

V&V Reference Report

L2 ASCDS Version : 10.6.4.1

Observation 20160 - L2 Version 1
Chandra X-Ray Center

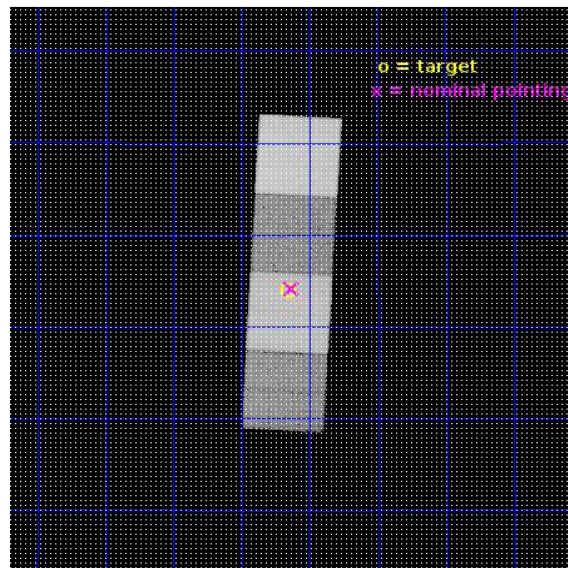
L2 Processing Date : Oct 27 2018

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

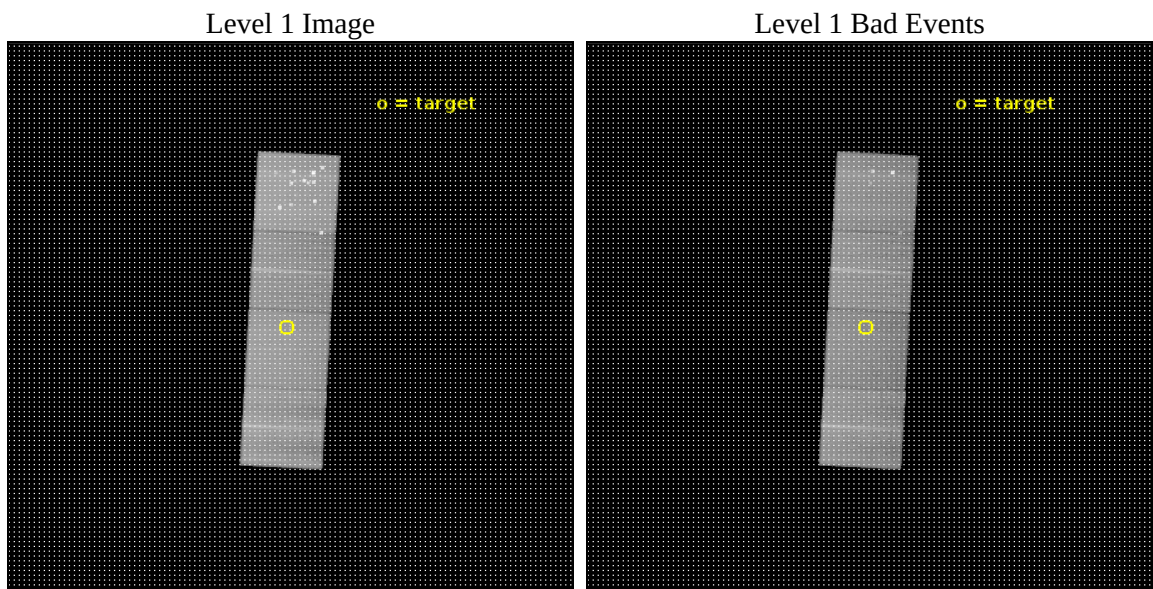
seq_num	201178	Sequence number
obs_id	20160	Observation id
title	An (X-ray Gratings) Tale of Two Young Stellar Objects	Proposal tit
observer	David Principe	Principal investigator
object	XZ Tau and HL Tau	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	67.91375	Observer's specified target RA [deg]
dec_targ	18.232028	Observer's specified target Dec [deg]
ra_nom	67.908802611025	Nominal RA [deg]
dec_nom	18.235758954948	Nominal Dec [deg]
roll_nom	93.158181932329	Nominal Roll [deg]
revision	1	Processing version of data
ontime	40027.200307965	Sum of GTIs [s]
livetime	39504.215468346	Livetime [s]
ontime5	40027.200307965	Sum of GTIs [s]
ontime6	40024.039958358	Sum of GTIs [s]
ontime7	40027.200307965	Sum of GTIs [s]
ontime8	40017.716798067	Sum of GTIs [s]
l2events	444139	Number of level 2 events



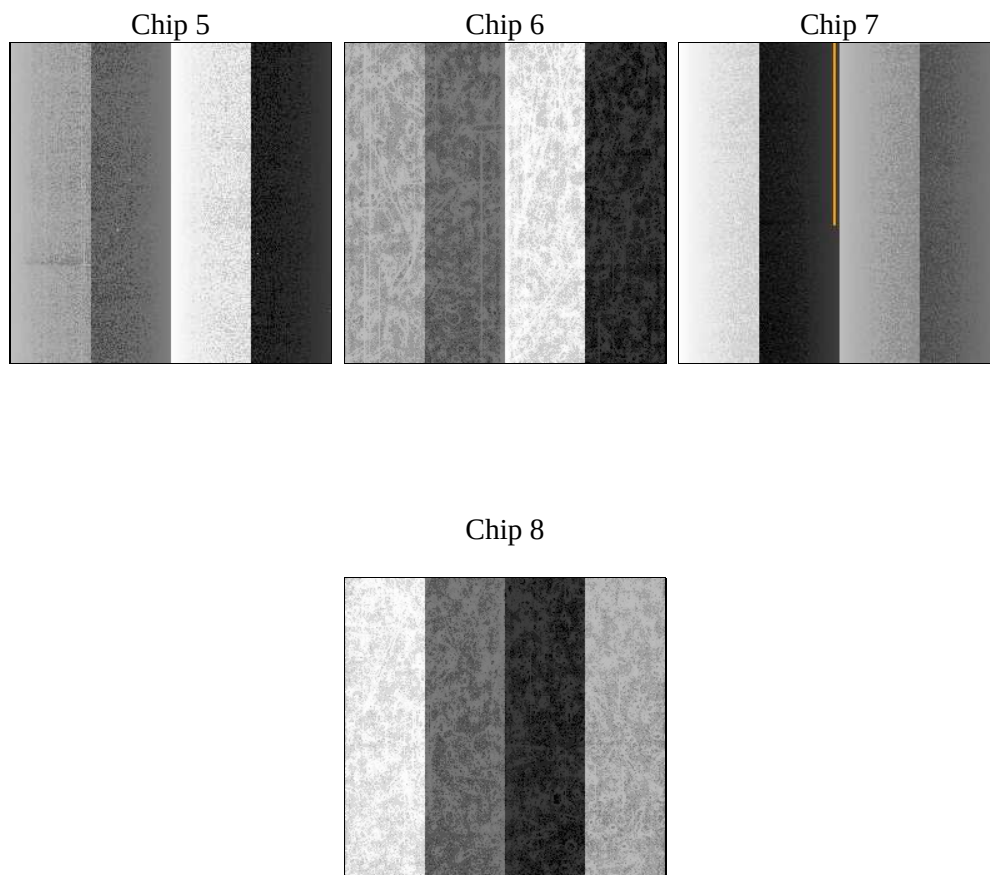
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	40000.000000	[s] Scheduled observation exposure time
ascdsver	10.6.4.1	Processing system revision	ontime	40027.200307965	Sum of GTIs [s]
caldsver	4.8.0.1	 	ontime5	40027.200307965	Sum of GTIs [s]
date	2018-10-27T15:08:28	Date and time of file creation	ontime6	40024.039958358	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	40027.200307965	Sum of GTIs [s]
			ontime8	40017.716798067	Sum of GTIs [s]
			l1events	1696011	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4087.52, 4073.56)	src1a sky pixel position

2.1.4 Events

	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	593136	318513	392539	391823
rejected events	276079	283870	223926	293248
rejected %	46%	89%	57%	74%

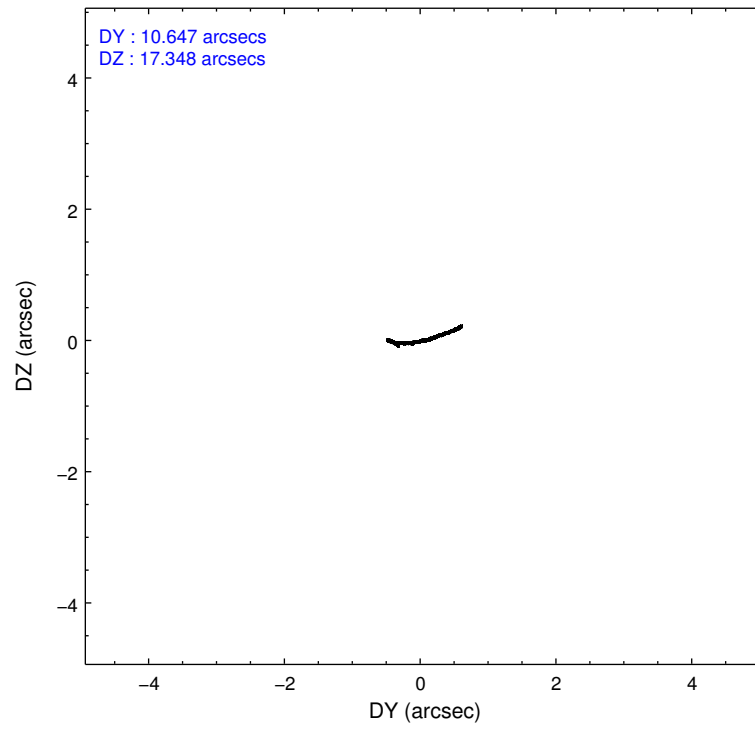
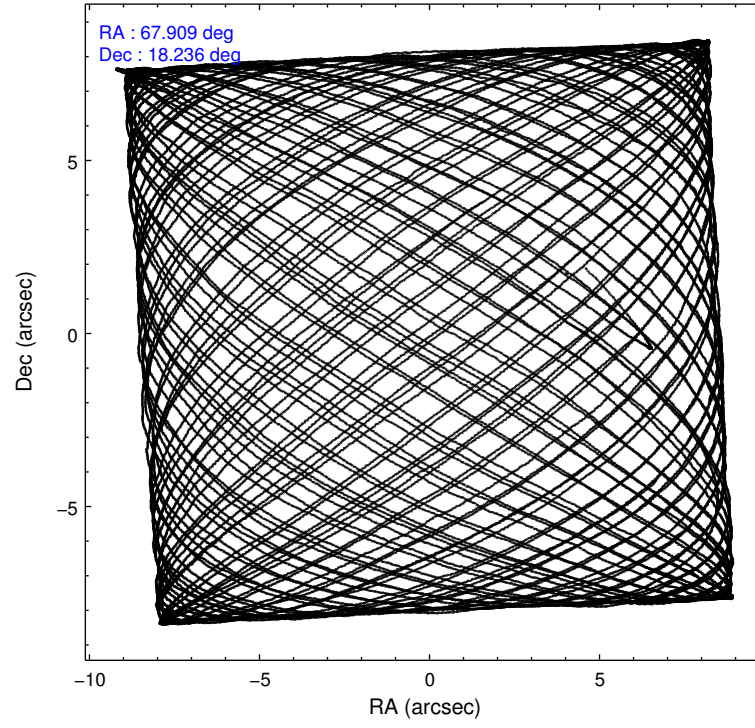
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	78774	10685	13936	26562
	13%	3%	3%	6%
grade 1 events	1324	149	541	266
	0%	0%	0%	0%
grade 2 events	86899	8980	35199	24243
	14%	2%	8%	6%
grade 3 events	9027	2955	13364	10291
	1%	0%	3%	2%
grade 4 events	10472	2933	12896	9550
	1%	0%	3%	2%
grade 5 events	34539	13004	37686	20516
	5%	4%	9%	5%
grade 6 events	132254	9116	93367	27998
	22%	2%	23%	7%
grade 7 events	239847	270691	185550	272397
	40%	84%	47%	69%

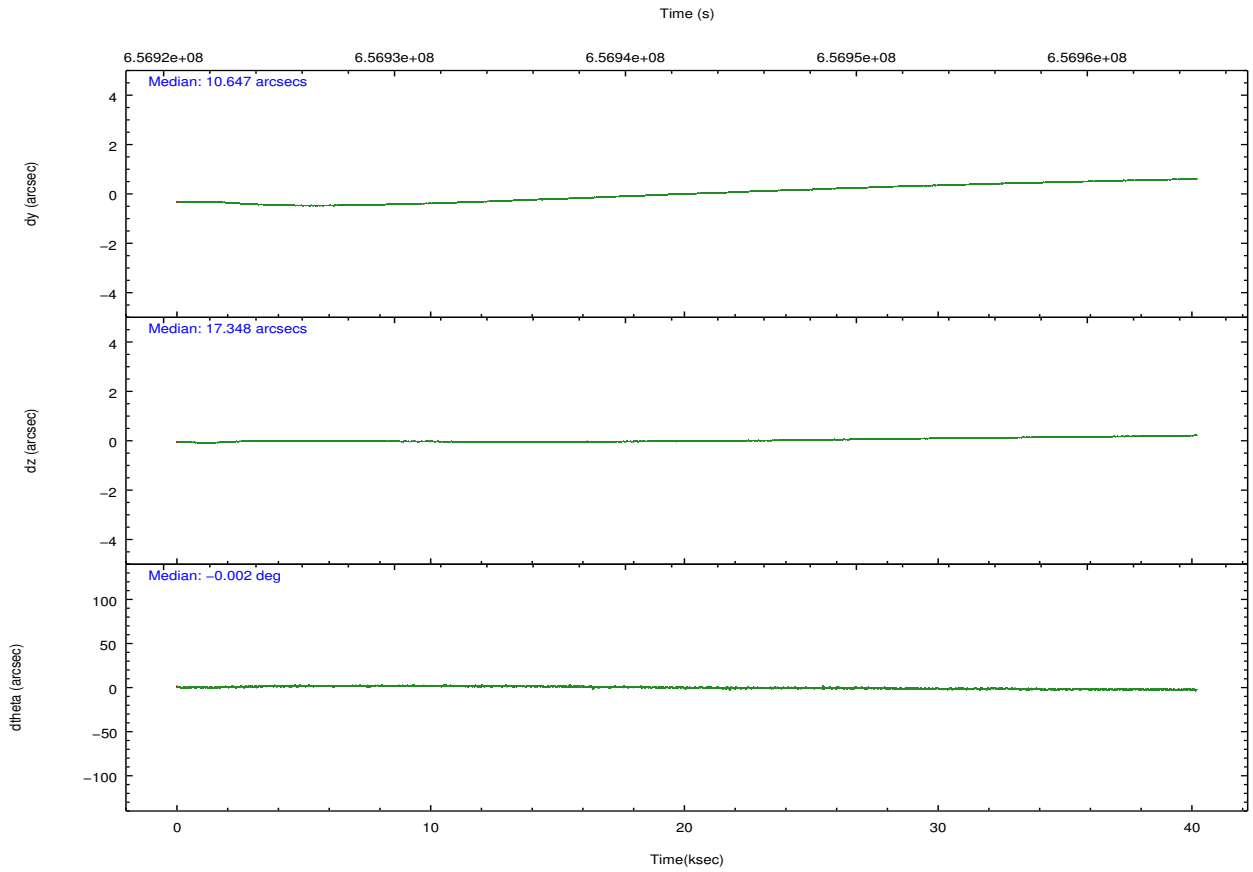
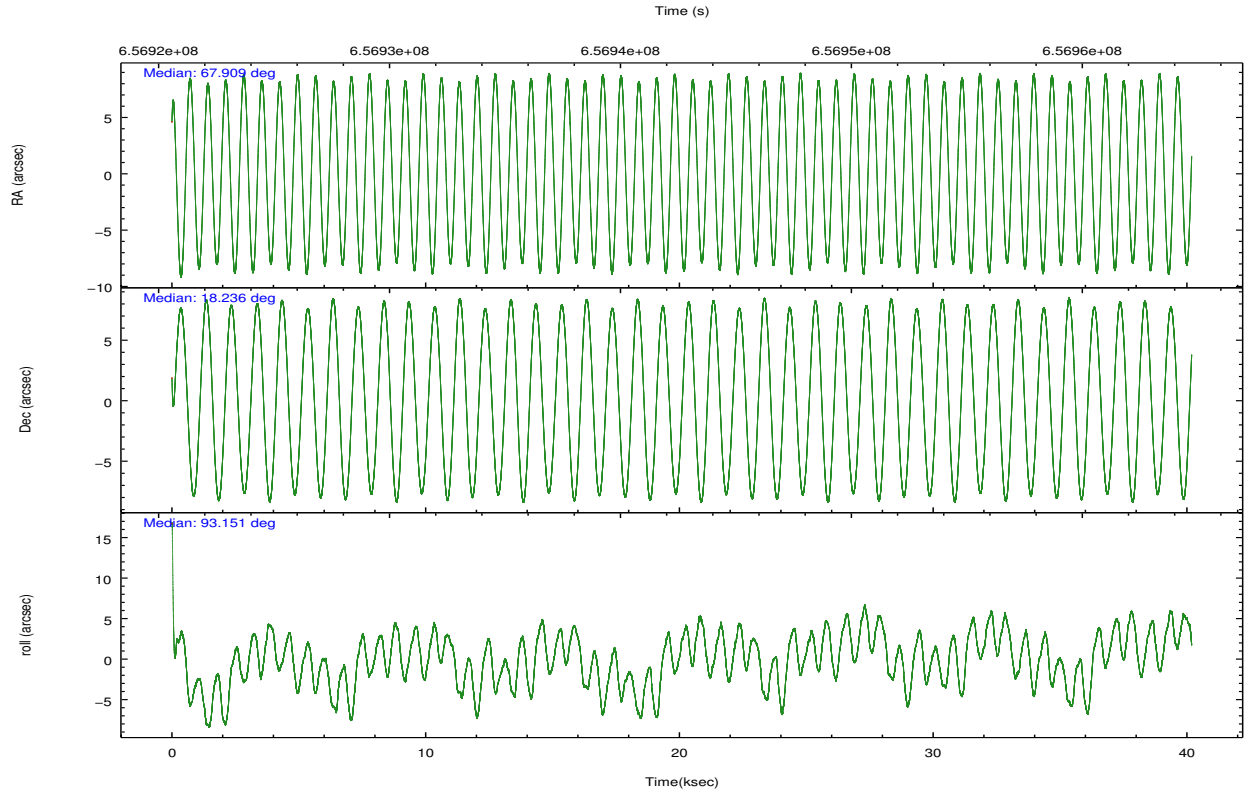
2.2 Compared Parameters

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	67.924933	67.90880261102515
[deg] Pointing Dec	18.212984	18.23575895494839
[deg] Pointing Roll	92.996499	93.15818193232926
[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)	656922749.184000	656921960.00609
Observation start date	2018-10-26T06:31:20	2018-10-26T06:19:20
[s] Observation end time (MET)	656962749.184000	656963084.5460401
Observation end date	2018-10-26T17:38:00	2018-10-26T17:44:44
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



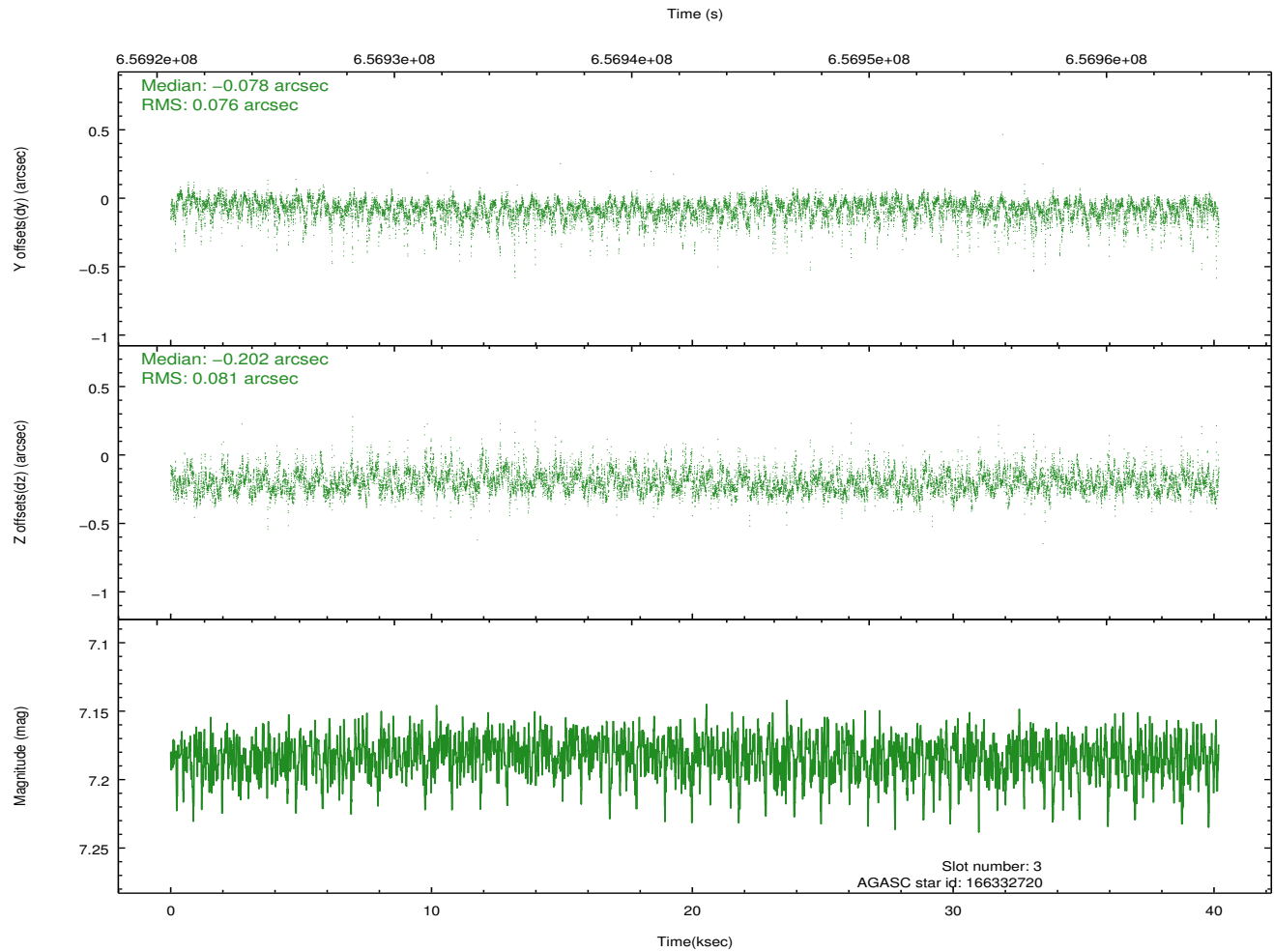
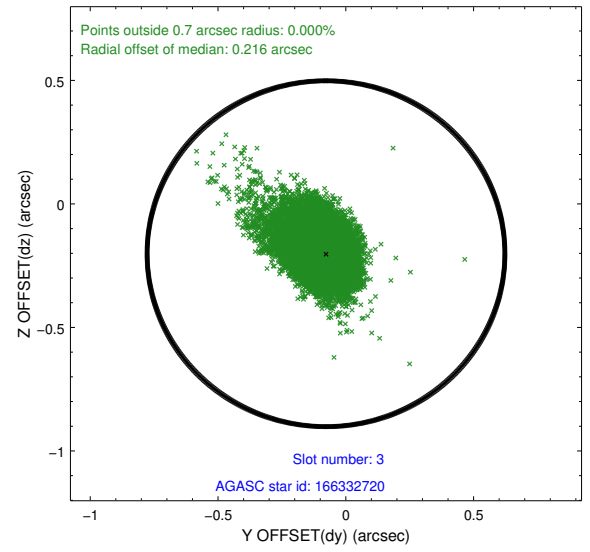
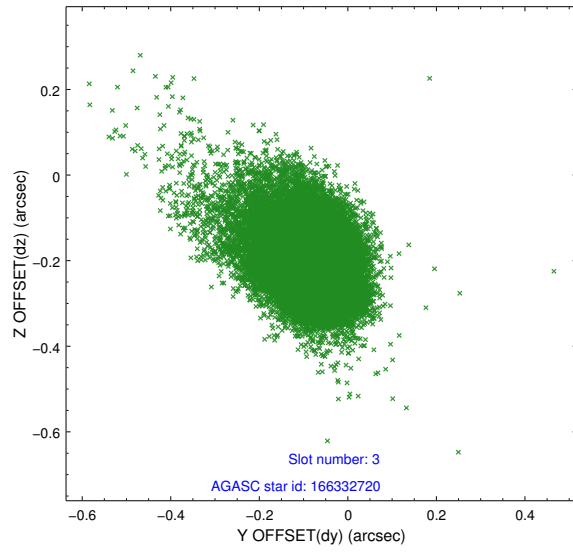


Slot Statistics

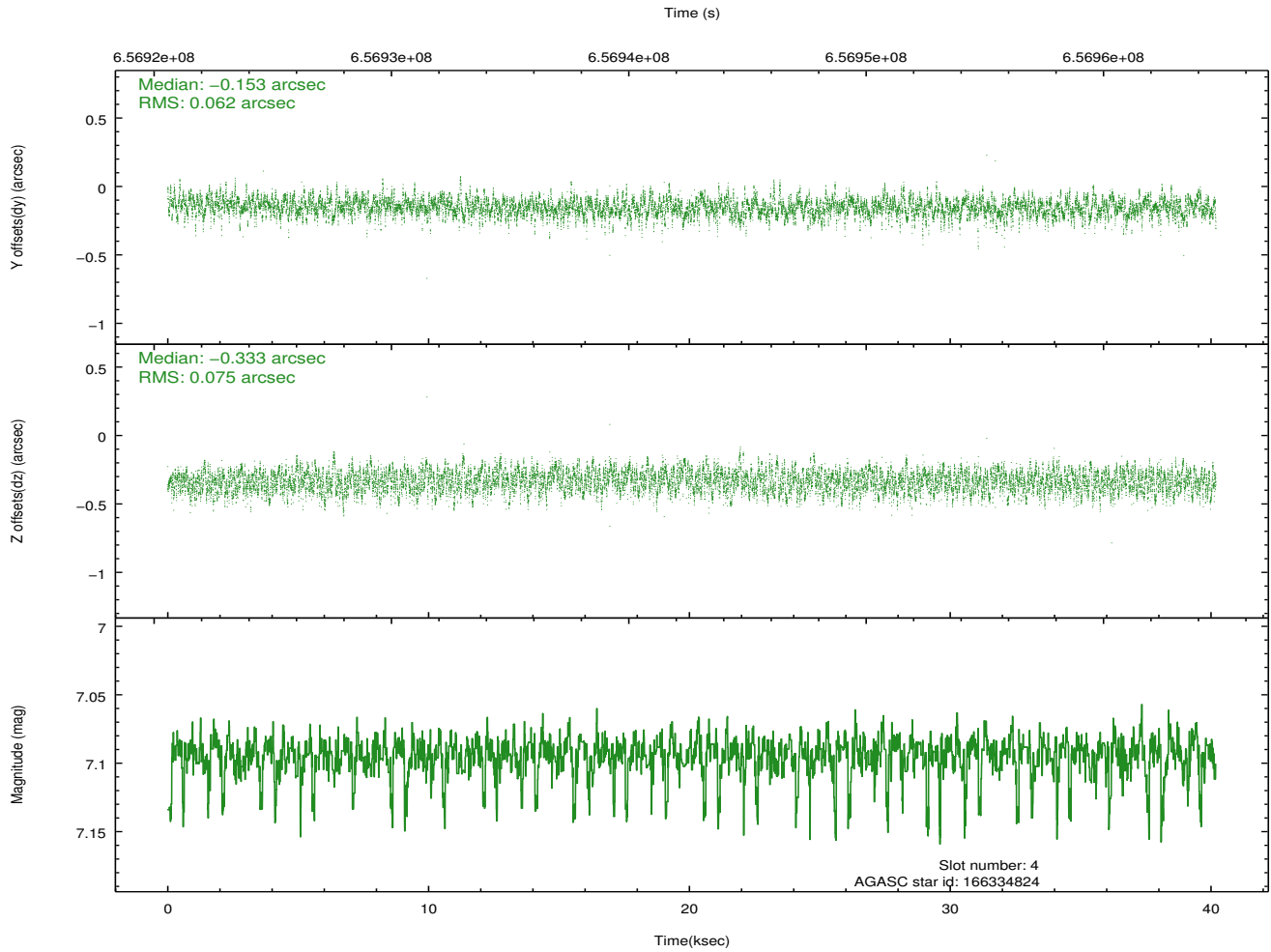
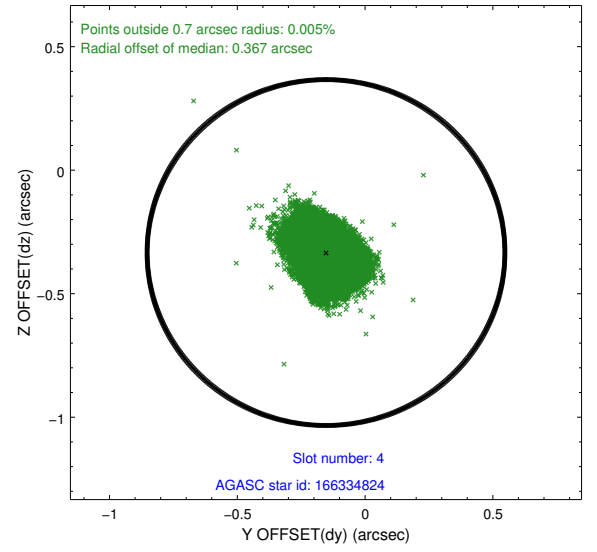
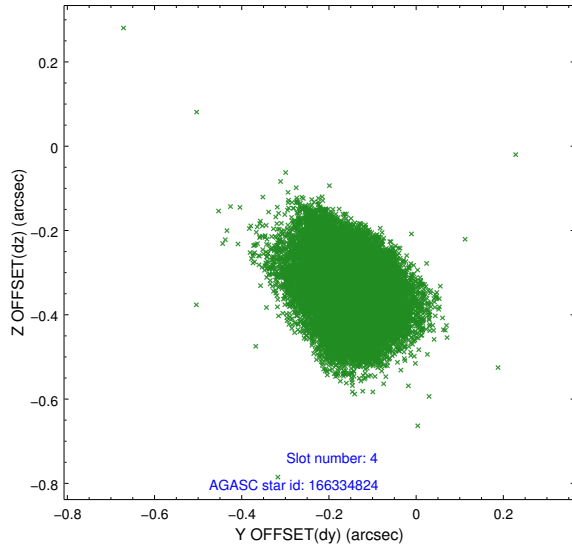
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.08	9803	1.000	-0.417	-0.285	0.008	0.017	0.000000	0.000000	-763.98	-1739
1	FID		ACIS-S-4	7.22	9803	1.000	0.451	0.240	0.014	0.025	0.000000	0.000000	2150.21	169
2	FID		ACIS-S-6	7.34	9801	1.000	-0.064	0.052	0.012	0.020	0.000000	0.000000	398.45	807
3	GUIDE	used	166332720	7.18	19600	1.000	-0.078	-0.202	0.107	0.200	67.335629	17.544937	-2293.68	2143
4	GUIDE	used	166334824	7.09	19602	1.000	-0.153	-0.333	0.103	0.168	67.376458	17.863163	-1157.68	1940
5	GUIDE	used	166468240	9.02	19583	1.000	0.443	0.547	0.111	0.176	68.167699	17.861525	-1306.14	-763
6	GUIDE	used	166996584	9.11	19591	1.000	-0.315	-0.168	0.149	0.235	68.020035	18.861675	2315.10	-445
7	GUIDE	used	166333056	8.21	19588	1.000	0.106	0.155	0.090	0.164	67.813257	17.557208	-2337.07	506

2.4 Star Slots

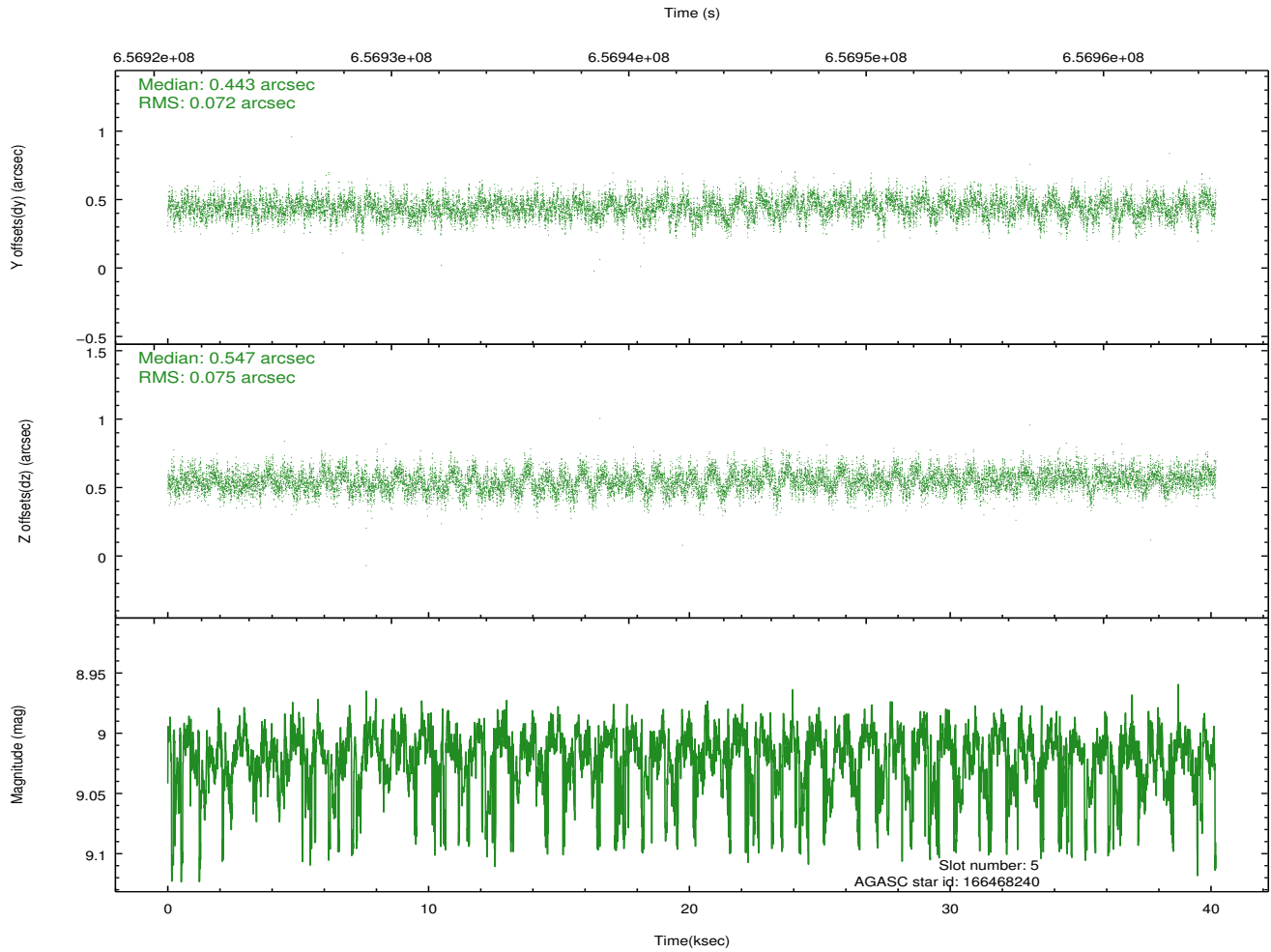
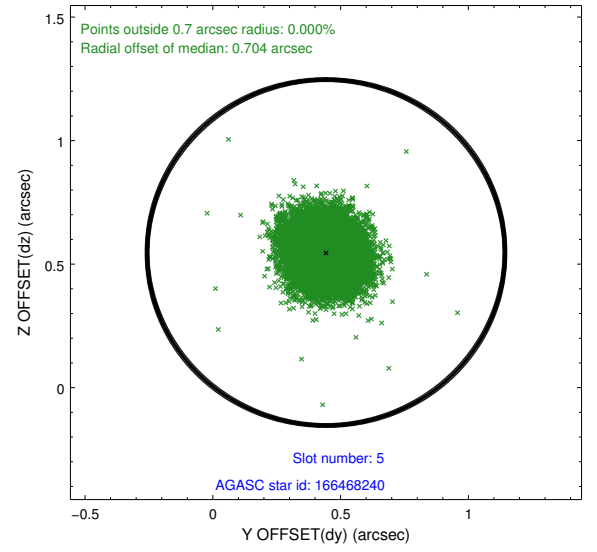
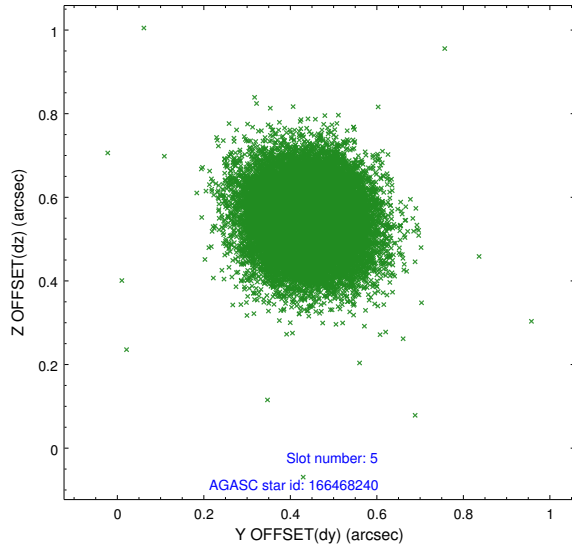
2.4.1 Slot 3



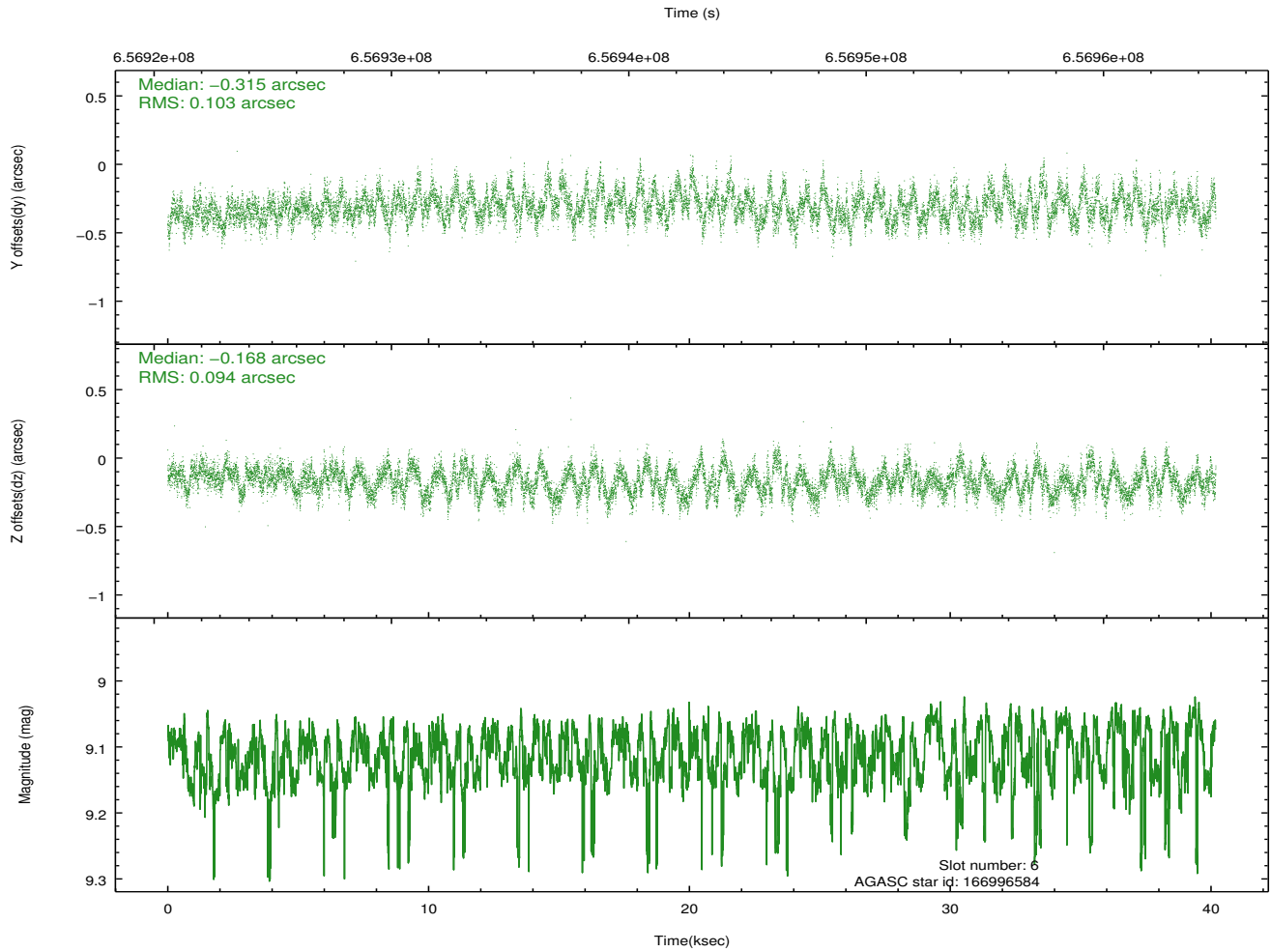
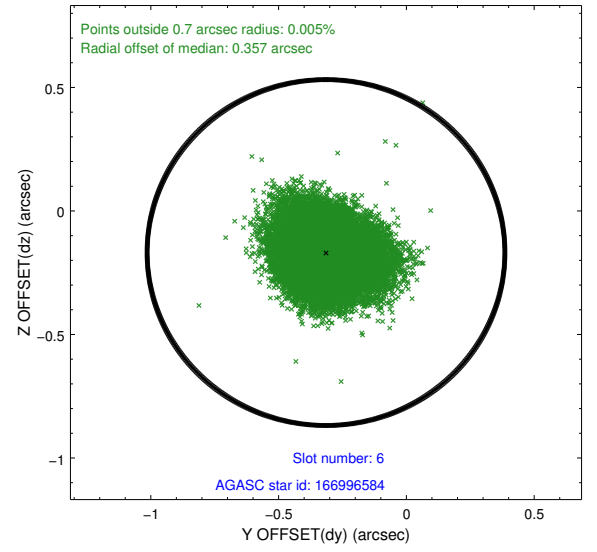
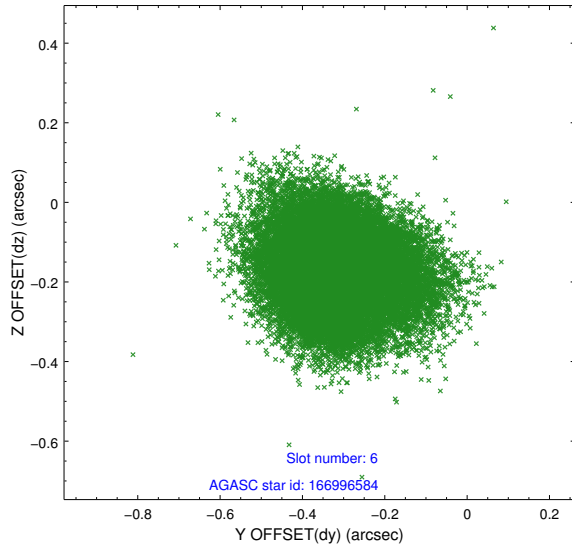
2.4.2 Slot 4



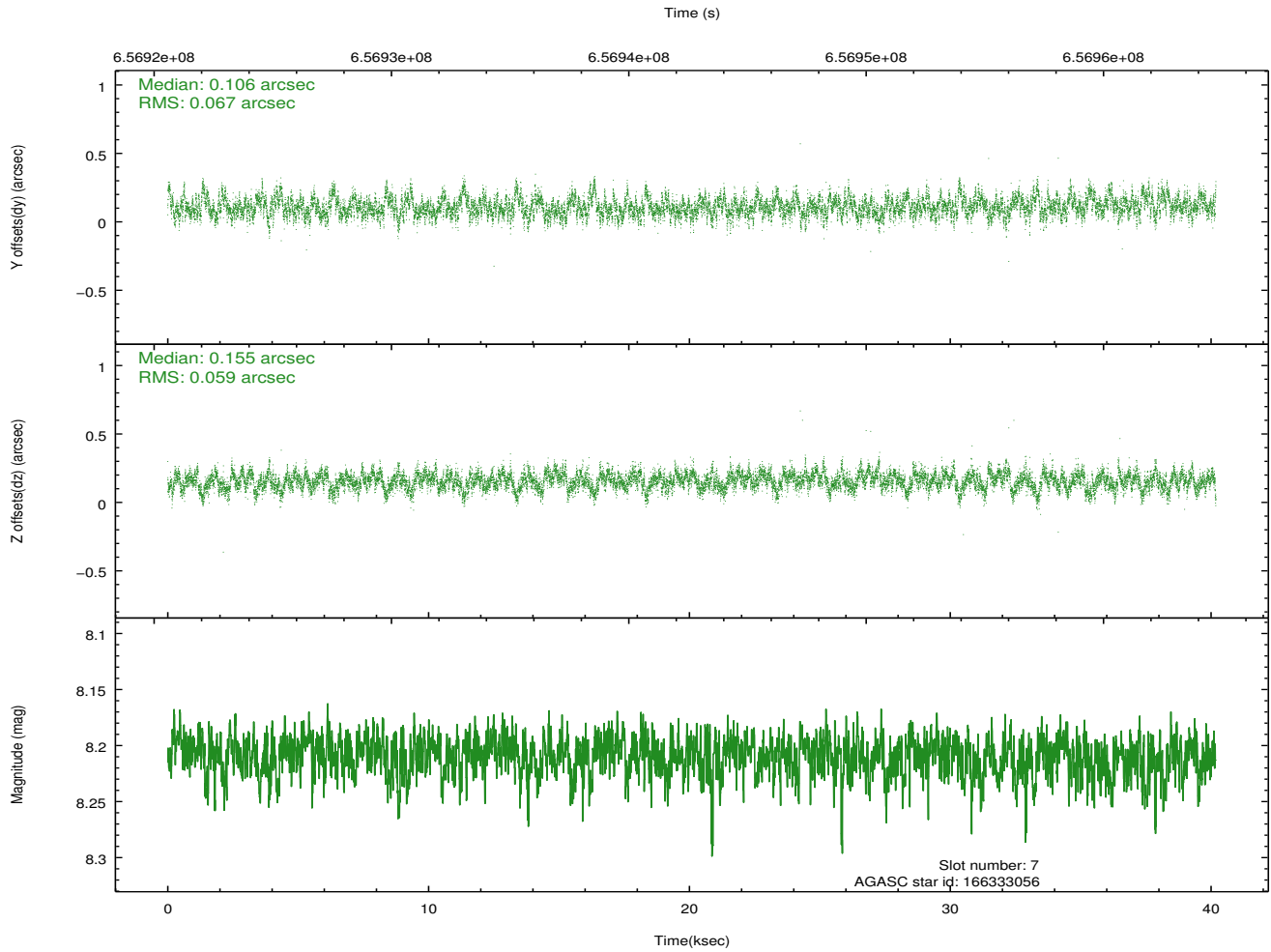
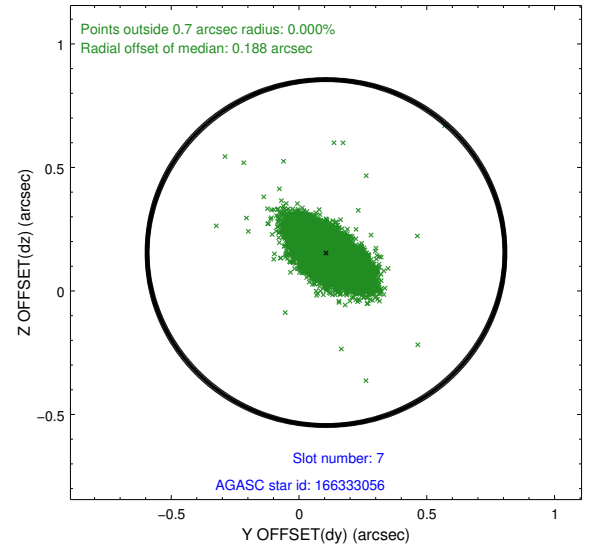
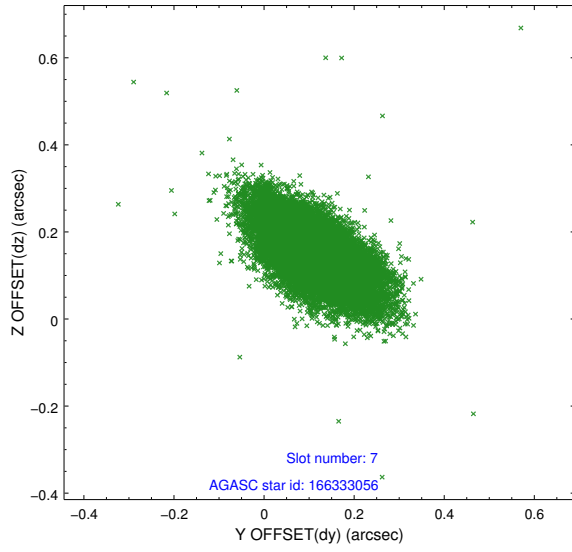
2.4.3 Slot 5



2.4.4 Slot 6

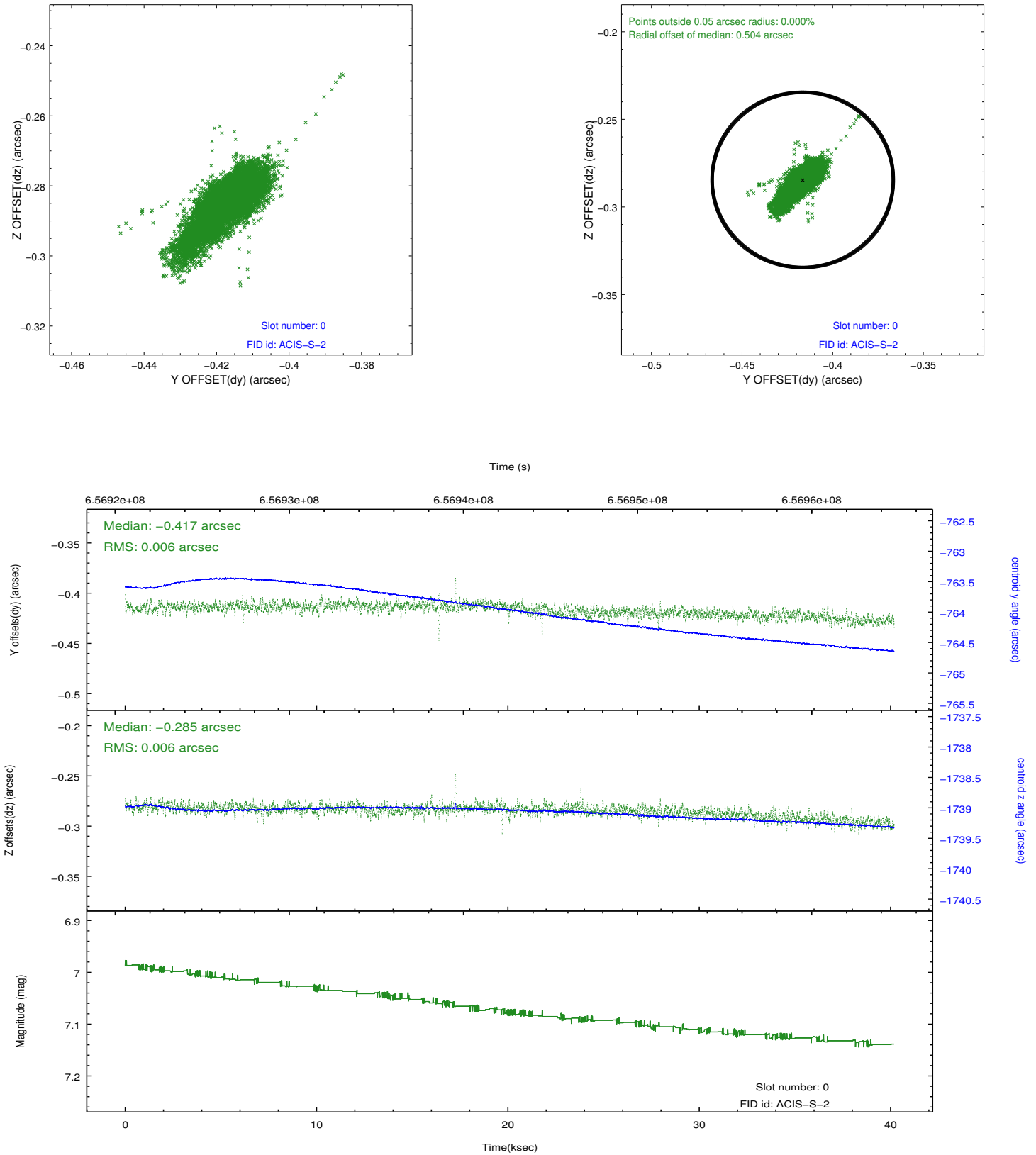


2.4.5 Slot 7

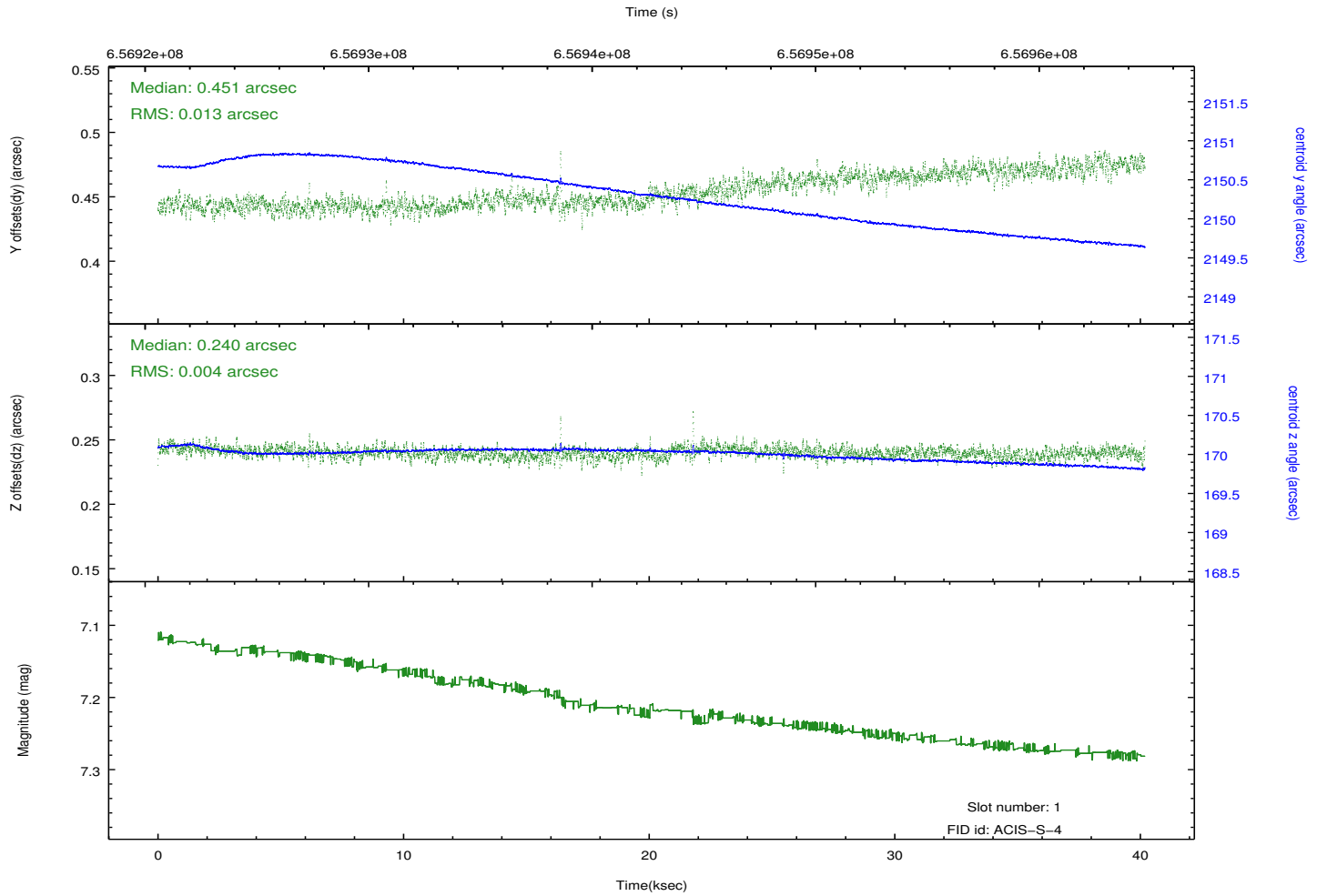
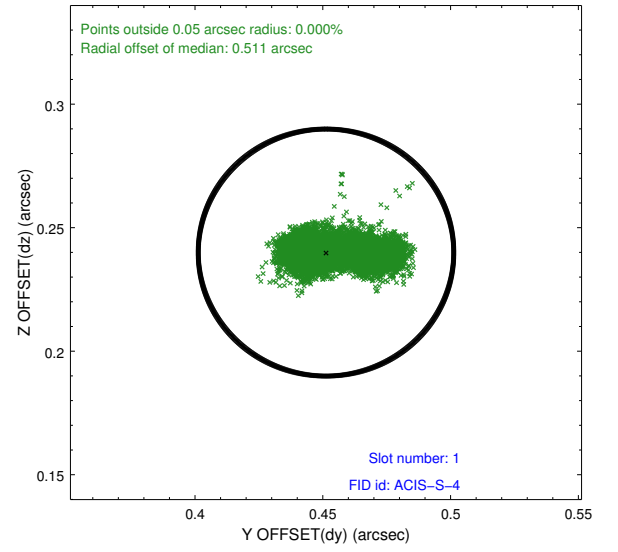
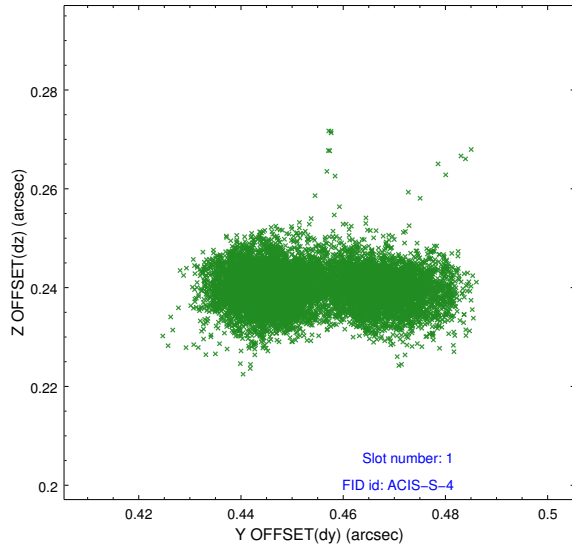


2.5 FID Slots

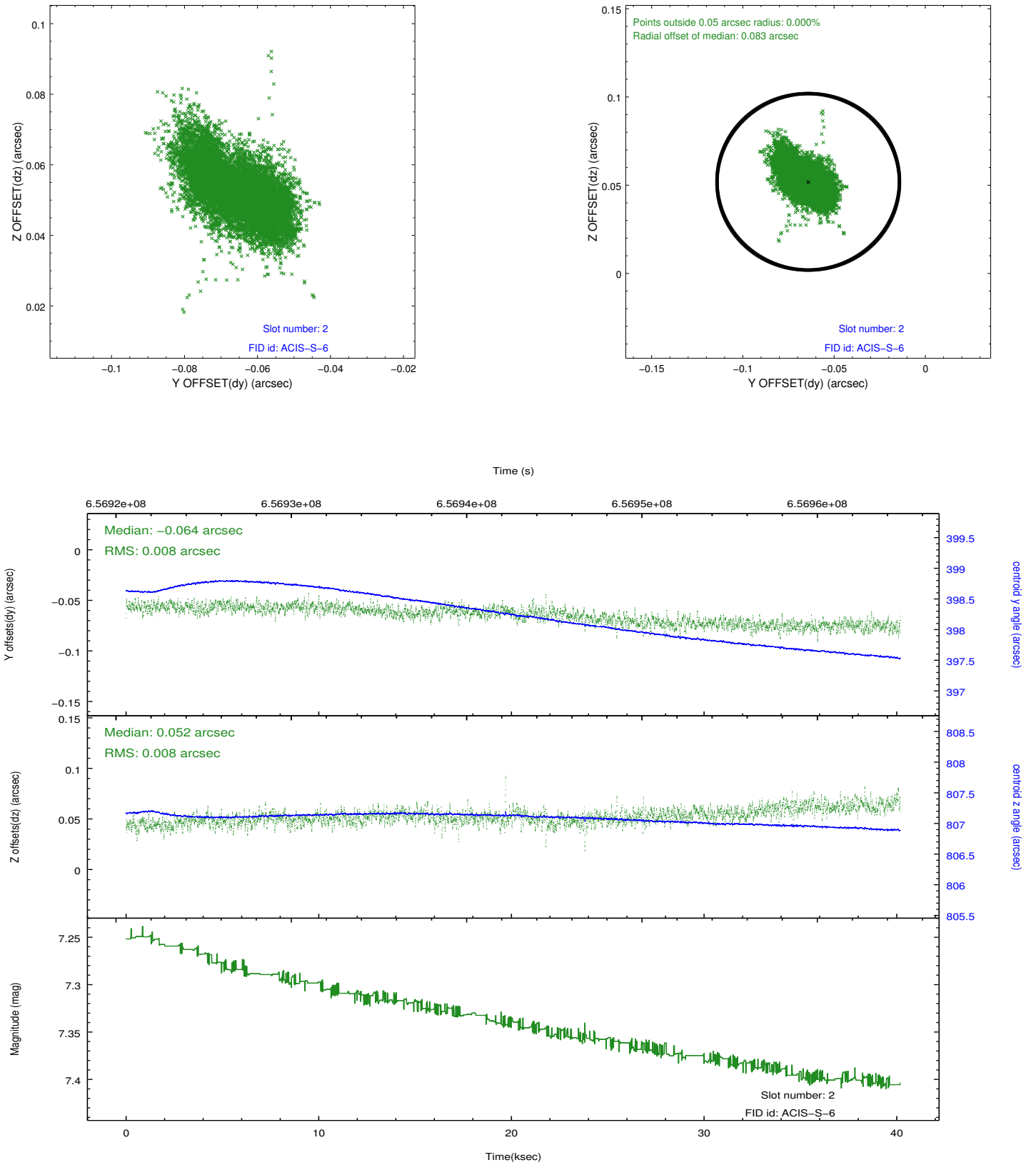
2.5.1 Slot 0



2.5.2 Slot 1

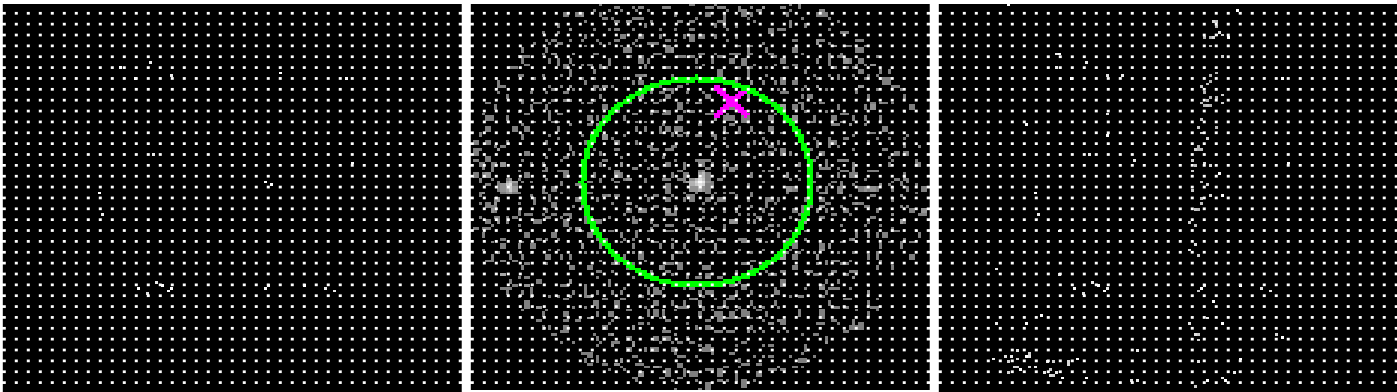


2.5.3 Slot 2



3 Gratings

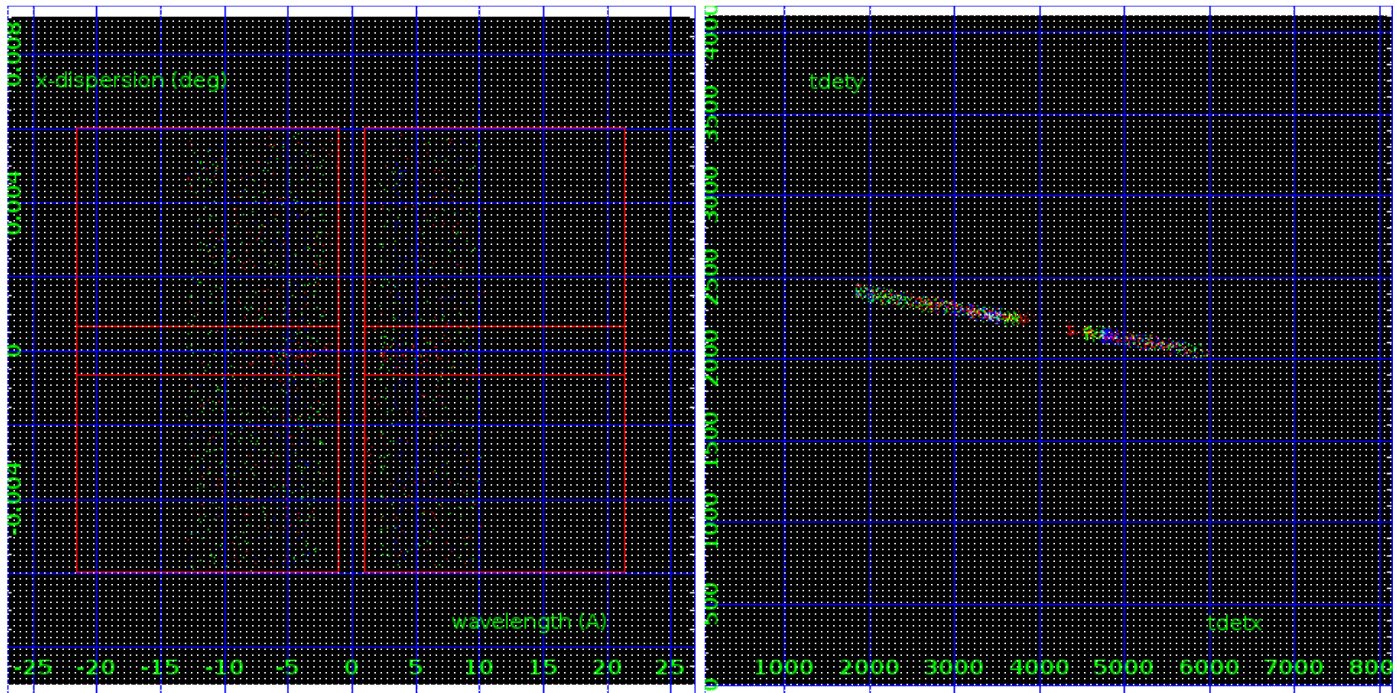
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

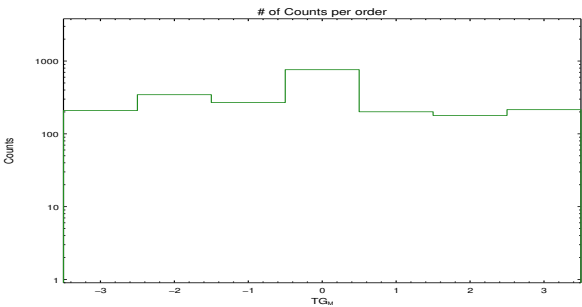
HEG Order Sort ALL

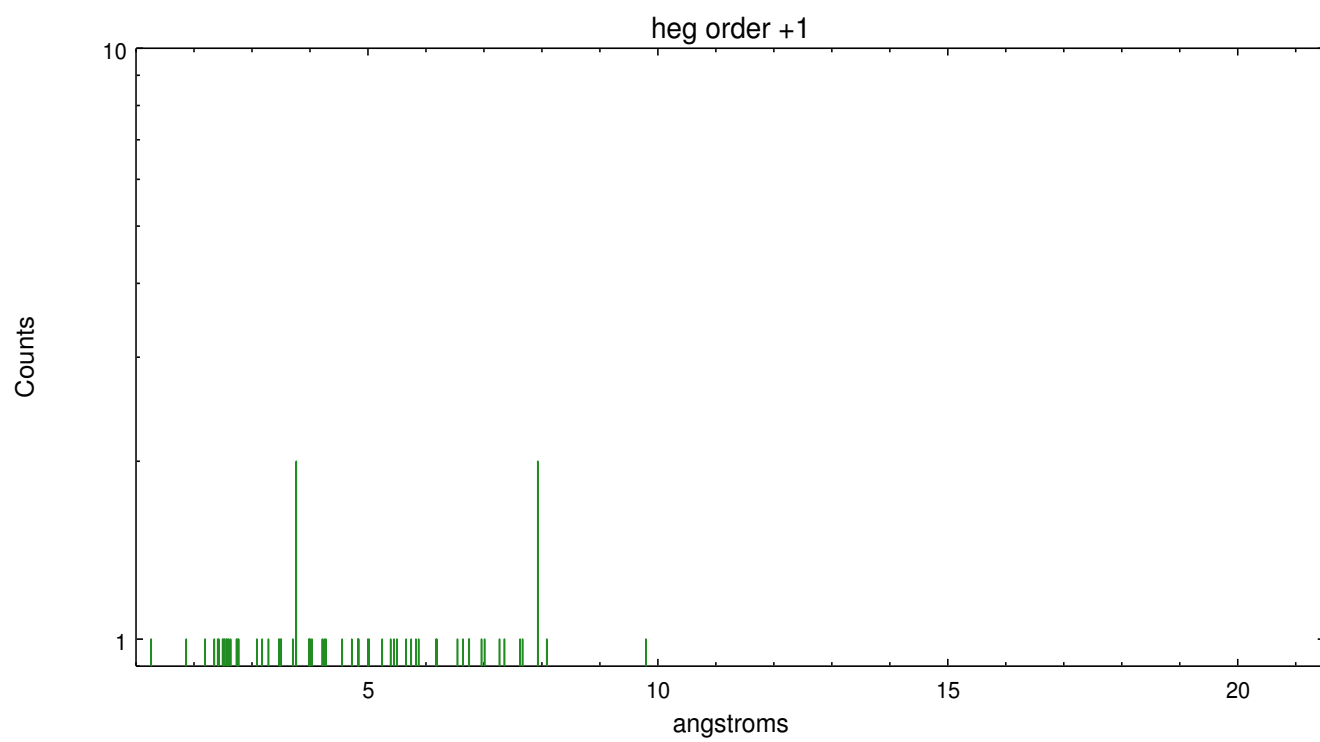
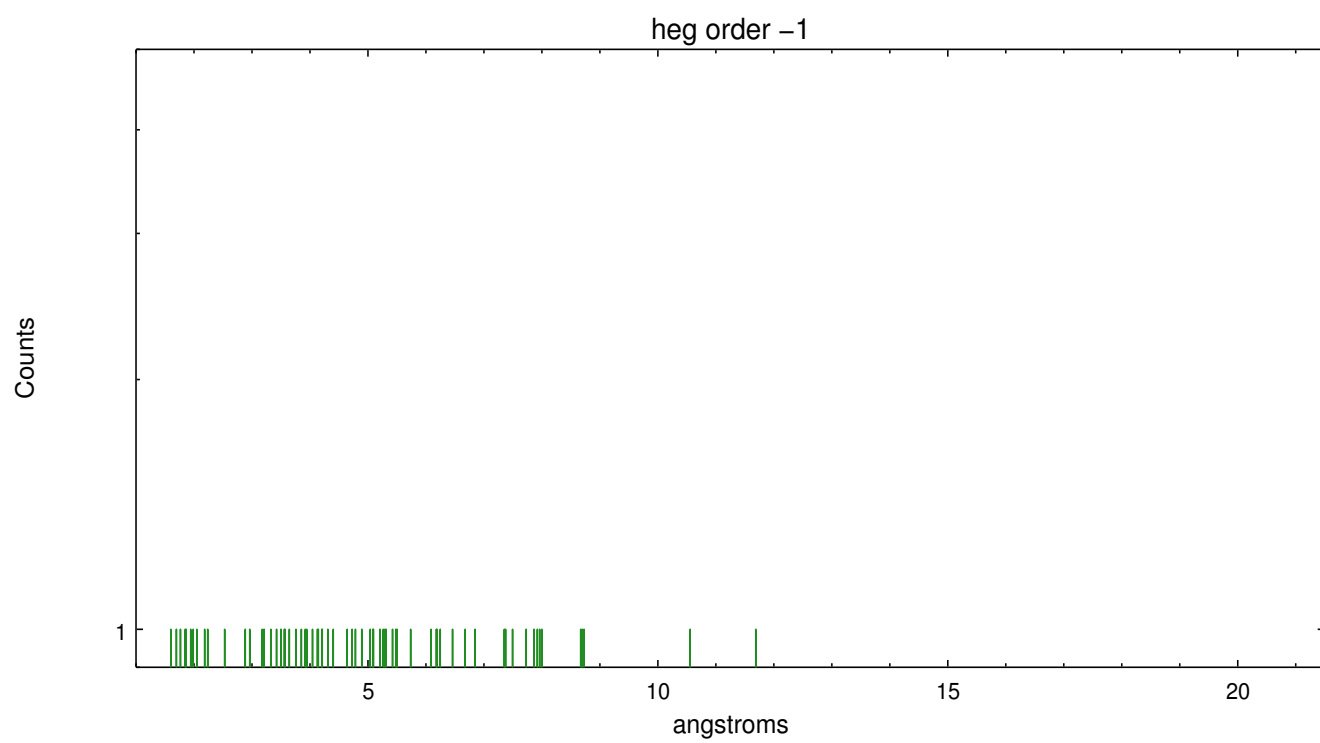


Spot Image HEG

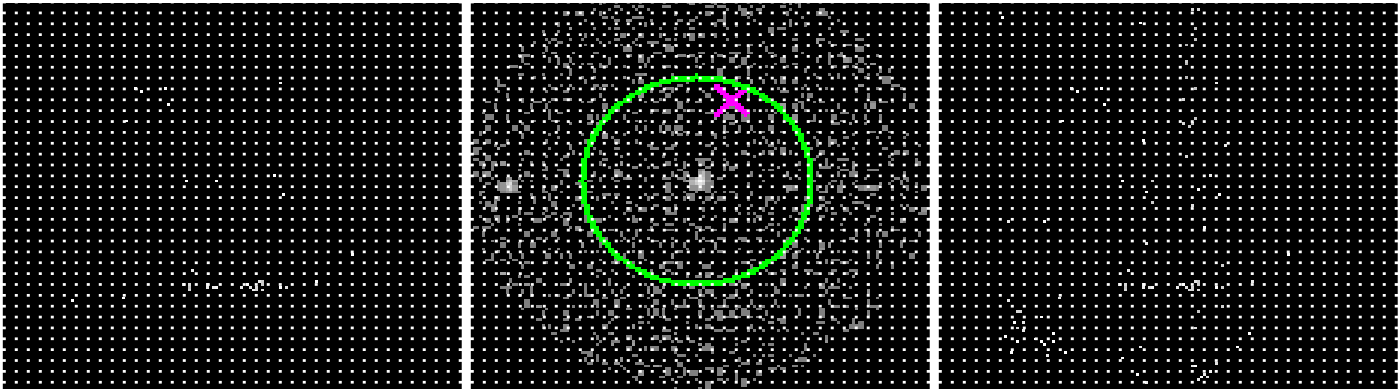
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	209	345	269	761	201	179	215





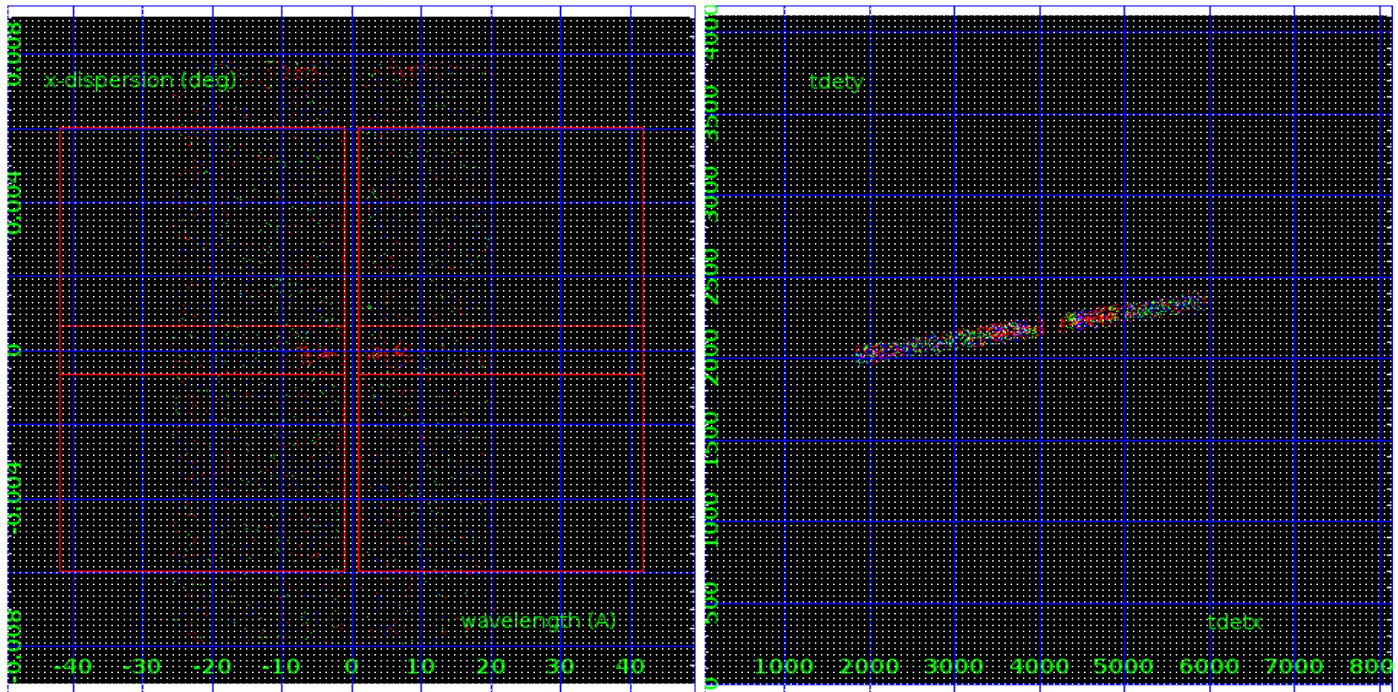
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

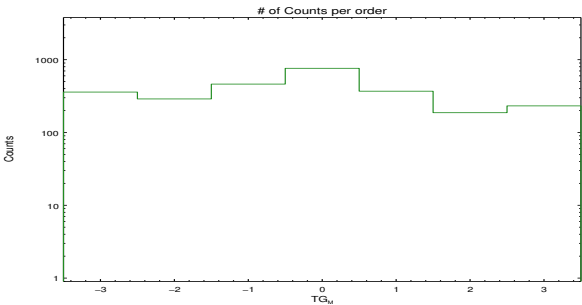
MEG Order Sort ALL

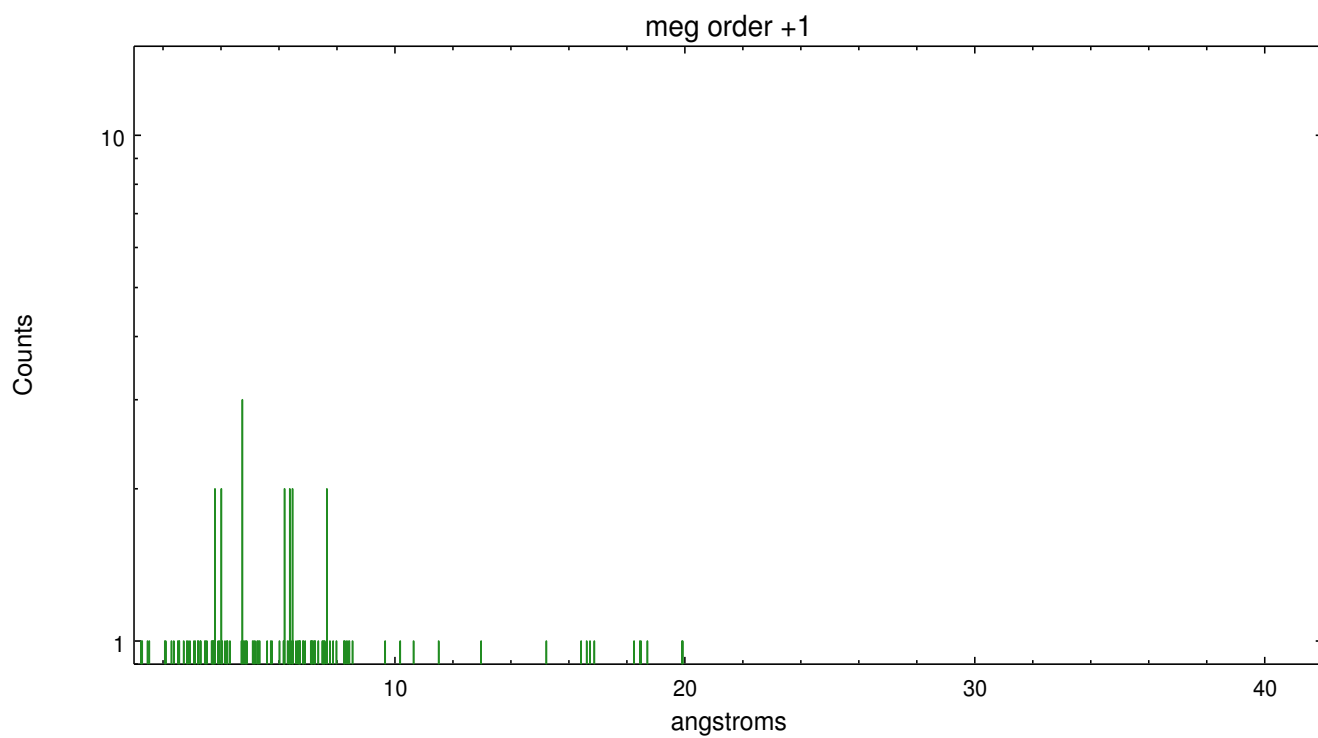
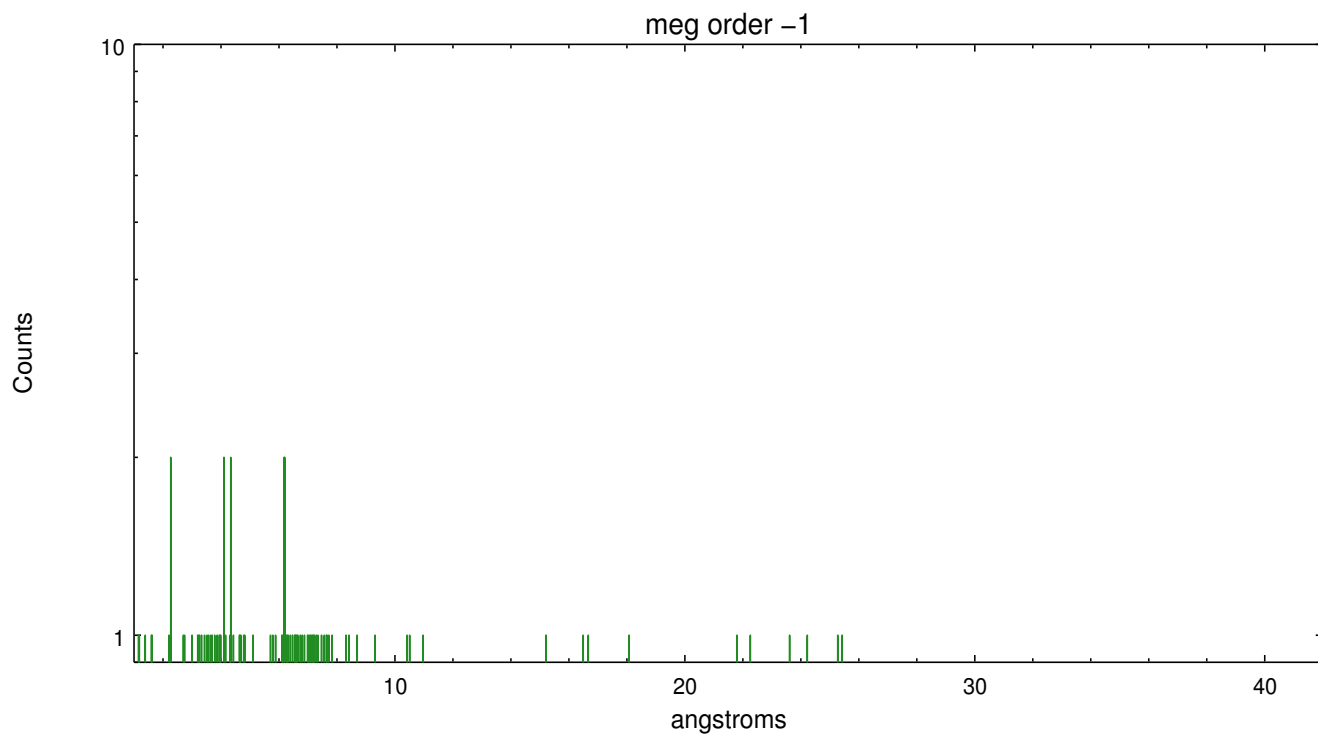


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	359	289	462	761	369	187	232





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	40.027200307965

A.2 Comments

There are multiple dispersed spectra associated with different sources in this observation. The `ciao` tool `tgextract2` can be used to create non-standard background regions.

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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.

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The source for the spectral extraction in this processing is HL Tau, selected automatically by the software.