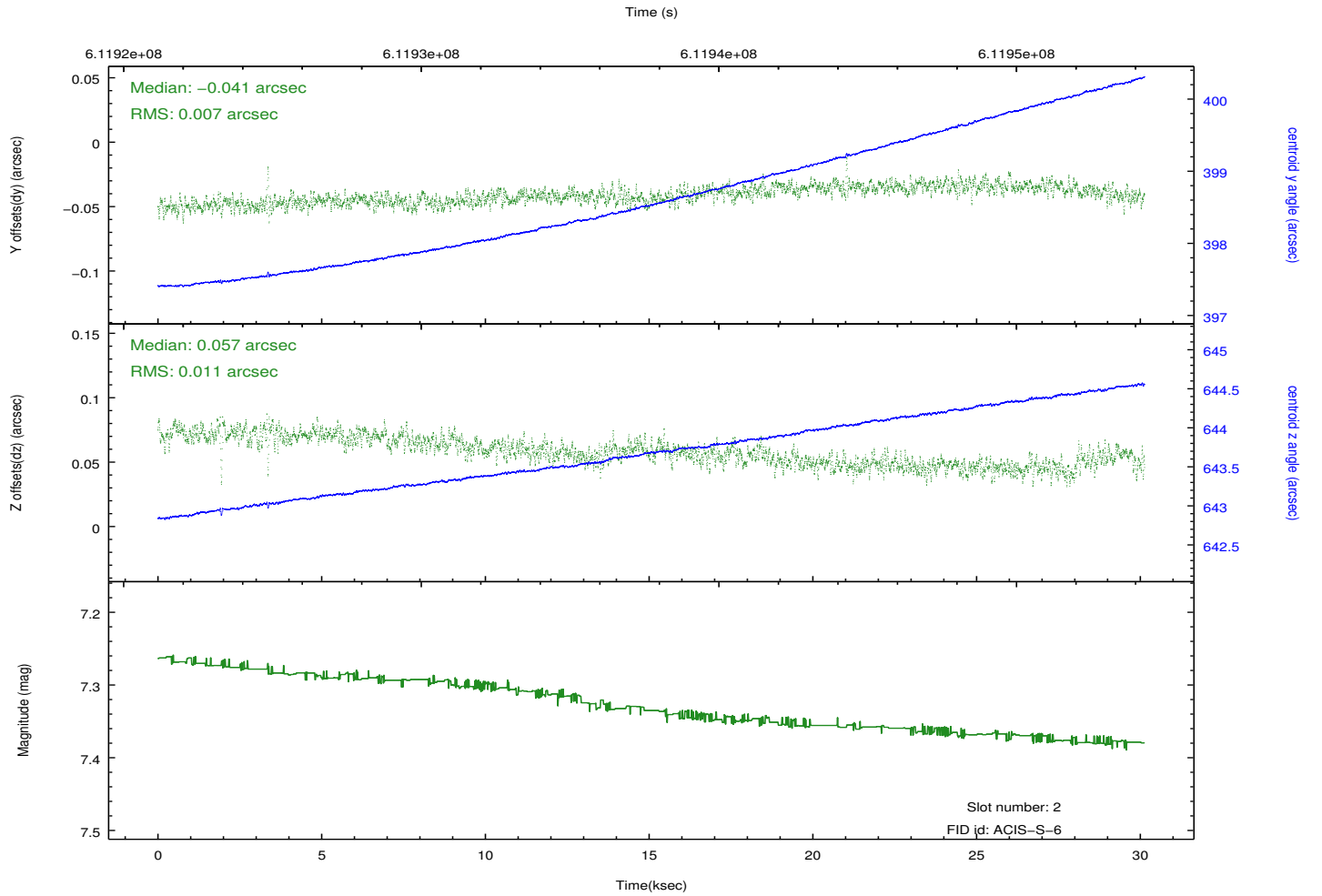
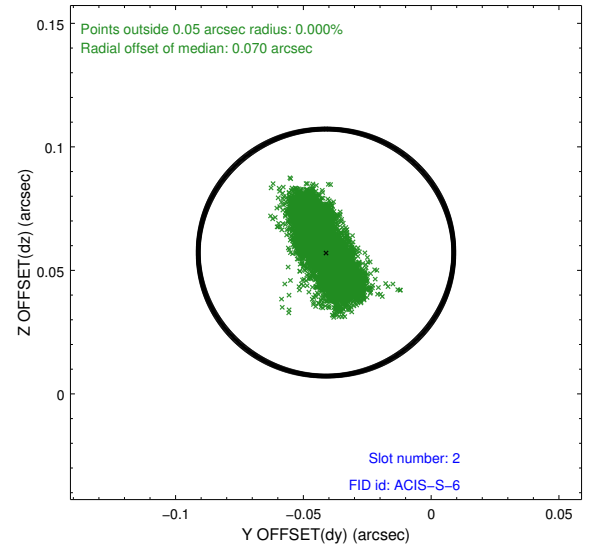
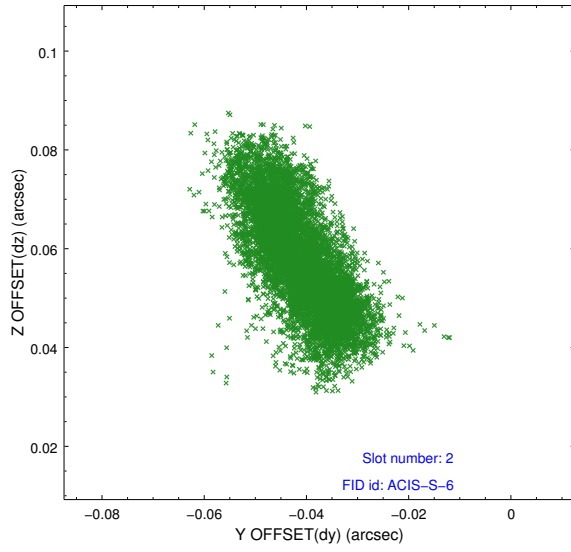
2.5.1 Slot 0



2.5.2 Slot 1

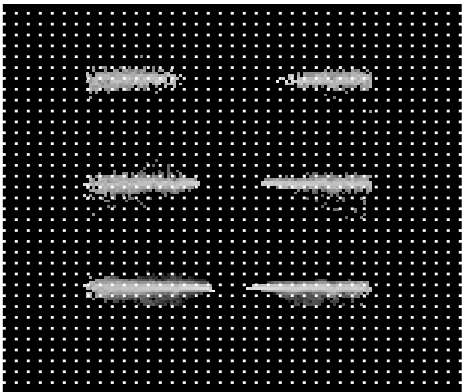


2.5.3 Slot 2

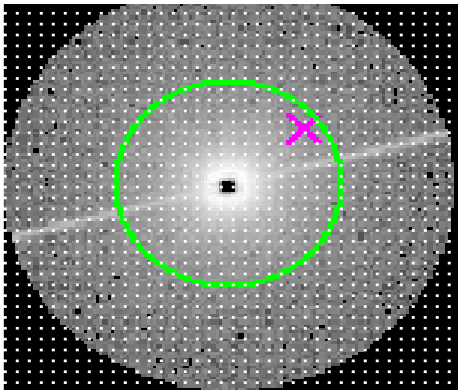


3 Gratings

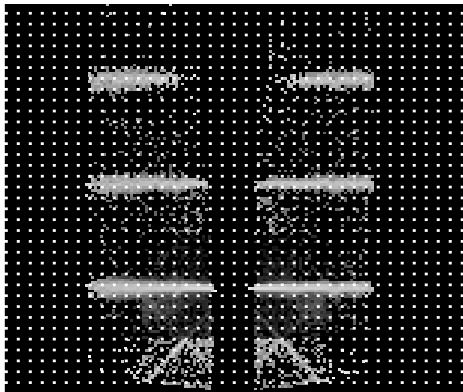
3.1 HEG Arm



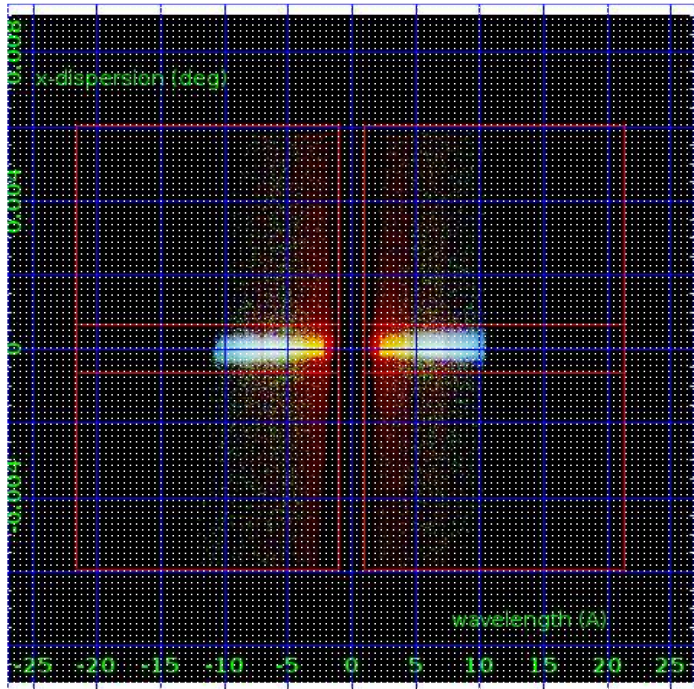
HEG Order Sort 123



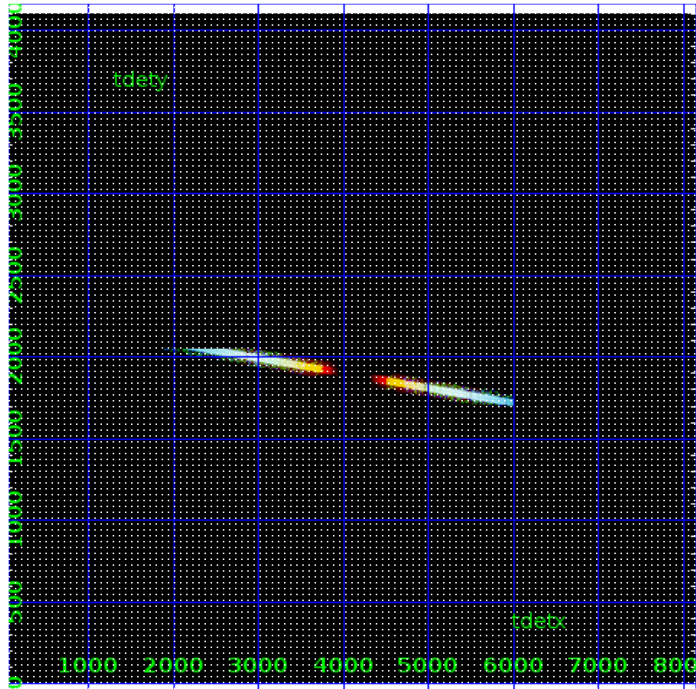
HEG Zero Order



HEG Order Sort ALL

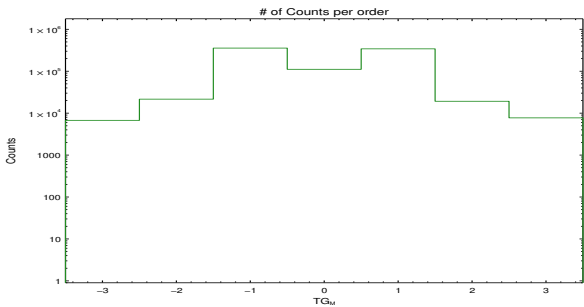


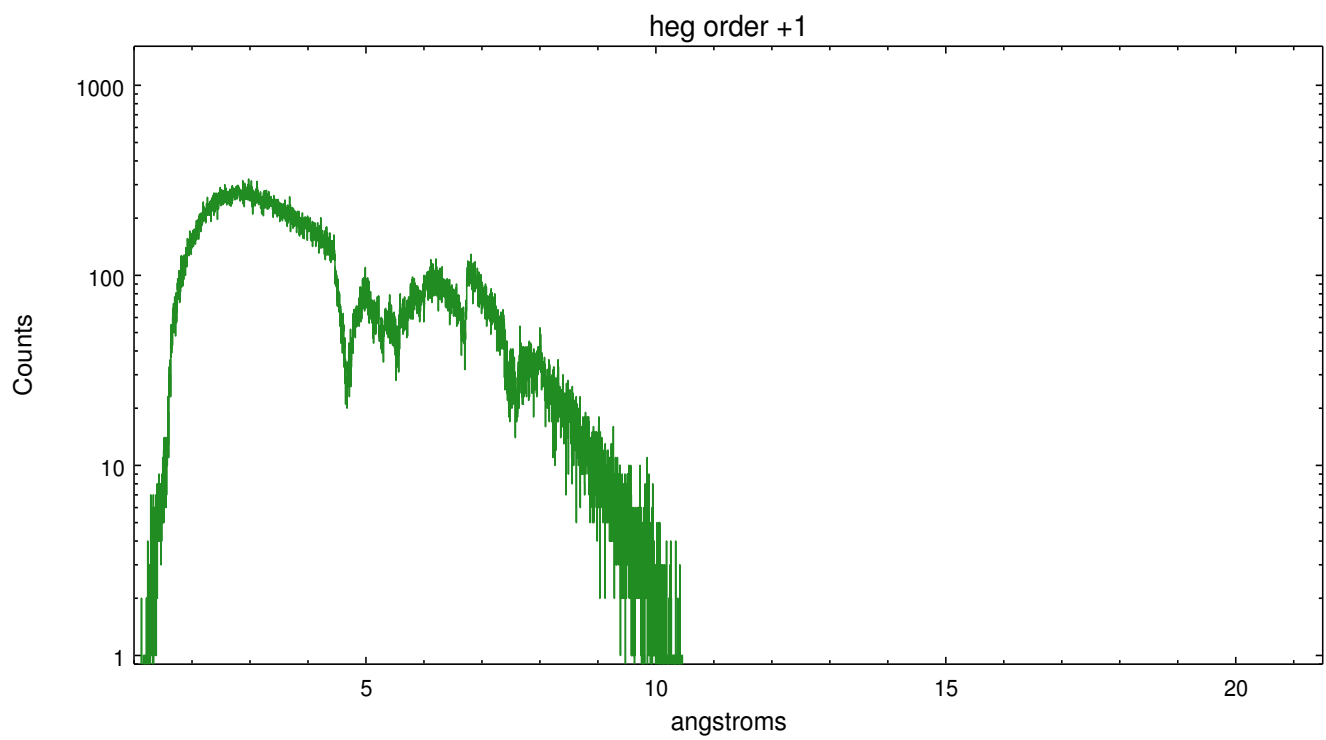
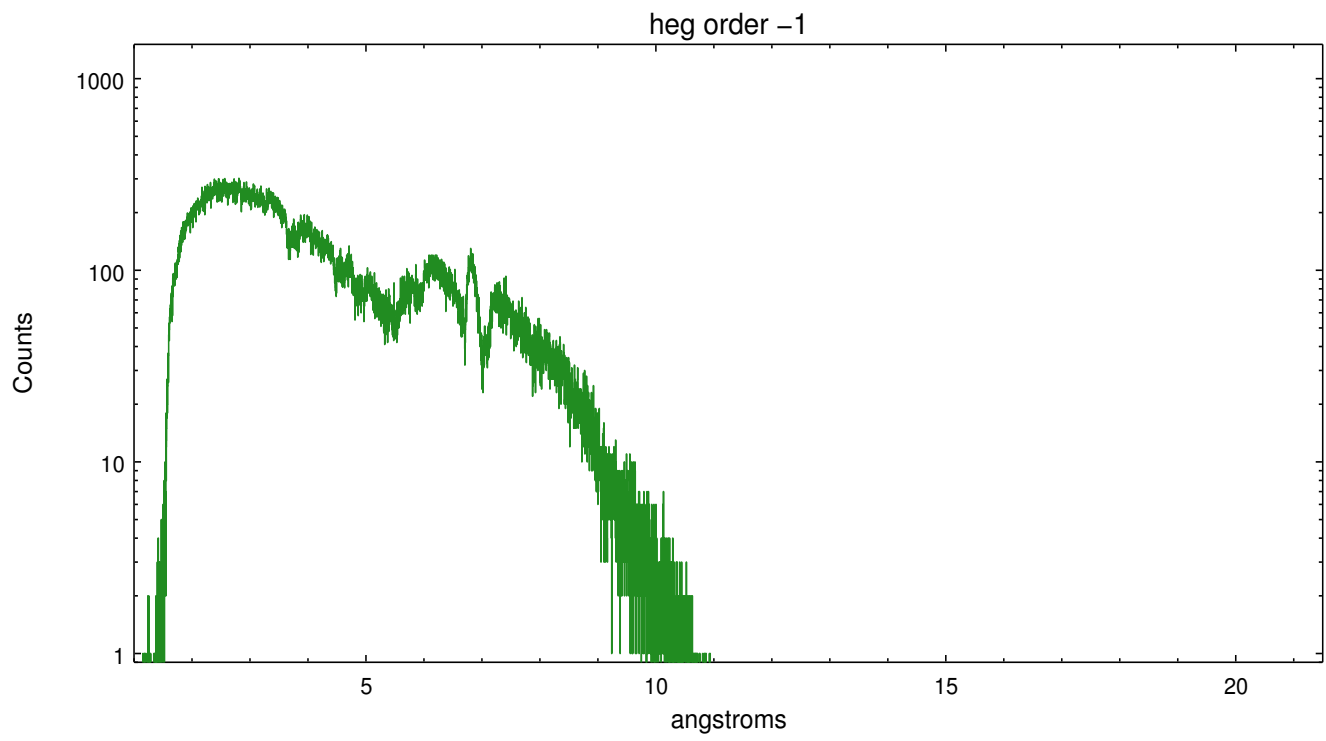
Spot Image HEG



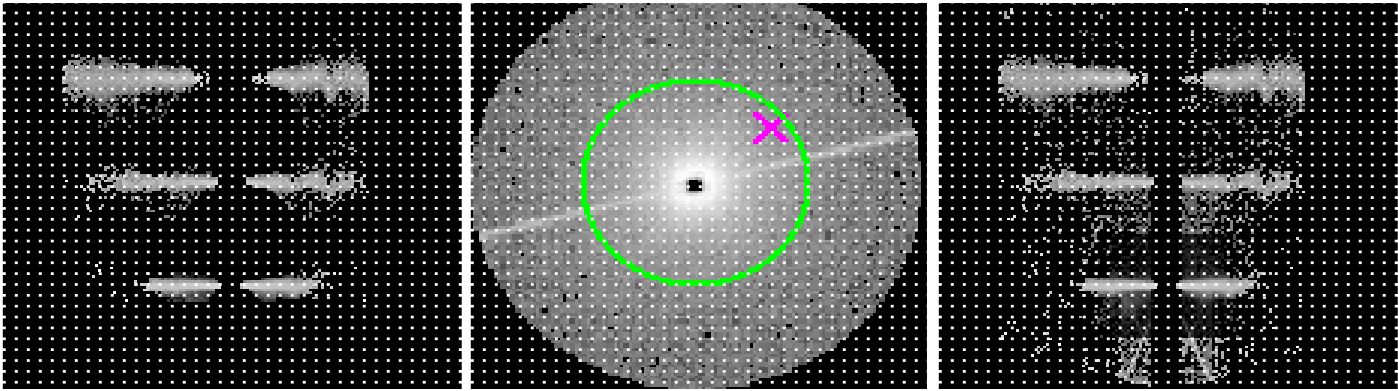
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	6737	21579	356459	111103	342139	19205	7726





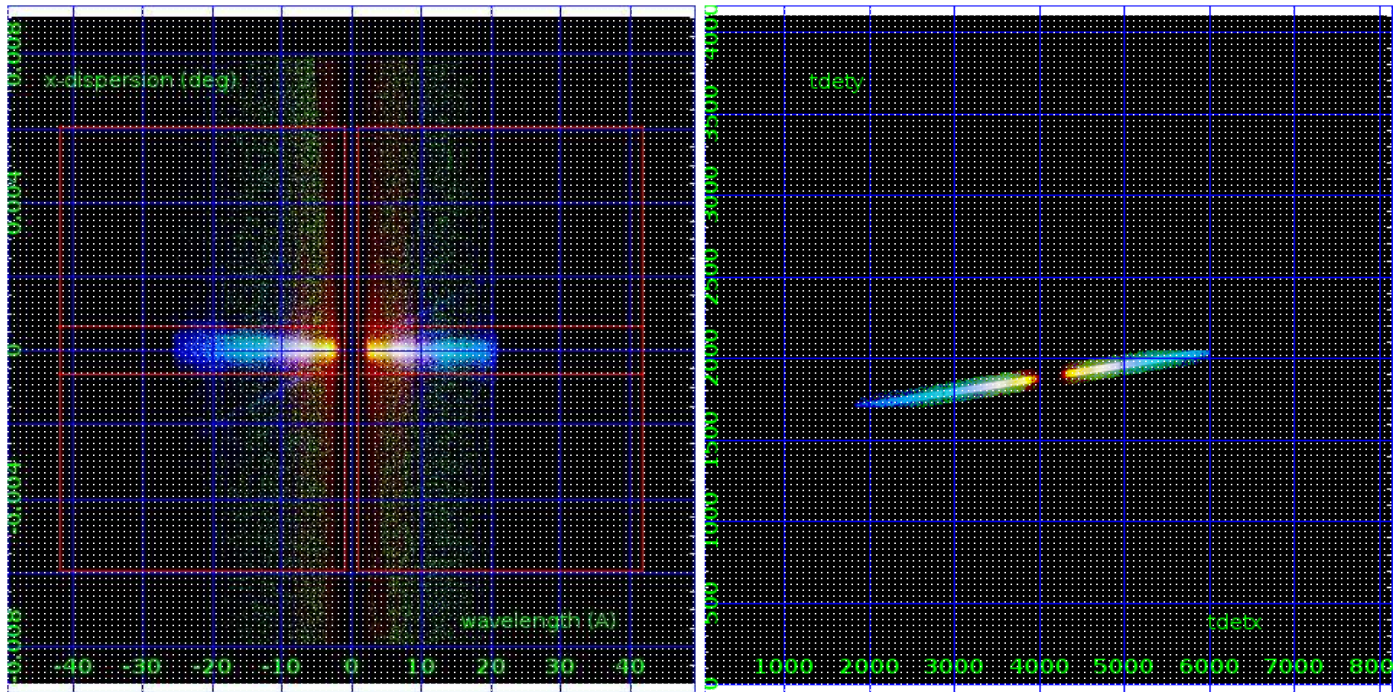
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

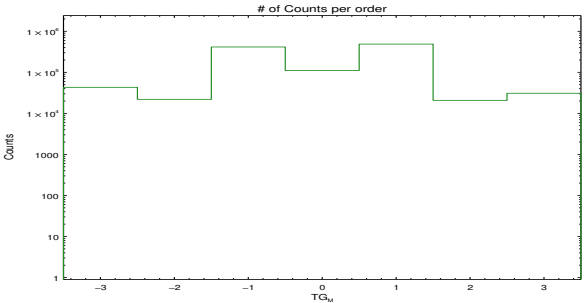
MEG Order Sort ALL

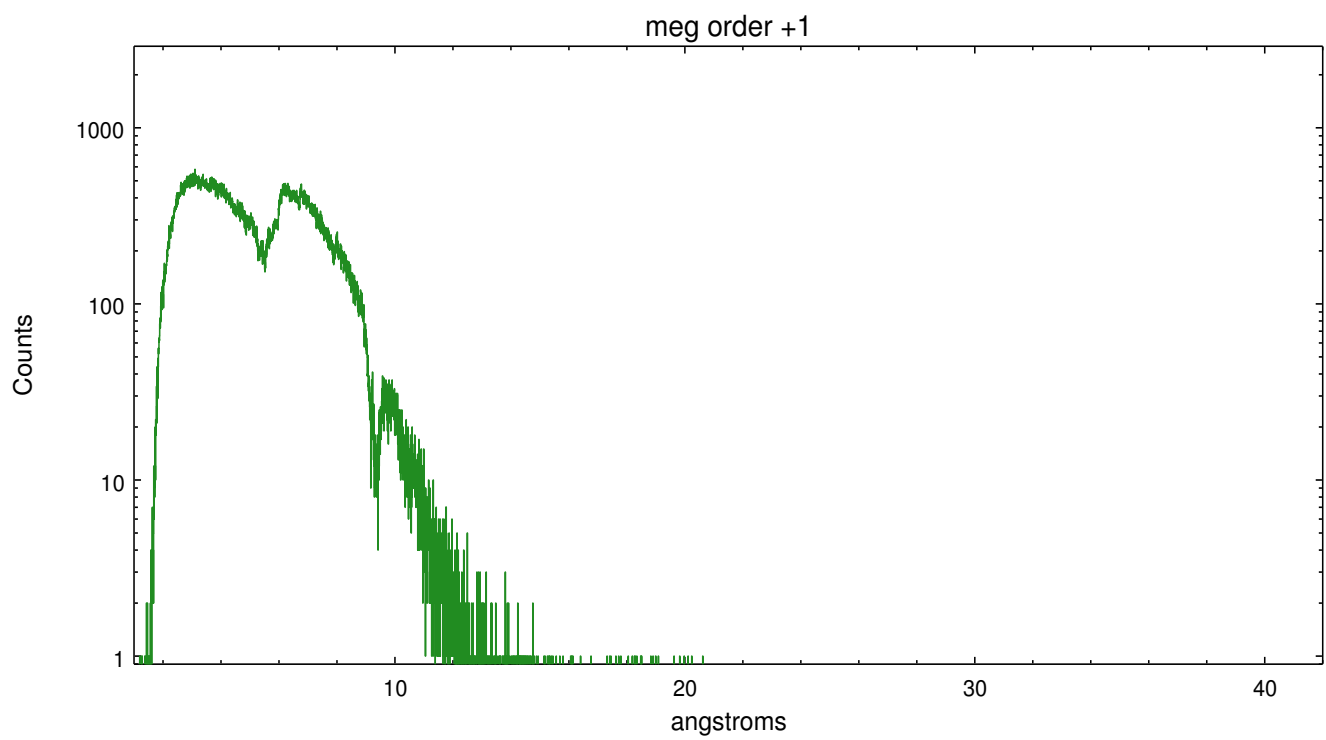
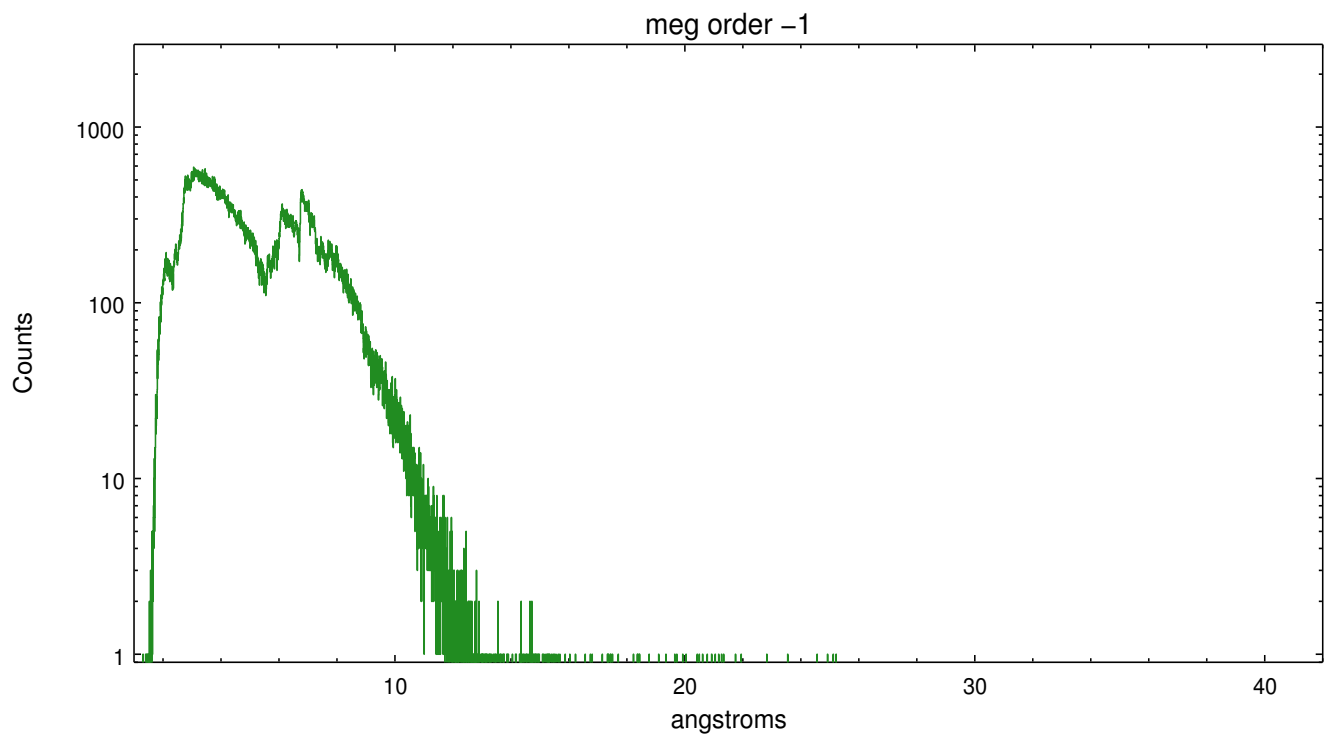


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	43094	21974	414945	111103	487208	20763	30898





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2017.05.24
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.07920119524

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.

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Faint grating spectra can be seen in an image of bad events. This is probably due to pileup in the spectrum, causing migration to bad grades. This should be considered in analysis.