

V&V Reference Report

L2 ASCDS Version : 10.1

Observation 15076 - L2 Version 2
Chandra X-Ray Center

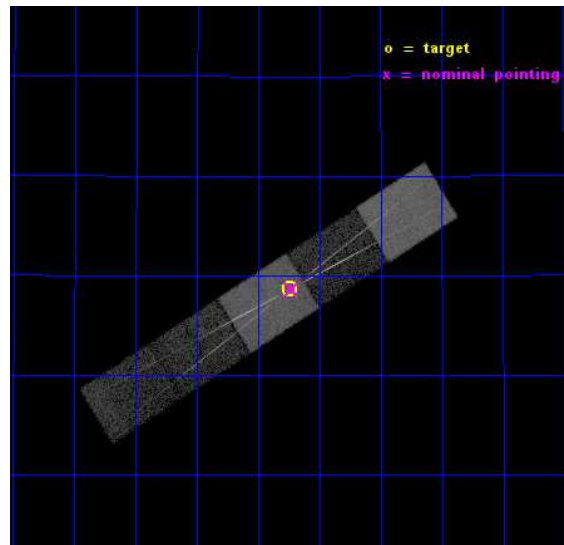
L2 Processing Date : Dec 9 2014

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1 Front

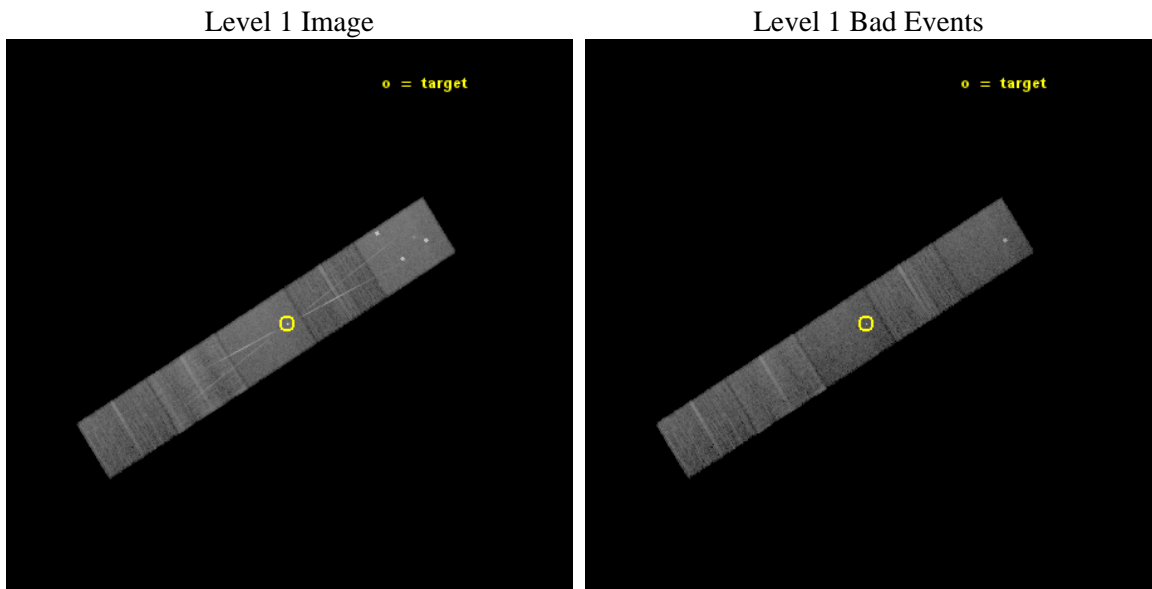
seq_num	702882	Sequence number
obs_id	15076	Observation id
title	A High-Resolution View of the Warm Absorber and Iron Line in Mrk 1040	Proposal title
observer	Mr Andrew Lobban	Principal investigator
object	Markarian 1040	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	37.060417	Observer's specified target RA [deg]
dec_targ	31.311667	Observer's specified target Dec [deg]
ra_nom	37.057228923178	Nominal RA [deg]
dec_nom	31.310358478571	Nominal Dec [deg]
roll_nom	147.78870472109	Nominal Roll [deg]
revision	2	Processing version of data
ontime	20044.799800873	Sum of GTIs [s]
livetime	19707.796481047	Livetime [s]
ontime5	20044.799800873	Sum of GTIs [s]
ontime6	20044.799800873	Sum of GTIs [s]
ontime7	20044.799800873	Sum of GTIs [s]
ontime8	20044.799800873	Sum of GTIs [s]
ontime9	20044.799800873	Sum of GTIs [s]
l2events	147016	Number of level 2 events



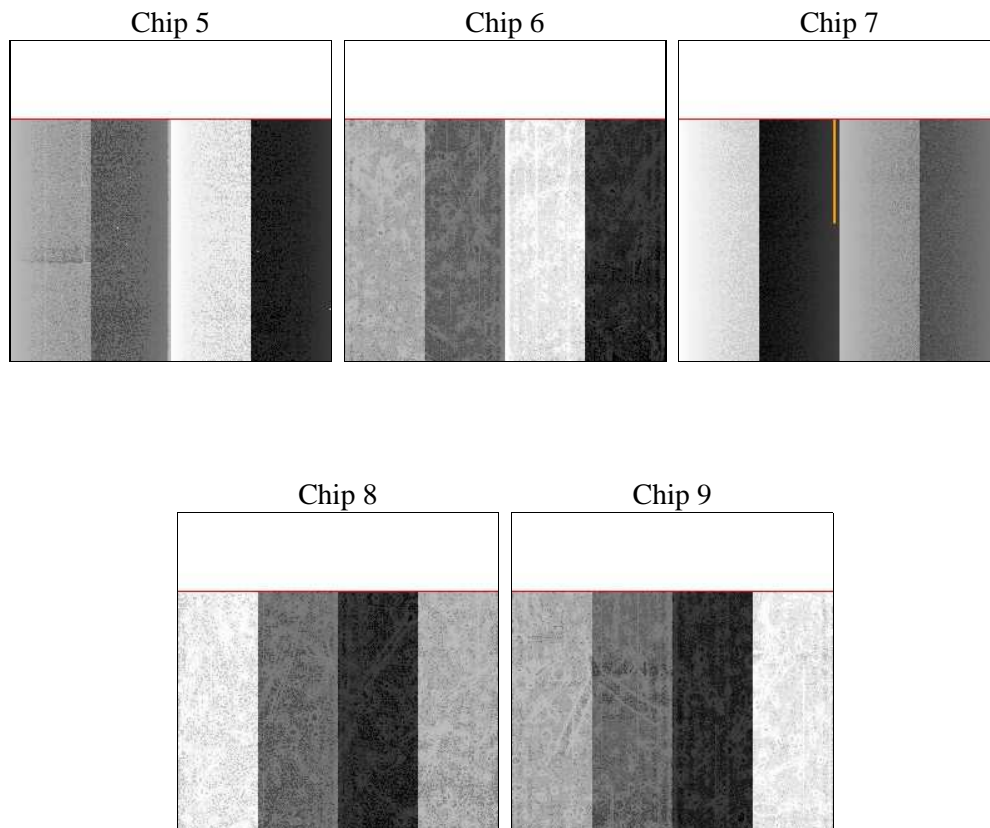
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	20044.799800873	Sum of GTIs [s]
caldbver	4.6.4	 	ontime5	20044.799800873	Sum of GTIs [s]
date	2014-12-09T04:22:08	Date and time of file creation	ontime6	20044.799800873	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	20044.799800873	Sum of GTIs [s]
			ontime8	20044.799800873	Sum of GTIs [s]
			ontime9	20044.799800873	Sum of GTIs [s]
			l1events	513870	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4077.41, 4105.59)	src1a sky pixel position

2.1.4 Events

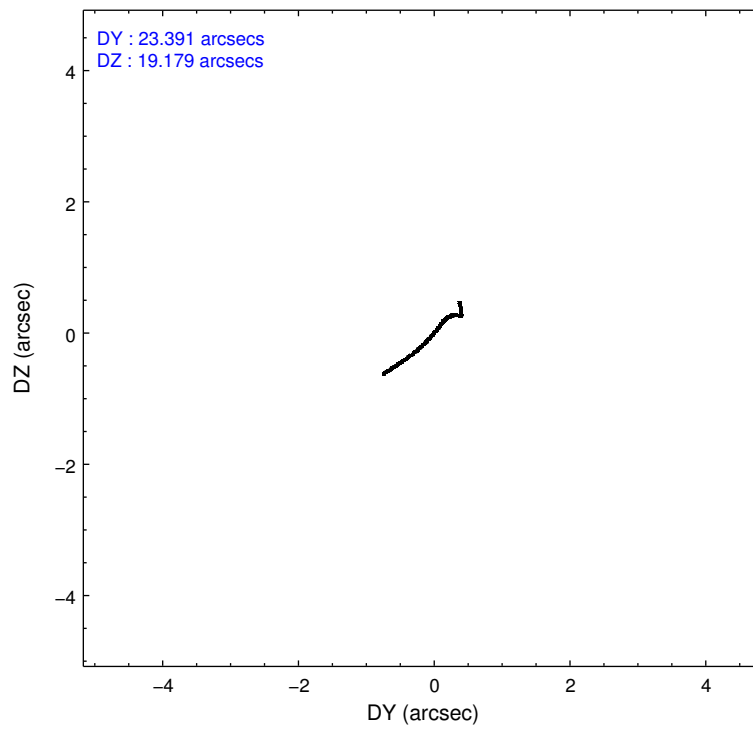
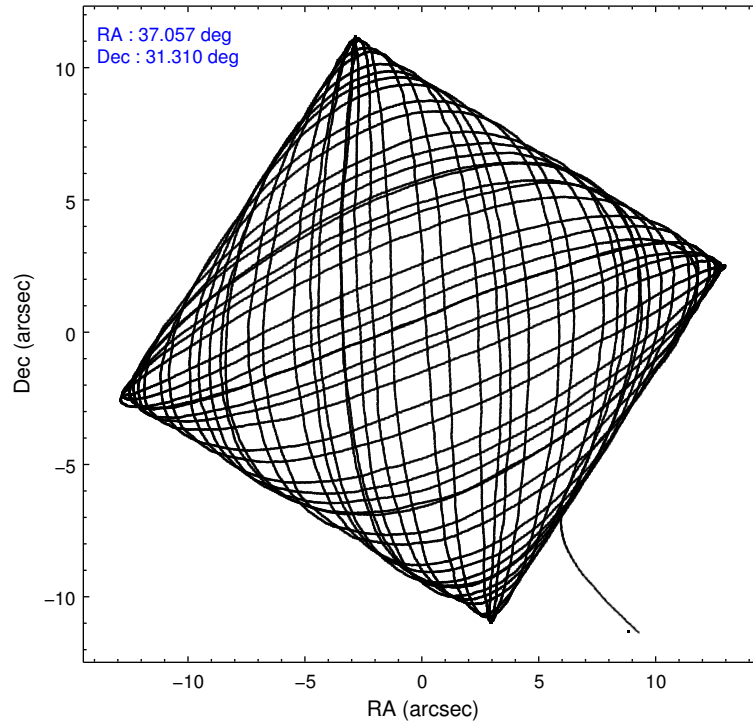
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	138838	81491	115466	104750	73325
rejected events	65518	65933	58653	75078	63222
rejected %	47%	80%	50%	71%	86%

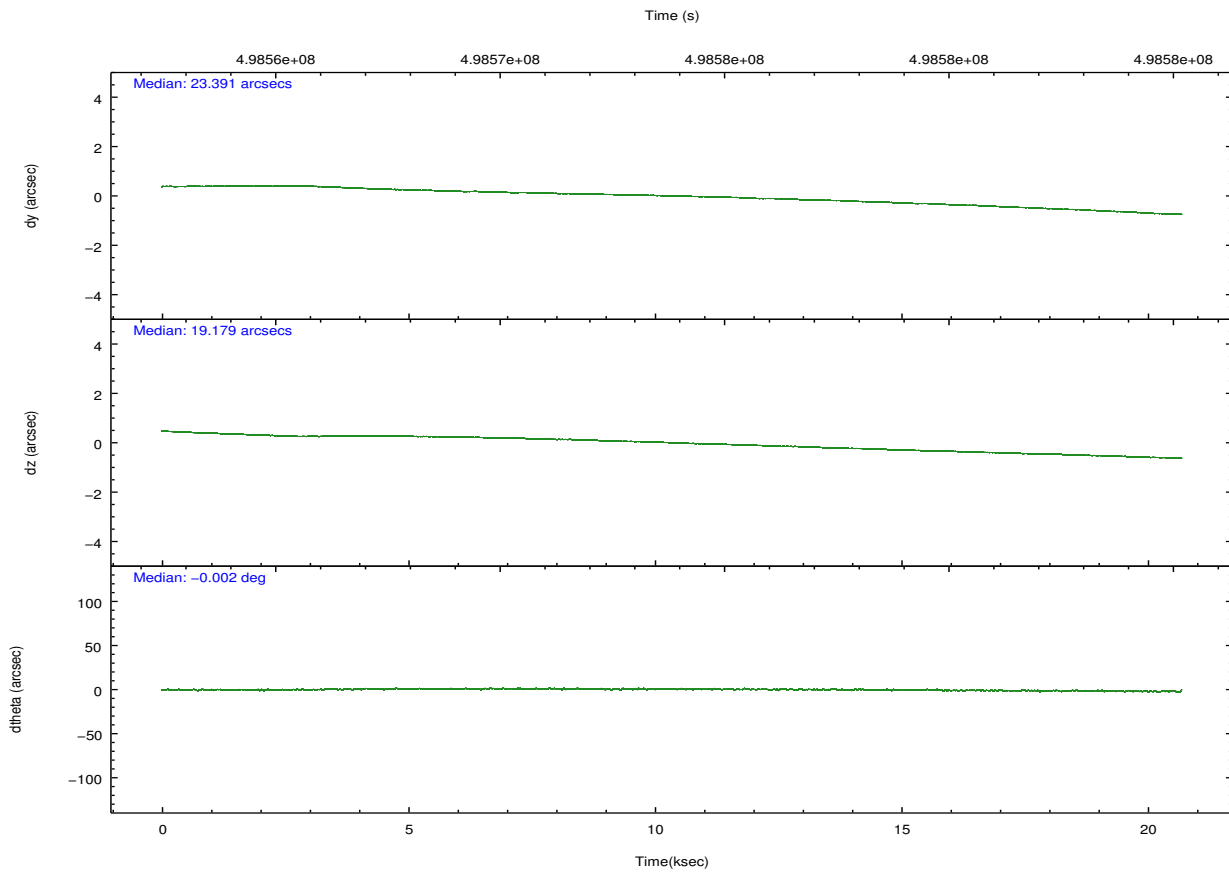
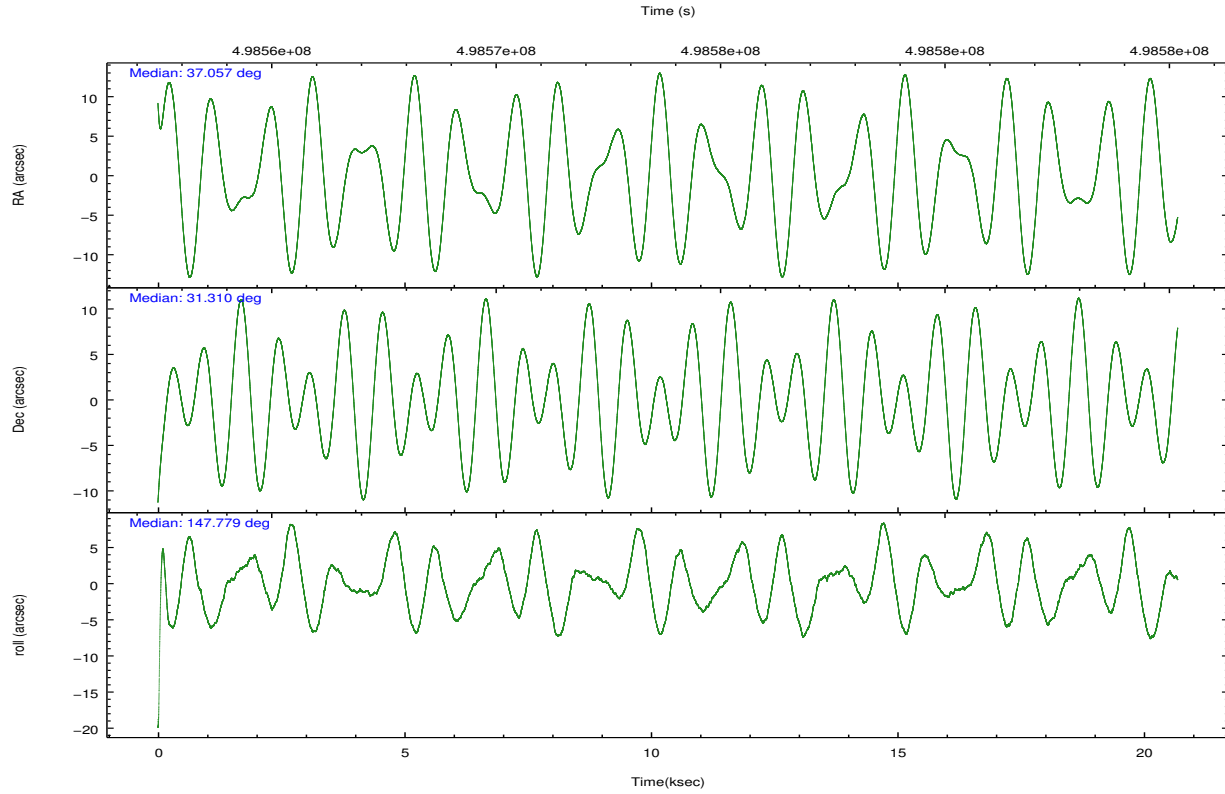
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	15660	8011	6104	9269	3690
	11%	9%	5%	8%	5%
grade 1 events	172	41	206	72	49
	0%	0%	0%	0%	0%
grade 2 events	20890	2897	12156	6968	2160
	15%	3%	10%	6%	2%
grade 3 events	2551	1190	5162	2890	1111
	1%	1%	4%	2%	1%
grade 4 events	2427	1203	5174	2670	1030
	1%	1%	4%	2%	1%
grade 5 events	10308	3836	11068	5561	4342
	7%	4%	9%	5%	5%
grade 6 events	31822	2262	28226	7879	2115
	22%	2%	24%	7%	2%
grade 7 events	55008	62051	47370	69441	58828
	39%	76%	41%	66%	80%

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	37.089201	37.05722892317821	CCD I2 on	N	N
[deg] Pointing Dec	31.309685	31.31035847857116	CCD I3 on	N	N
[deg] Pointing Roll	147.615478	147.7887047210884	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	-187.132523	-187.1228876879999	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-3	-3.009634895007935	CCD S4 on	Y	Y
[s] Observation start time (MET)	498564162.184000	498561959.87036	CCD S5 on	O2	Y
Observation start date	2013-10-19T10:01:35	2013-10-19T09:25:59	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	498584162.184000	498584865.03411	On-chip summing requested	N	N
Observation end date	2013-10-19T15:34:55	2013-10-19T15:47:45	Subarray requested	CUSTOM	CUSTOM
Read mode	TIMED	TIMED	Subarray start row	1	1
			Subarray row count	774	774
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	2.4

2.3 Aspect



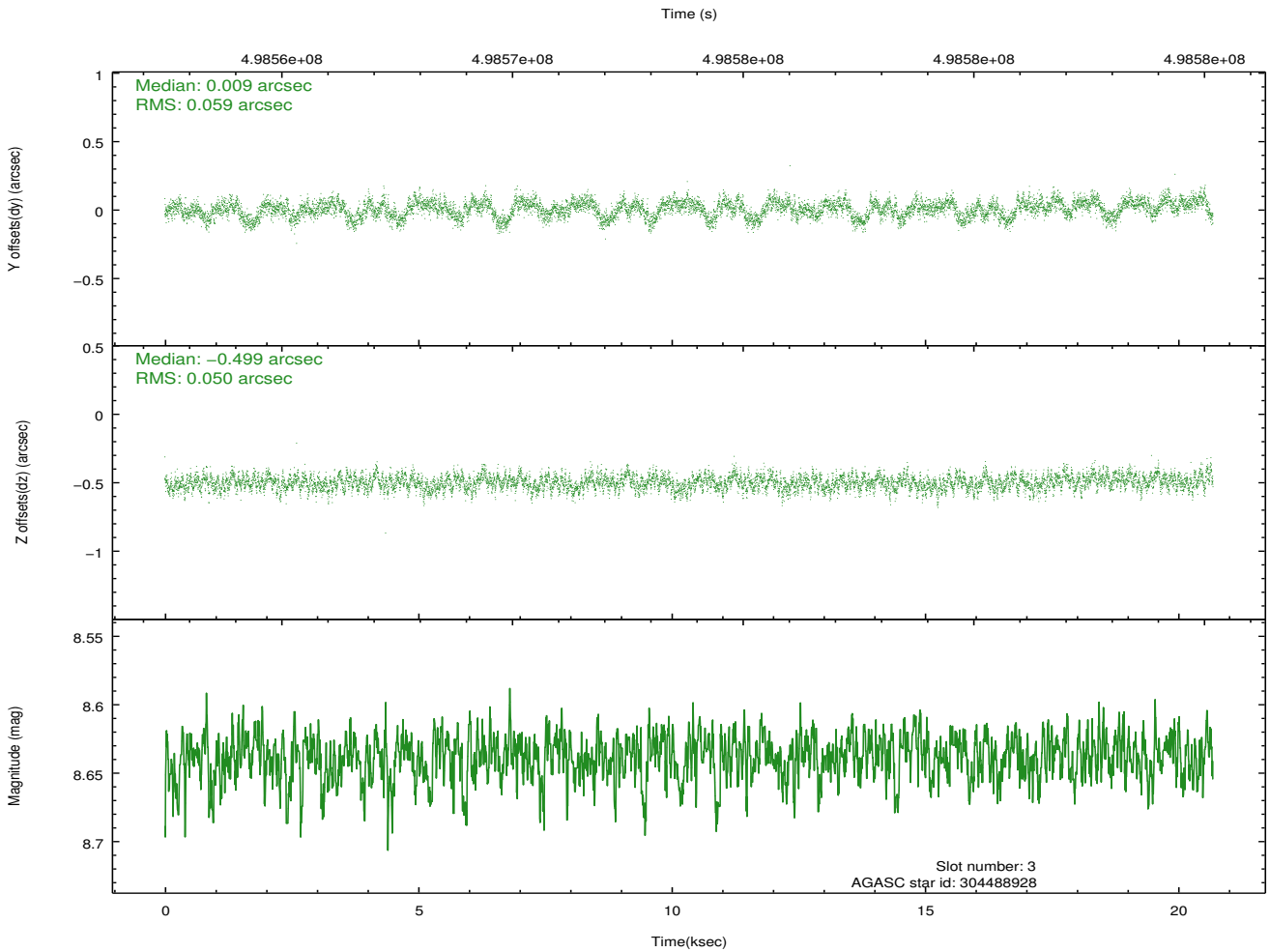
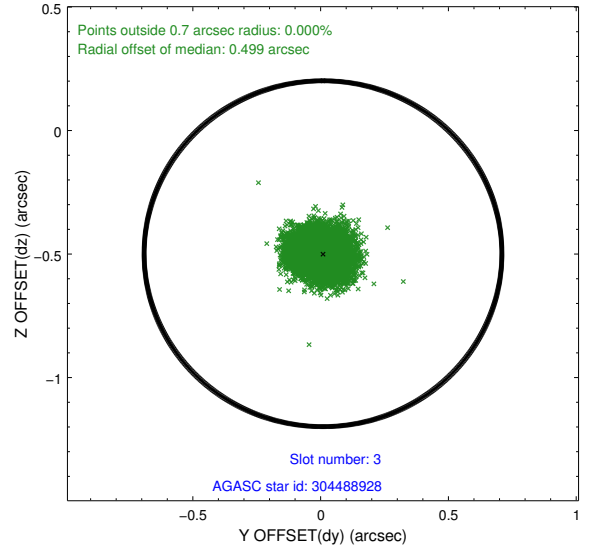
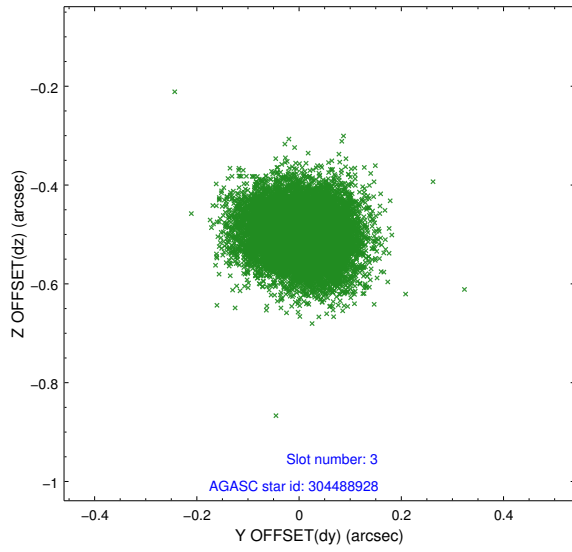


Slot Statistics

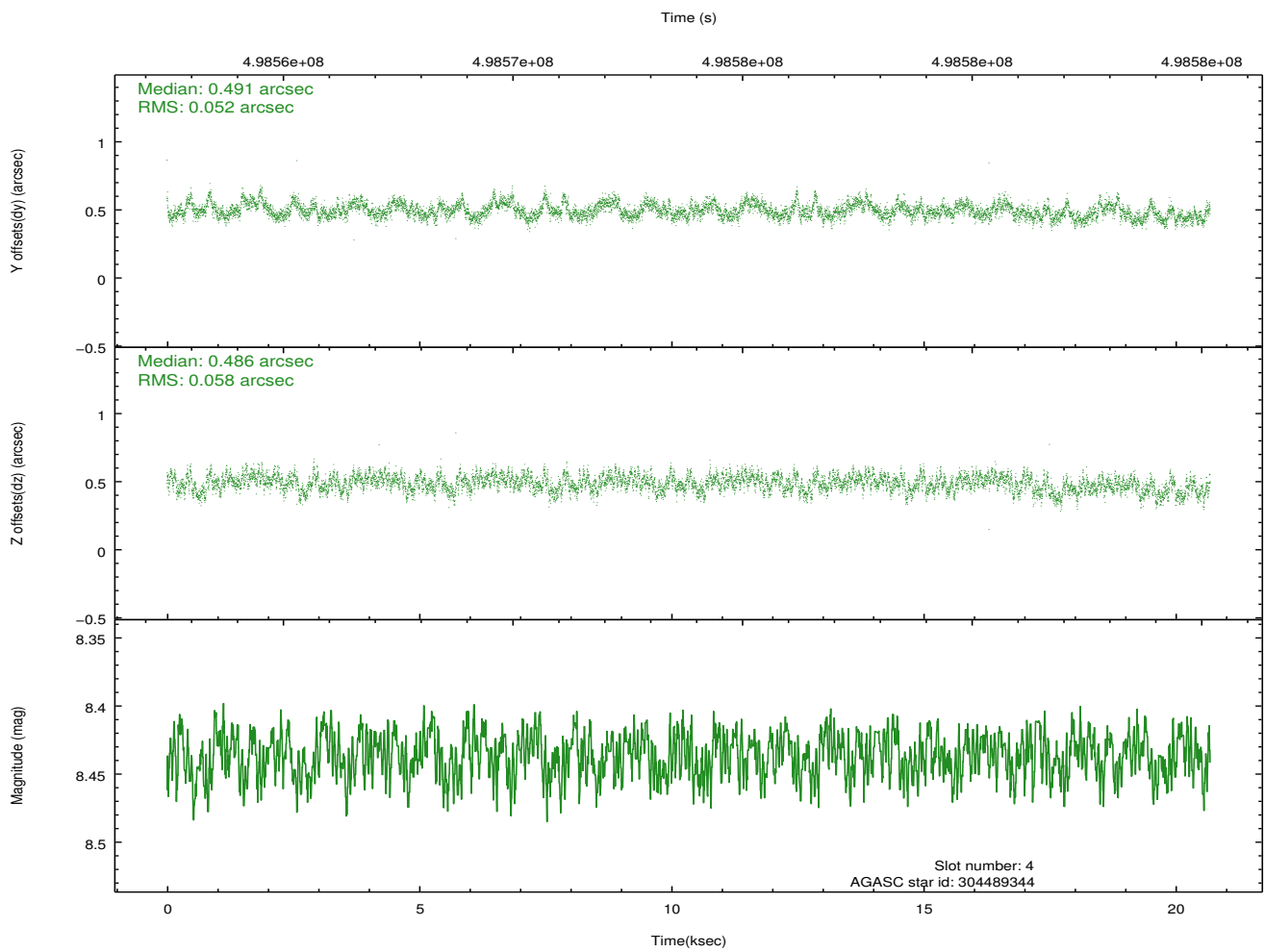
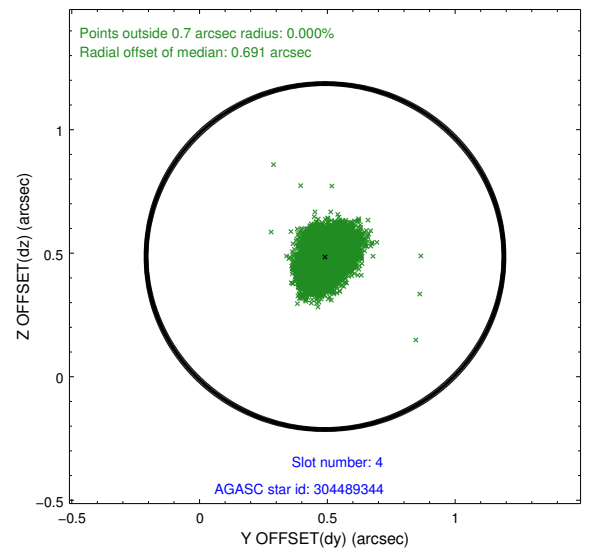
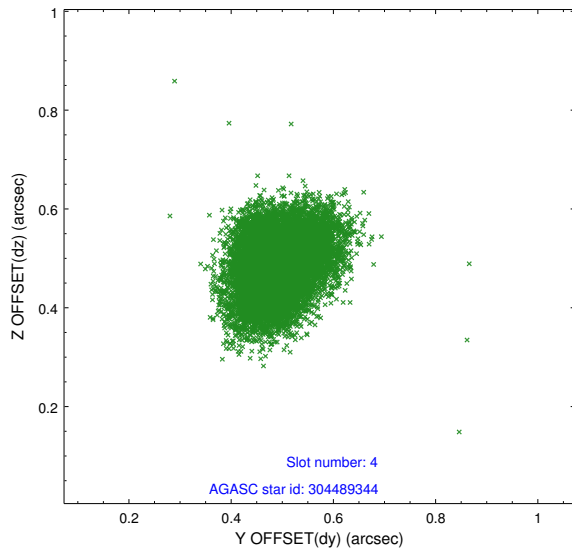
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.92	5046	-0.205	-0.130	0.014	0.023	0.000000	0.000000	-776.61	-1802.86
1	FID		ACIS-S-4	6.99	5046	0.222	0.119	0.011	0.019	0.000000	0.000000	2137.09	105.55
2	FID		ACIS-S-6	7.17	5046	-0.045	0.018	0.008	0.014	0.000000	0.000000	385.86	743.12
3	GUIDE	used	304488928	8.64	10090	0.009	-0.499	0.084	0.132	36.290494	31.295864	2052.56	1350.73
4	GUIDE	used	304489344	8.44	10088	0.491	0.486	0.083	0.133	37.898459	31.513382	-1699.70	-1957.65
5	GUIDE	used	304489920	8.93	10086	-0.156	0.040	0.089	0.147	37.004568	31.865503	1290.46	-1550.92
6	GUIDE	used	304490280	7.13	10092	0.119	-0.091	0.061	0.103	37.339770	30.865291	-1509.96	935.34
7	GUIDE	used	304493688	7.31	10090	-0.466	0.069	0.070	0.111	36.521322	30.906645	705.84	2161.52

2.4 Star Slots

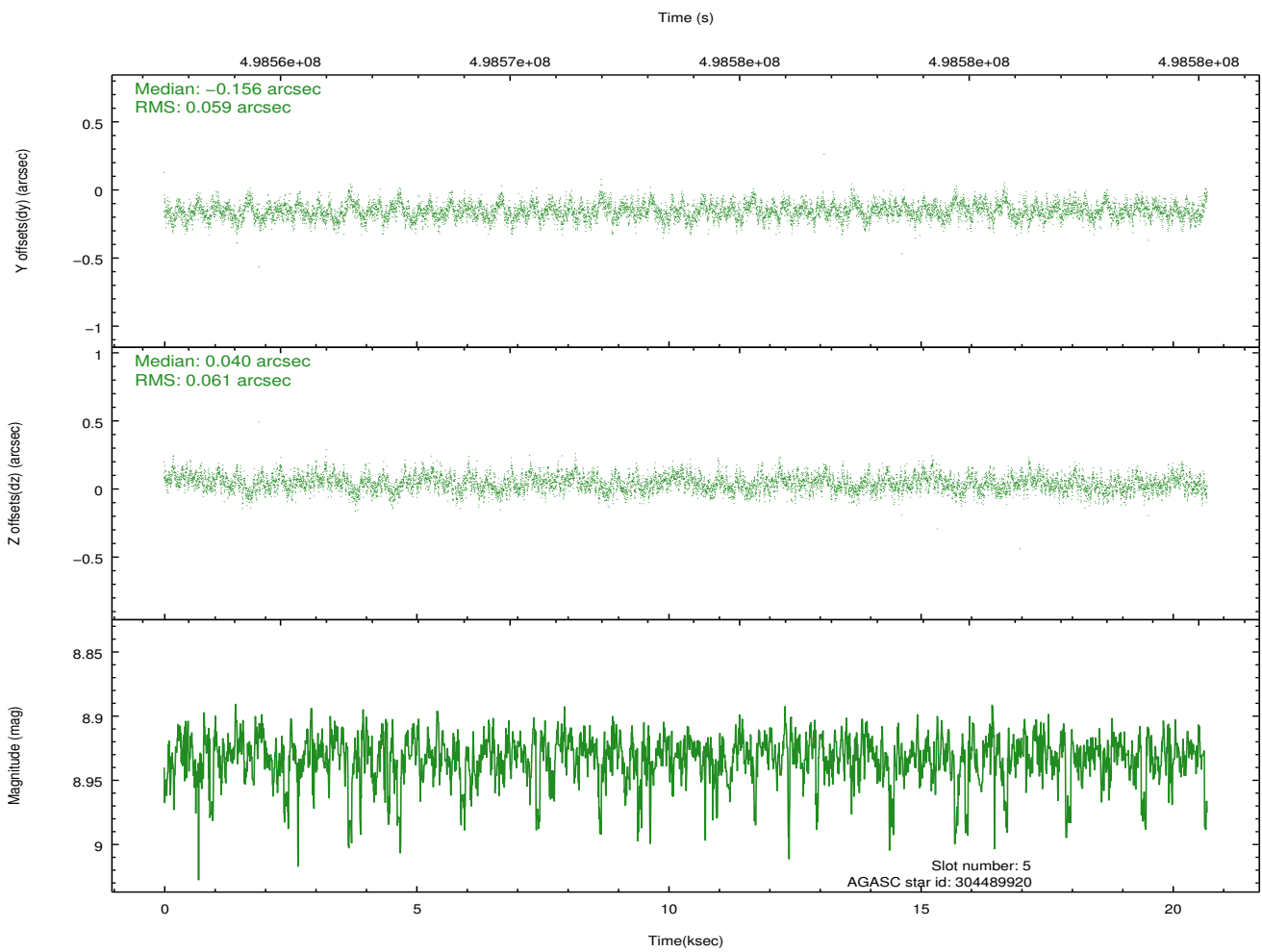
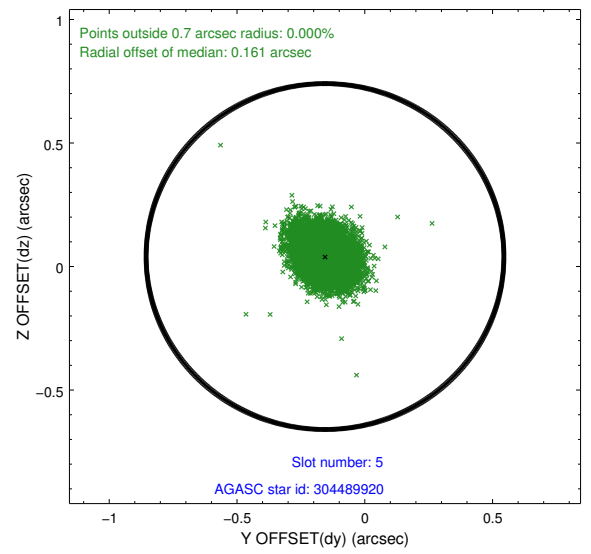
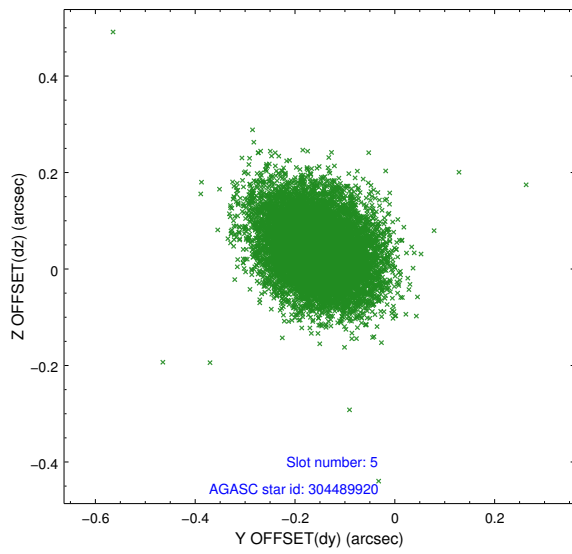
2.4.1 Slot 3



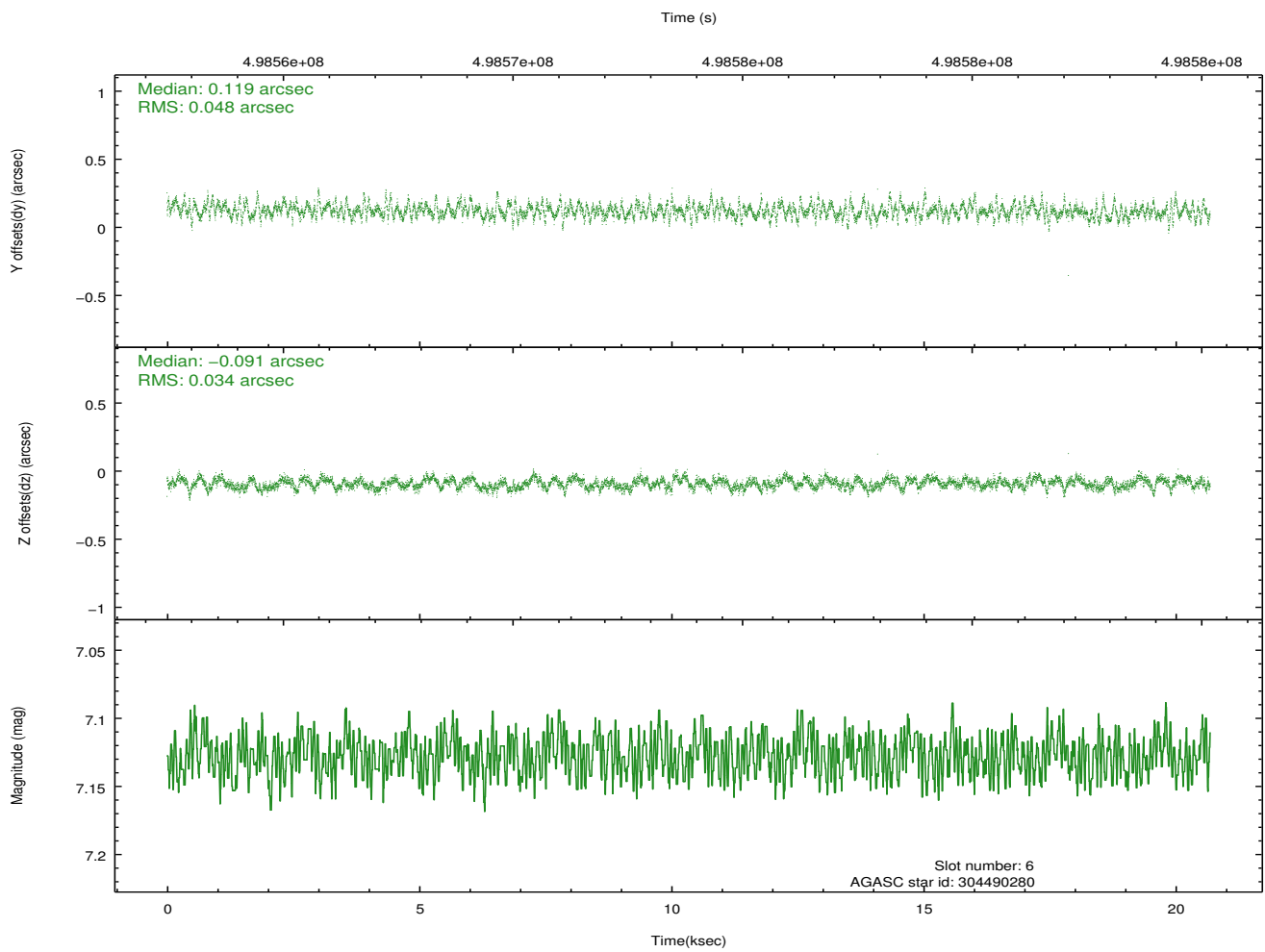
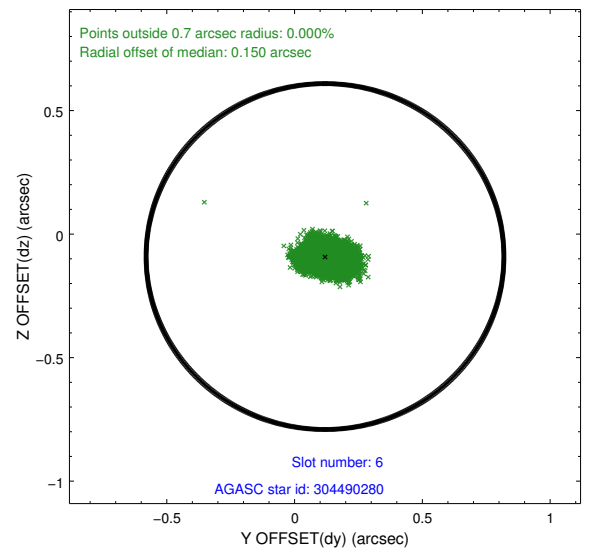
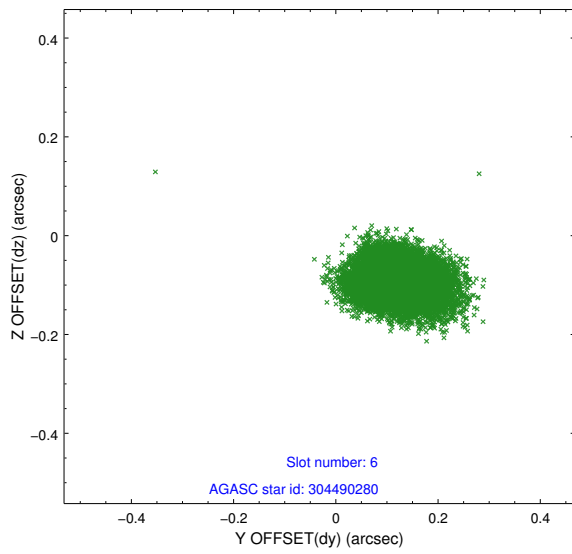
2.4.2 Slot 4



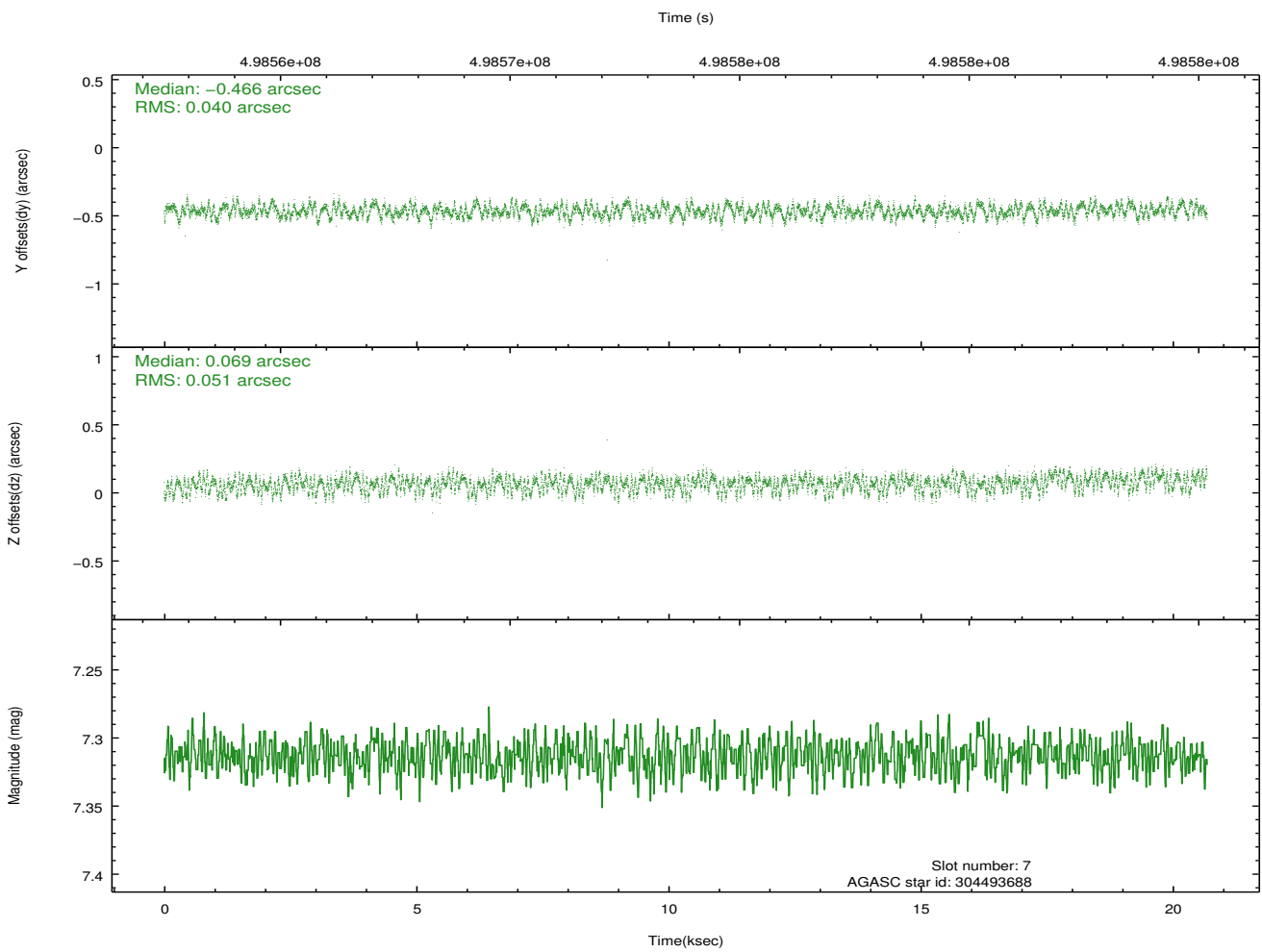
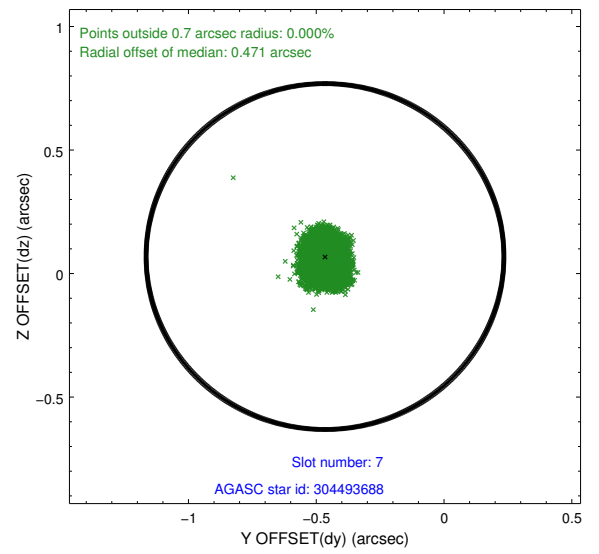
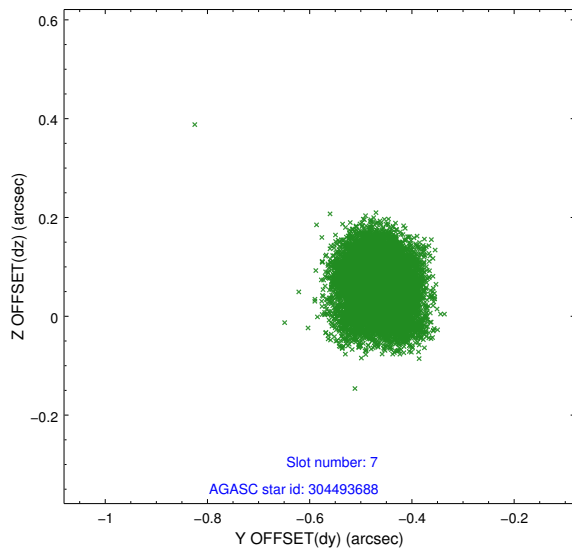
2.4.3 Slot 5



2.4.4 Slot 6

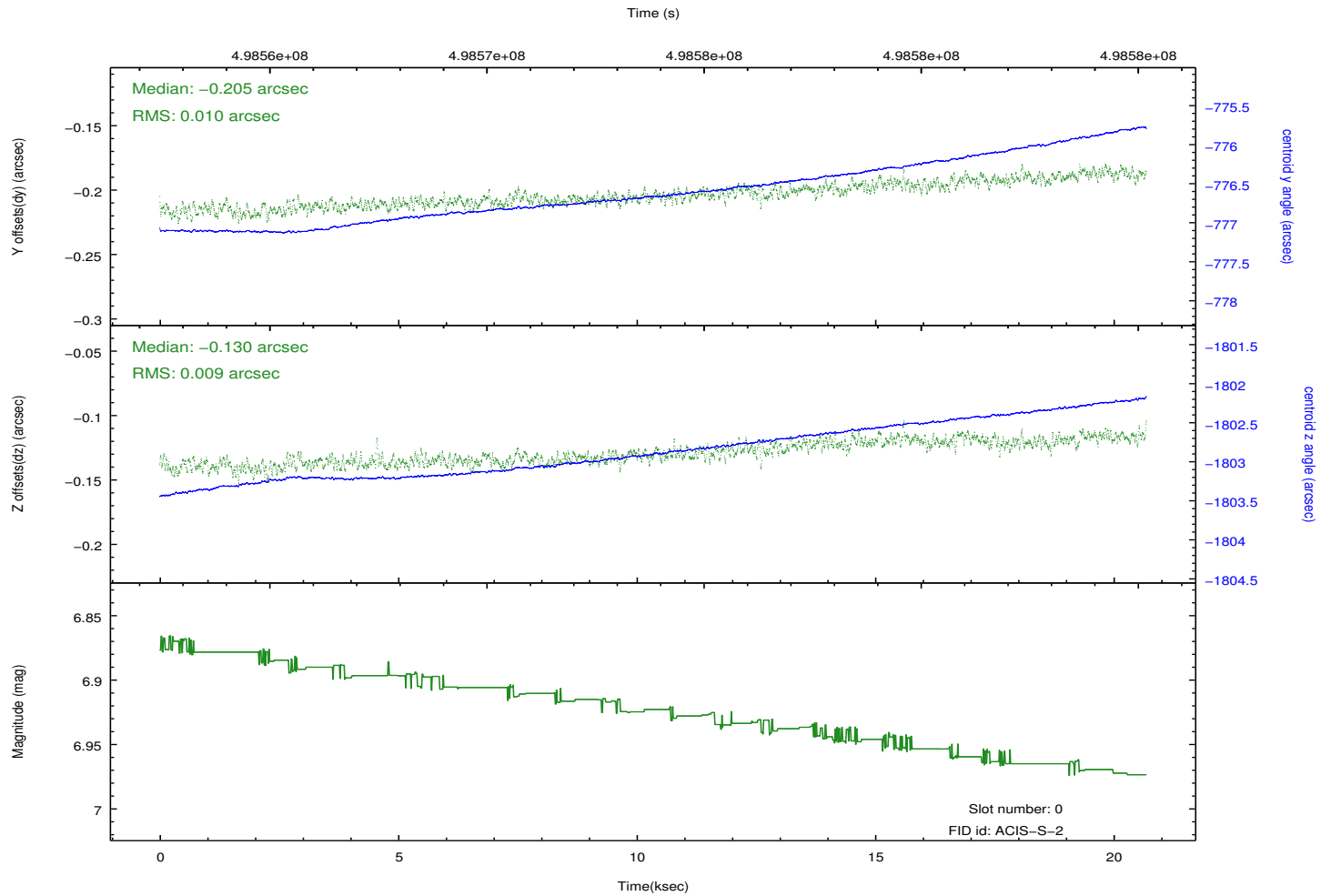
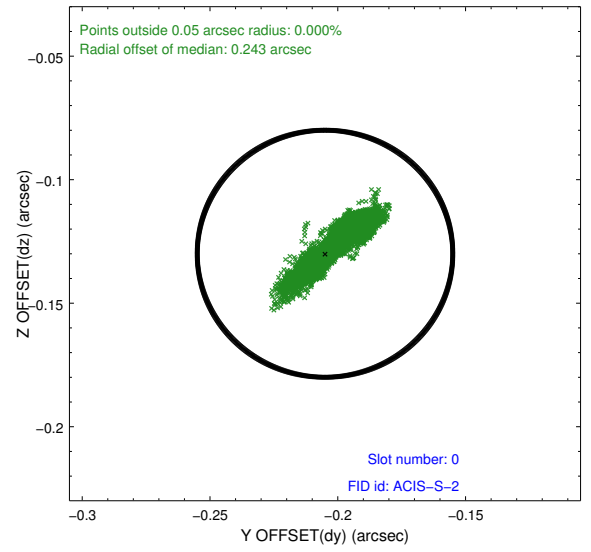
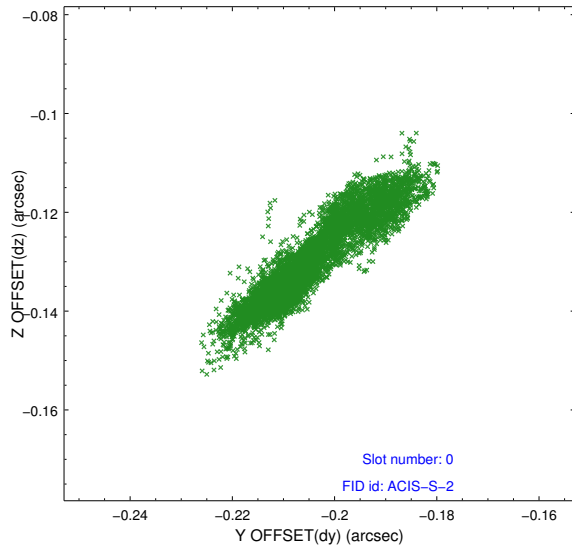


2.4.5 Slot 7

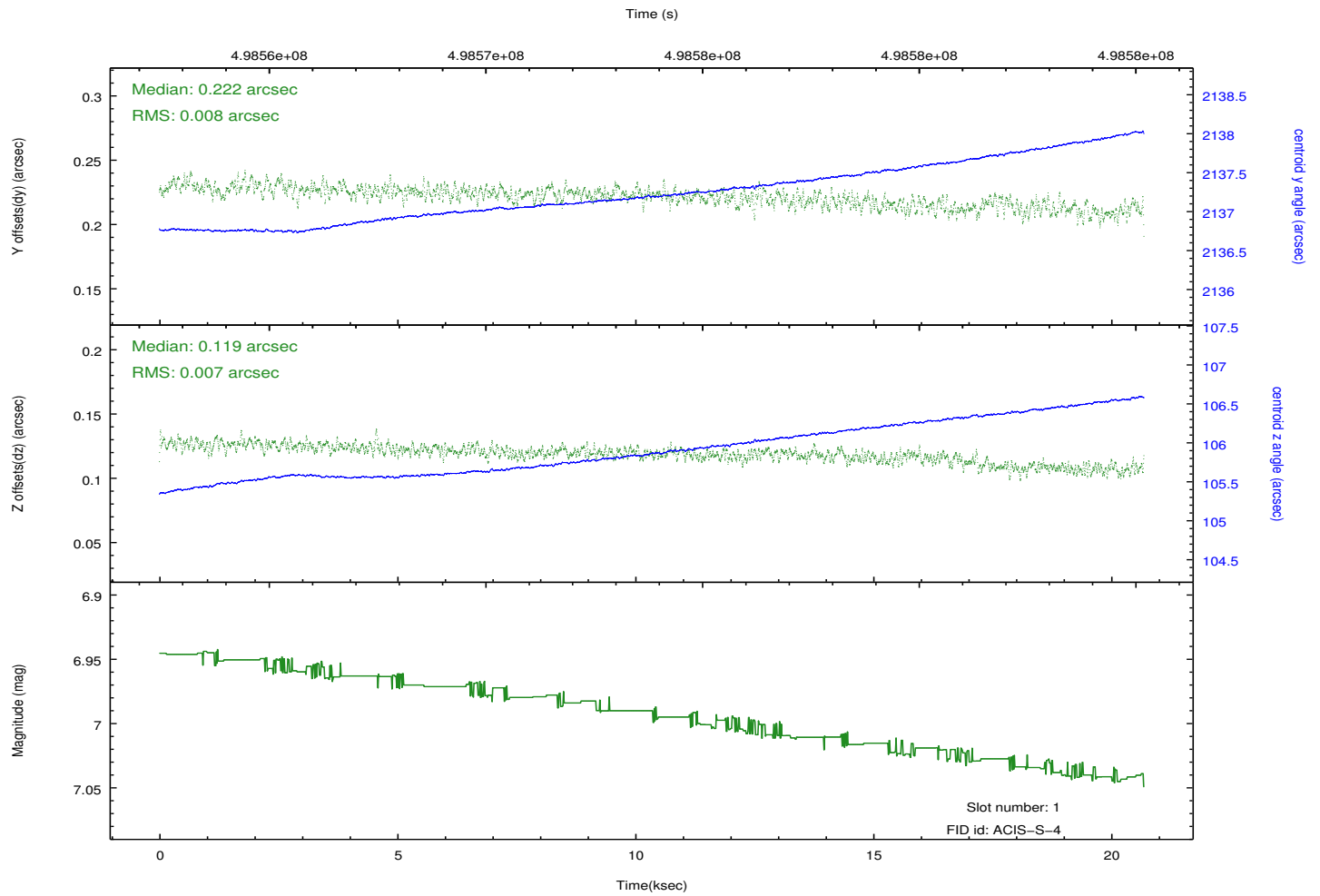
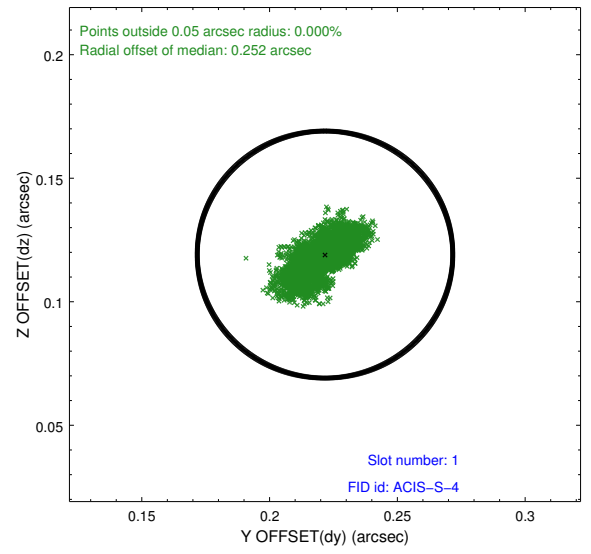
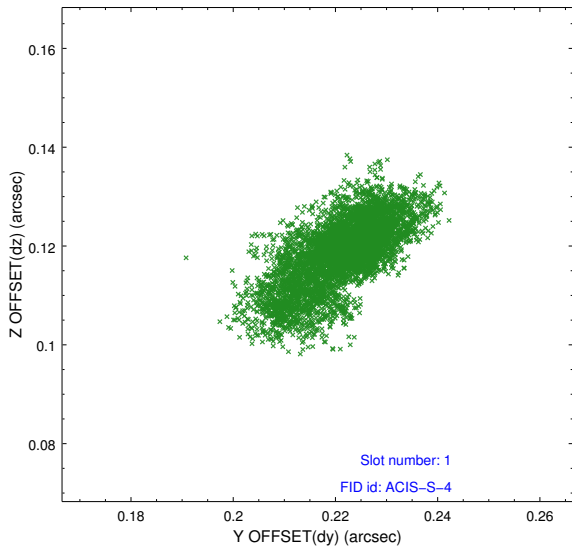


2.5 FID Slots

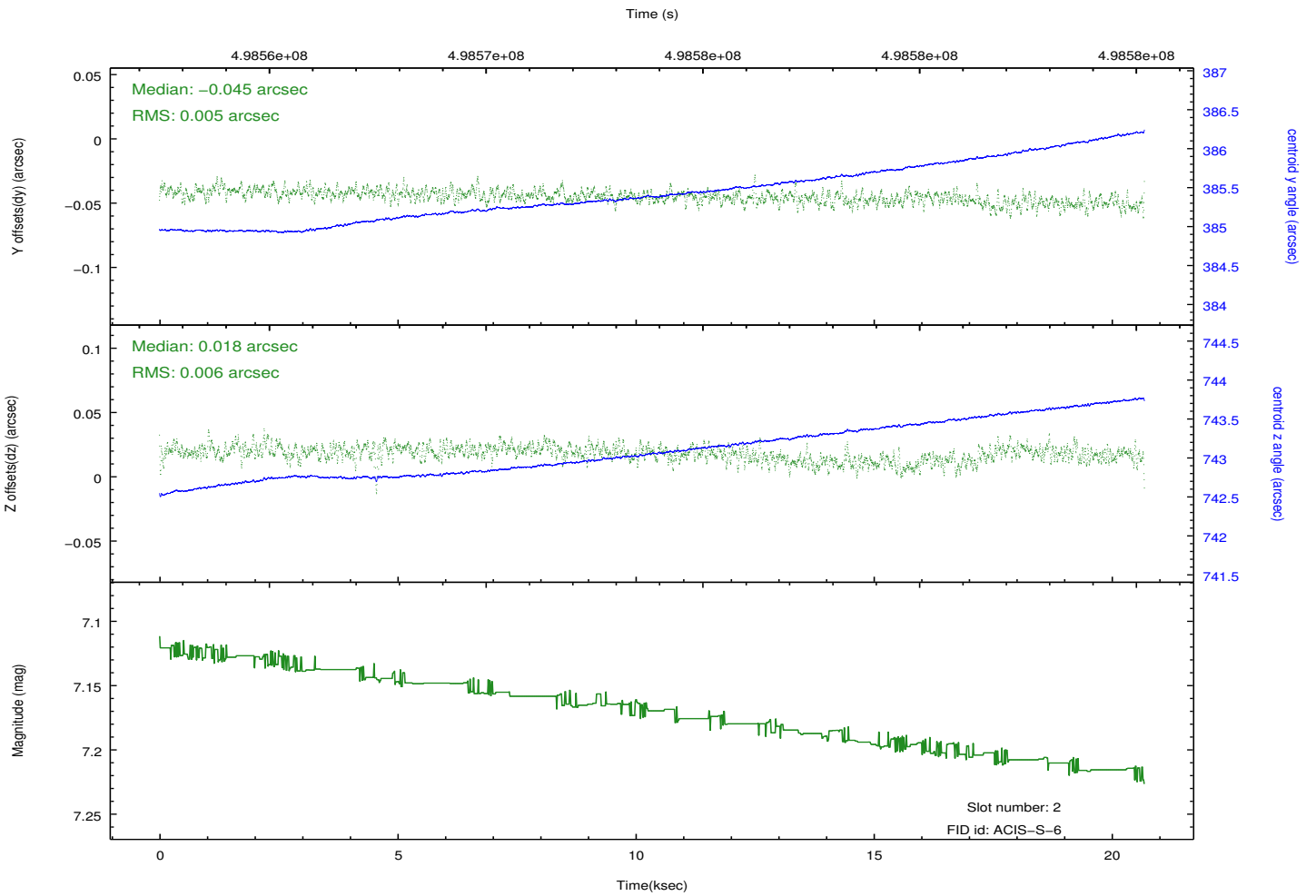
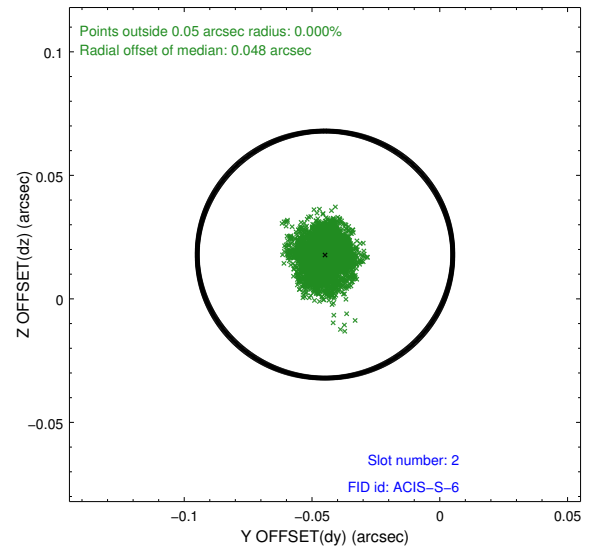
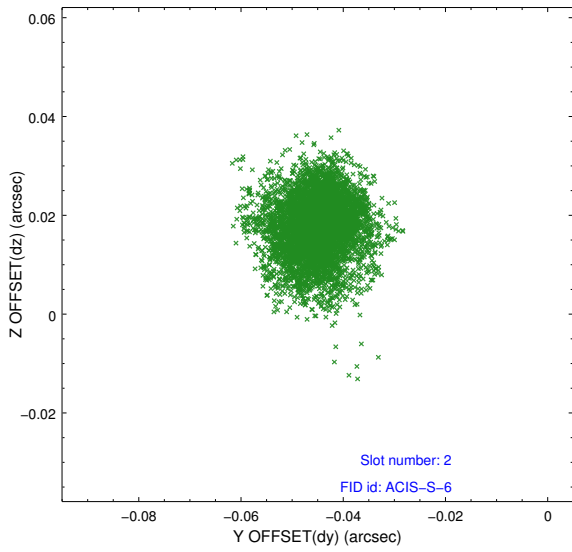
2.5.1 Slot 0



2.5.2 Slot 1

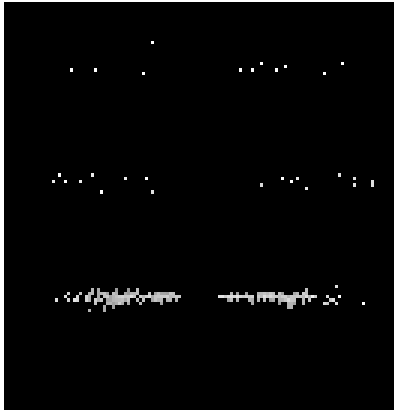


2.5.3 Slot 2

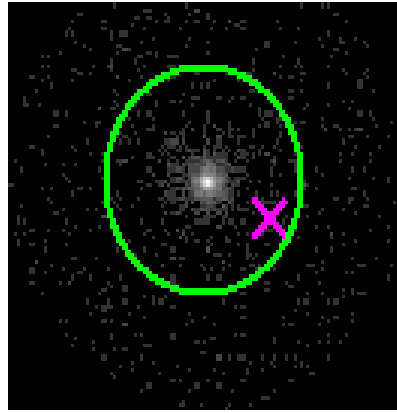


3 Gratings

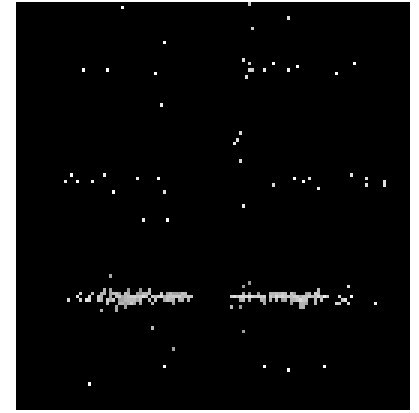
3.1 HEG Arm



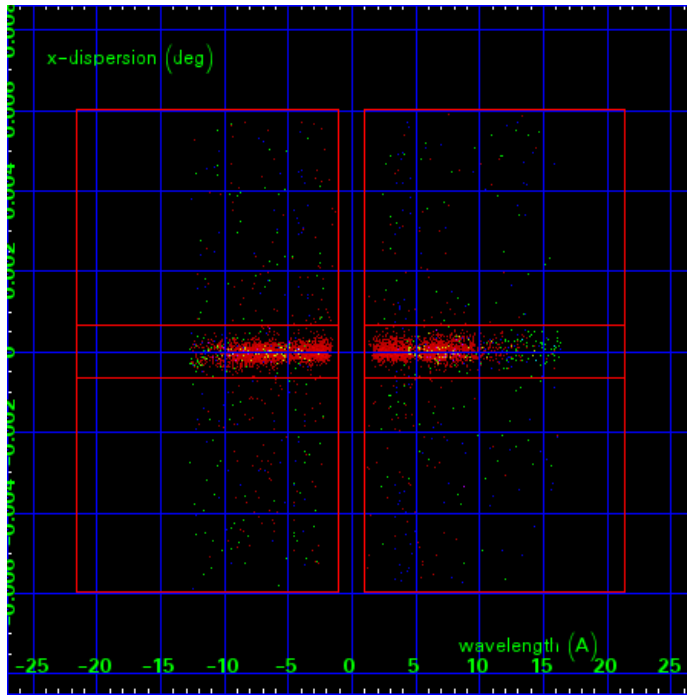
HEG Order Sort 123



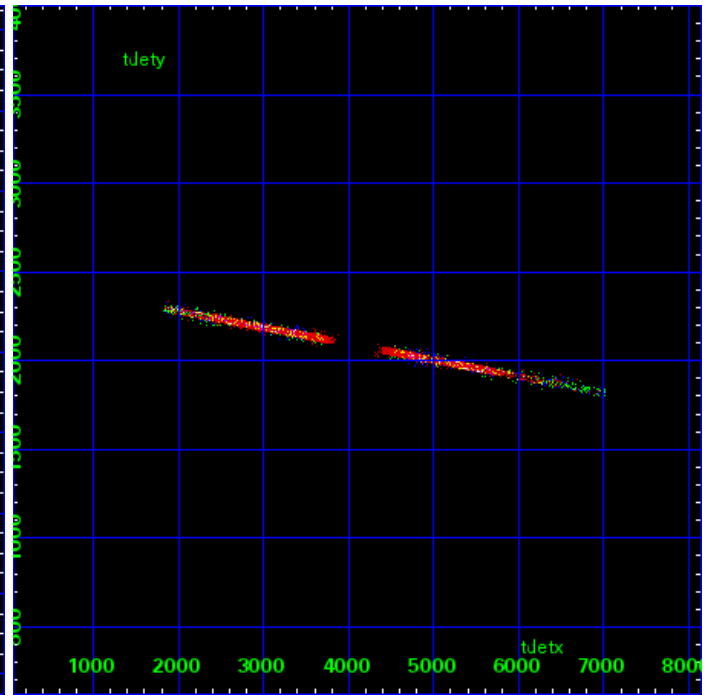
HEG Zero Order



HEG Order Sort ALL

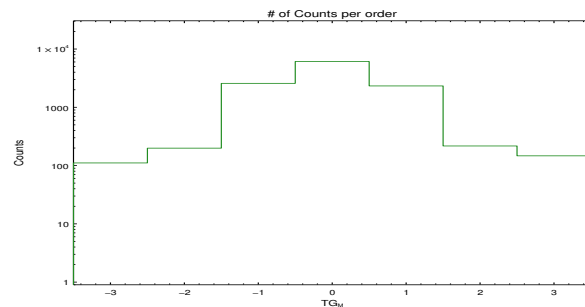


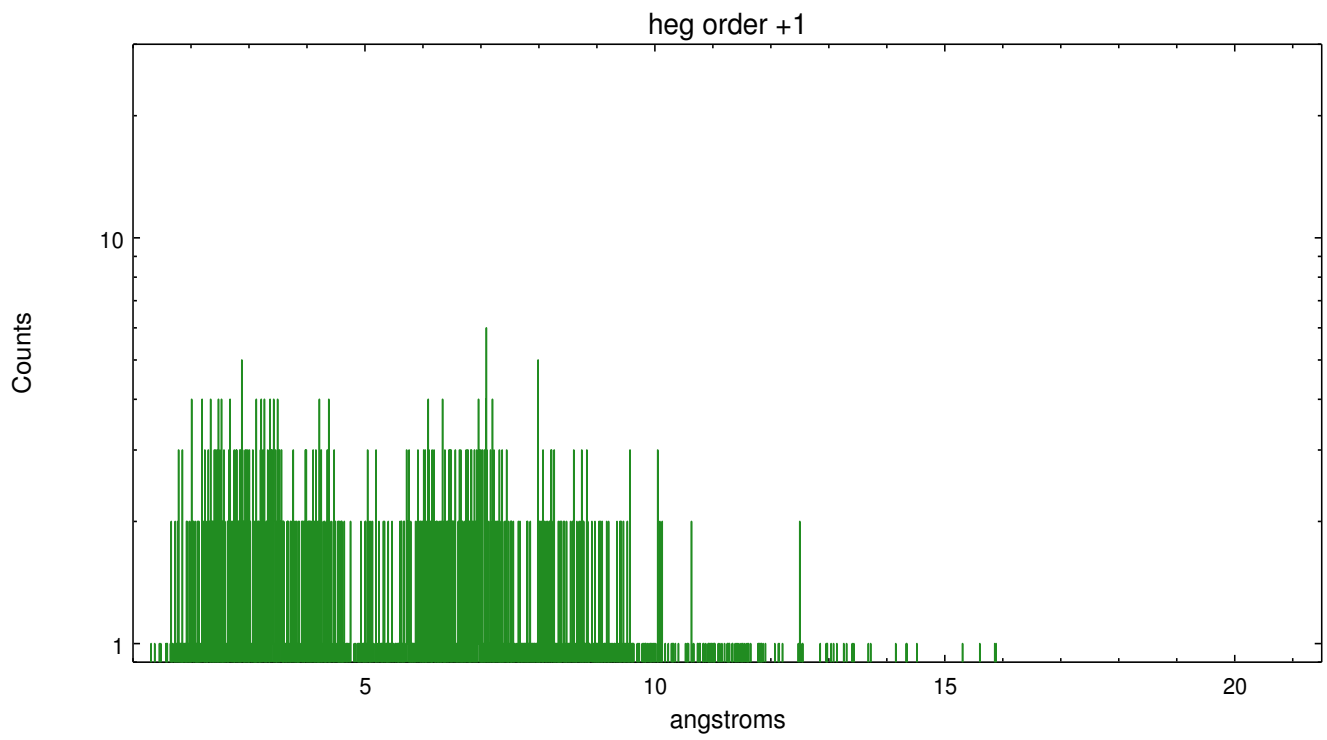
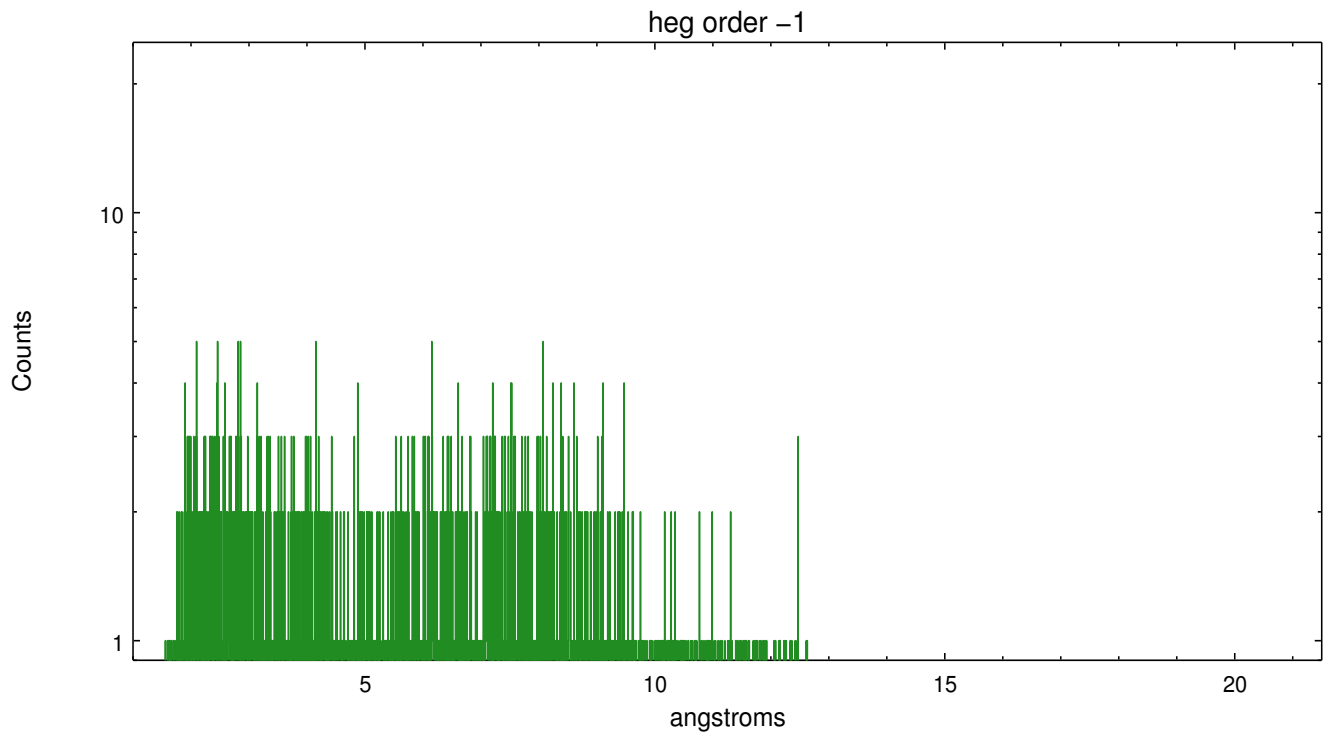
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	111	199	2575	6105	2327	217	147

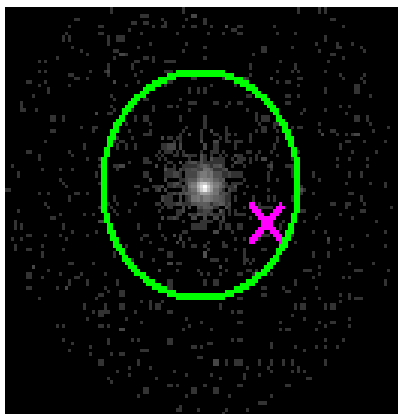




3.2 MEG Arm



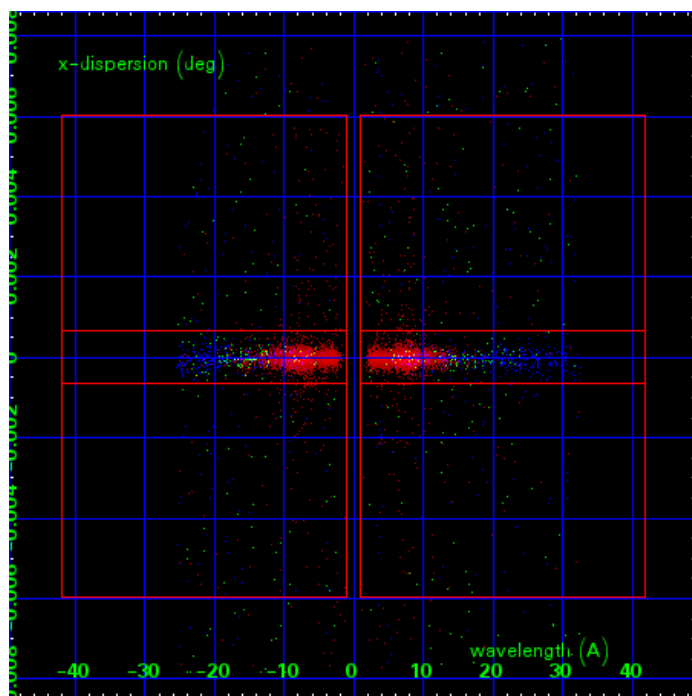
MEG Order Sort 123



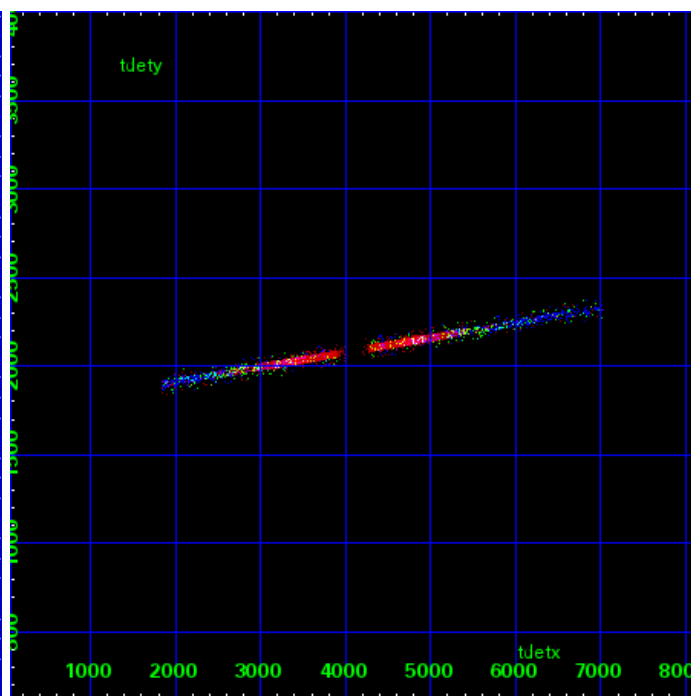
MEG Zero Order



MEG Order Sort ALL

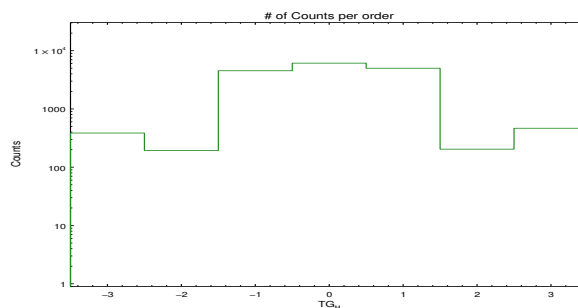


Spot Image MEG

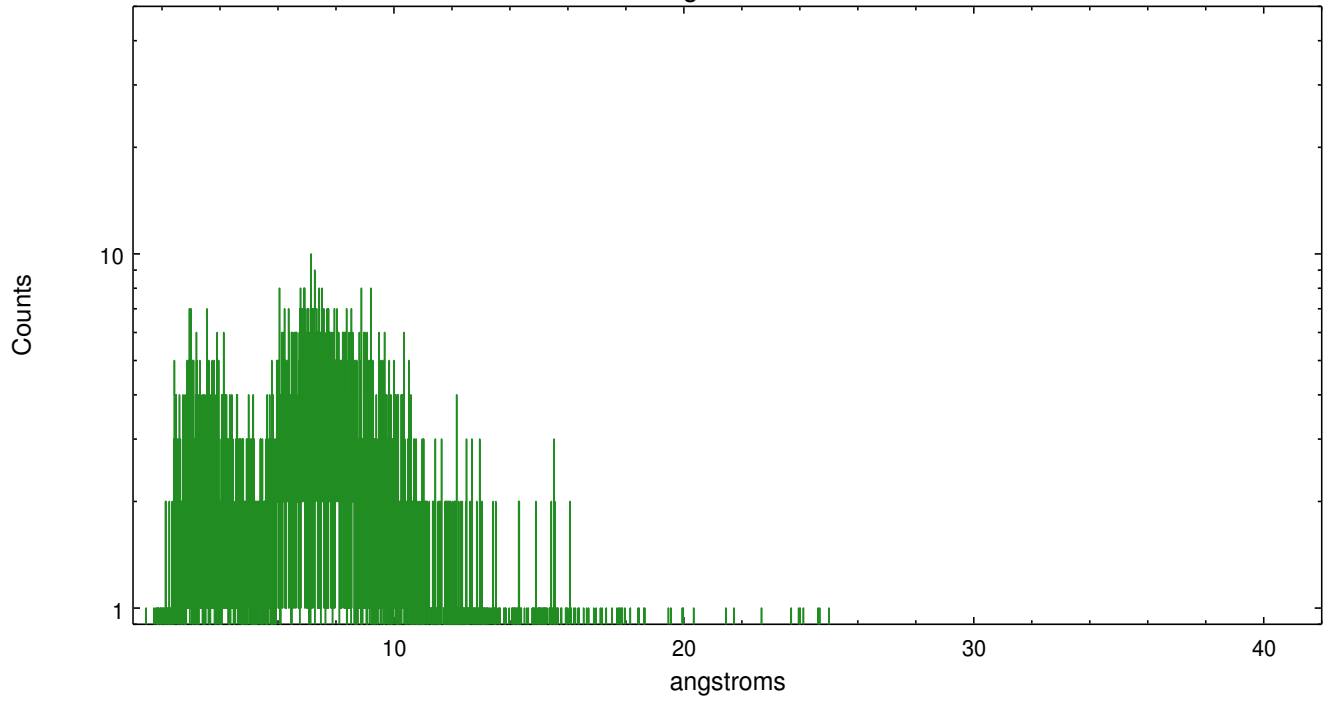


Full Detector MEG

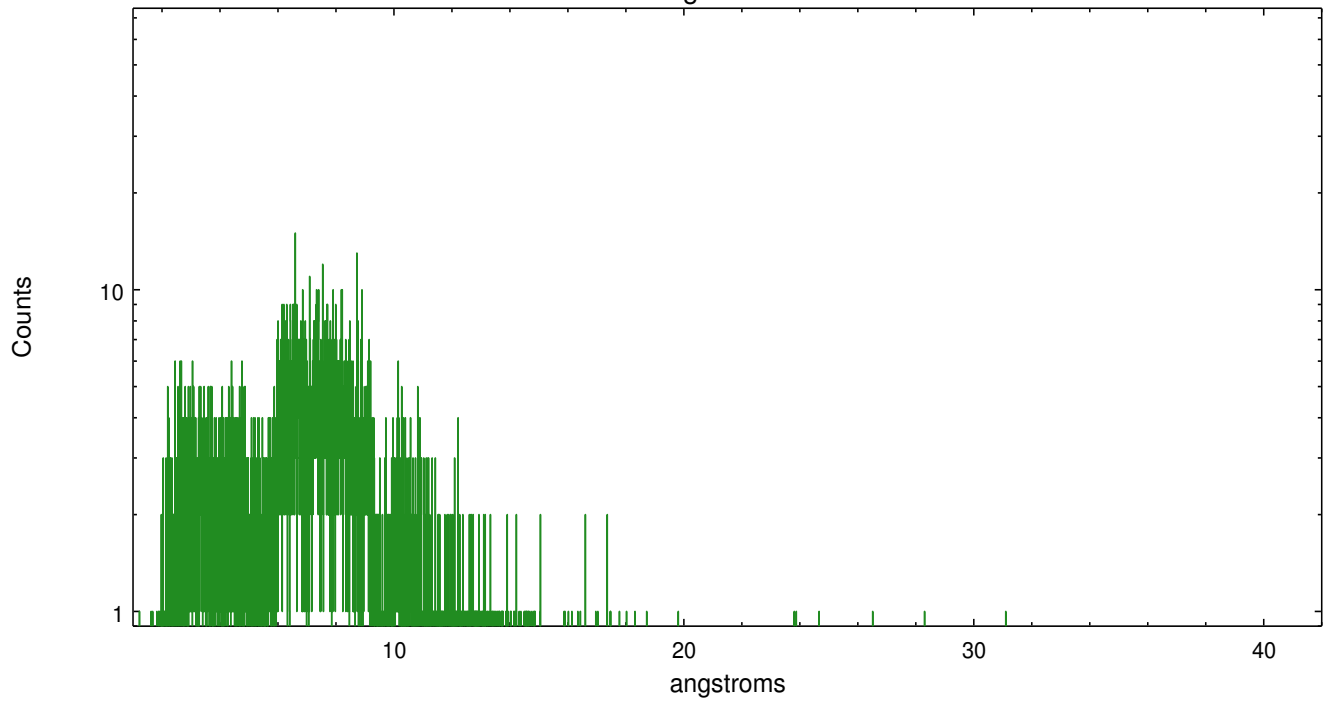
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	386	194	4527	6105	4996	204	466



meg order -1



meg order +1



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2015.10.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.044799800873

A.2 Comments

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.

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Source somewhat extended. Position of zeroth order should be verified by the investigator and the spectra re-extracted if necessary.