

V&V Reference Report

L2 ASCDS Version : 10.6.4.1

Observation 21947 - L2 Version 1
Chandra X-Ray Center

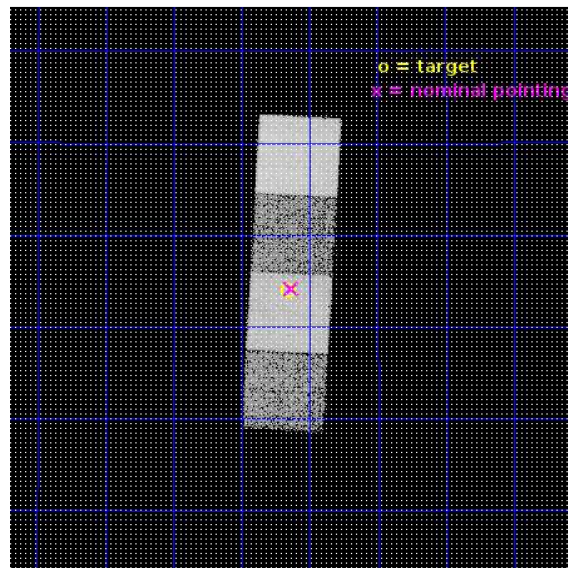
L2 Processing Date : Oct 29 2018

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1 Front

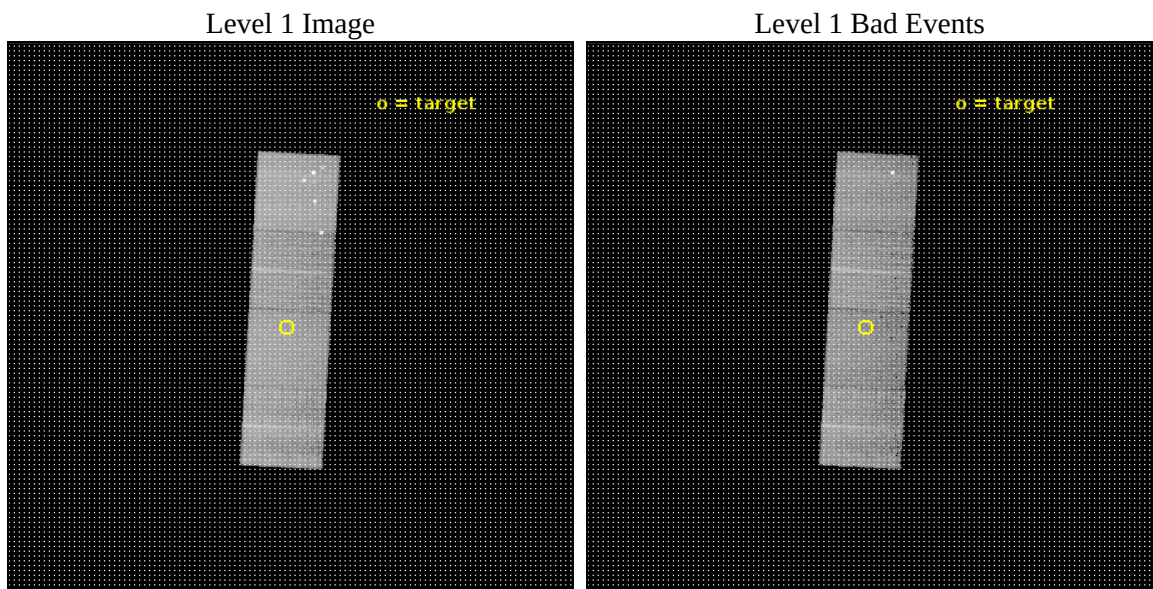
seq_num	201178	Sequence number
obs_id	21947	Observation id
title	An (X-ray Gratings) Tale of Two Young Stellar Objects	Proposal tit
observer	David Principe	Principal investigator
object	XZ Tau and HL Tau	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	67.91375	Observer's specified target RA [deg]
dec_targ	18.232028	Observer's specified target Dec [deg]
ra_nom	67.90874674419	Nominal RA [deg]
dec_nom	18.235851482515	Nominal Dec [deg]
roll_nom	93.158217823154	Nominal Roll [deg]
revision	1	Processing version of data
ontime	10058.555649877	Sum of GTIs [s]
livetime	9927.13321531	Livetime [s]
ontime5	10058.514609933	Sum of GTIs [s]
ontime6	10058.47356987	Sum of GTIs [s]
ontime7	10058.555649877	Sum of GTIs [s]
ontime8	10058.432529926	Sum of GTIs [s]
l2events	111229	Number of level 2 events



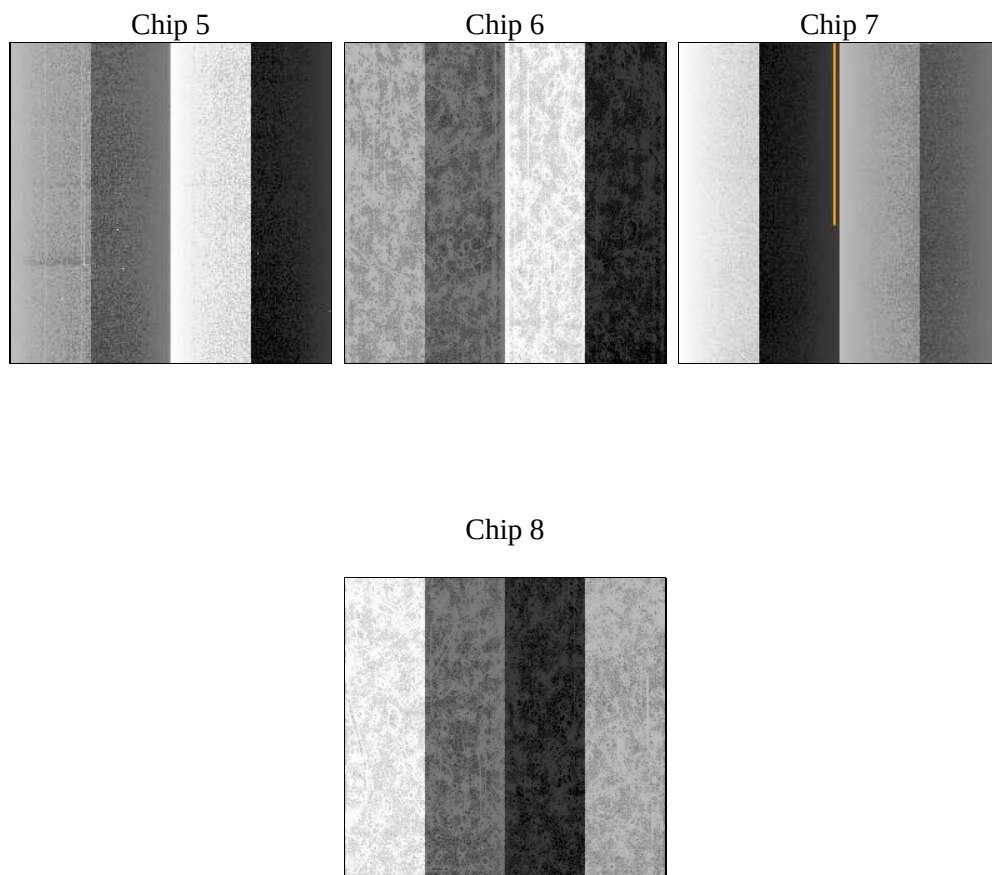
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ascdsver	10.6.4.1	Processing system revision	ontime	10058.555649877	Sum of GTIs [s]
caldsver	4.8.0.1	 	ontime5	10058.514609933	Sum of GTIs [s]
date	2018-10-28T02:28:13	Date and time of file creation	ontime6	10058.47356987	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	10058.555649877	Sum of GTIs [s]
			ontime8	10058.432529926	Sum of GTIs [s]
			l1events	413424	Number of level 1 events
			tgmethod	DEADRECKONING	Method used to create src1a file
			zo_pos	(4087.38, 4073.12)	src1a skv pixel position

2.1.4 Events

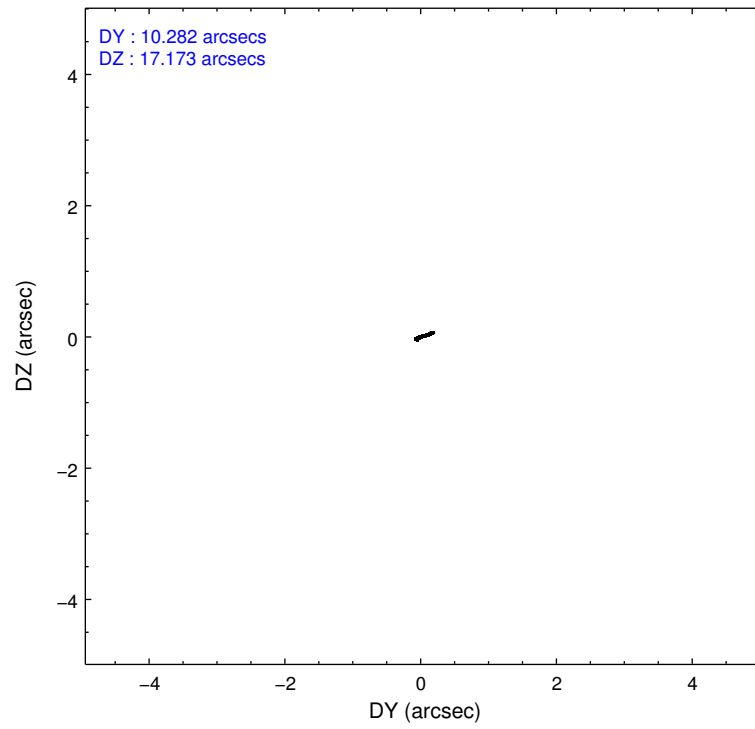
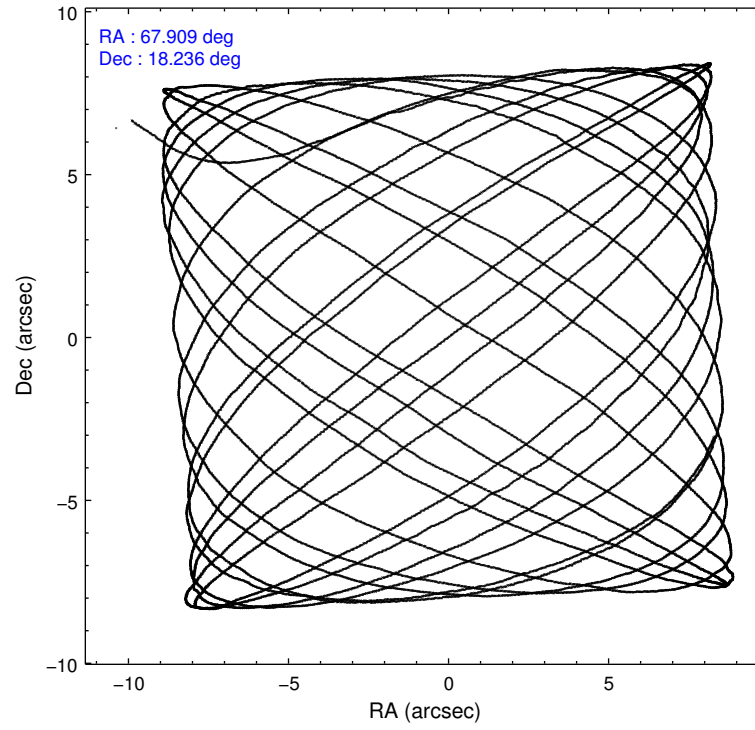
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	135635	81504	97668	98617
rejected events	69110	72931	56084	73543
rejected %	50%	89%	57%	74%

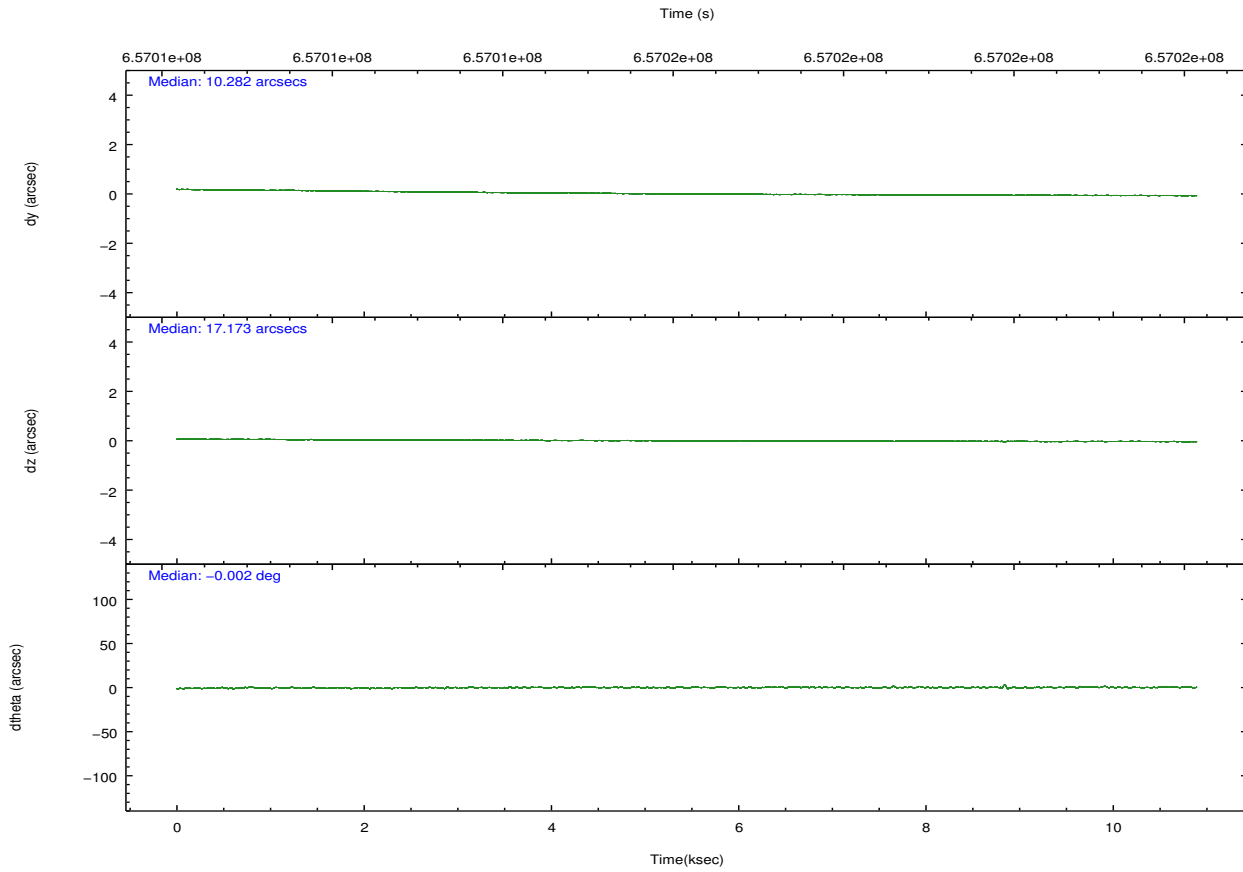
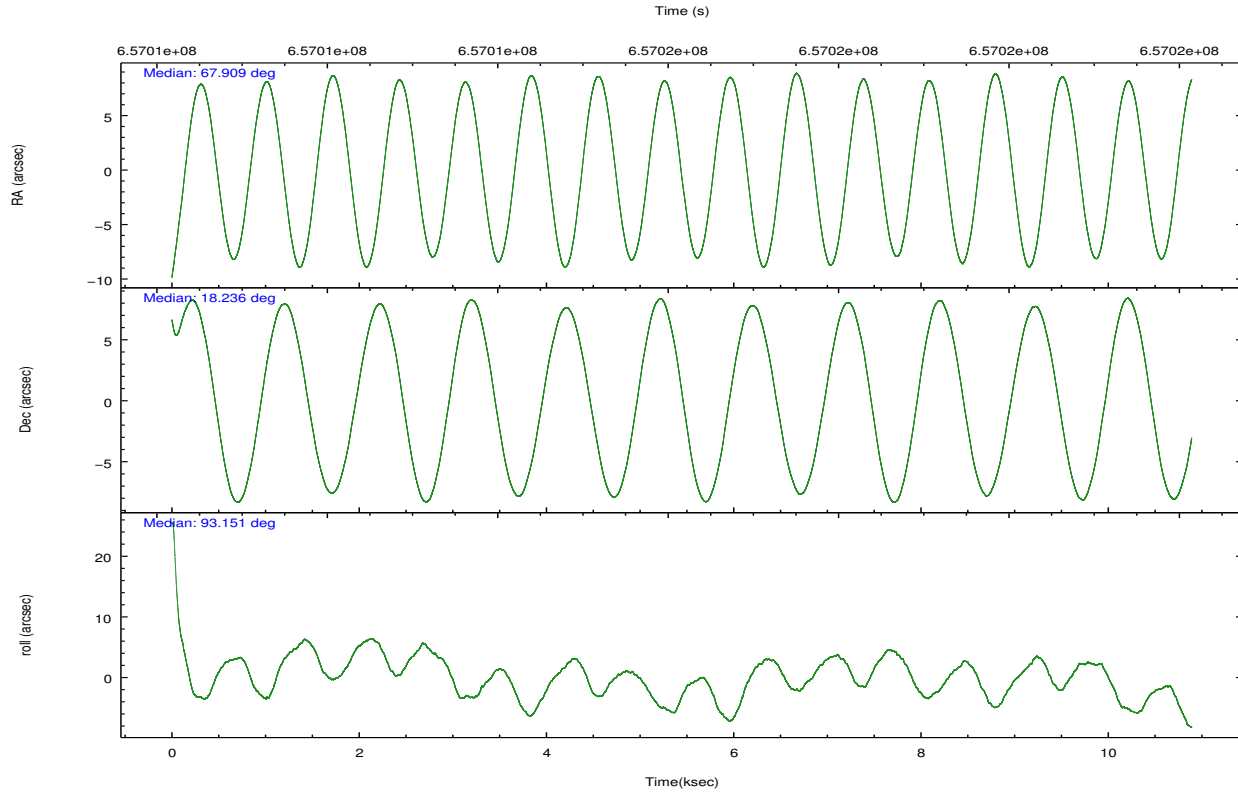
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	10364	2290	3393	6671
	7%	2%	3%	6%
grade 1 events	377	29	169	75
	0%	0%	0%	0%
grade 2 events	17771	2492	8538	6217
	13%	3%	8%	6%
grade 3 events	2474	691	3237	2589
	1%	0%	3%	2%
grade 4 events	2737	686	3060	2447
	2%	0%	3%	2%
grade 5 events	8400	2999	9396	4869
	6%	3%	9%	4%
grade 6 events	33231	2421	23382	7175
	24%	2%	23%	7%
grade 7 events	60281	69896	46493	68574
	44%	85%	47%	69%

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	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	67.924882	67.90874674419045	CCD I2 on	N	N
[deg] Pointing Dec	18.213069	18.23585148251495	CCD I3 on	N	N
[deg] Pointing Roll	92.996518	93.15821782315417	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	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	Y	Y
[s] Observation start time (MET)	657011611.184000	657010321.16134	CCD S5 on	O2	N
Observation start date	2018-10-27T07:12:22	2018-10-27T06:52:01	Number of optional ACIS chips dropped	2	2
[s] Observation end time (MET)	657021611.184000	657021895.97453	On-chip summing requested	N	N
Observation end date	2018-10-27T09:59:02	2018-10-27T10:04:55	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



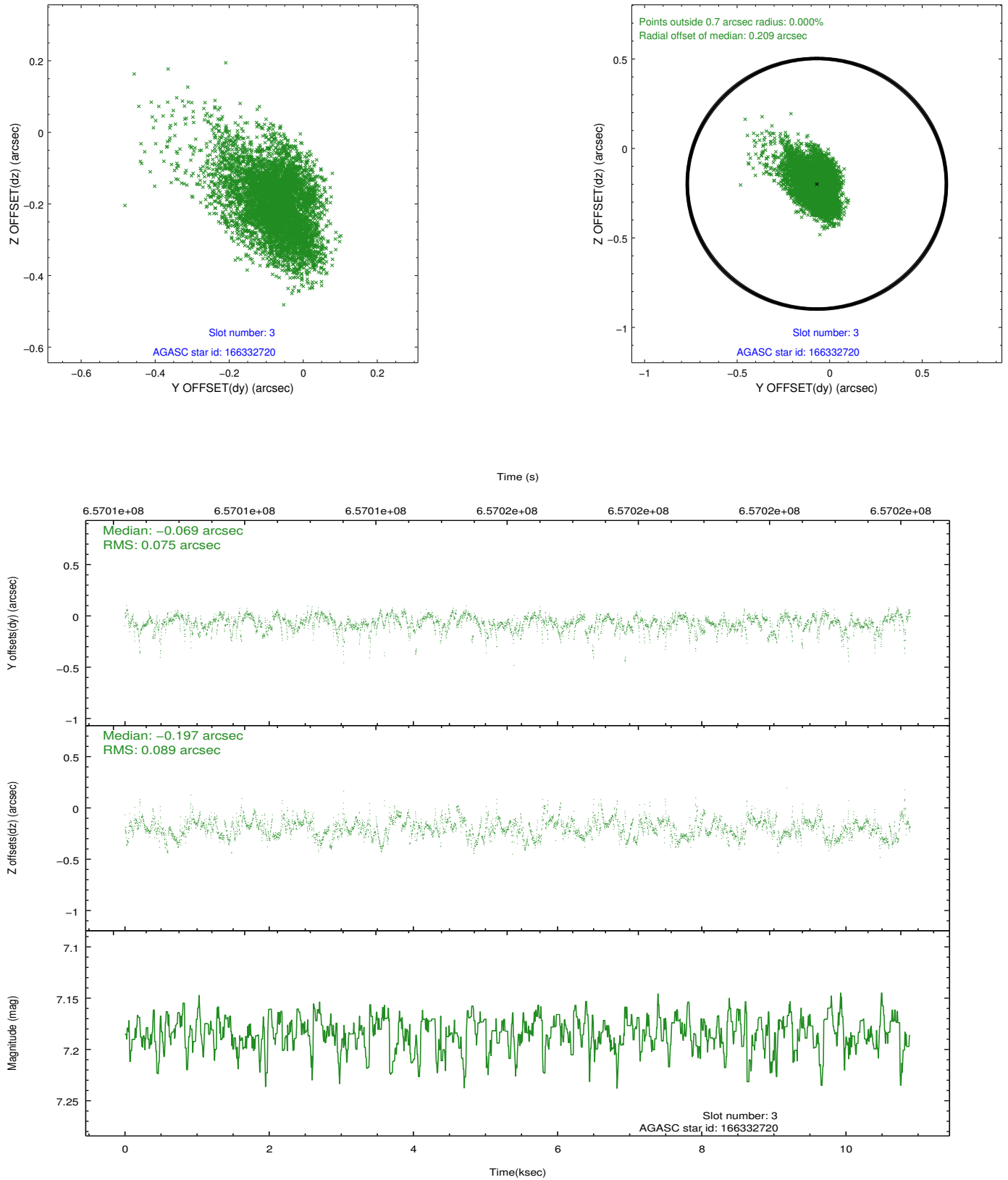


Slot Statistics

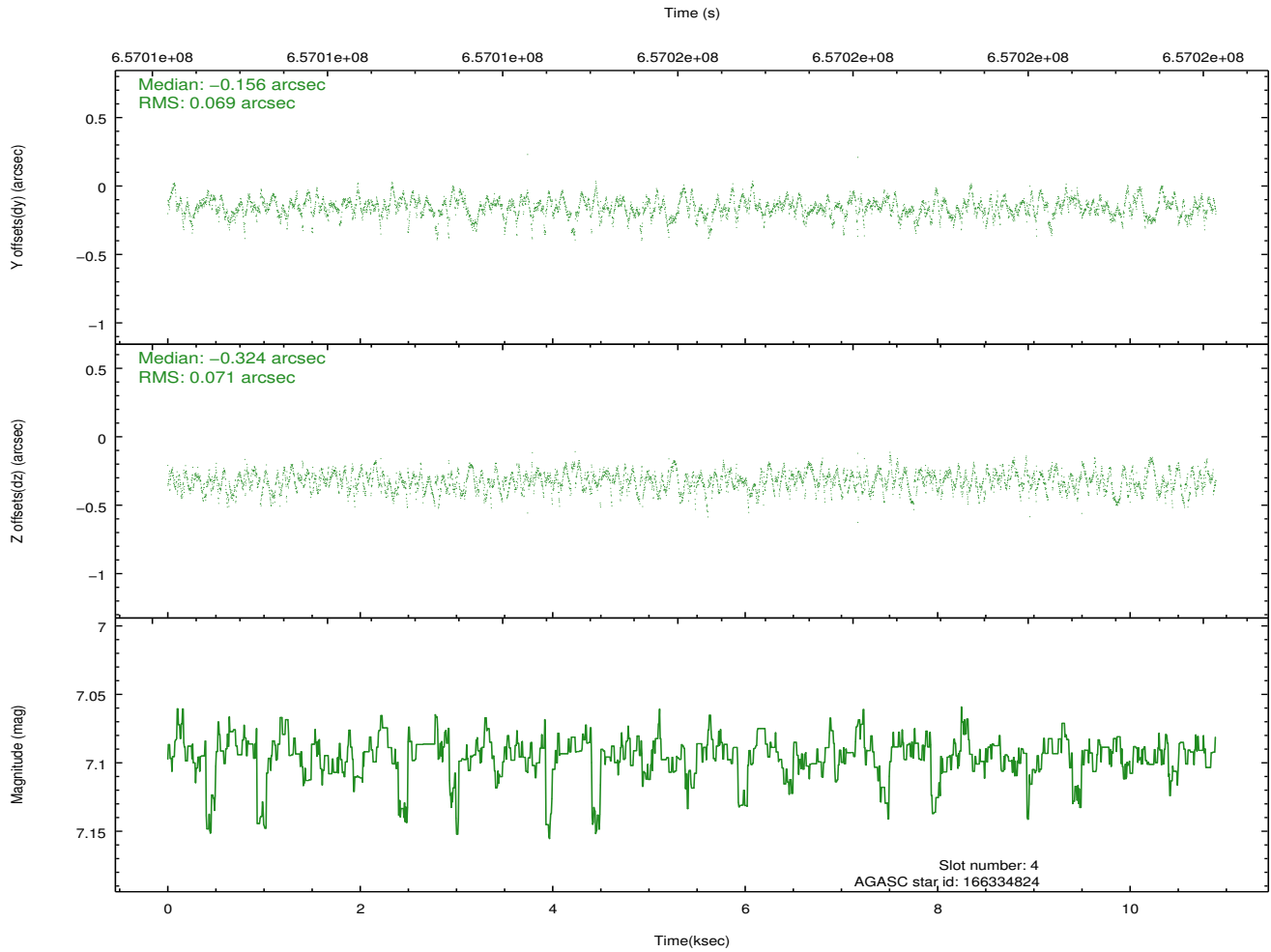
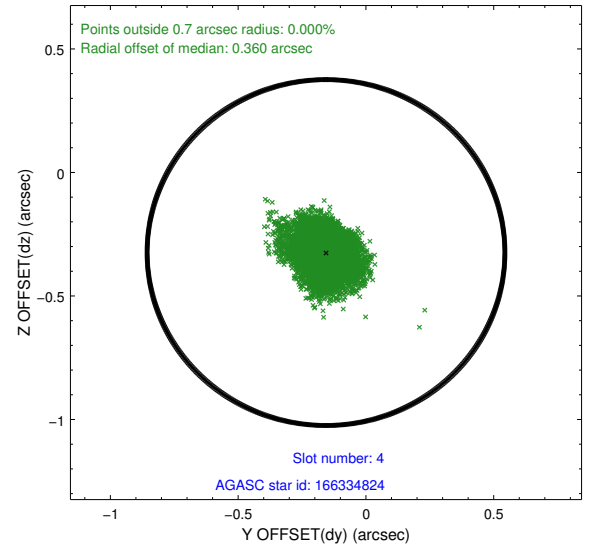
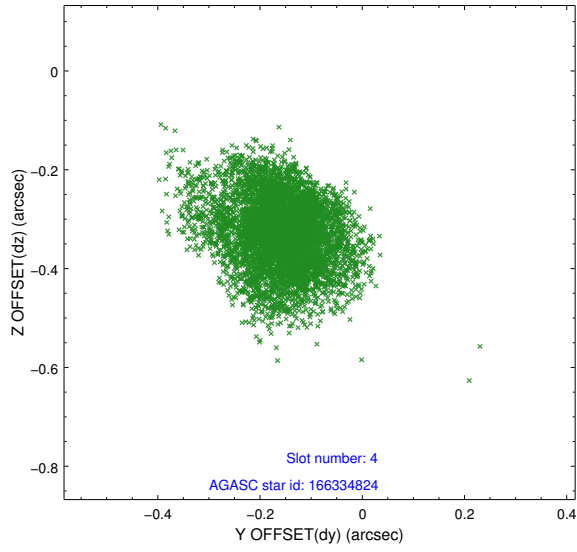
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.15	2656	1.000	-0.447	-0.321	0.006	0.011	0.000000	0.000000	-763.65	-1738
1	FID		ACIS-S-4	7.29	2656	1.000	0.482	0.250	0.007	0.011	0.000000	0.000000	2150.40	169
2	FID		ACIS-S-6	7.42	2657	1.000	-0.062	0.079	0.008	0.014	0.000000	0.000000	399.41	807
3	GUIDE	used	166332720	7.18	5314	1.000	-0.069	-0.197	0.117	0.207	67.335629	17.544937	-2294.02	2143
4	GUIDE	used	166334824	7.09	5314	1.000	-0.156	-0.324	0.105	0.171	67.376458	17.863163	-1158.35	1940
5	GUIDE	used	166468240	9.02	5301	1.000	0.428	0.511	0.116	0.185	68.167699	17.861525	-1306.66	-763
6	GUIDE	used	166996584	9.12	5306	1.000	-0.314	-0.150	0.140	0.225	68.020035	18.861675	2314.57	-445
7	GUIDE	used	166333056	8.21	5308	1.000	0.121	0.172	0.101	0.197	67.813257	17.557208	-2337.08	506

2.4 Star Slots

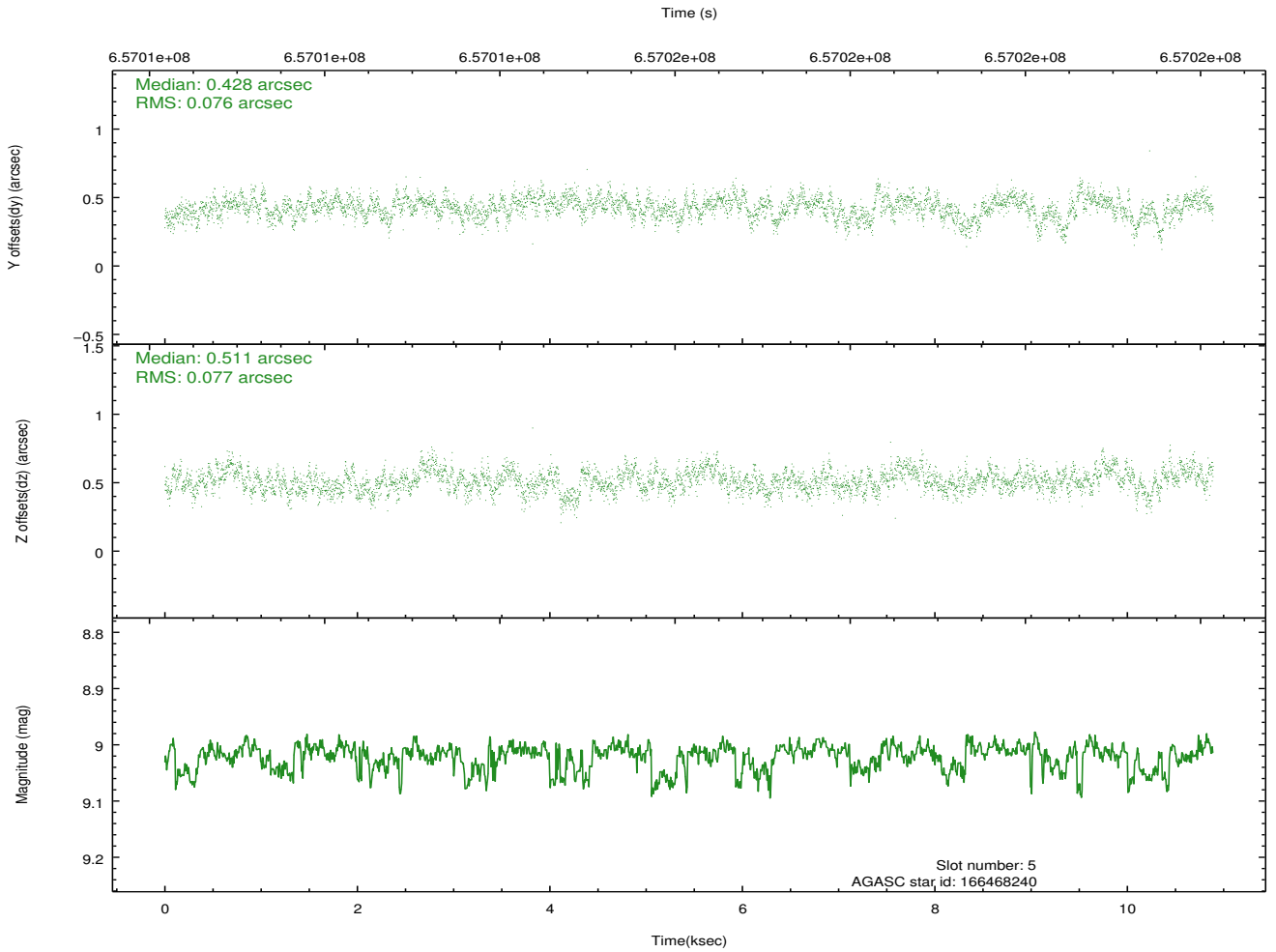
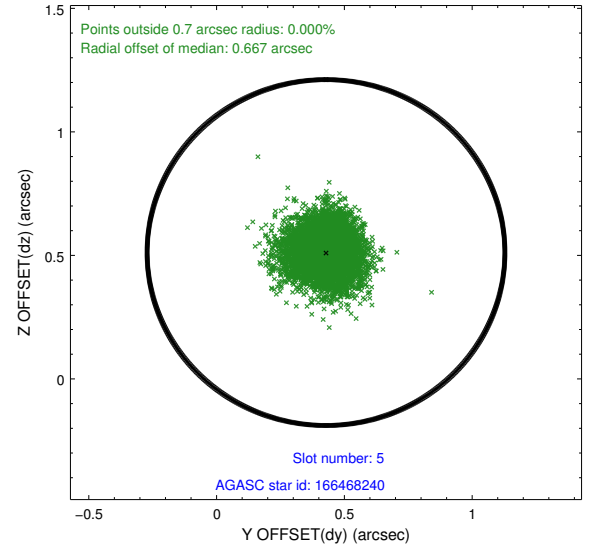
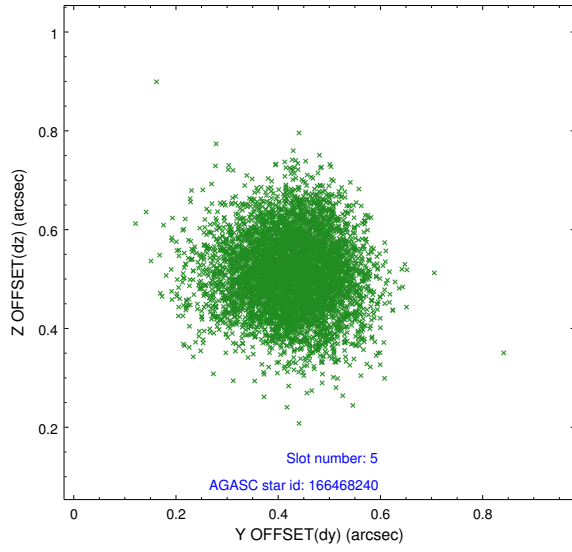
2.4.1 Slot 3



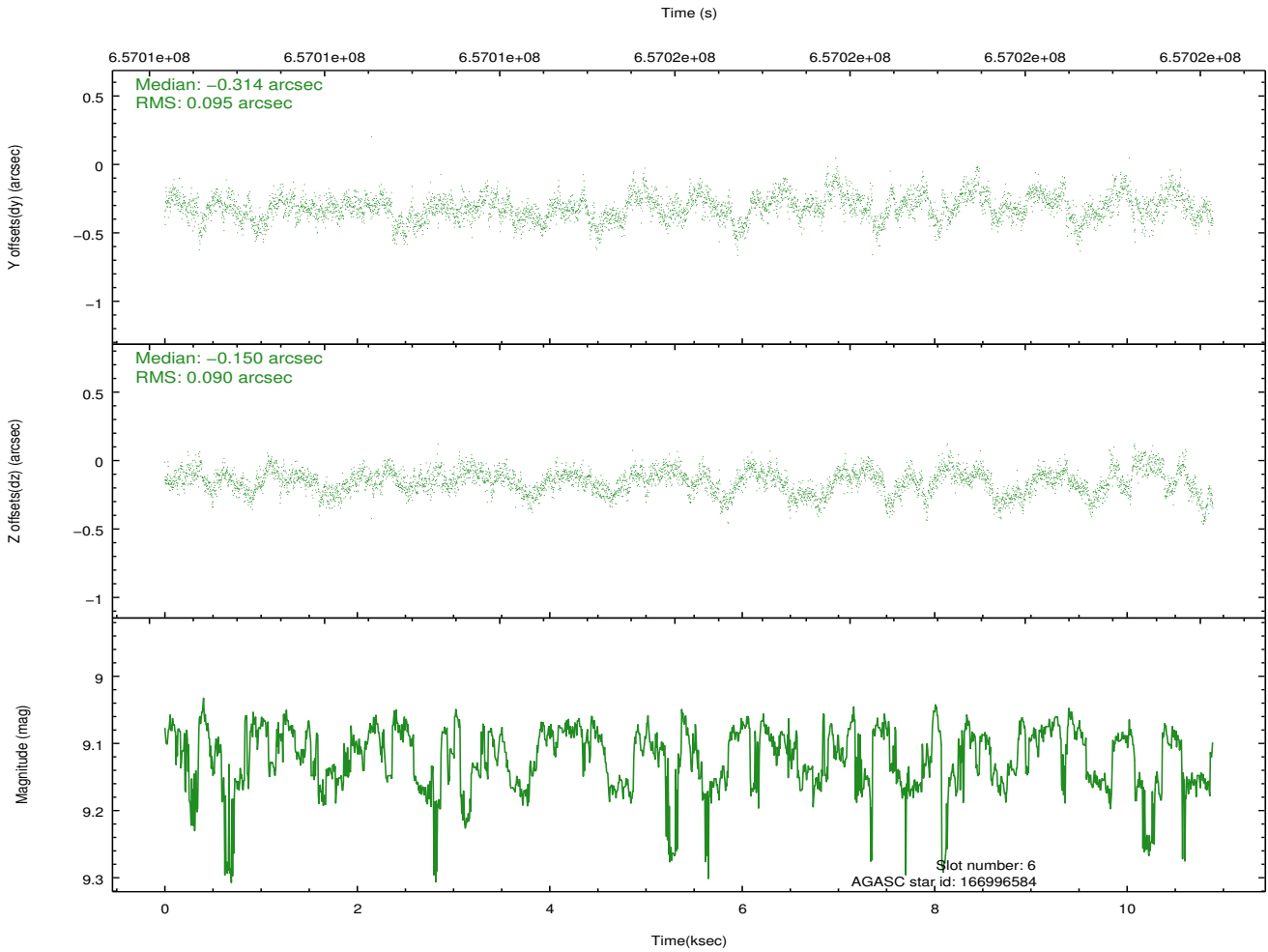
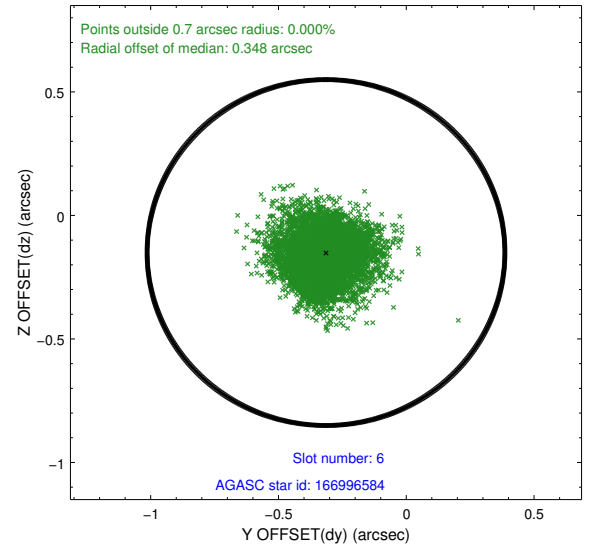
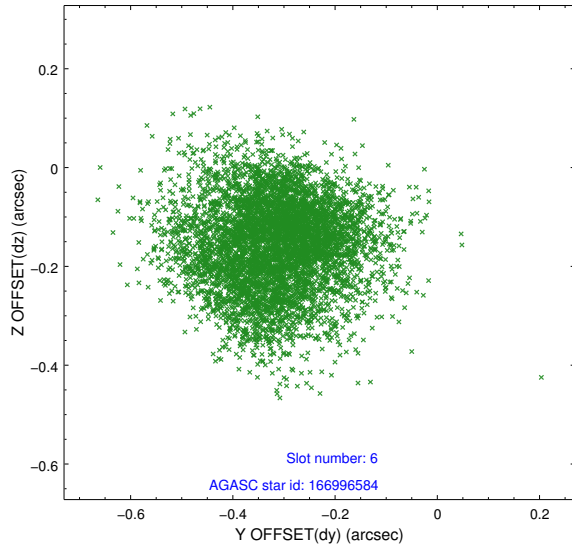
2.4.2 Slot 4



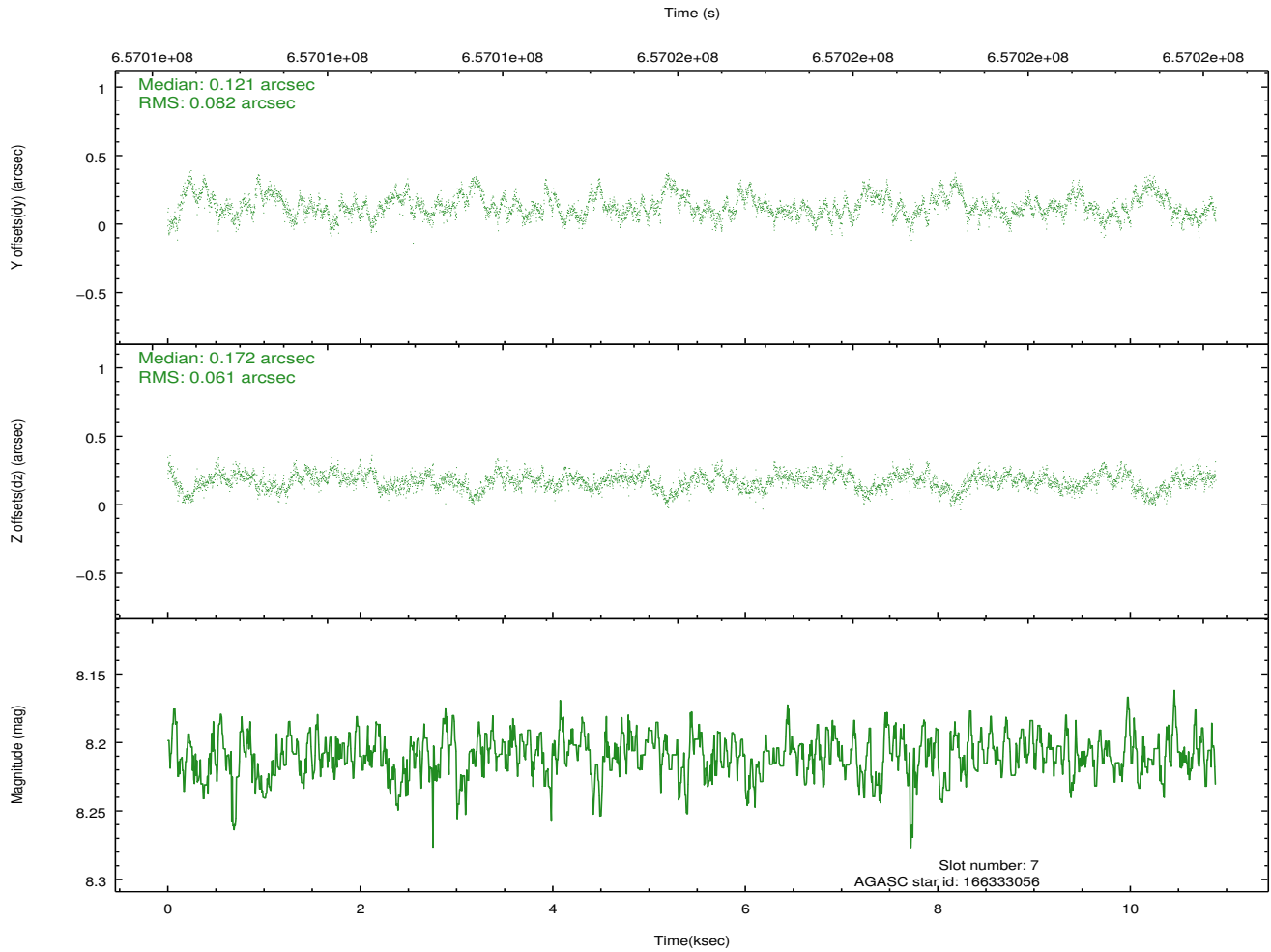
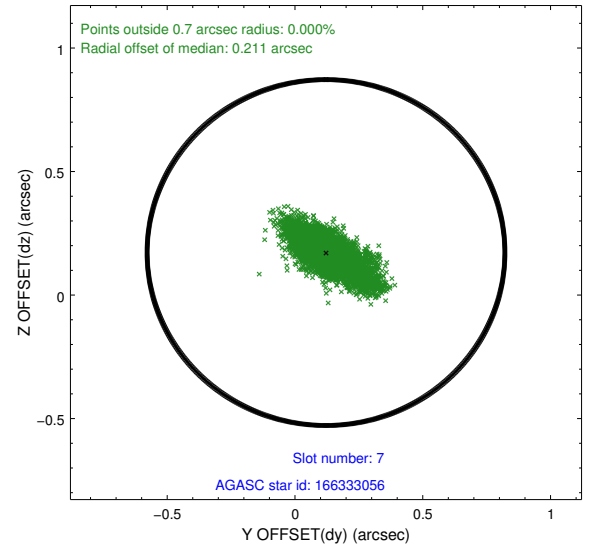
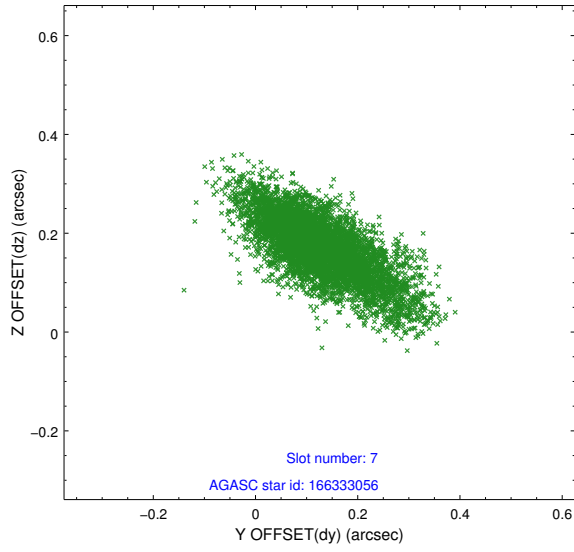
2.4.3 Slot 5



2.4.4 Slot 6

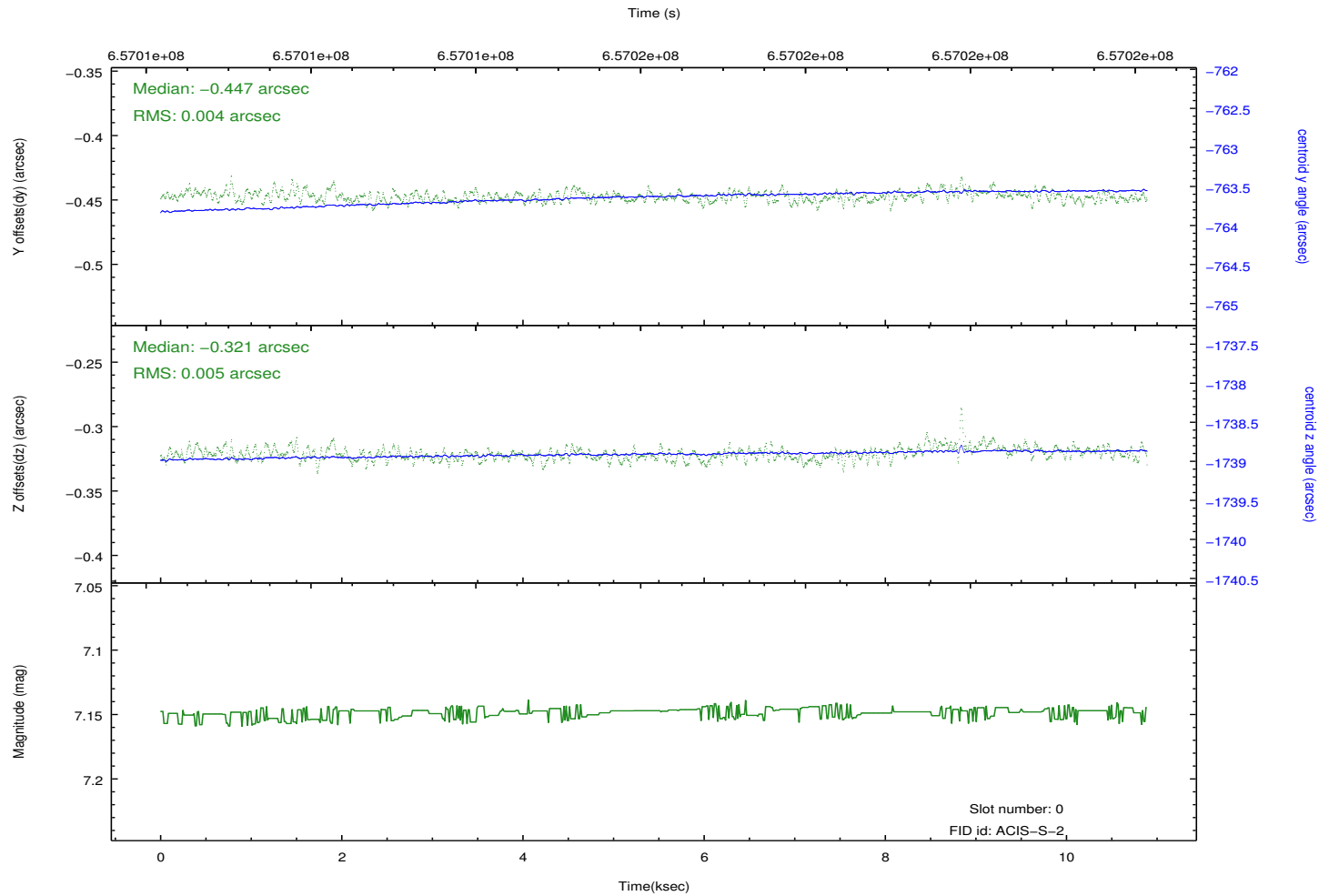
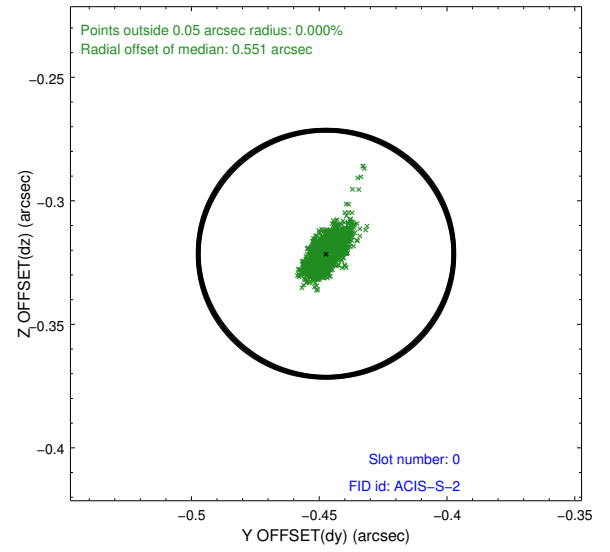
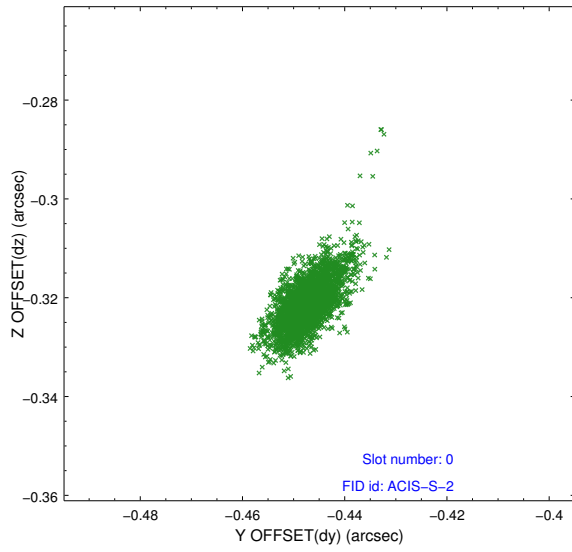


2.4.5 Slot 7

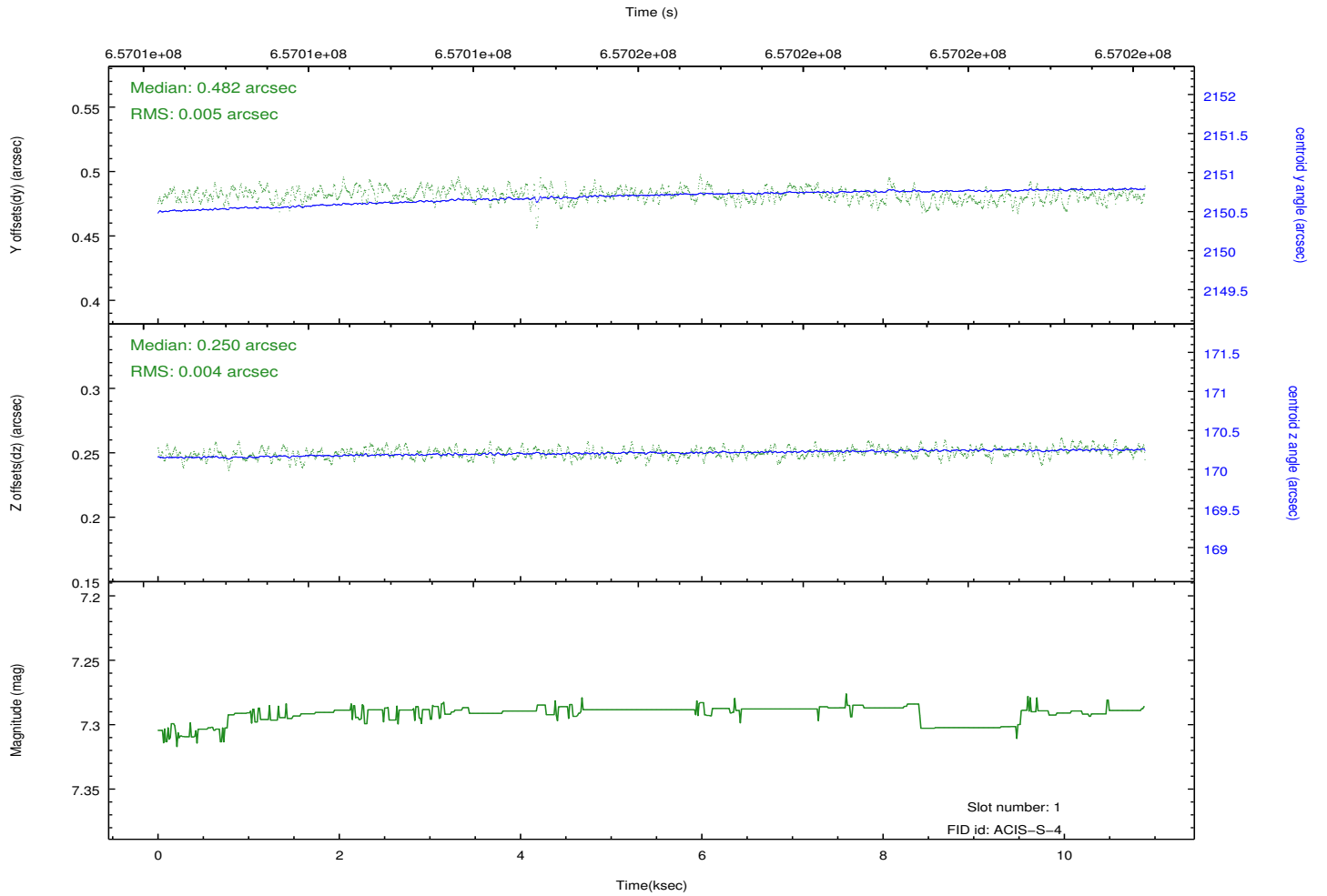
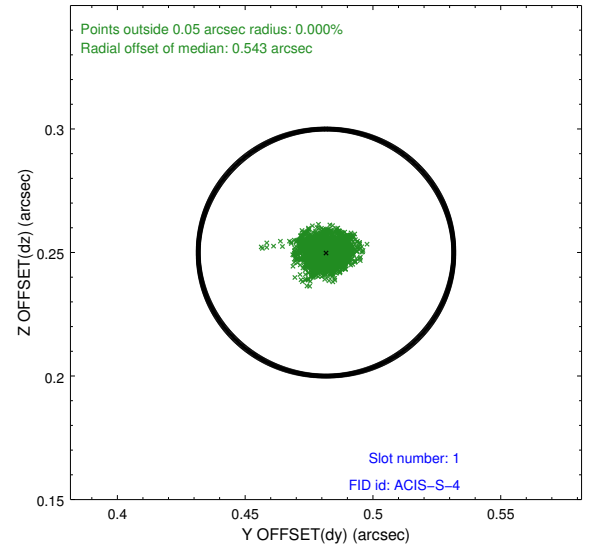
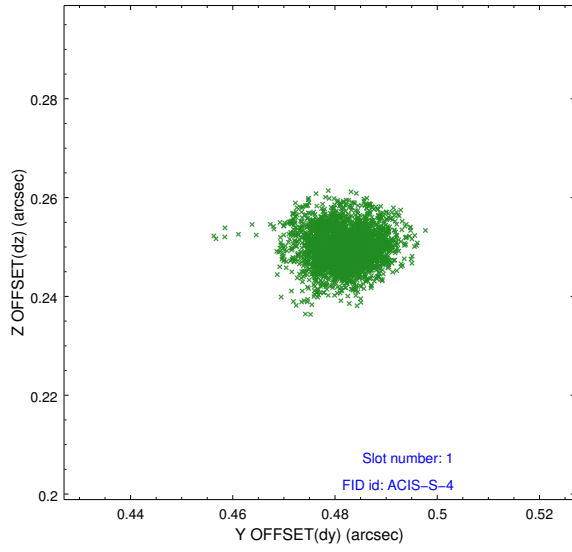


2.5 FID Slots

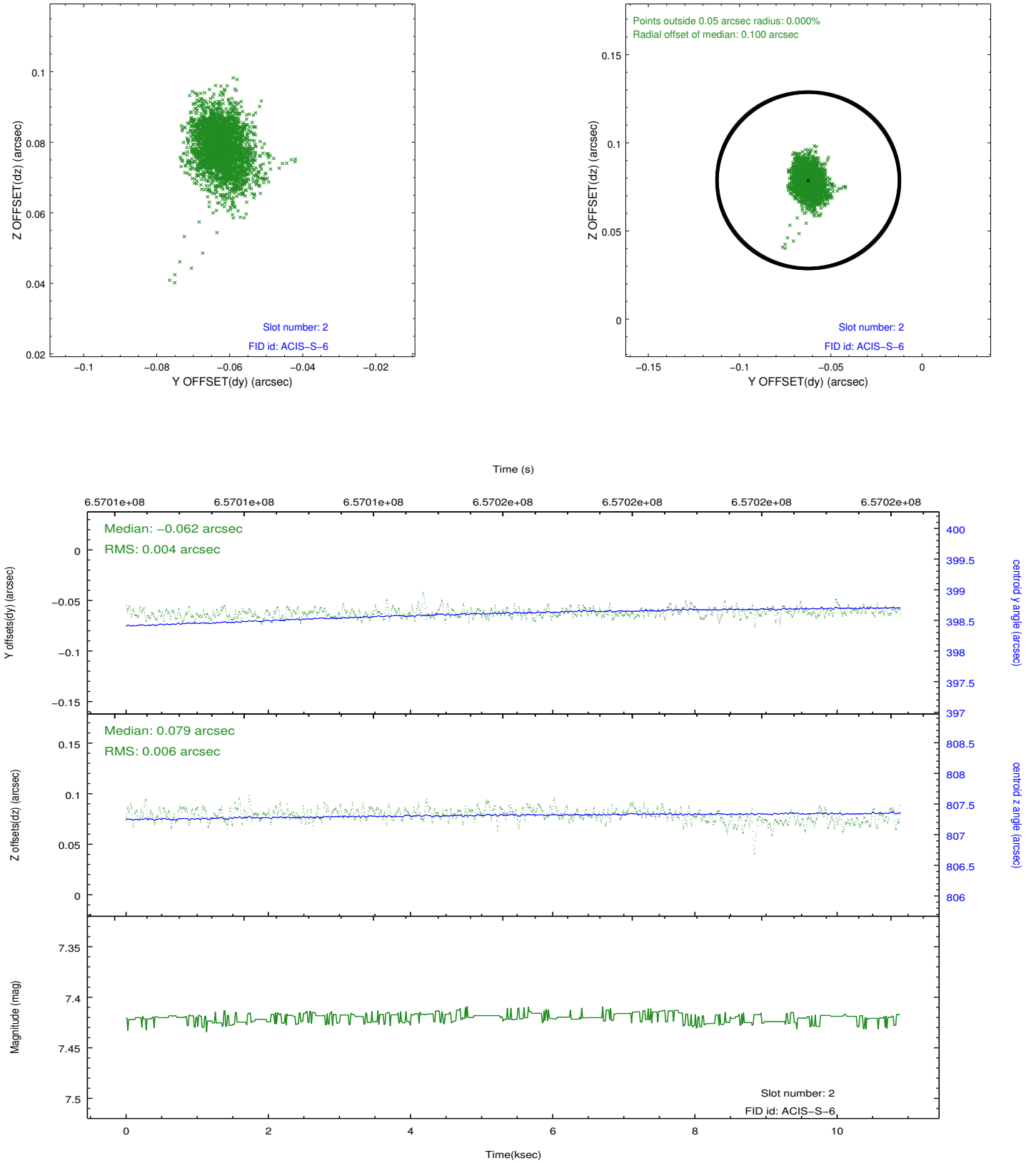
2.5.1 Slot 0



2.5.2 Slot 1

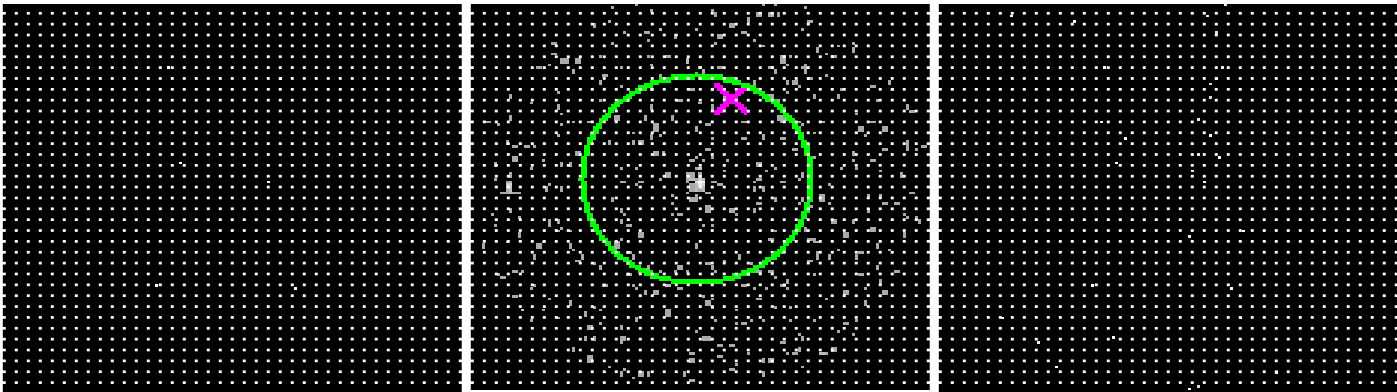


2.5.3 Slot 2



3 Gratings

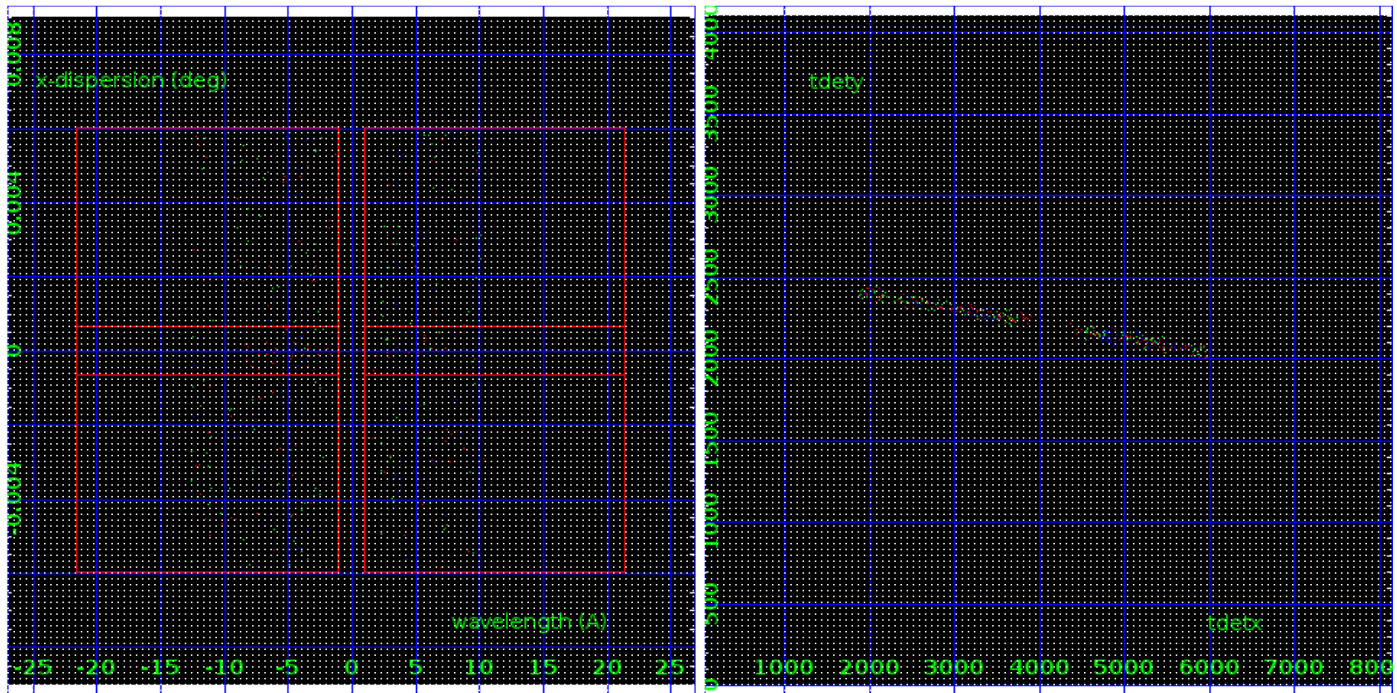
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

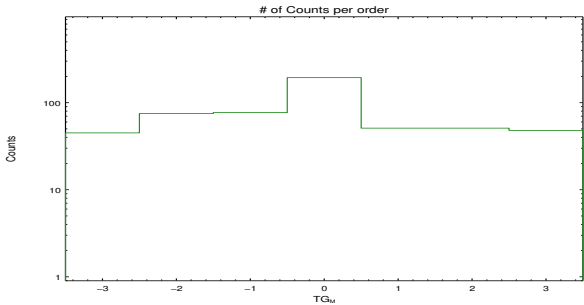
HEG Order Sort ALL

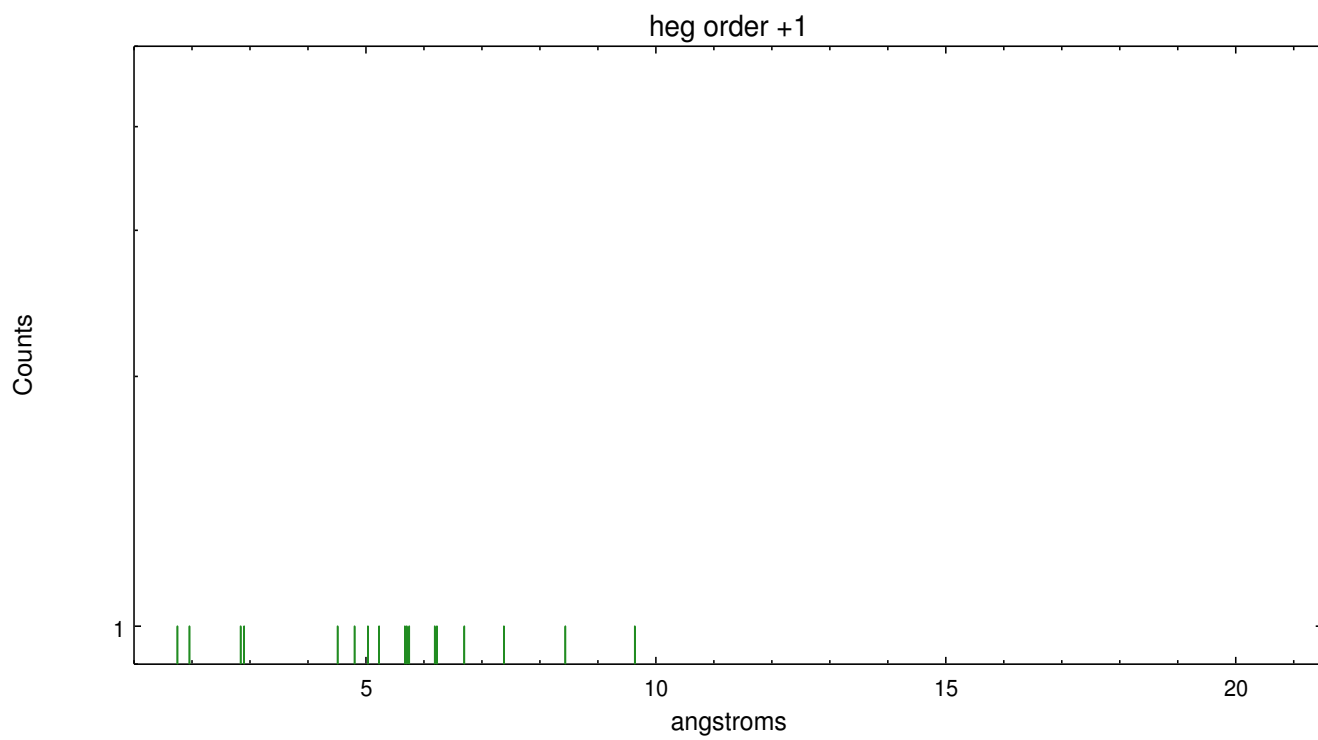
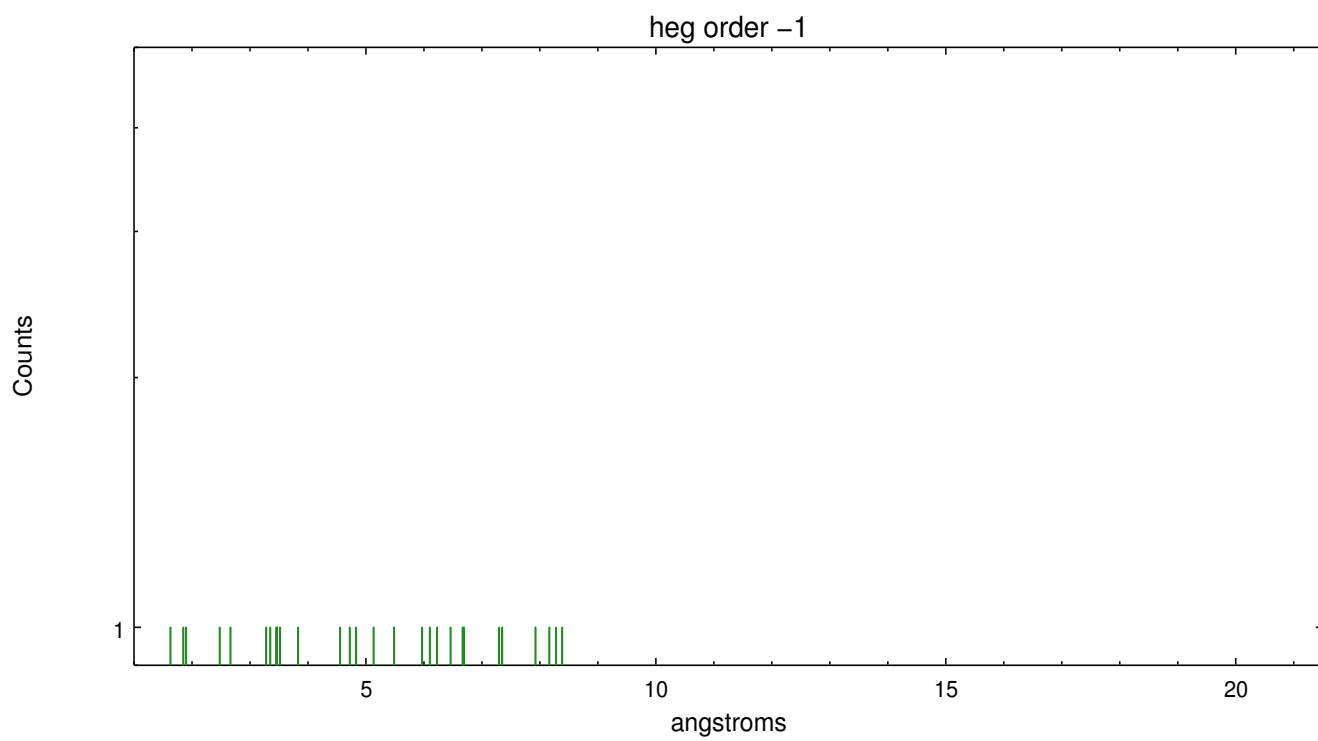


Spot Image HEG

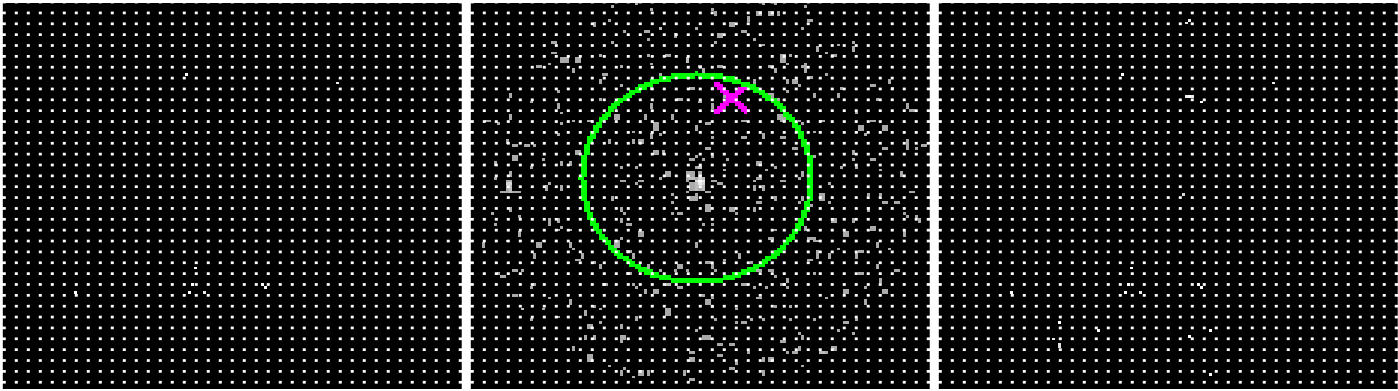
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	45	75	77	194	51	51	48





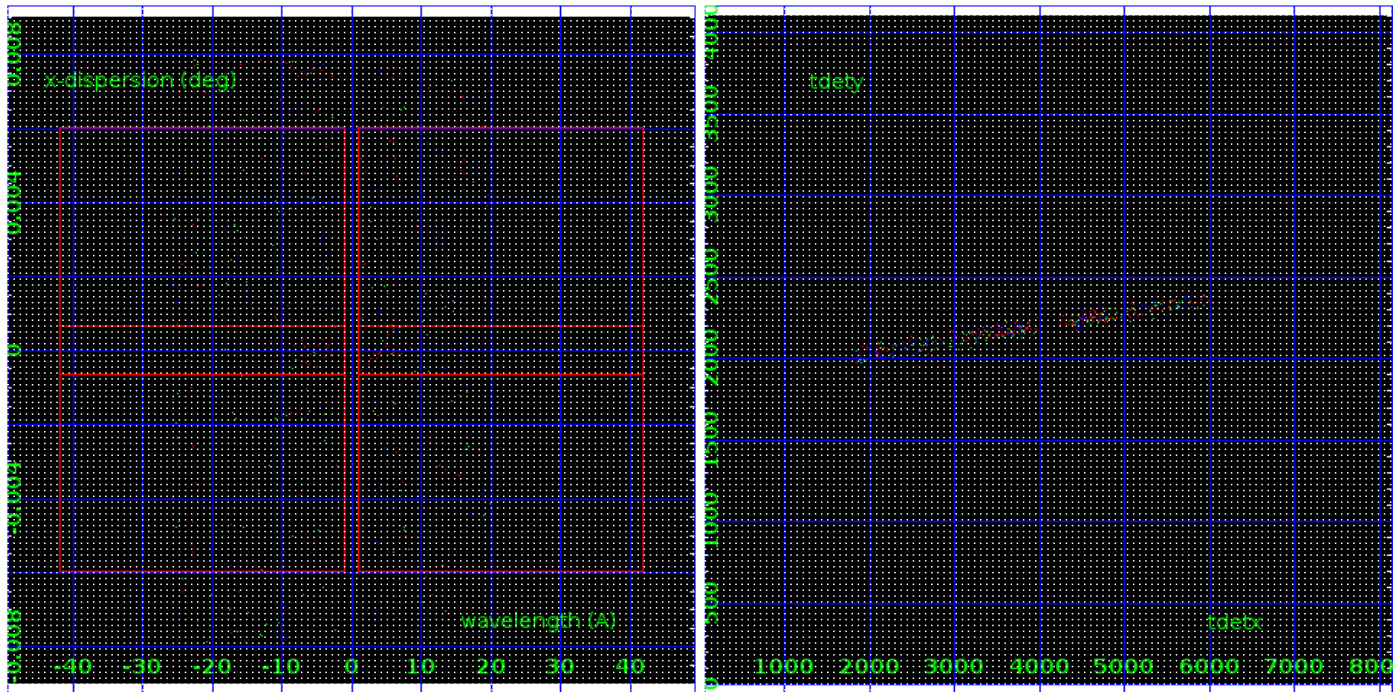
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

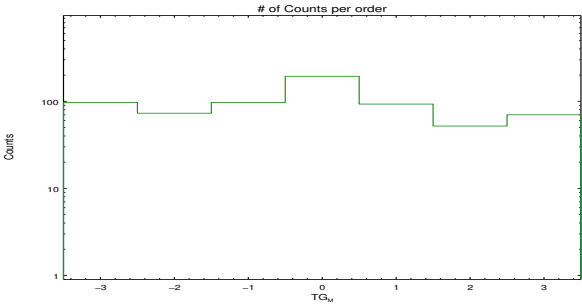
MEG Order Sort ALL

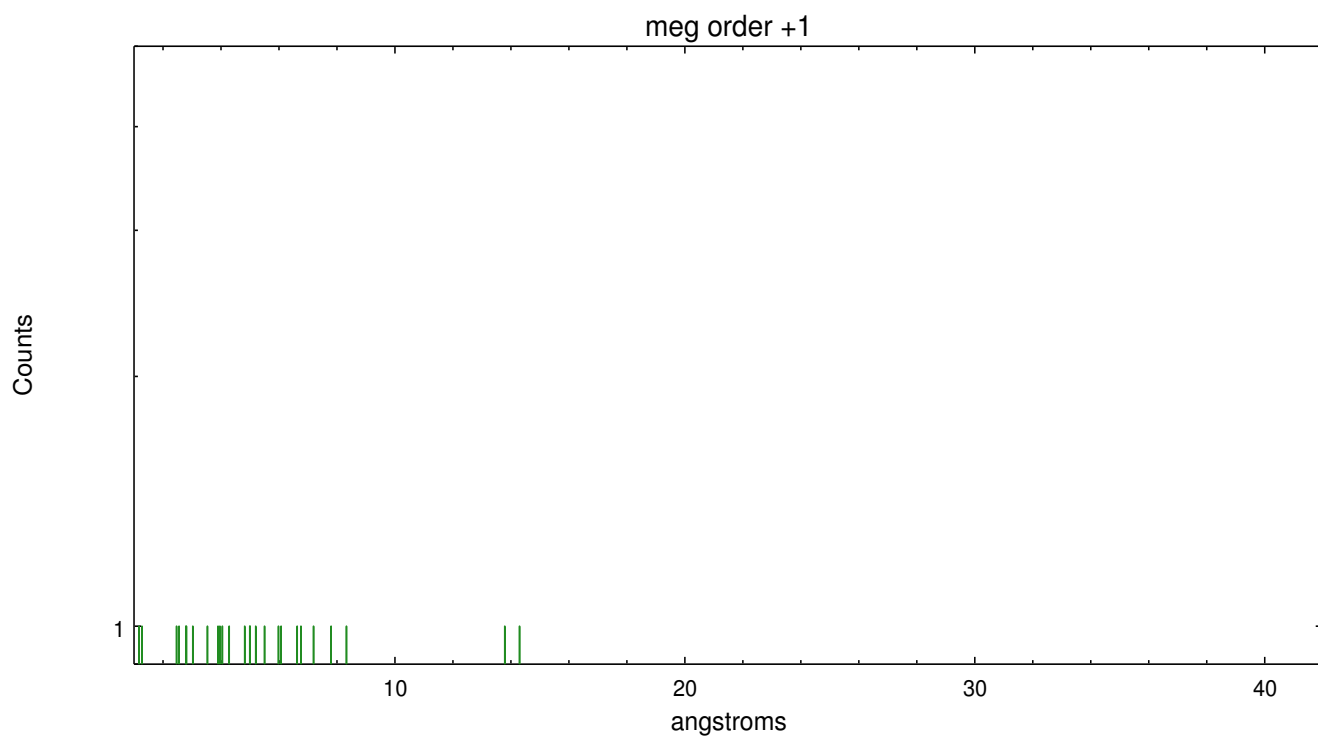
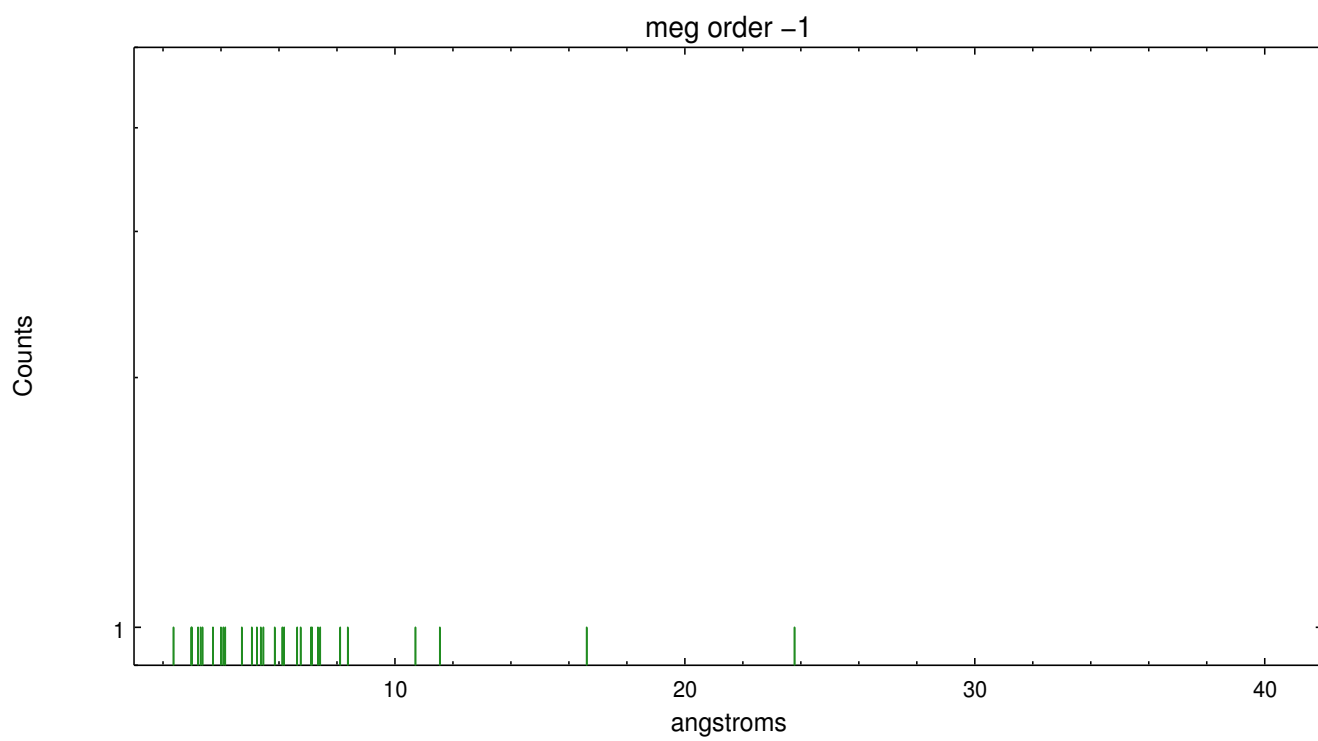


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	97	73	97	194	93	52	70





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2018.10.29
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.058555649877

A.2 Comments

Standard software processing technique using the tools `tgdetect` and `findzo` could not locate a target near the aim point, because the aimpoint was placed between 2 stars of interest. The star HL Tau was chosen as the source for the spectral extraction in this processing of the data. The zeroth order position was specified manually as the brightest X-ray emission in the source. The investigator will want to verify that the zeroth order position is at the desired position for extraction of the spectrum. The nearby star XZ Tau can also be the source for a spectral extraction using `TGCat` or `CIAO` tools.