

V&V Reference Report

L2 ASCDS Version : 10.6.4.1

Observation 21946 - L2 Version 1
Chandra X-Ray Center

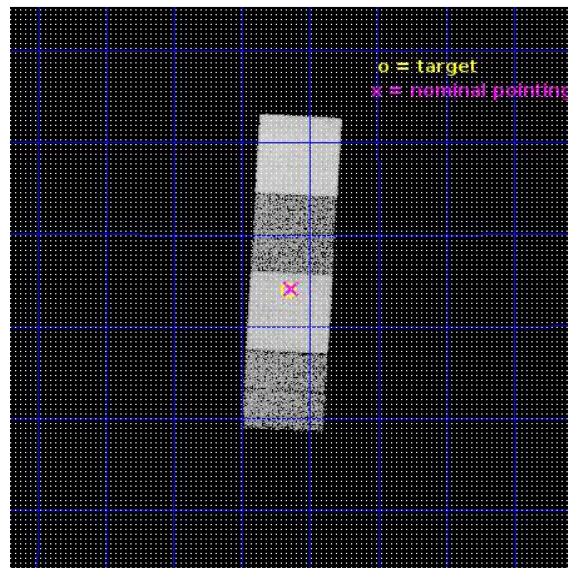
L2 Processing Date : Oct 26 2018

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

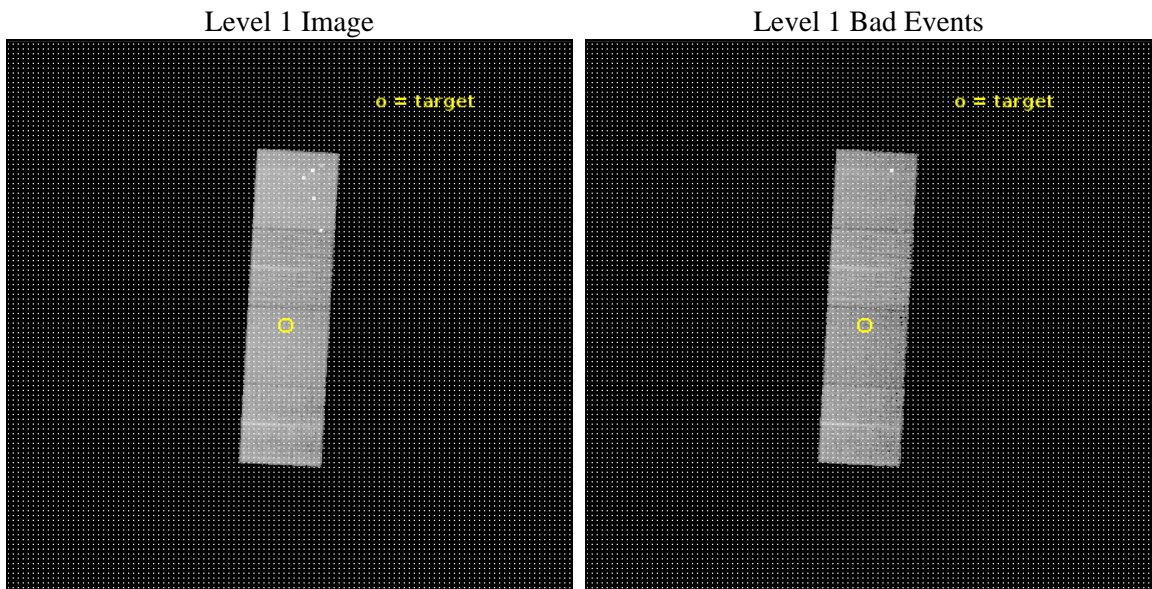
seq_num	201178	Sequence number
obs_id	21946	Observation id
title	An (X-ray Gratings) Tale of Two Young Stellar Objects	Proposal tit
observer	David Principe	Principal investigator
object	XZ Tau and HL Tau	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	67.91375	Observer's specified target RA [deg]
dec_targ	18.232028	Observer's specified target Dec [deg]
ra_nom	67.909085652291	Nominal RA [deg]
dec_nom	18.235194467169	Nominal Dec [deg]
roll_nom	93.157982488077	Nominal Roll [deg]
revision	1	Processing version of data
ontime	10059.500077486	Sum of GTIs [s]
livetime	9928.0653032775	Livetime [s]
ontime5	10059.500077486	Sum of GTIs [s]
ontime6	10059.500077486	Sum of GTIs [s]
ontime7	10059.500077486	Sum of GTIs [s]
ontime8	10059.500077486	Sum of GTIs [s]
l2events	110959	Number of level 2 events



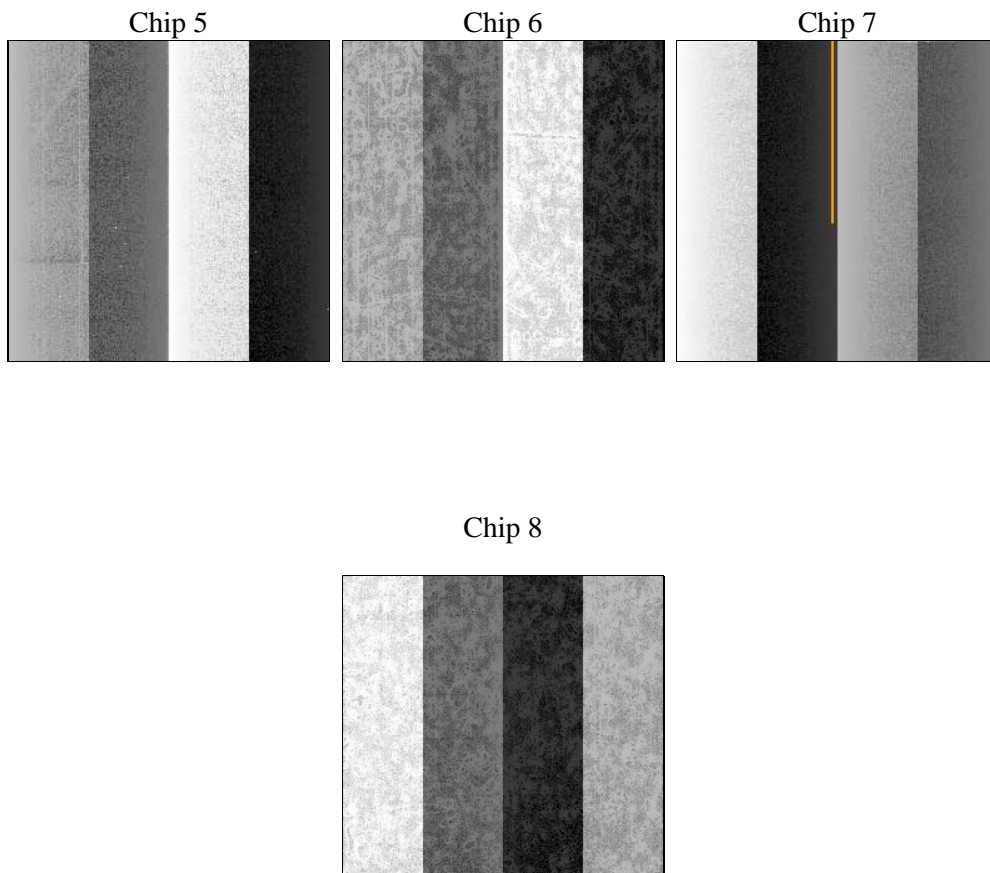
2 OBI

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	10059.500077486	Sum of GTIs [s]
caldsver	4.8.0.1	 	ontime5	10059.500077486	Sum of GTIs [s]
date	2018-10-25T06:33:16	Date and time of file creation	ontime6	10059.500077486	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	10059.500077486	Sum of GTIs [s]
			ontime8	10059.500077486	Sum of GTIs [s]
			l1events	415922	Number of level 1 events
			tgmeth	DEADRECKONING	Method used to create src1a file
			zo_pos	(4090.12, 4078.38)	src1a skv pixel position

2.1.4 Events

	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	135264	82685	97984	99989
rejected events	68703	74142	55971	75435
rejected %	50%	89%	57%	75%

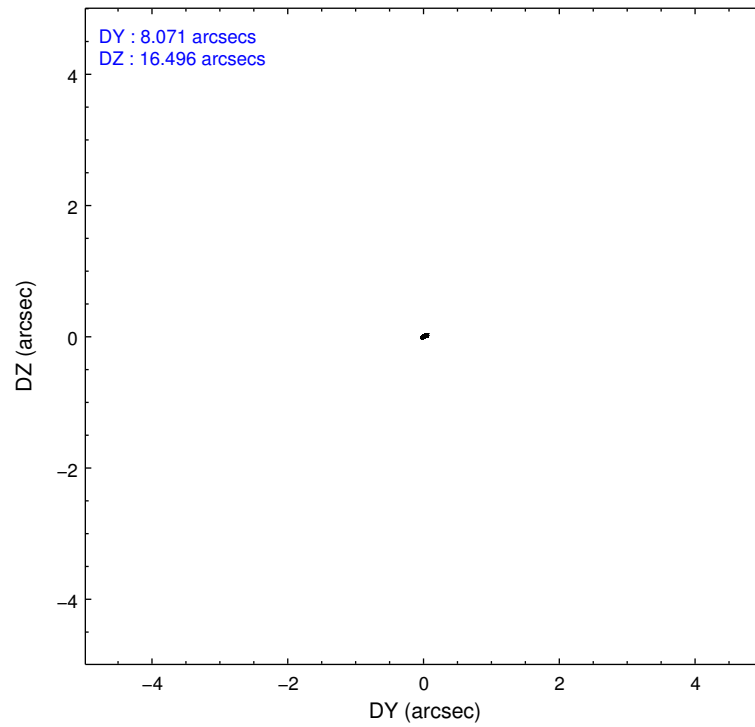
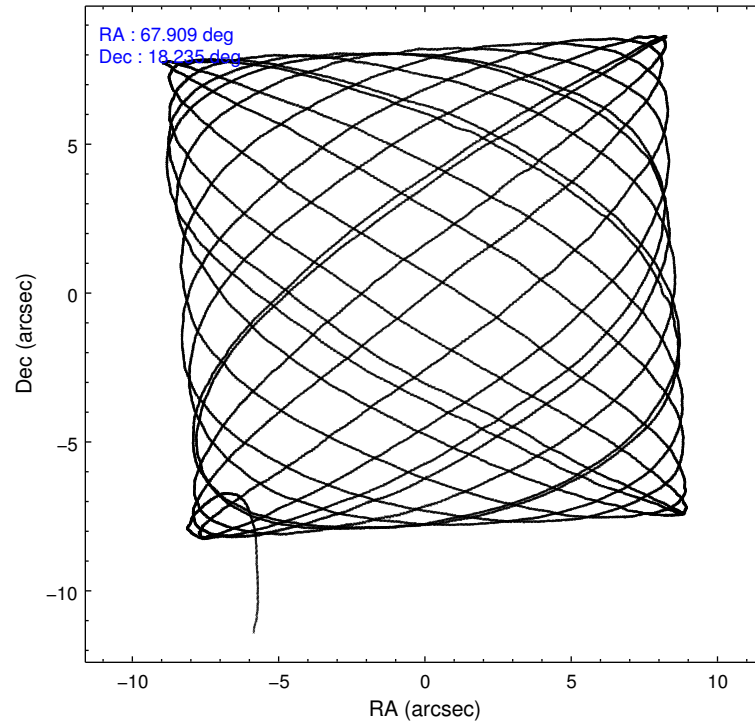
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	10439	2390	3432	6789
	7%	2%	3%	6%
grade 1 events	374	34	125	77
	0%	0%	0%	0%
grade 2 events	18278	2359	8713	5943
	13%	2%	8%	5%
grade 3 events	2013	732	3327	2523
	1%	0%	3%	2%
grade 4 events	2644	703	3163	2363
	1%	0%	3%	2%
grade 5 events	8188	3090	9345	5056
	6%	3%	9%	5%
grade 6 events	33231	2363	23397	6944
	24%	2%	23%	6%
grade 7 events	60097	71014	46482	70294
	44%	85%	47%	70%

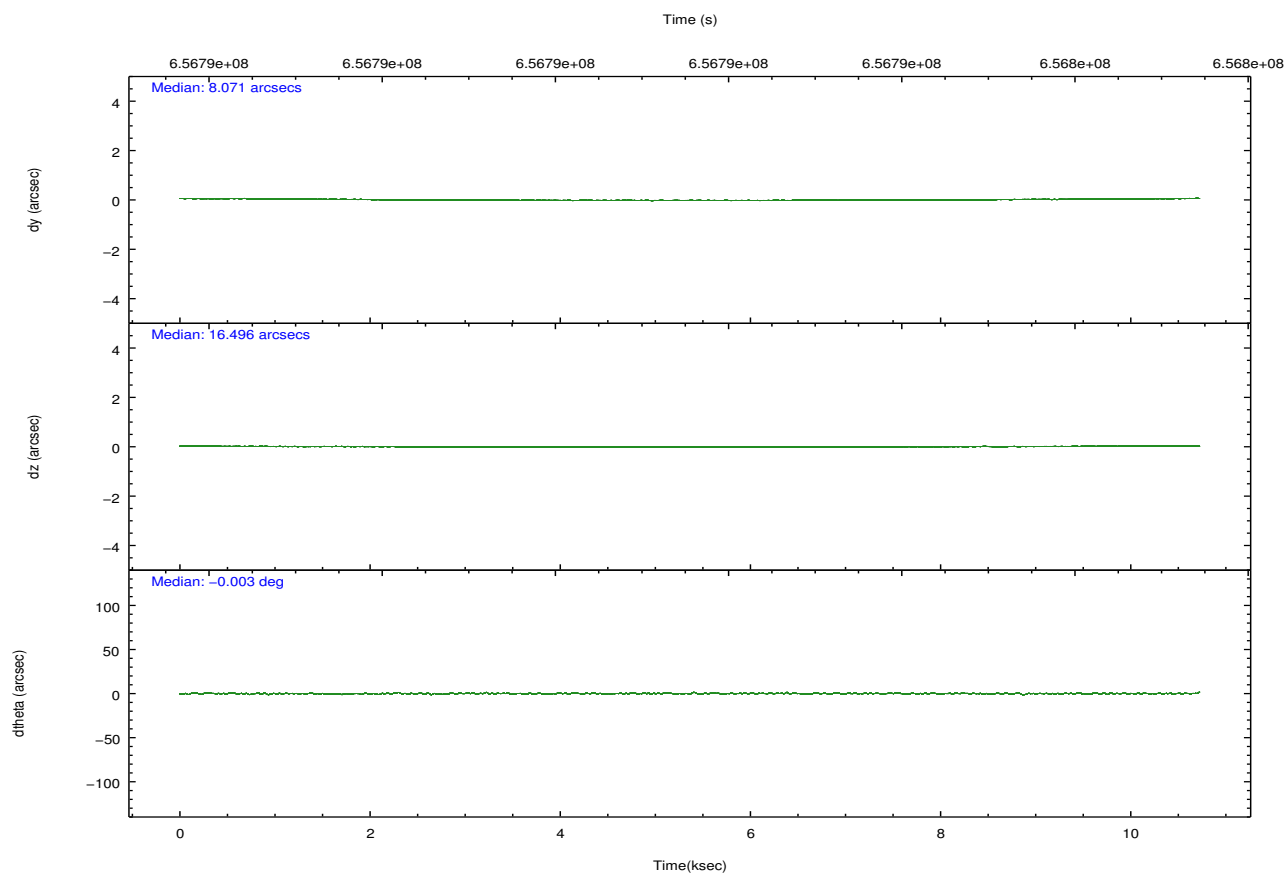
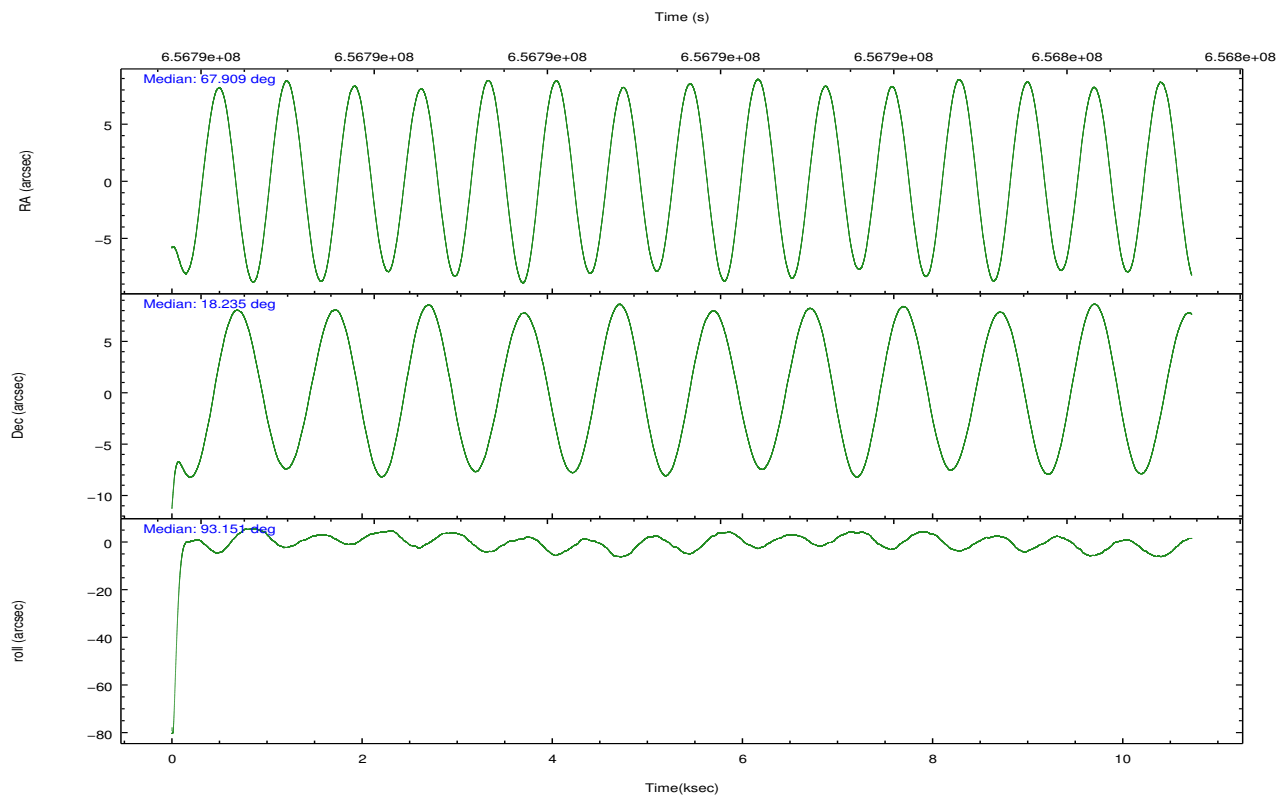
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-5678	ACIS-5678
Grating	HETG	HETG
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	67.925238	67.90908565229066
[deg] Pointing Dec	18.212455	18.23519446716909
[deg] Pointing Roll	92.996414	93.15798248807725
[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)	656786915.184000	656785704.6979899
Observation start date	2018-10-24T16:47:26	2018-10-24T16:28:24
[s] Observation end time (MET)	656796915.184000	656797215.96118
Observation end date	2018-10-24T19:34:06	2018-10-24T19:40:15
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	N	N
CCD I3 on	N	N
CCD S0 on	O1	N
CCD S1 on	Y	Y
CCD S2 on	Y	Y
CCD S3 on	Y	Y
CCD S4 on	Y	Y
CCD S5 on	O2	N
Number of optional ACIS chips dropped	2	2
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.1

2.3 Aspect



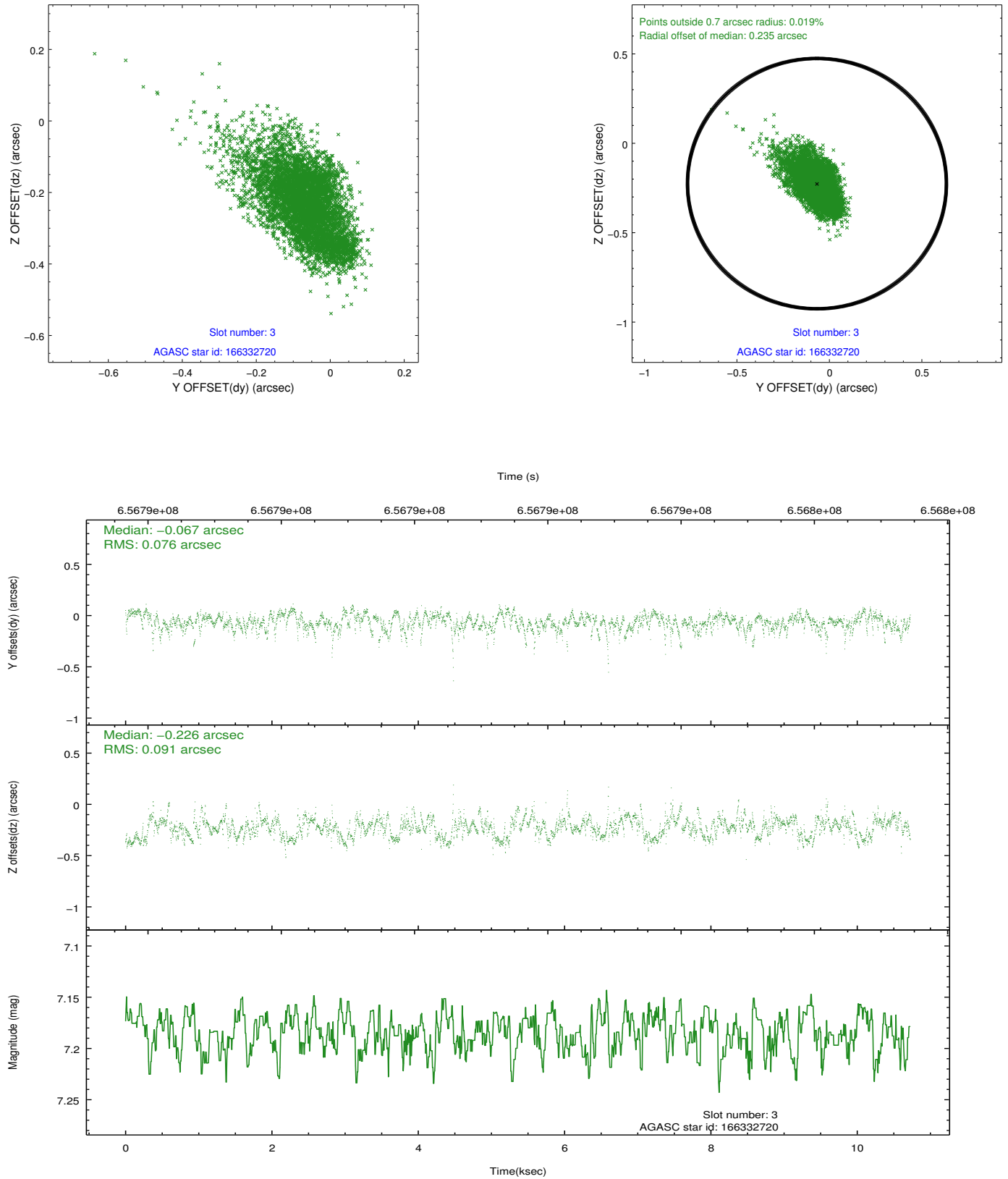


Slot Statistics

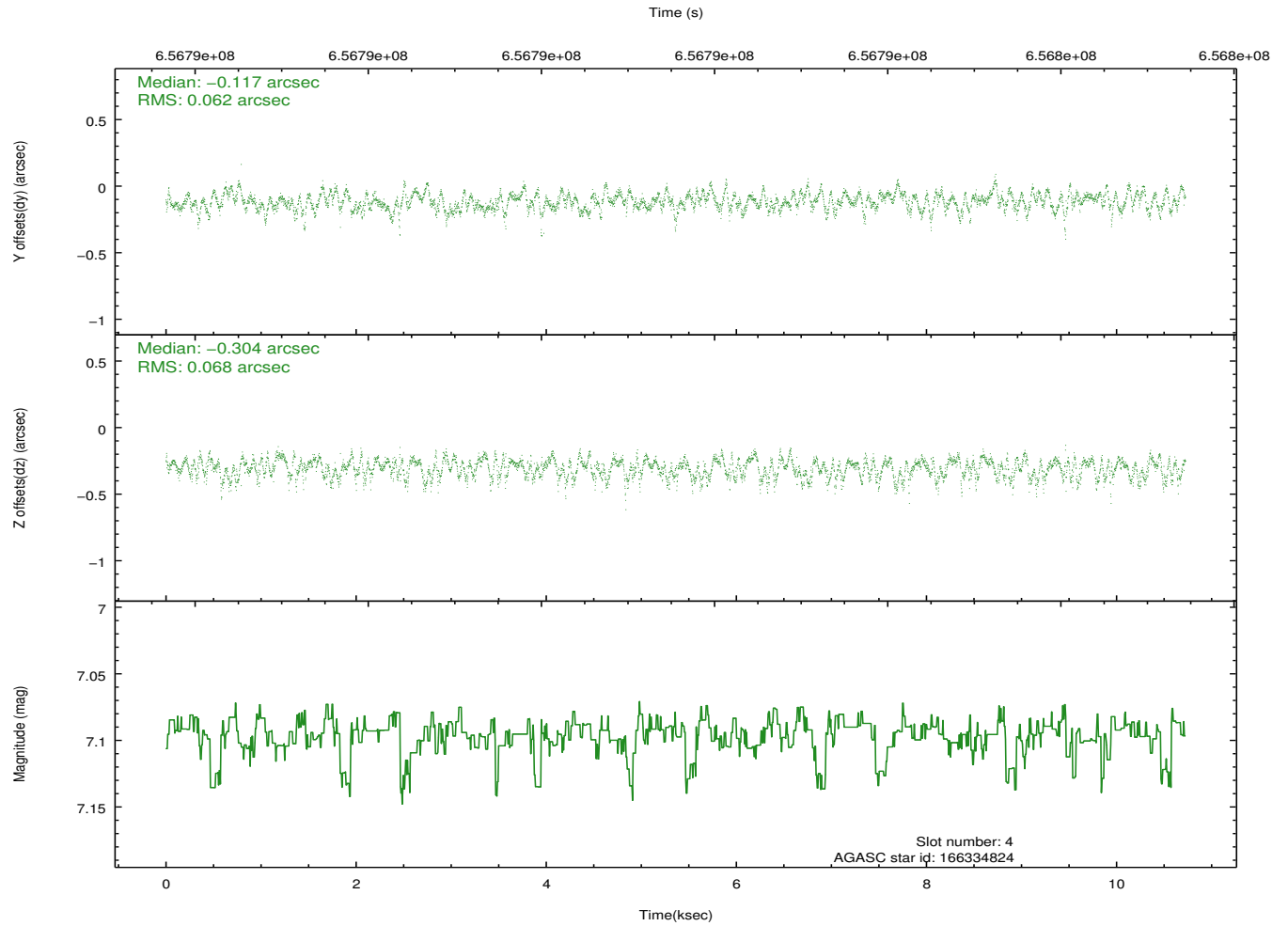
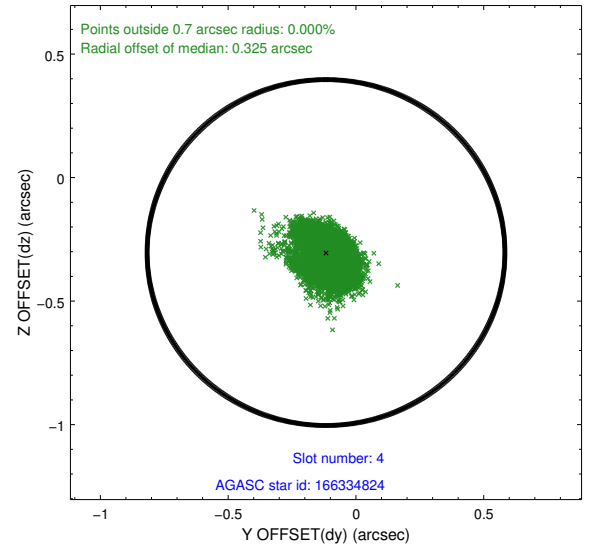
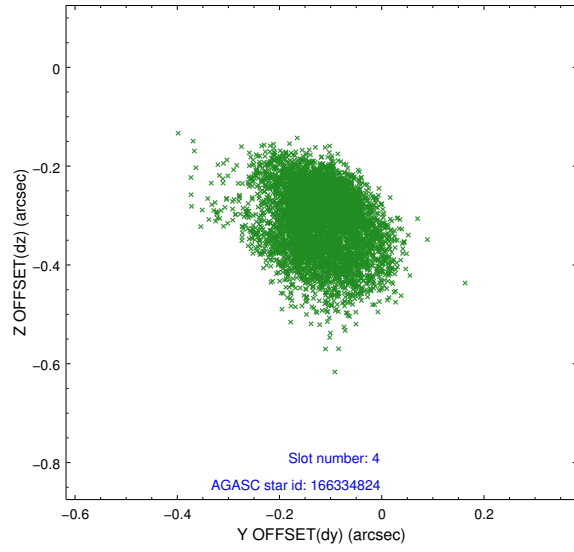
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.14	2616	1.000	-0.395	-0.273	0.006	0.012	0.000000	0.000000	-761.29	-1738
1	FID		ACIS-S-4	7.28	2616	1.000	0.421	0.228	0.007	0.011	0.000000	0.000000	2152.62	170
2	FID		ACIS-S-6	7.41	2615	1.000	-0.054	0.052	0.008	0.014	0.000000	0.000000	401.71	808
3	GUIDE	used	166332720	7.18	5233	1.000	-0.067	-0.226	0.122	0.208	67.335629	17.544937	-2291.60	2144
4	GUIDE	used	166334824	7.10	5233	1.000	-0.117	-0.304	0.096	0.159	67.376458	17.863163	-1155.90	1941
5	GUIDE	used	166468240	9.02	5225	1.000	0.417	0.528	0.111	0.175	68.167699	17.861525	-1304.27	-762
6	GUIDE	used	166996584	9.12	5224	1.000	-0.344	-0.141	0.114	0.183	68.020035	18.861675	2316.94	-444
7	GUIDE	used	166333056	8.21	5231	1.000	0.115	0.149	0.080	0.139	67.813257	17.557208	-2334.67	507

2.4 Star Slots

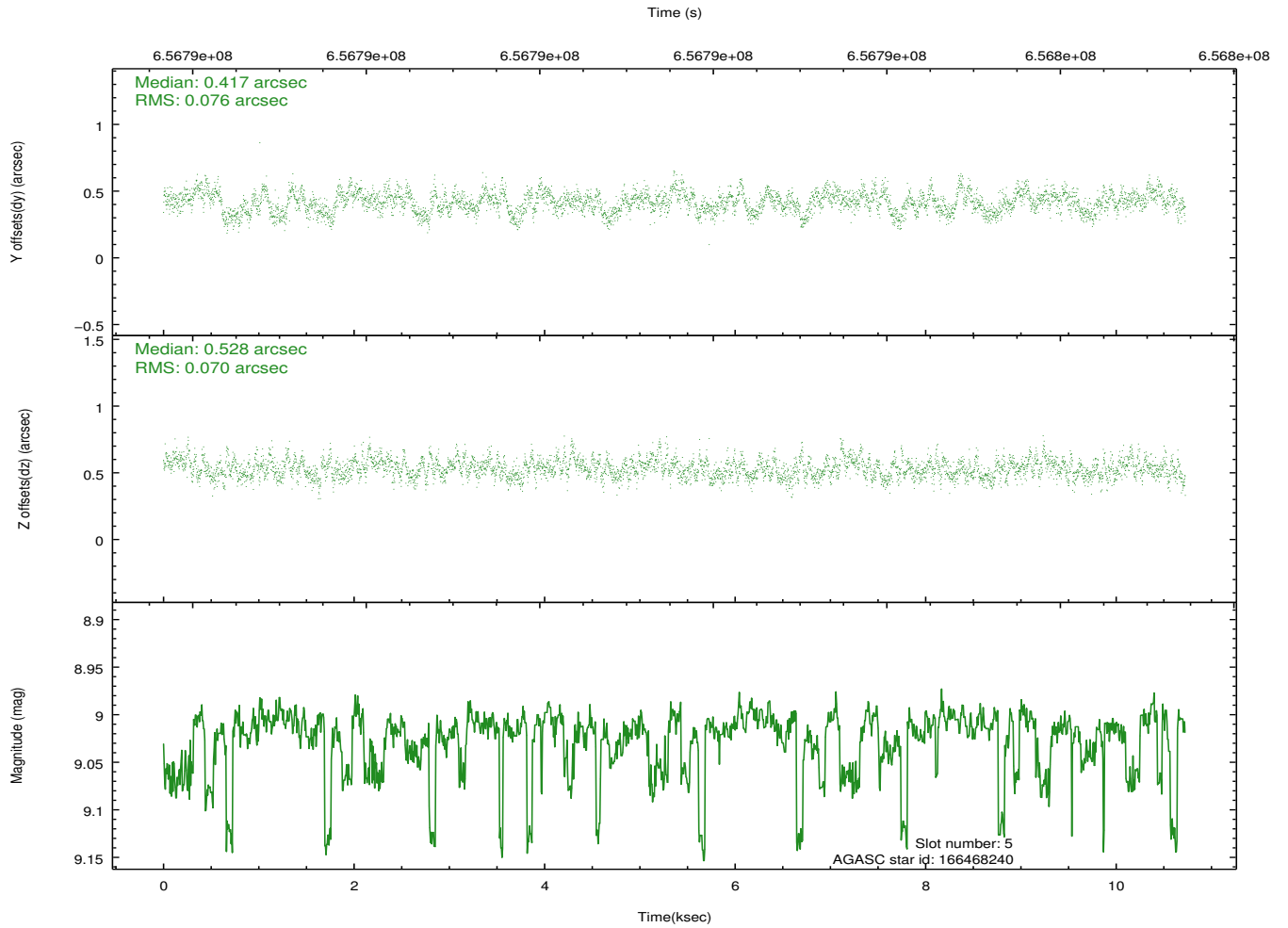
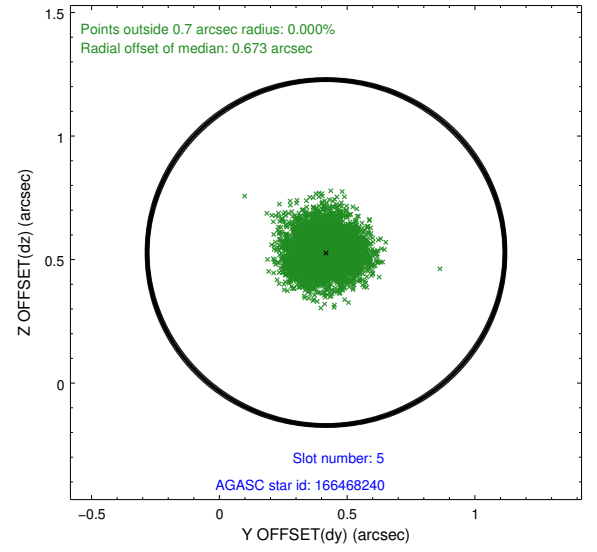
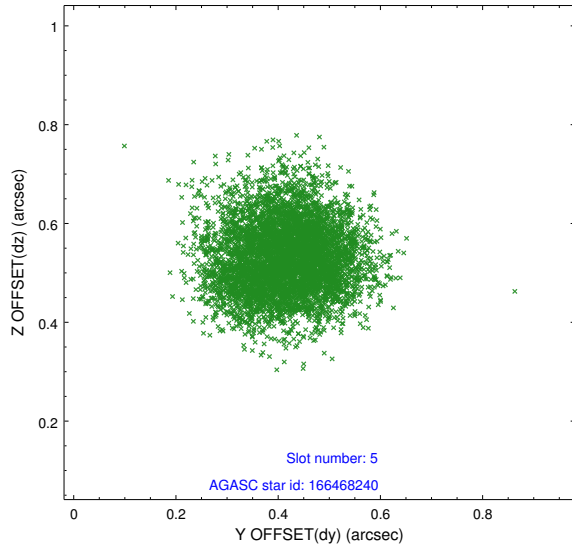
2.4.1 Slot 3



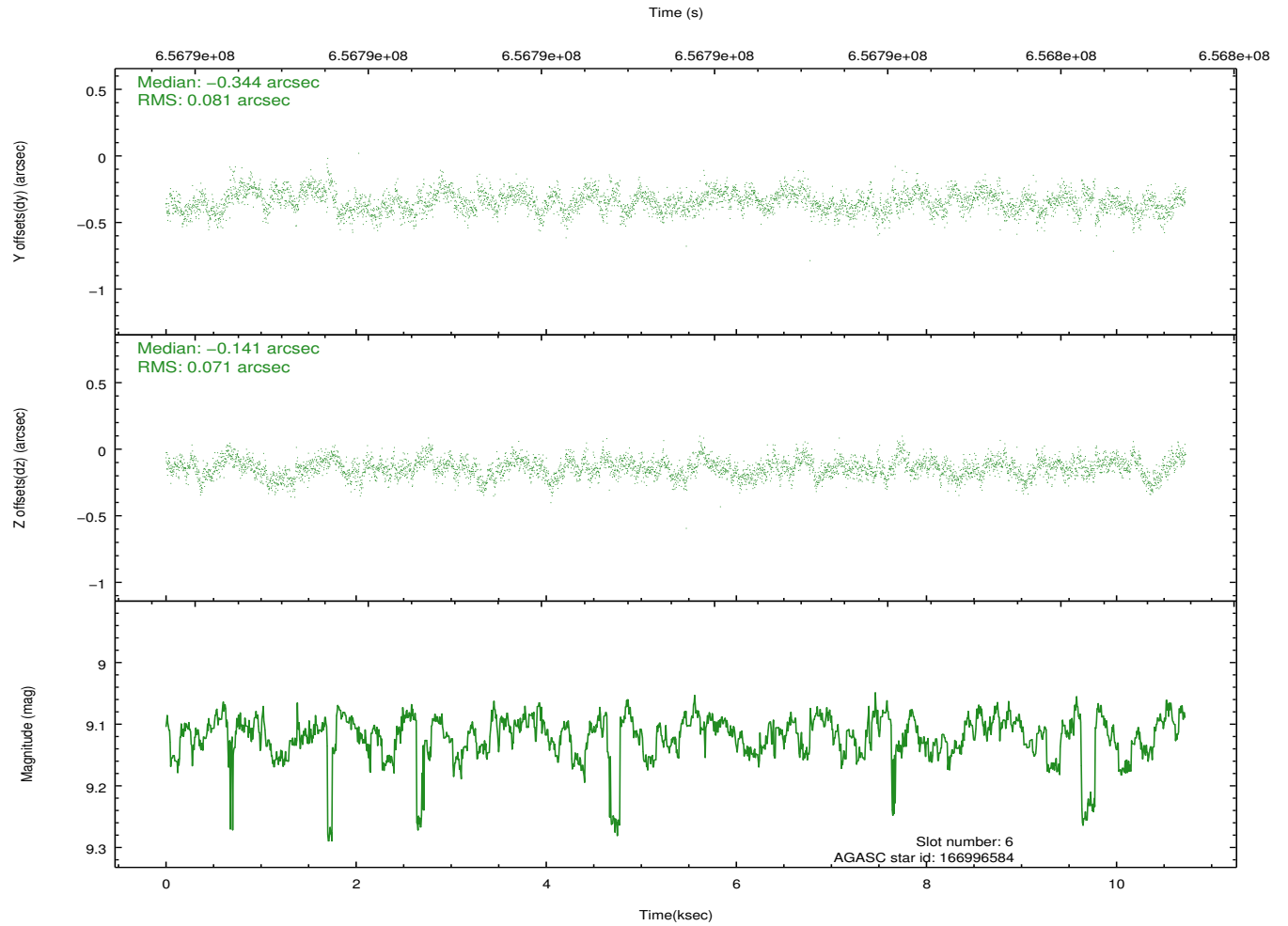
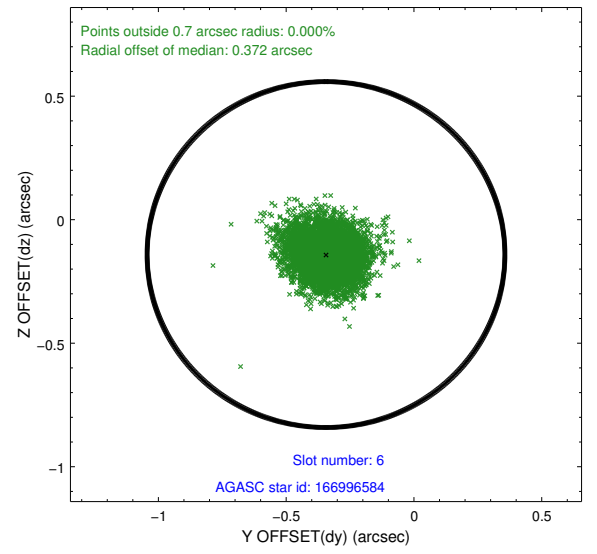
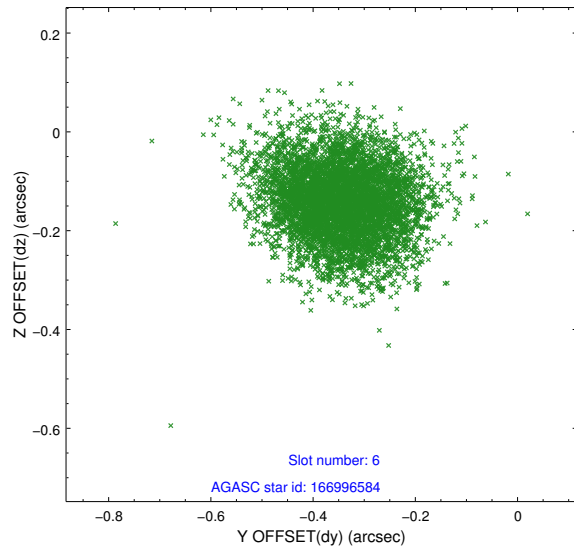
2.4.2 Slot 4



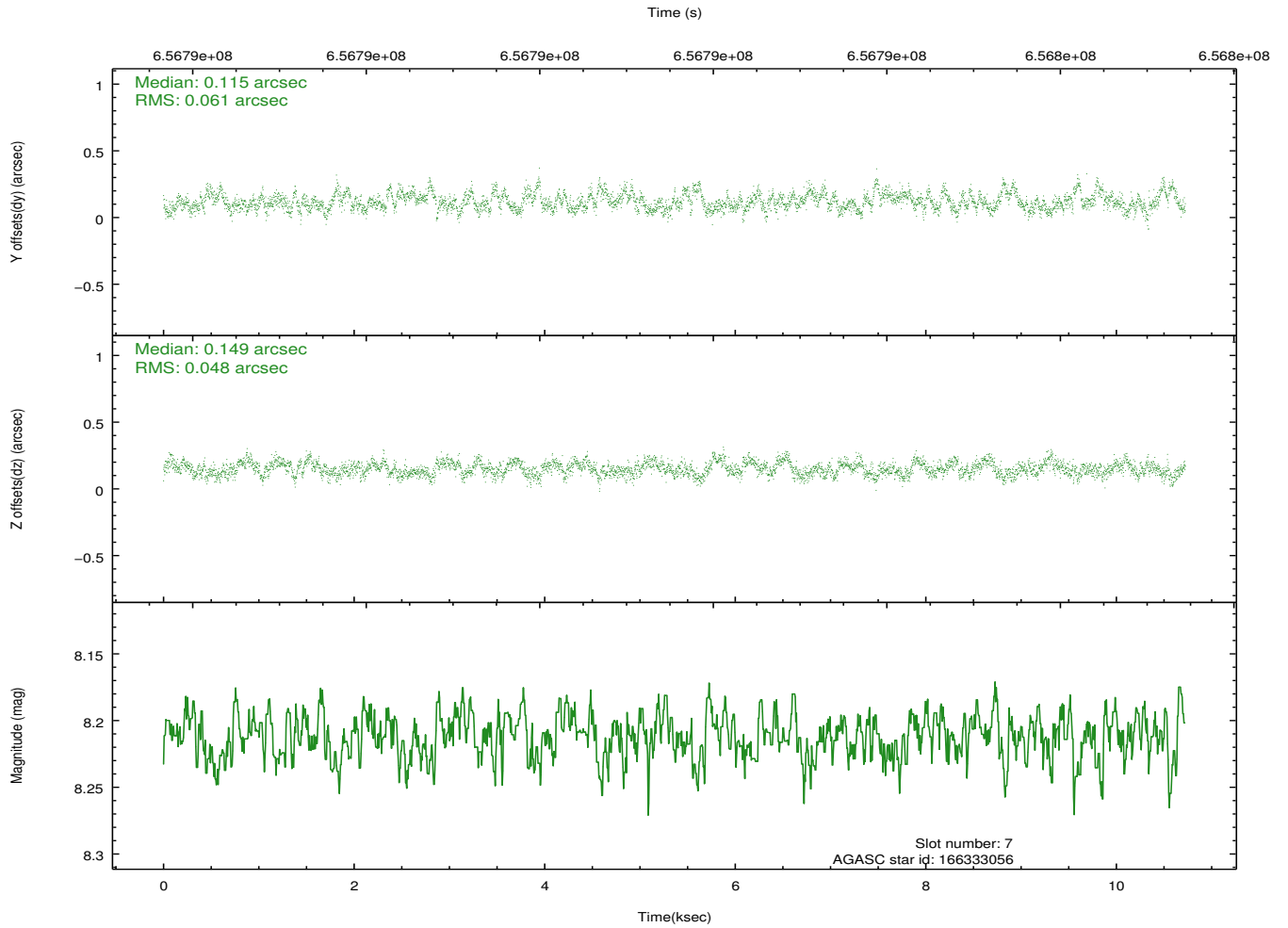
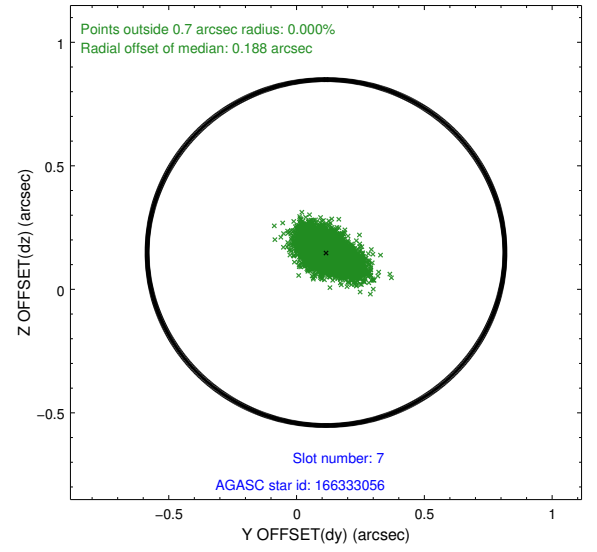
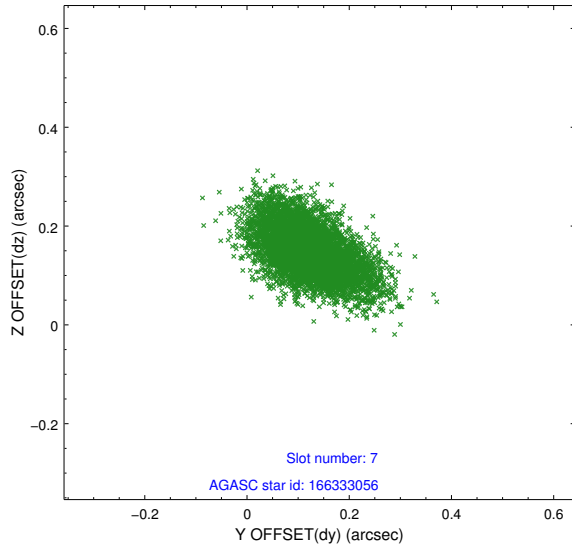
2.4.3 Slot 5



2.4.4 Slot 6

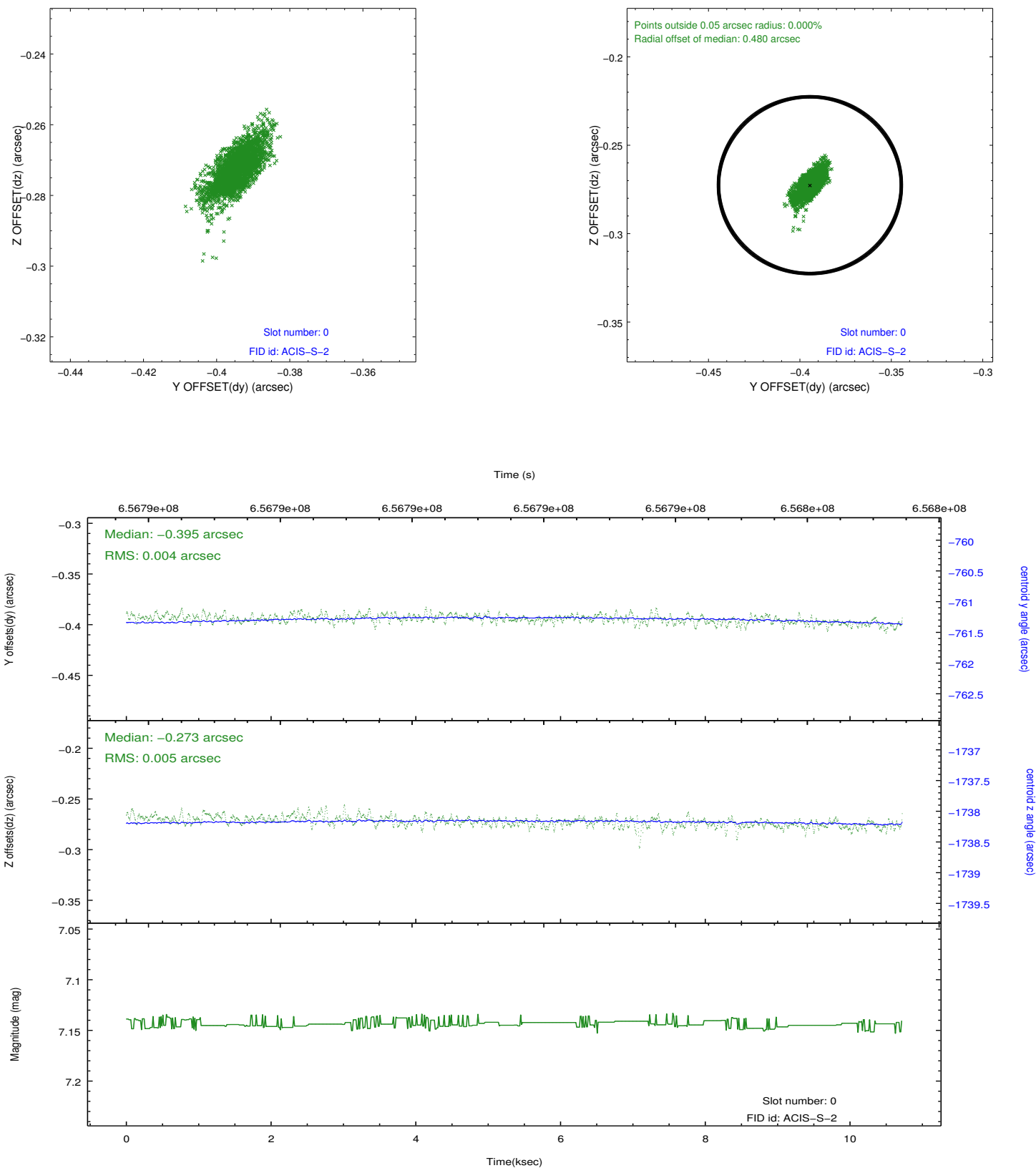


2.4.5 Slot 7

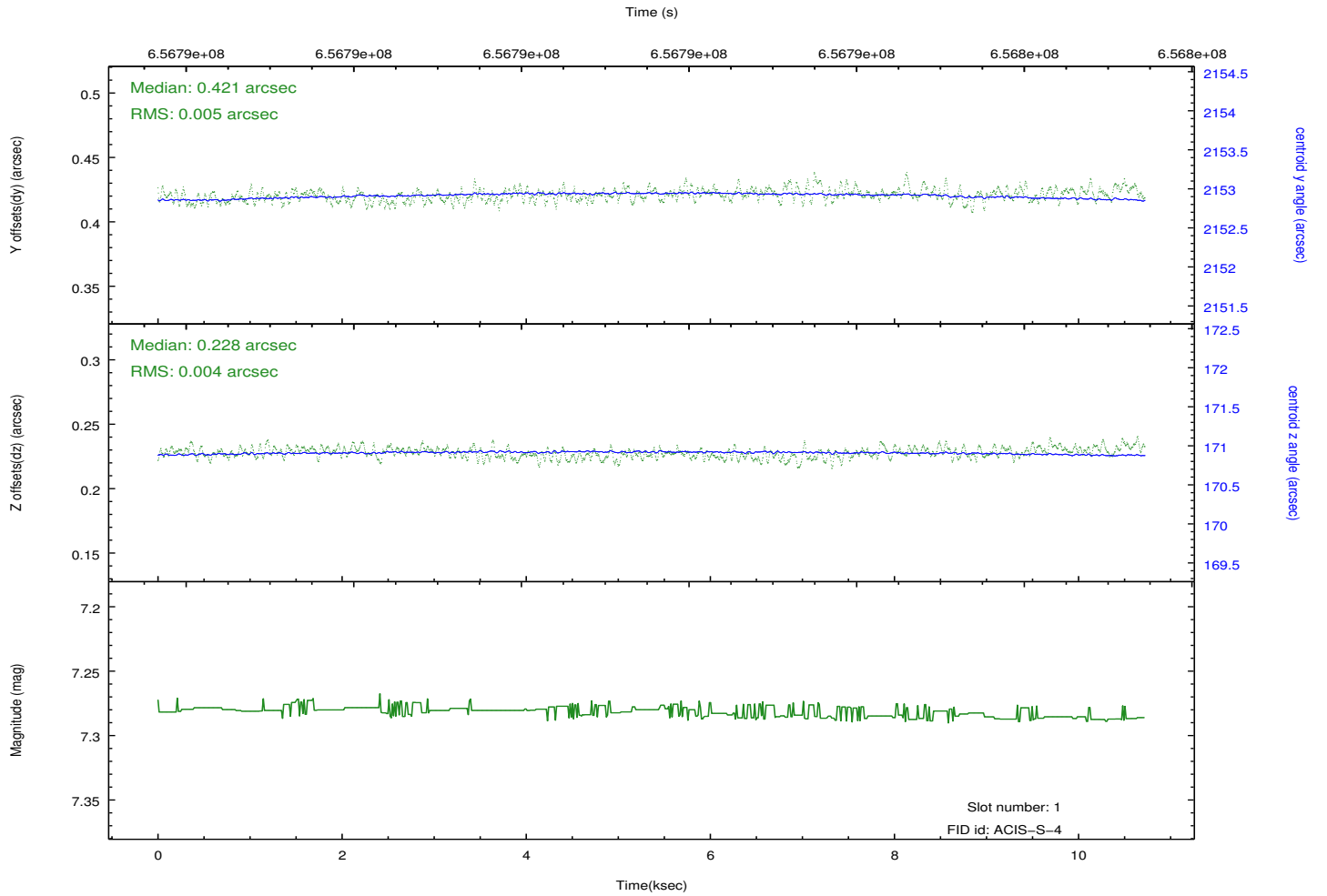
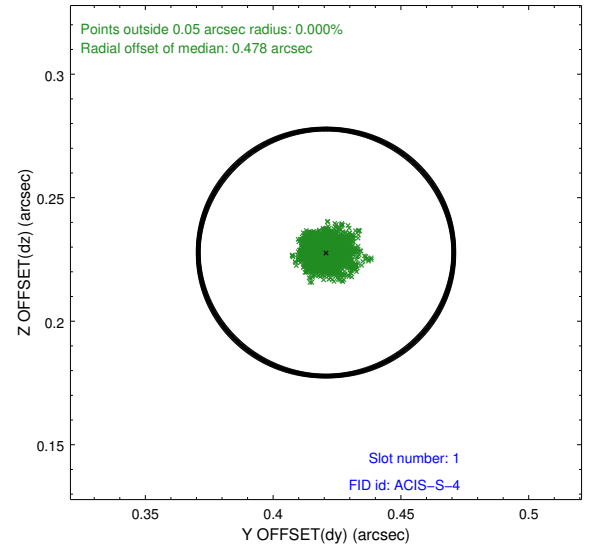
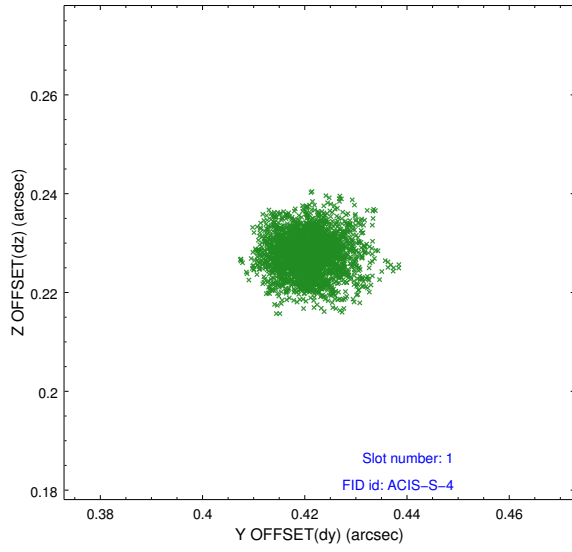


2.5 FID Slots

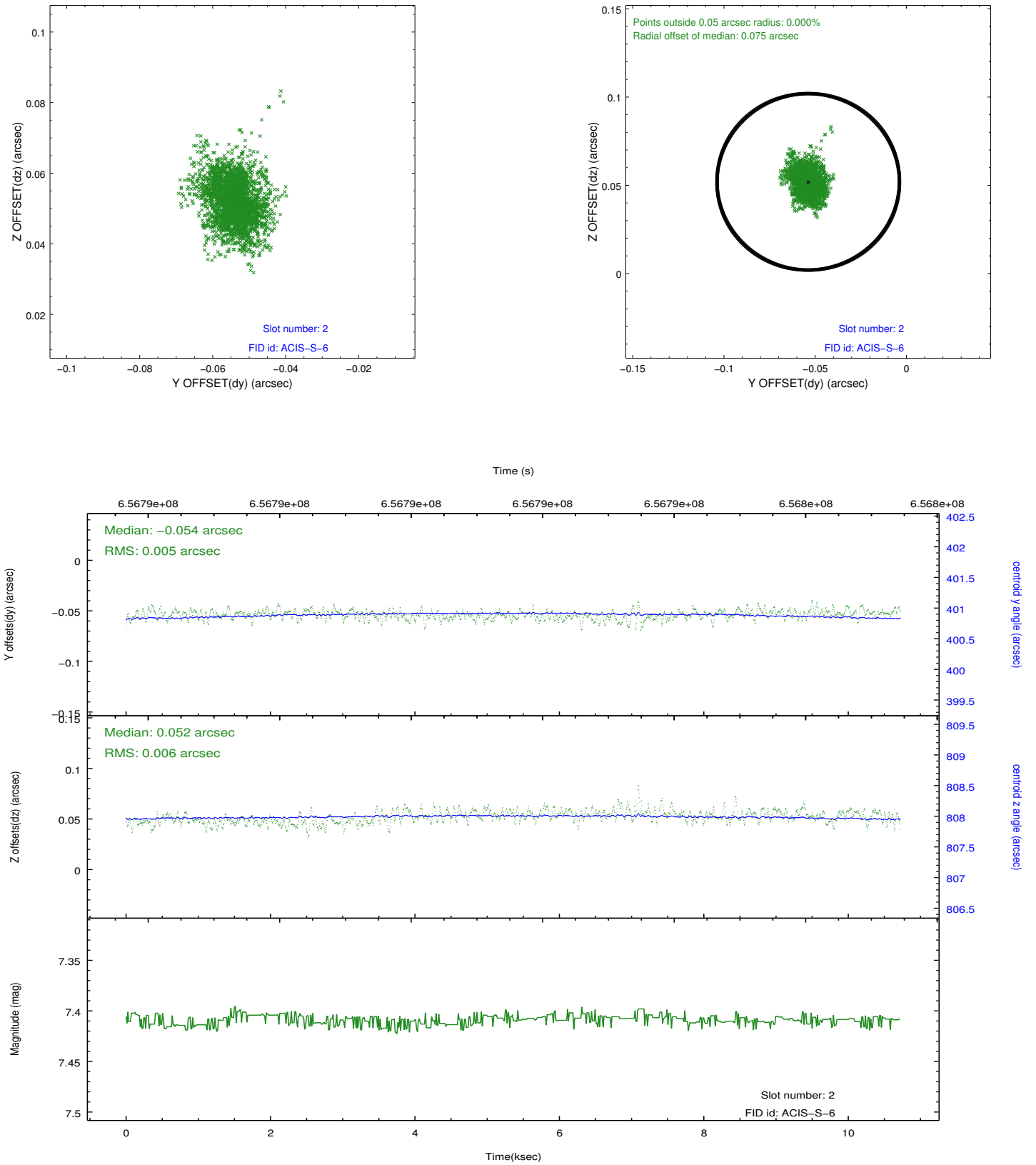
2.5.1 Slot 0



2.5.2 Slot 1

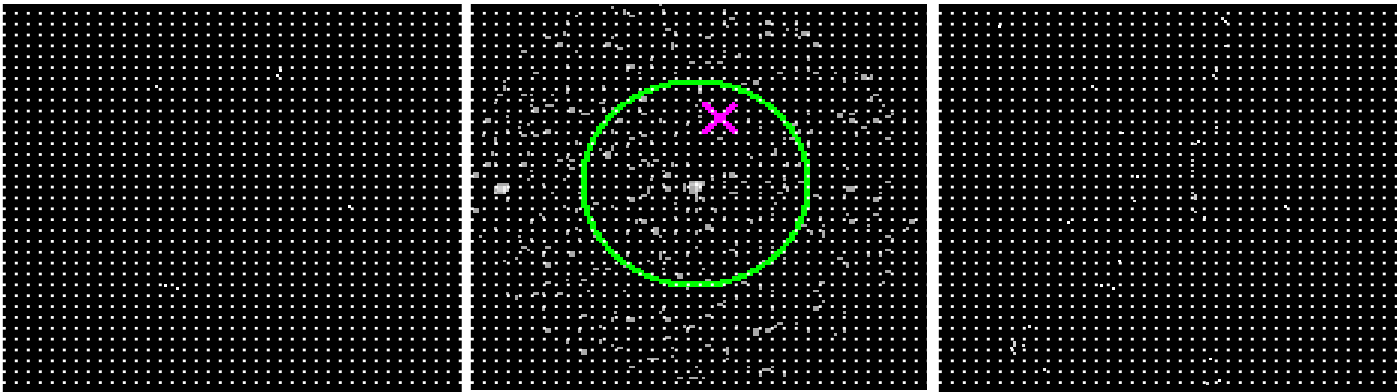


2.5.3 Slot 2



3 Gratings

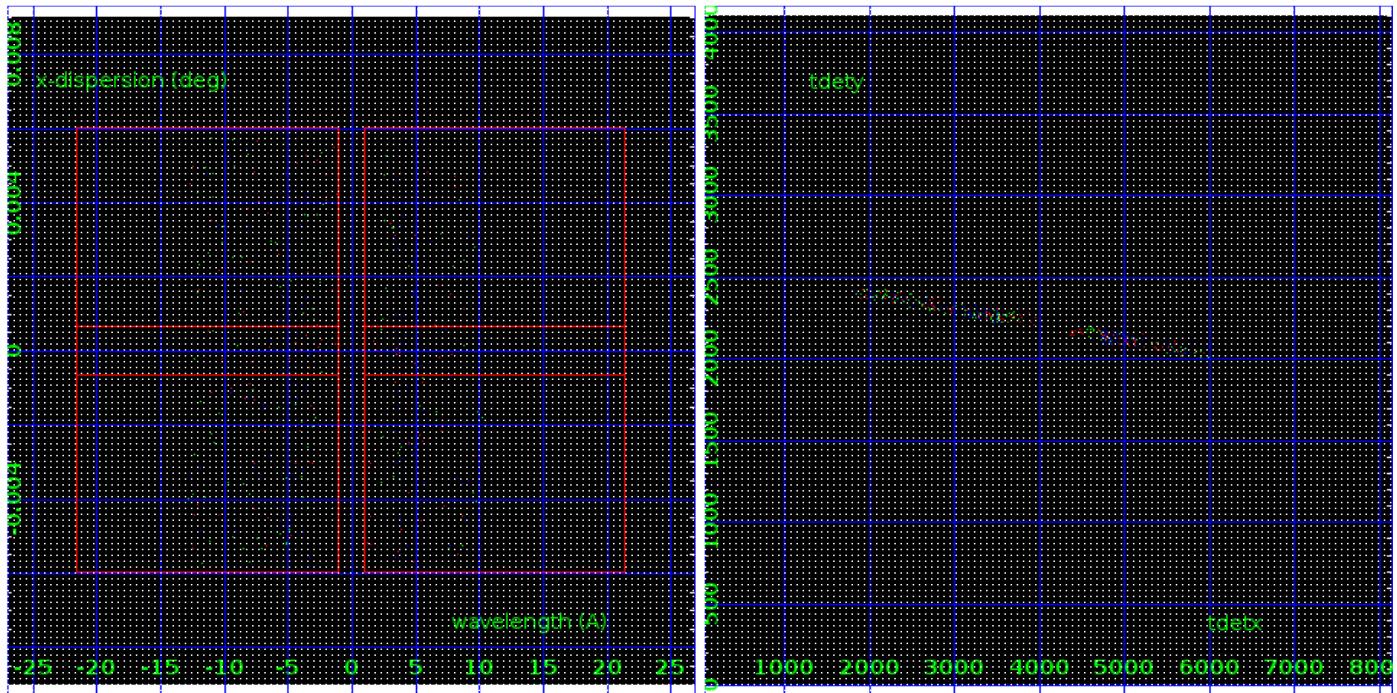
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

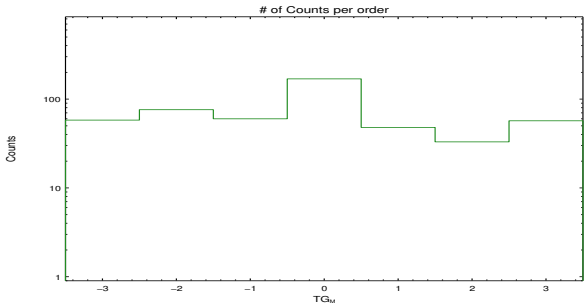
HEG Order Sort ALL

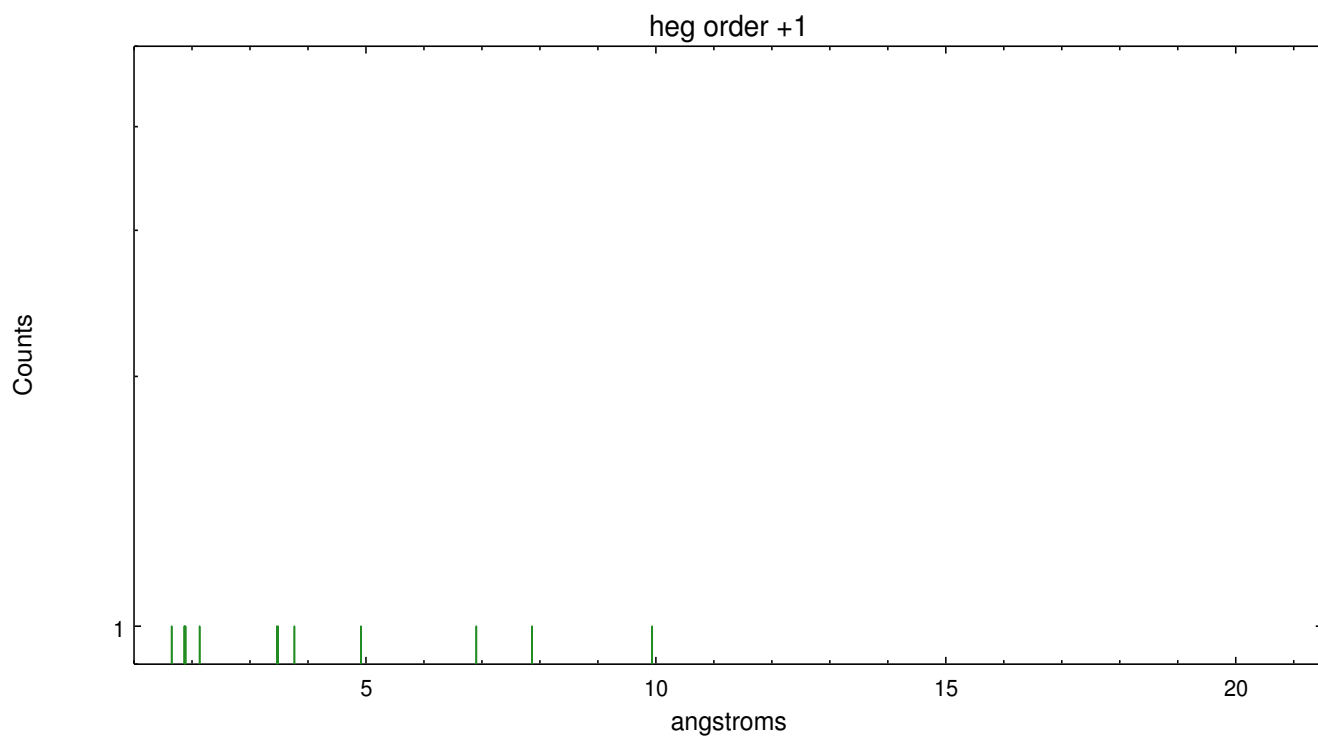
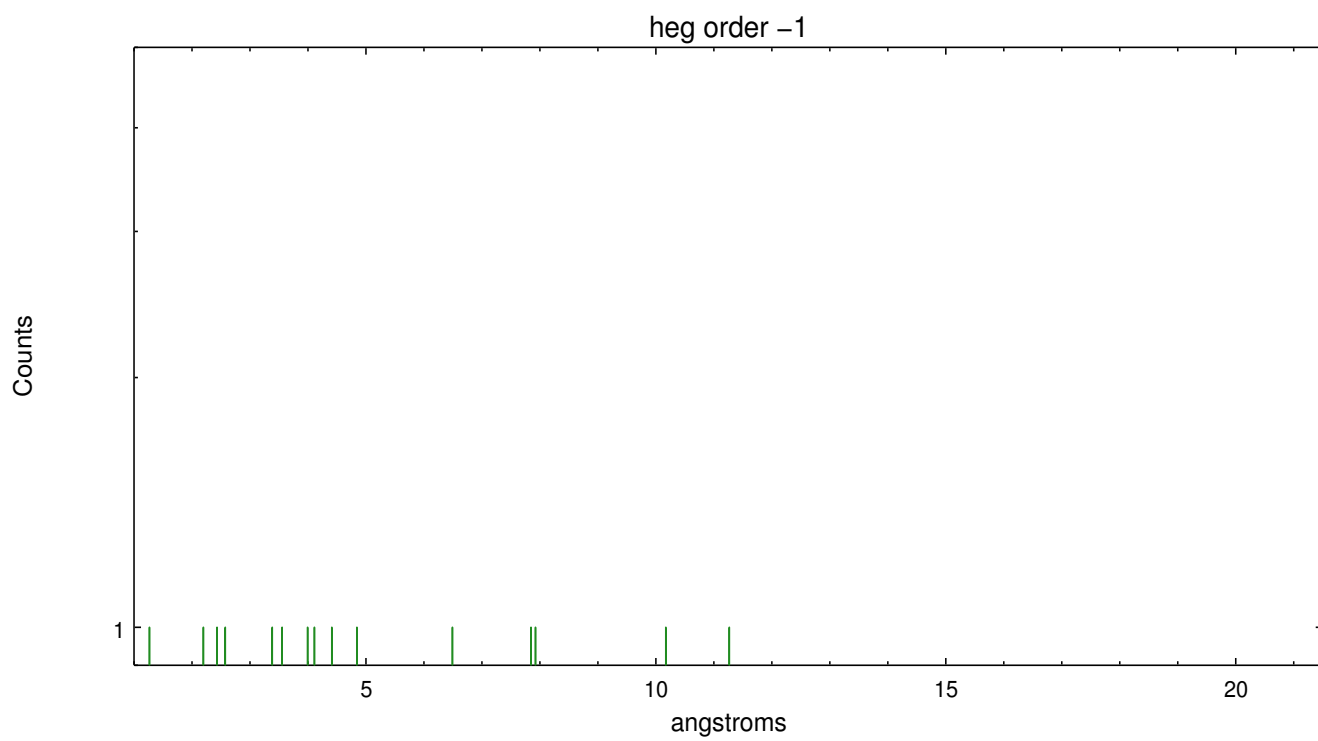


Spot Image HEG

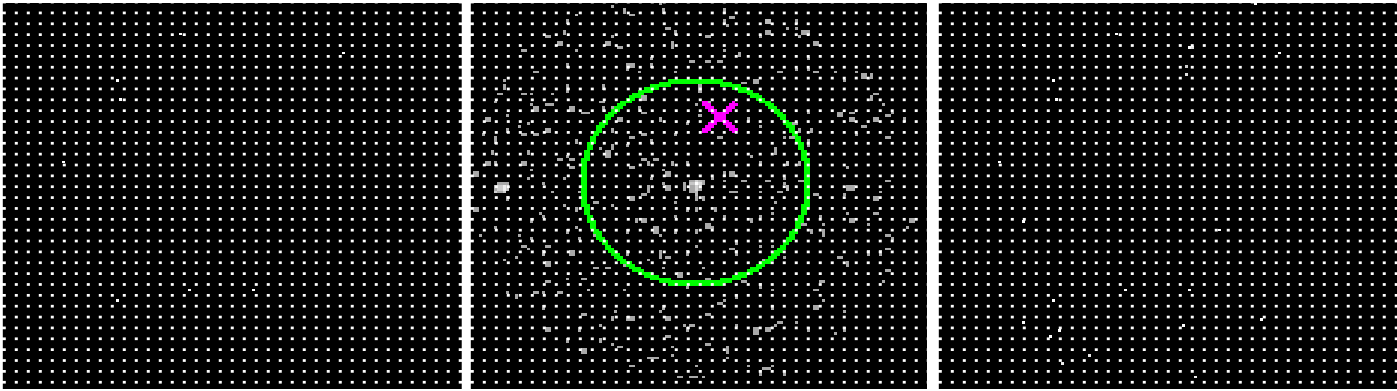
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	58	76	60	169	48	33	57





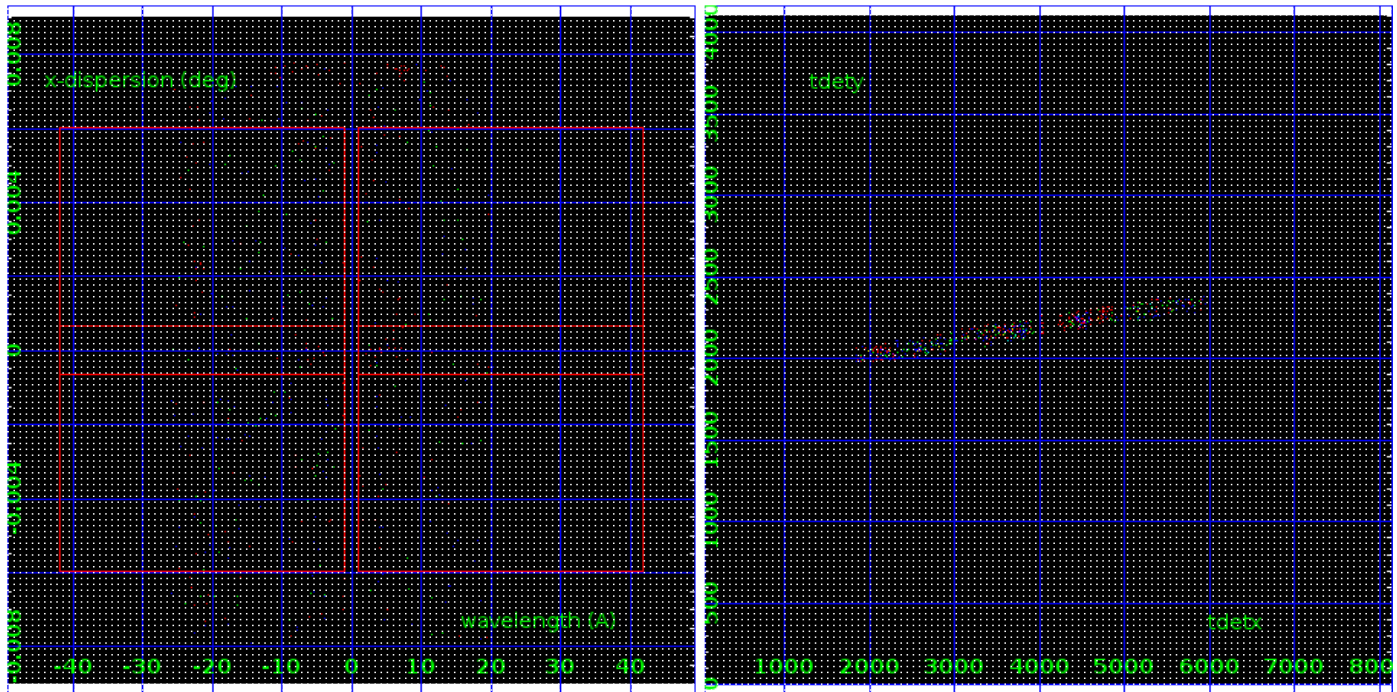
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

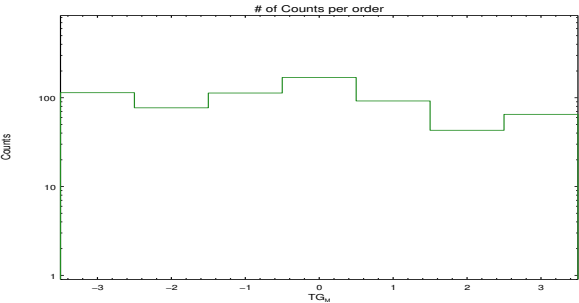
MEG Order Sort ALL

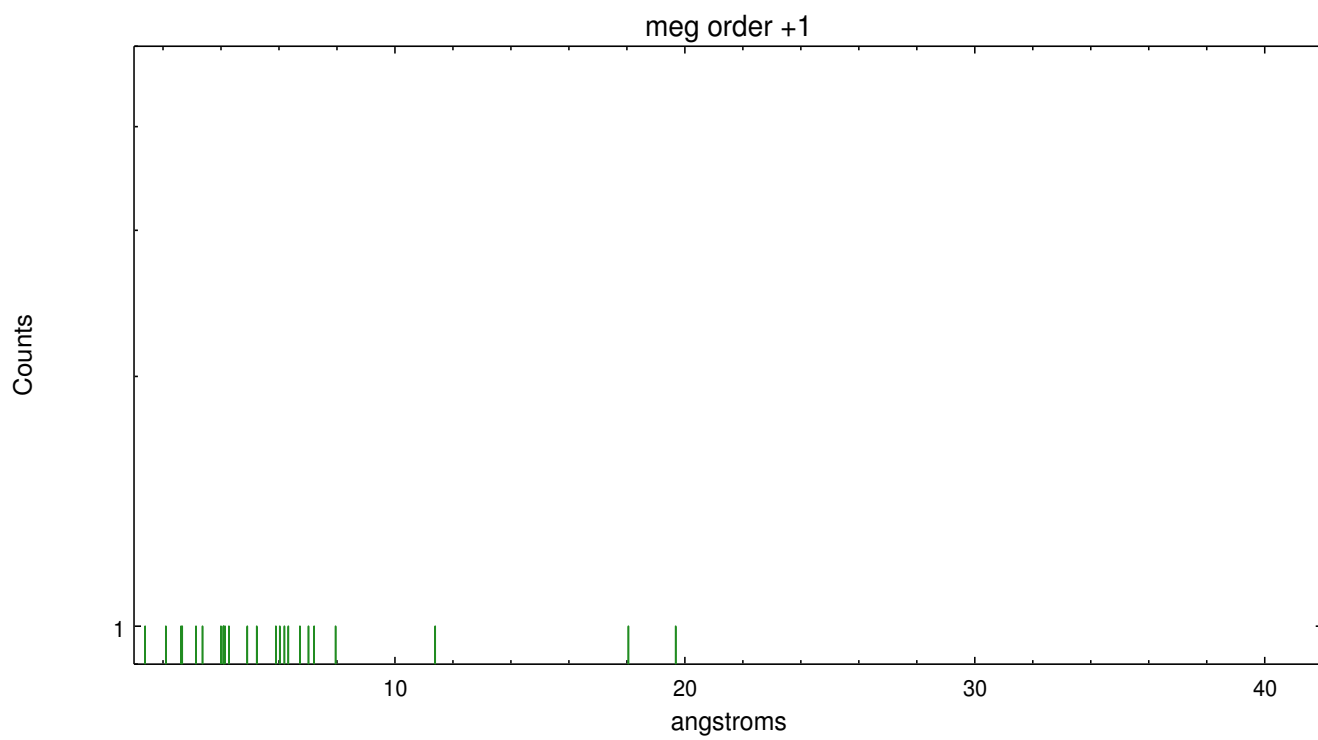
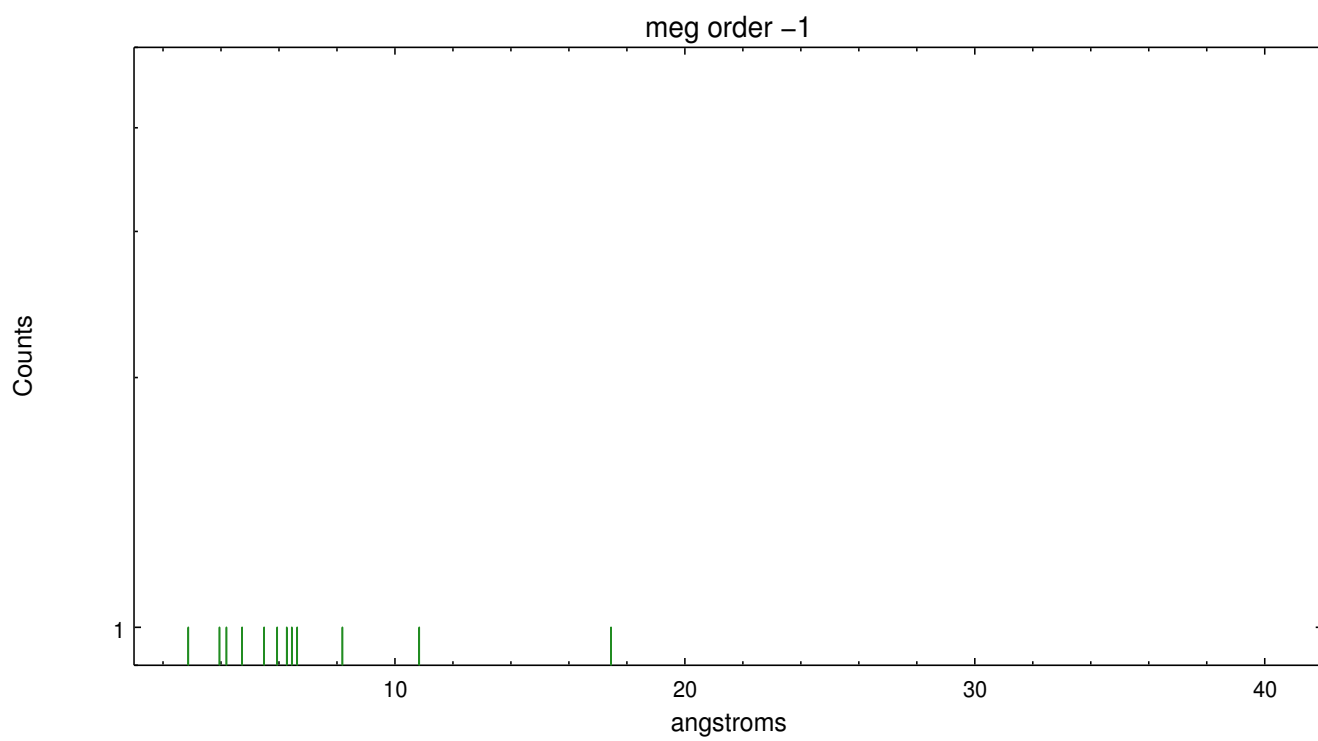


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	114	77	113	169	92	43	65





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2018.10.26
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.059500077486

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.