

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 20859 - L2 Version 1
Chandra X-Ray Center

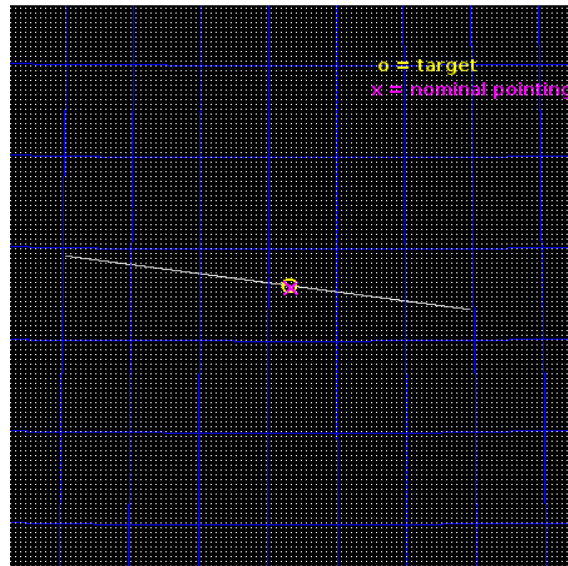
L2 Processing Date : Nov 12 2017

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1 Front

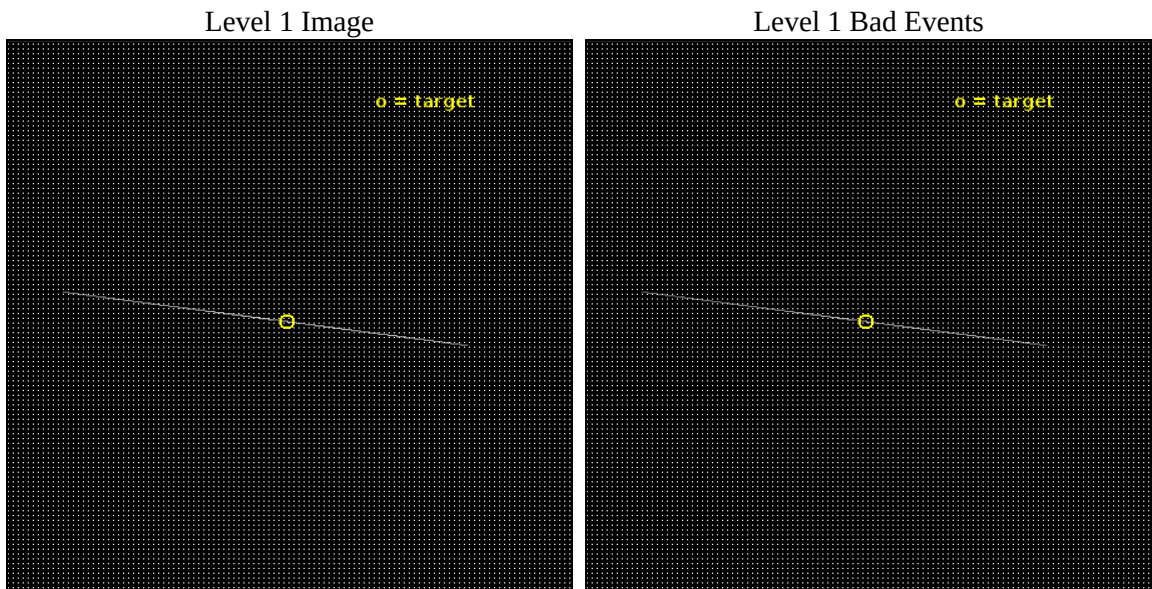
seq_num	402011	Sequence number
obs_id	20859	Observation id
title	Searching for outflows from a nearby super-Eddington accreting neutron star	Proposal title
observer	Nathalie Degenaar	Principal investigator
object	Swift J0243.6+6124	Source name
ra_targ	40.917917	Observer's specified target RA [deg]
dec_targ	61.434111	Observer's specified target Dec [deg]
ra_nom	40.913287767988	Nominal RA [deg]
dec_nom	61.429937618739	Nominal Dec [deg]
roll_nom	187.82892103154	Nominal Roll [deg]
revision	1	Processing version of data
ontime	4576.7874301672	Sum of GTIs [s]
livetime	4558.9093542681	Livetime [s]
ontime5	14535.887763977	Sum of GTIs [s]
ontime6	5996.4881571531	Sum of GTIs [s]
ontime7	4576.7874301672	Sum of GTIs [s]
ontime8	12236.144124031	Sum of GTIs [s]
ontime9	15112.20716691	Sum of GTIs [s]
l2events	2462121	Number of level 2 events



2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	25000.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	4576.7874301672	Sum of GTIs [s]
caldsver	4.7.6	 	ontime5	14535.887763977	Sum of GTIs [s]
date	2017-11-12T04:43:00	Date and time of file creation	ontime6	5996.4881571531	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	4576.7874301672	Sum of GTIs [s]
			ontime8	12236.144124031	Sum of GTIs [s]
			ontime9	15112.20716691	Sum of GTIs [s]
			l1events	9899991	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4080.89, 4126.97)	src1a sky pixel position

2.1.3 Events

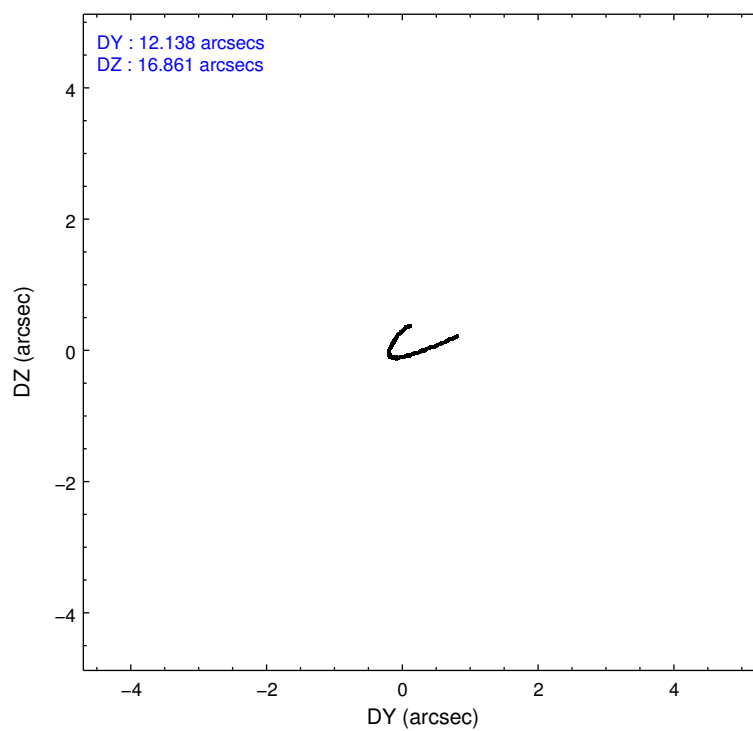
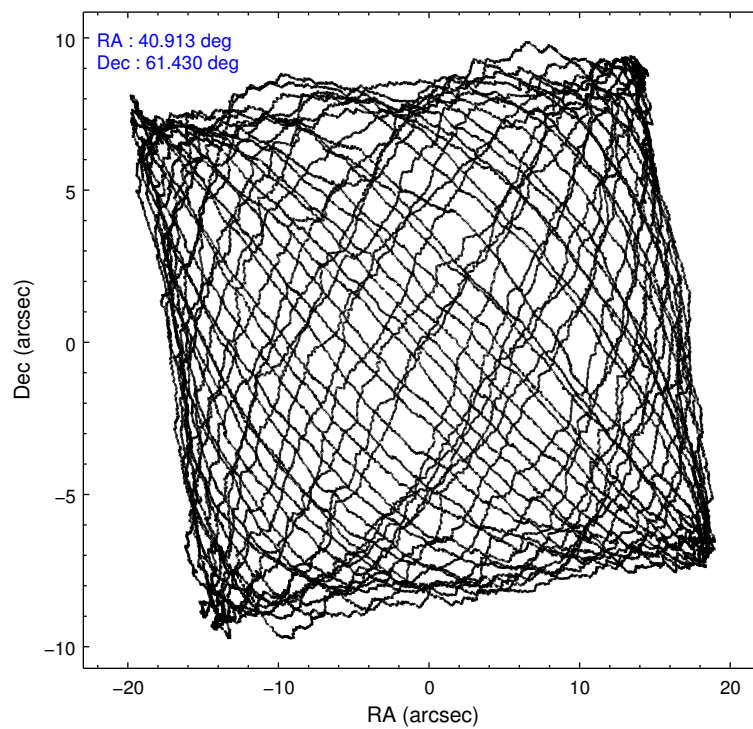
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	2816033	2213372	3018250	1239330	613006	grade 0 events	259276	991562	436898	644517	53367
rejected events	1731836	1137103	1484953	587187	301895		9%	44%	14%	52%	8%
rejected %	61%	51%	49%	47%	49%	grade 1 events	516	7091	5859	2417	151
							0%	0%	0%	0%	0%
						grade 2 events	780168	686675	830873	267954	315603
							27%	31%	27%	21%	51%
						grade 3 events	54326	75486	243750	26914	5213
							1%	3%	8%	2%	0%
						grade 4 events	52931	75323	241157	26880	5528
							1%	3%	7%	2%	0%
						grade 5 events	25261	16878	43927	9826	7351
							0%	0%	1%	0%	1%
						grade 6 events	369273	213505	986507	46147	34727
							13%	9%	32%	3%	5%
						grade 7 events	1274282	146852	229279	214675	191066
							45%	6%	7%	17%	31%

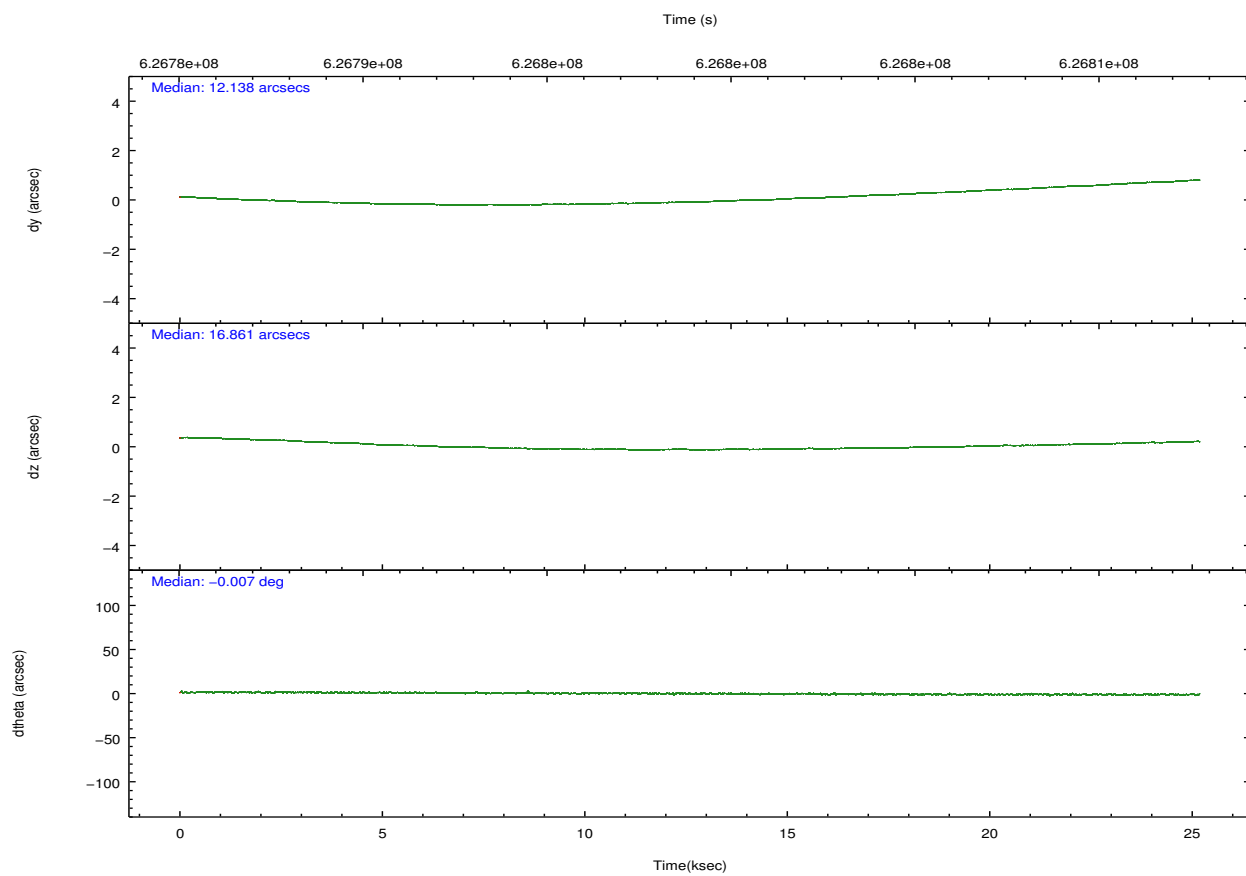
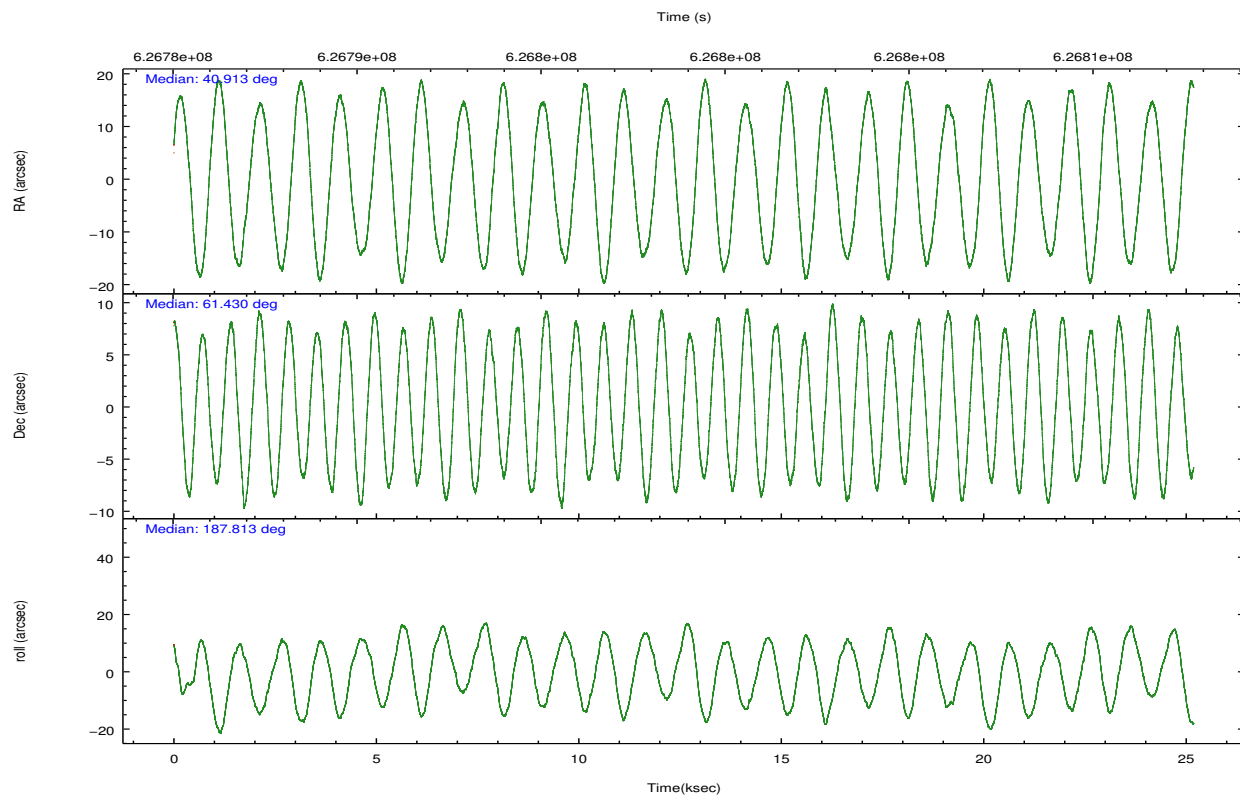
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-56789	ACIS-56789
Grating	HETG	HETG
Data mode	CC33_GRADED	CC33_GRADED
Observation mode	POINTING	POINTING
[deg] Pointing RA	40.958133	40.91328776798776
[deg] Pointing Dec	61.447059	61.42993761873947
[deg] Pointing Roll	187.632906	187.8289210315421
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-177.532523	-177.5332891278501
[mm] SIM translation stage offset	-12.6	-12.59923345515776
[s] Observation start time (MET)	626786481.184000	626785739.9331
Observation start date	2017-11-11T11:20:12	2017-11-11T11:08:59
[s] Observation end time (MET)	626811481.184000	626812581.6096801
Observation end date	2017-11-11T18:16:52	2017-11-11T18:36:21
Read mode	CONTINUOUS	CONTINUOUS

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	Y
Number of optional ACIS chips dropped	1	1
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	0

2.3 Aspect



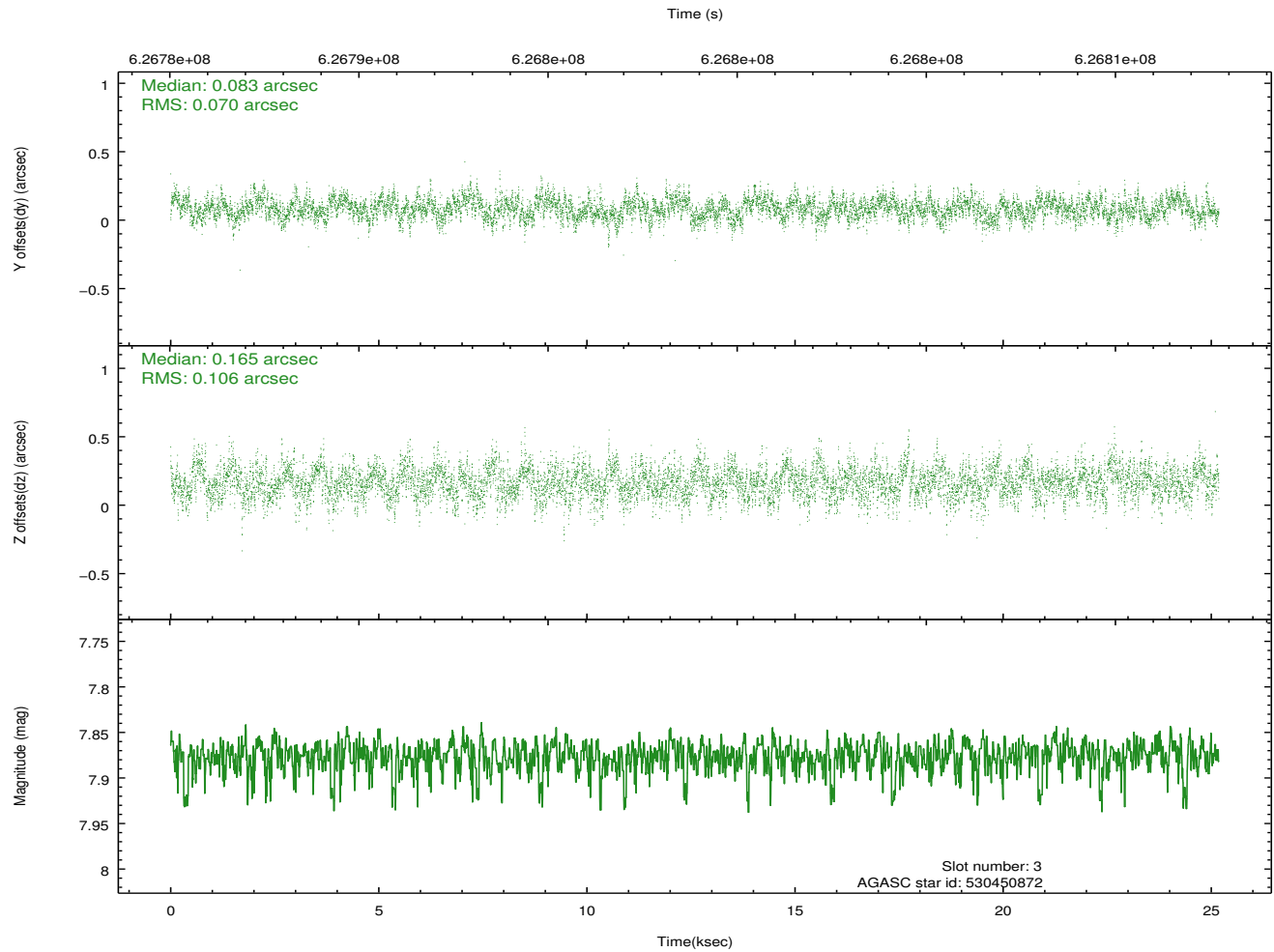
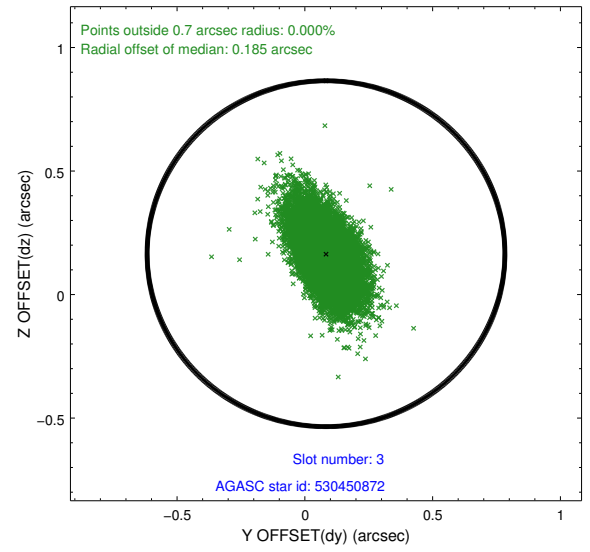
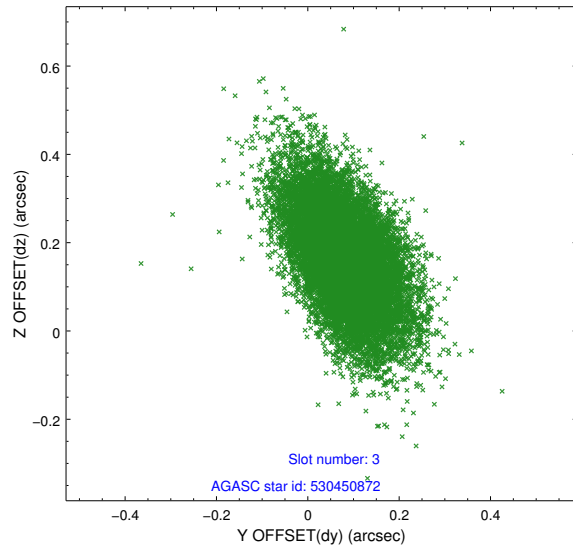


Slot Statistics

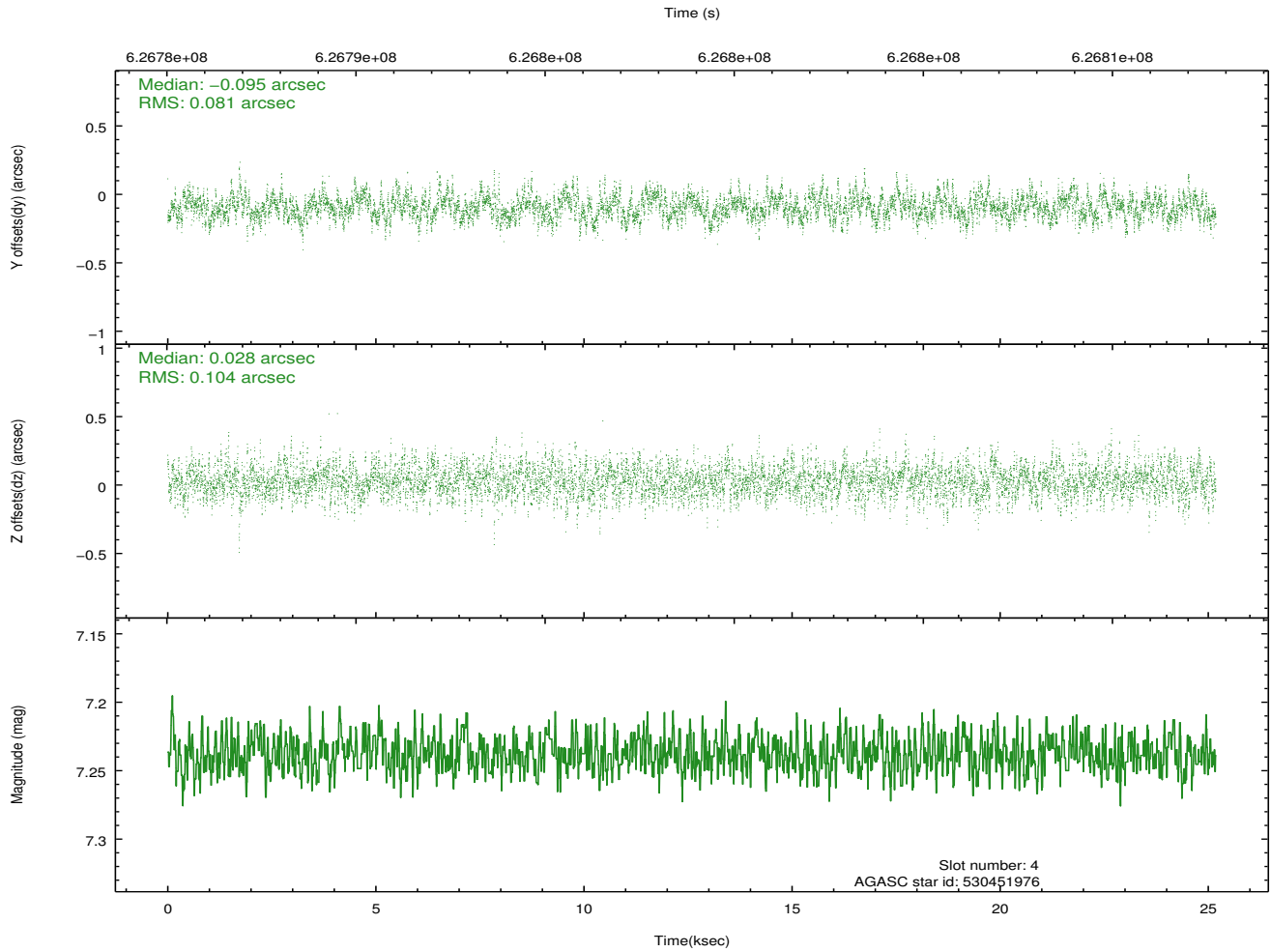
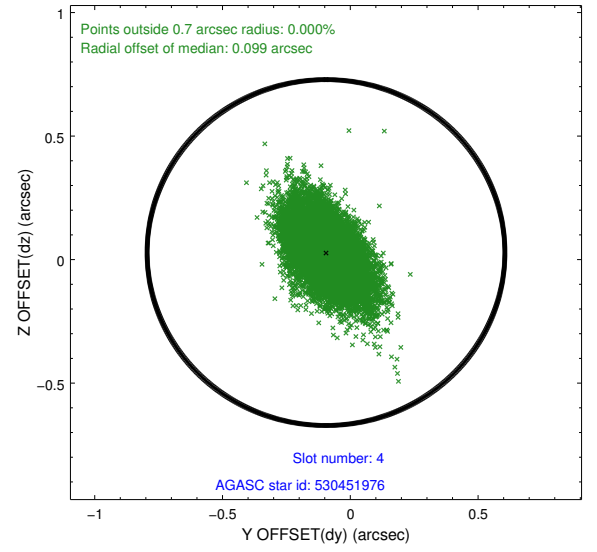
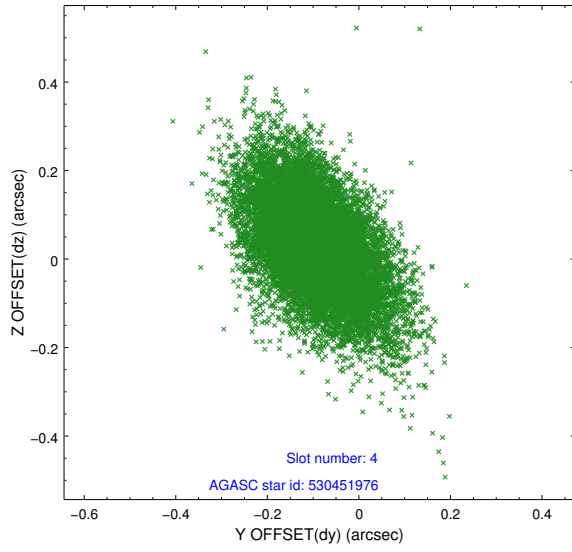
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.04	6142	-0.444	-0.308	0.009	0.017	0.000000	0.000000	-764.54	-1997.98
1	FID		ACIS-S-4	7.11	6142	0.379	0.292	0.009	0.016	0.000000	0.000000	2149.41	-88.96
2	FID		ACIS-S-6	7.40	6142	0.037	0.023	0.008	0.013	0.000000	0.000000	397.95	548.23
3	GUIDE	used	530450872	7.88	12280	0.083	0.165	0.129	0.229	40.995903	61.778140	-221.24	-1172.39
4	GUIDE	used	530451976	7.24	12285	-0.095	0.028	0.137	0.236	40.649154	61.593535	454.67	-592.64
5	GUIDE	used	530454072	9.04	12275	-0.170	-0.102	0.152	0.259	41.361191	61.283277	-612.87	674.85
6	GUIDE	used	530457960	7.99	12286	0.043	-0.167	0.124	0.218	41.298893	61.386357	-552.77	293.47
7	GUIDE	used	530452552	9.41	12272	0.134	0.078	0.174	0.286	41.850326	61.149213	-1394.91	1258.15

2.4 Star Slots

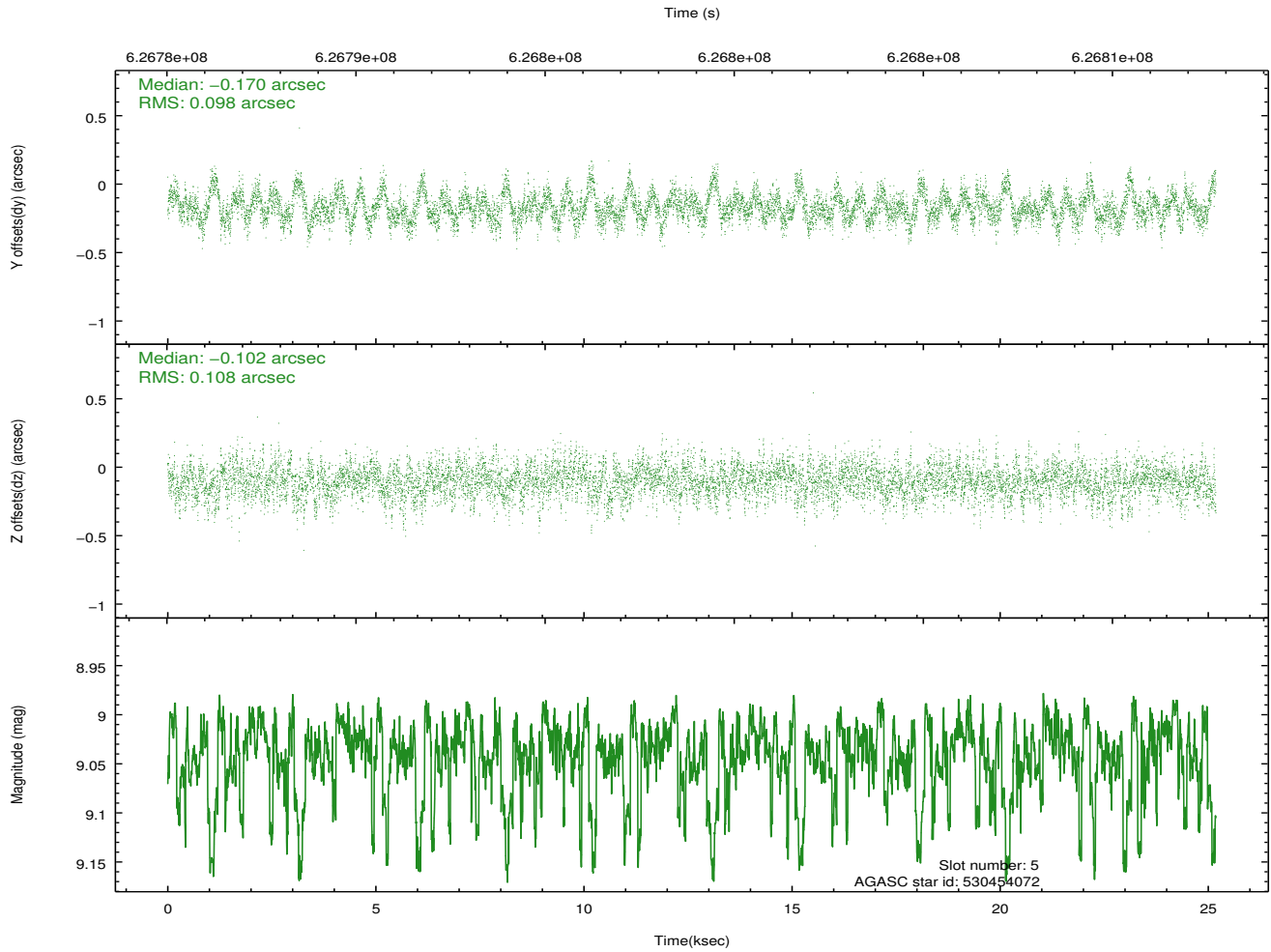
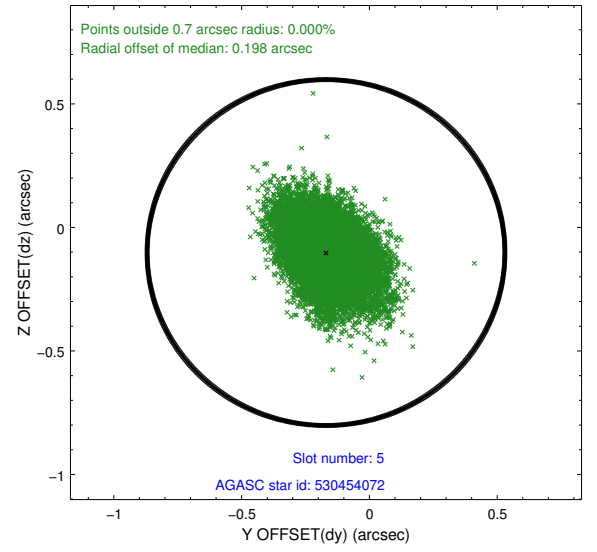
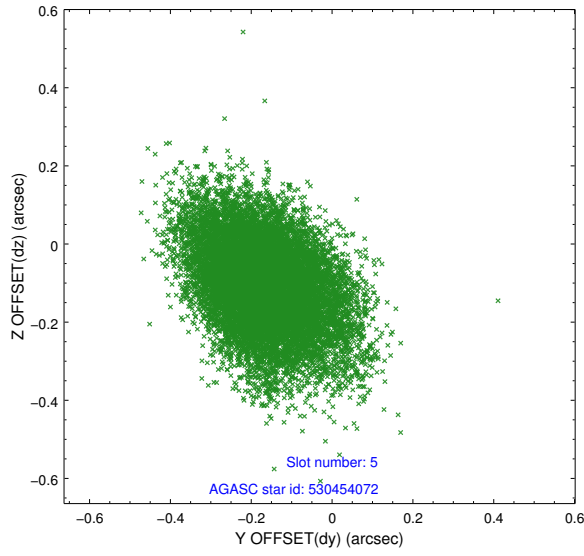
2.4.1 Slot 3



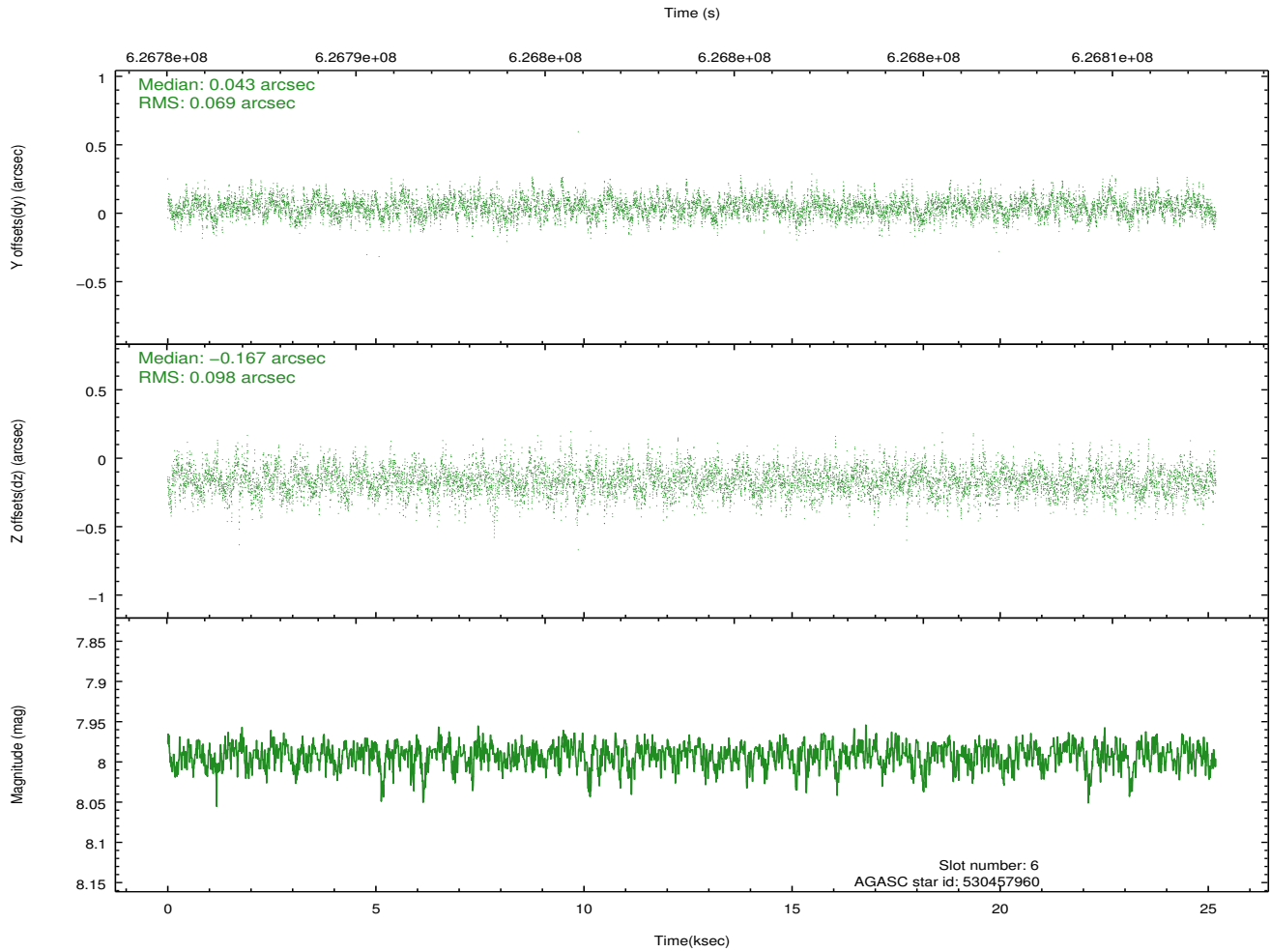
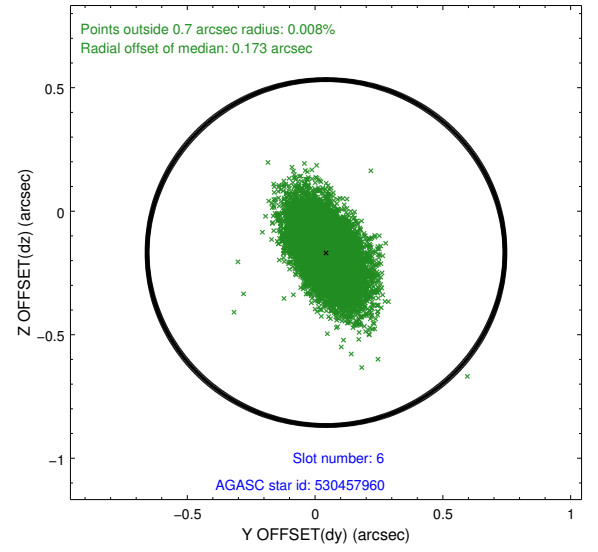
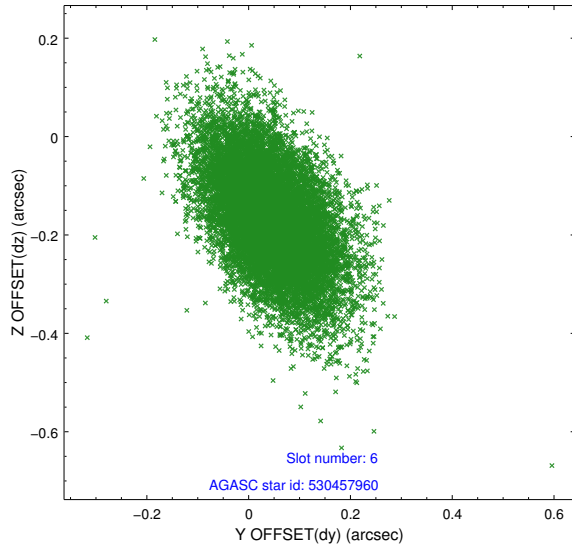
2.4.2 Slot 4



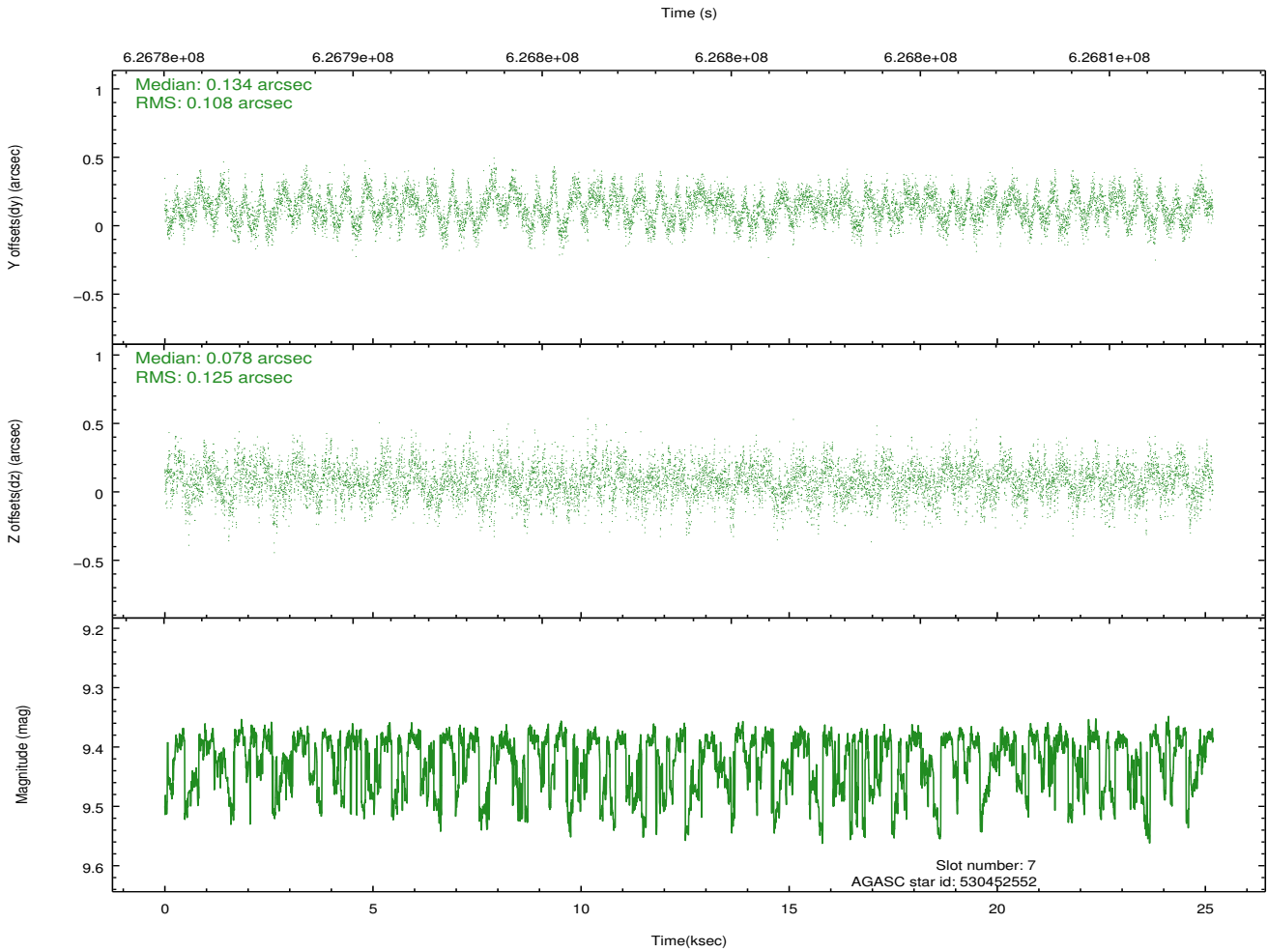
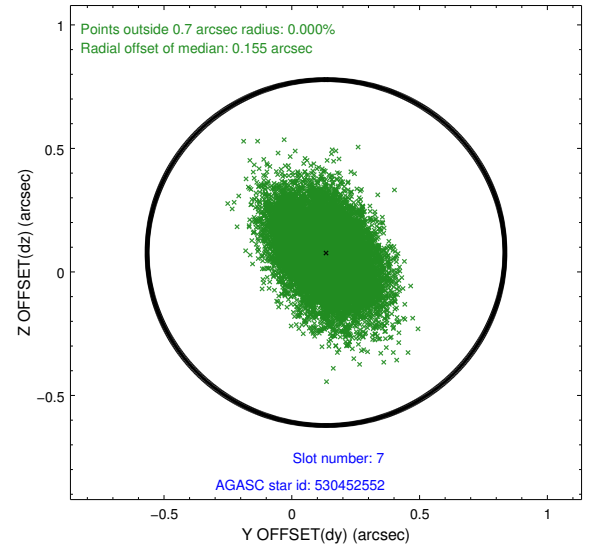
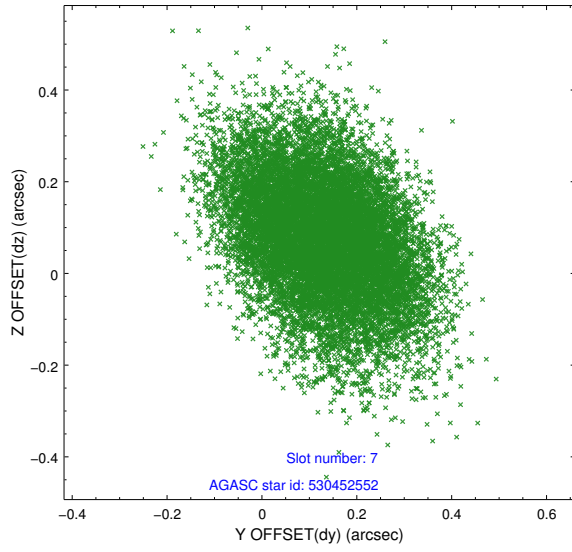
2.4.3 Slot 5



2.4.4 Slot 6

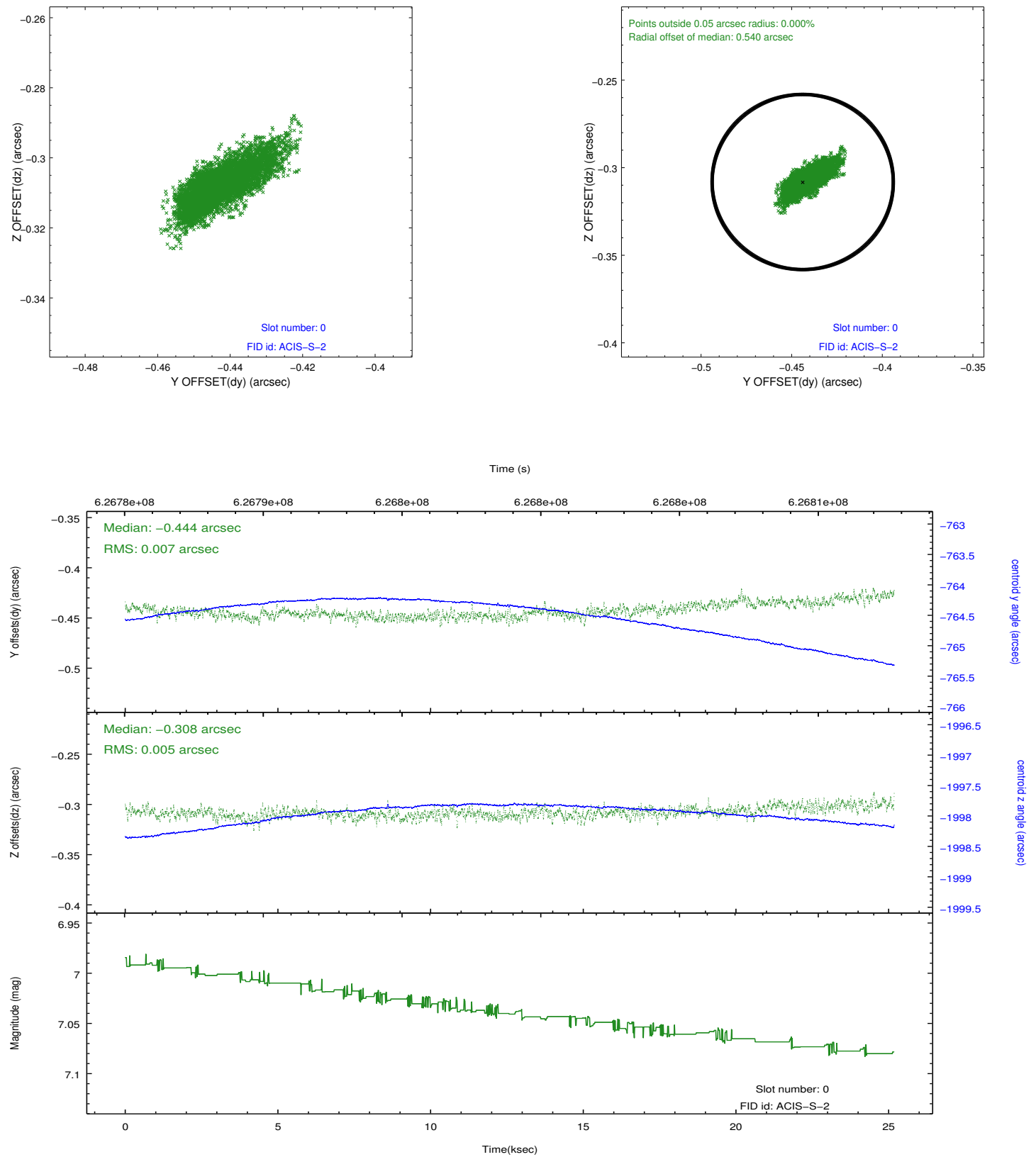


2.4.5 Slot 7

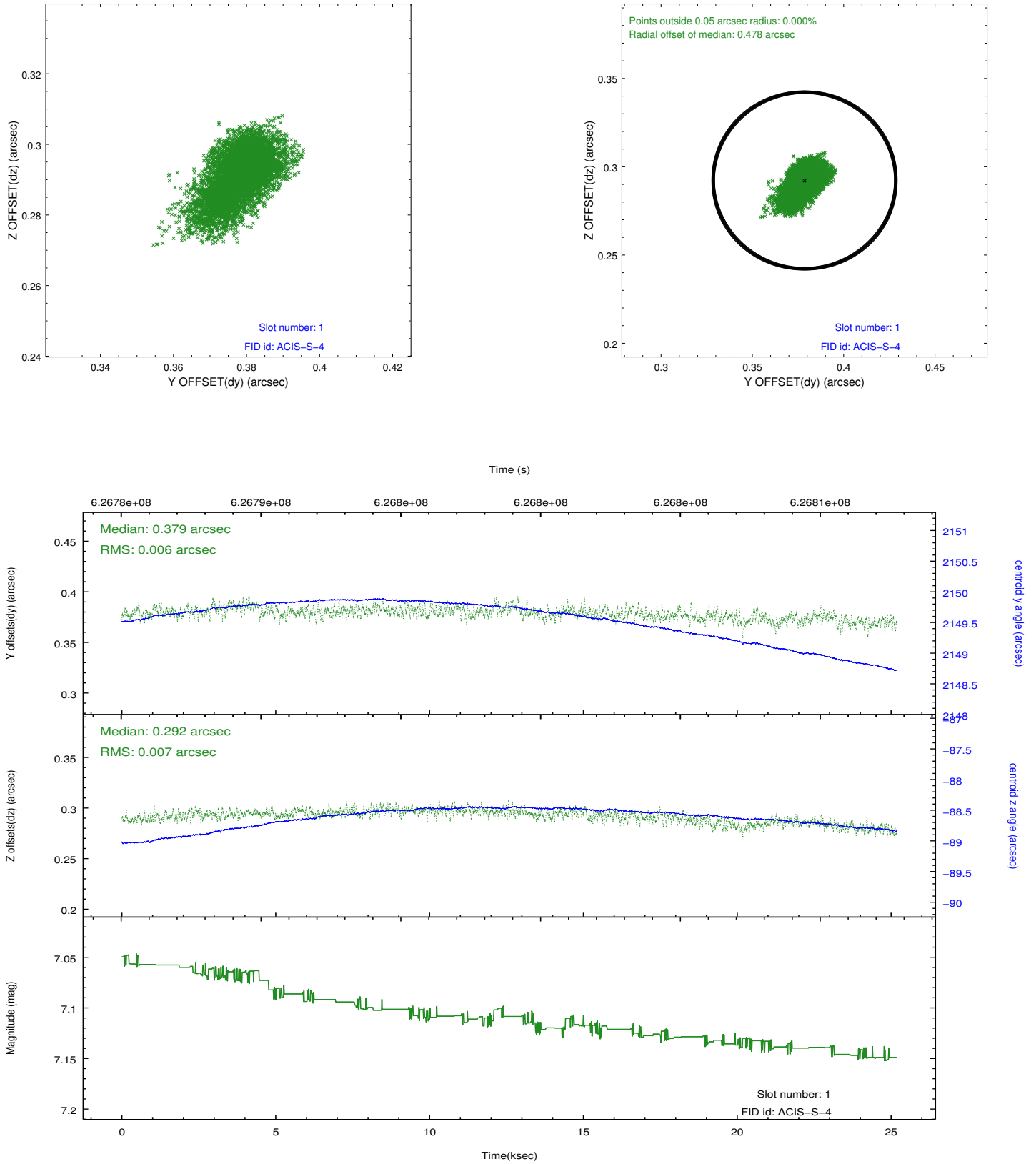


2.5 FID Slots

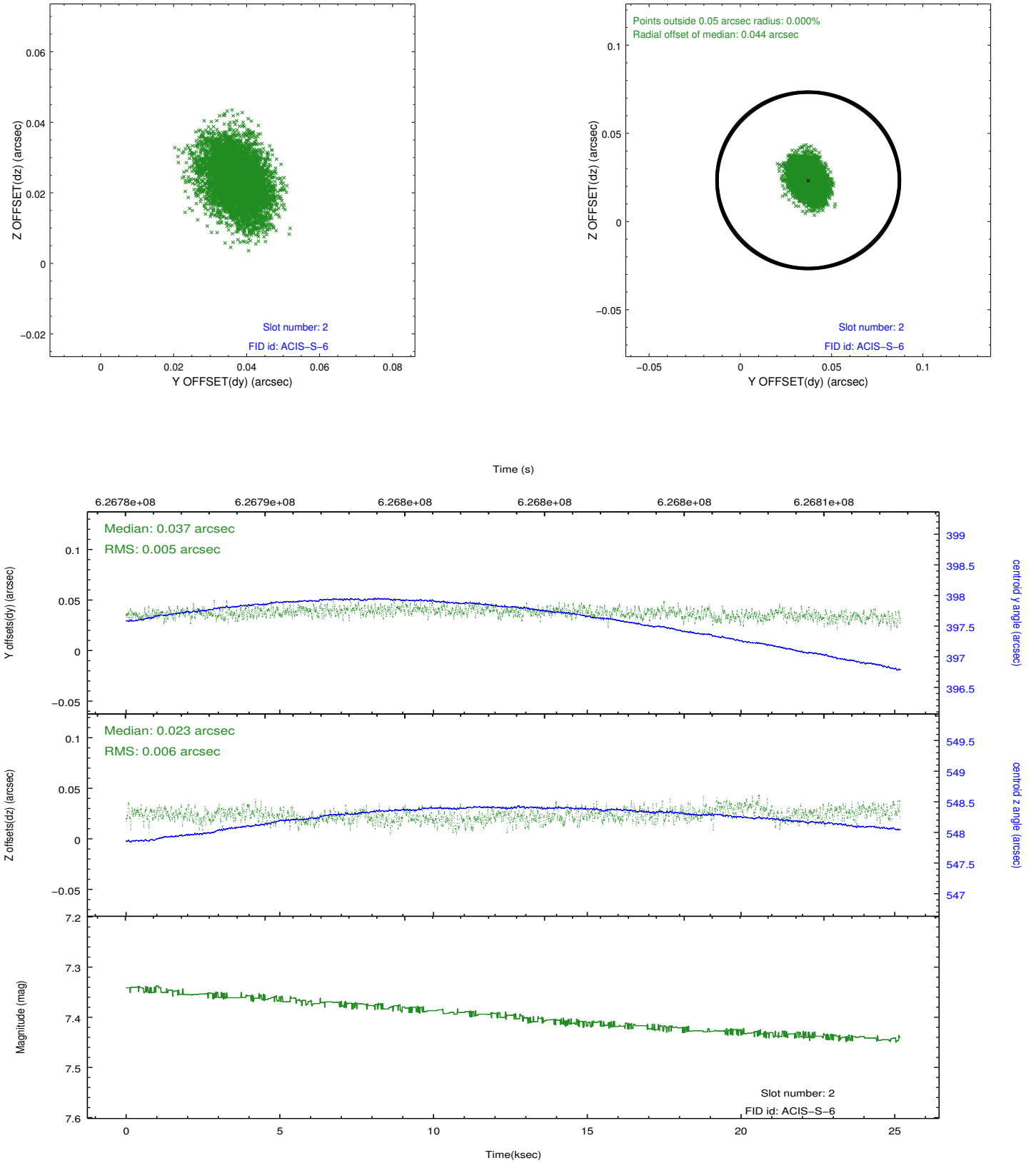
2.5.1 Slot 0



2.5.2 Slot 1

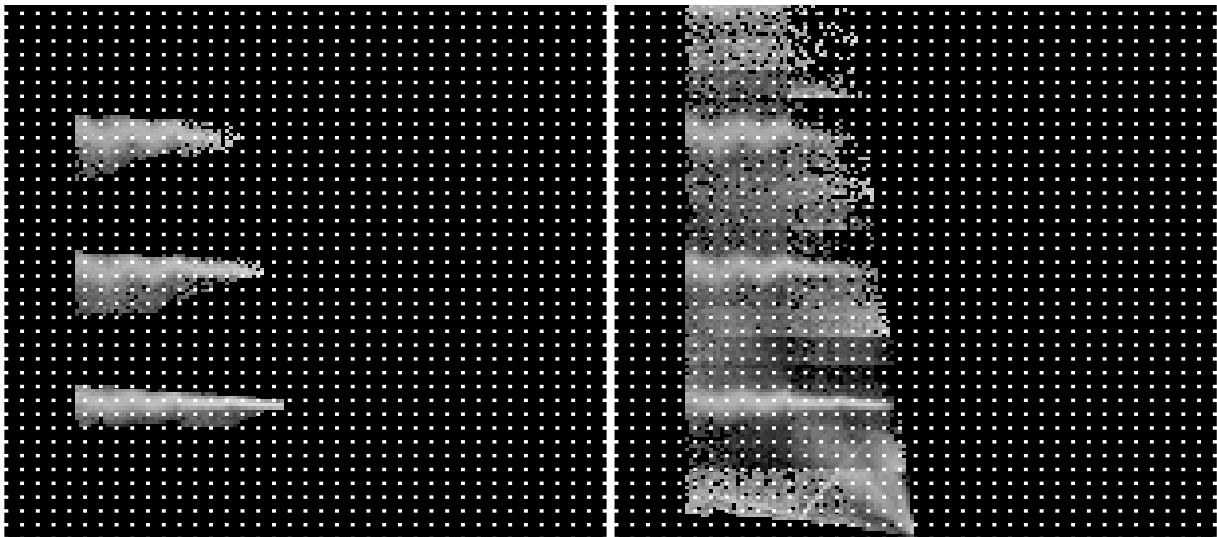


2.5.3 Slot 2



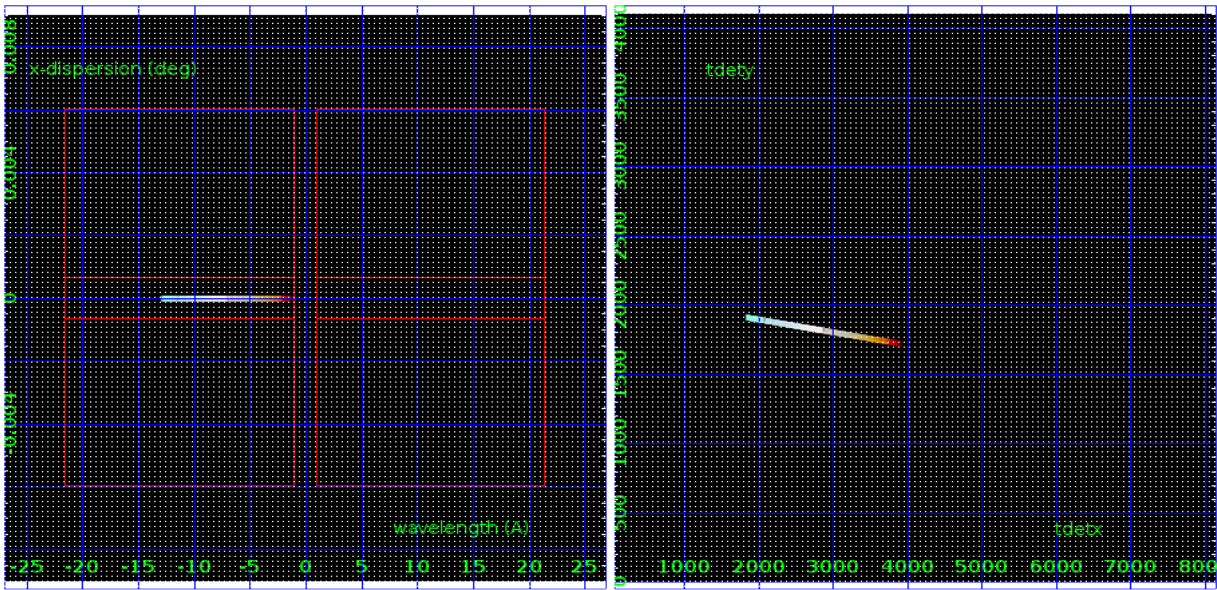
3 Gratings

3.1 HEG Arm



HEG Order Sort 123

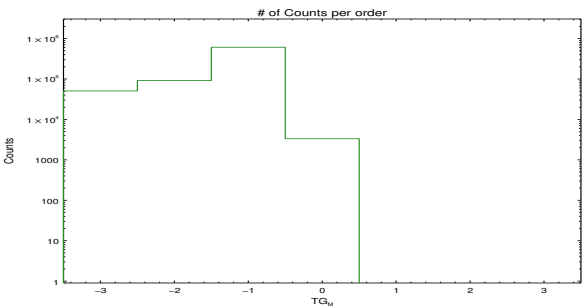
HEG Order Sort ALL

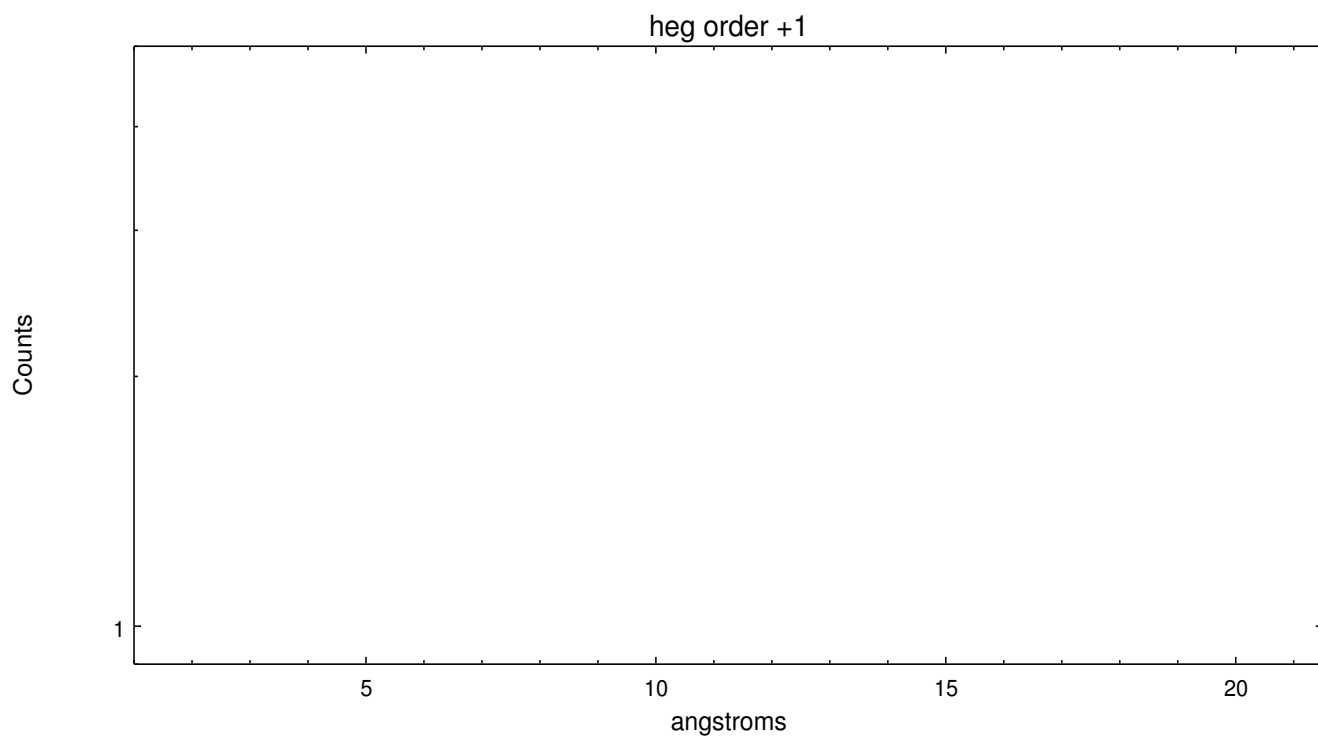
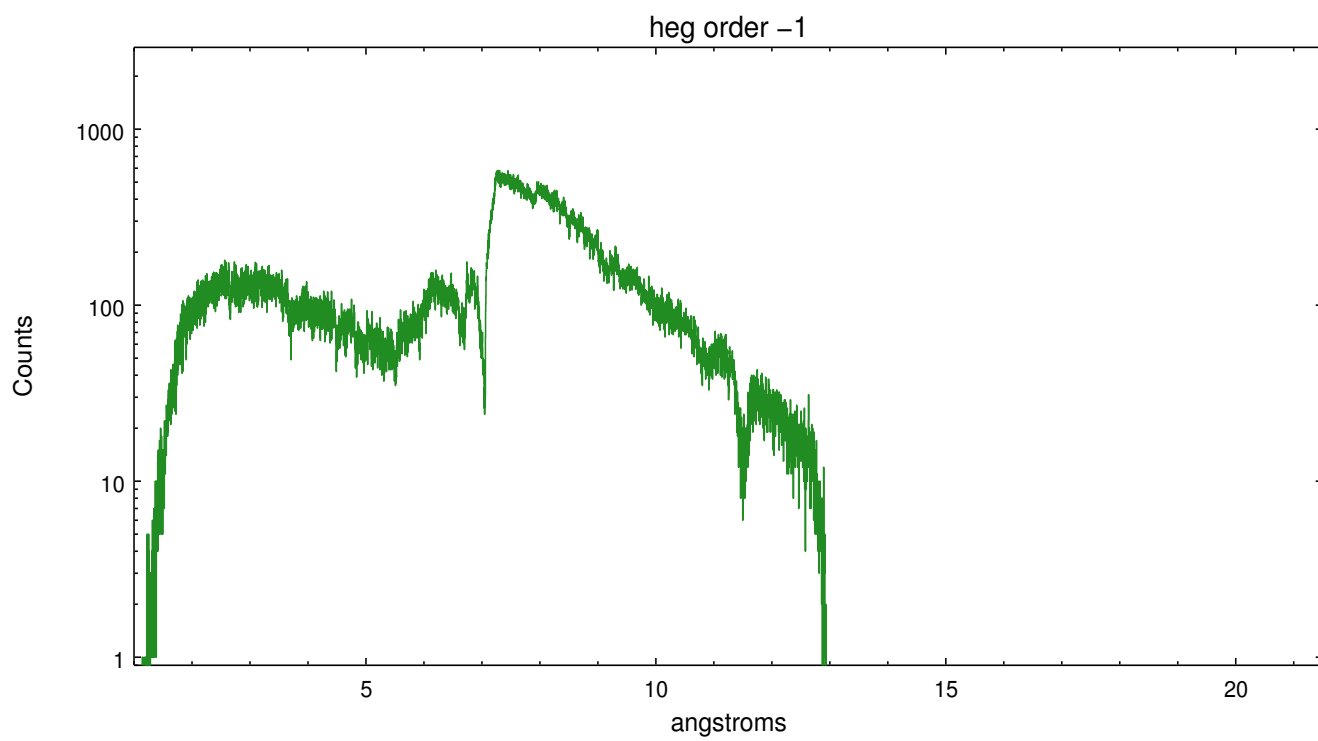


Spot Image HEG

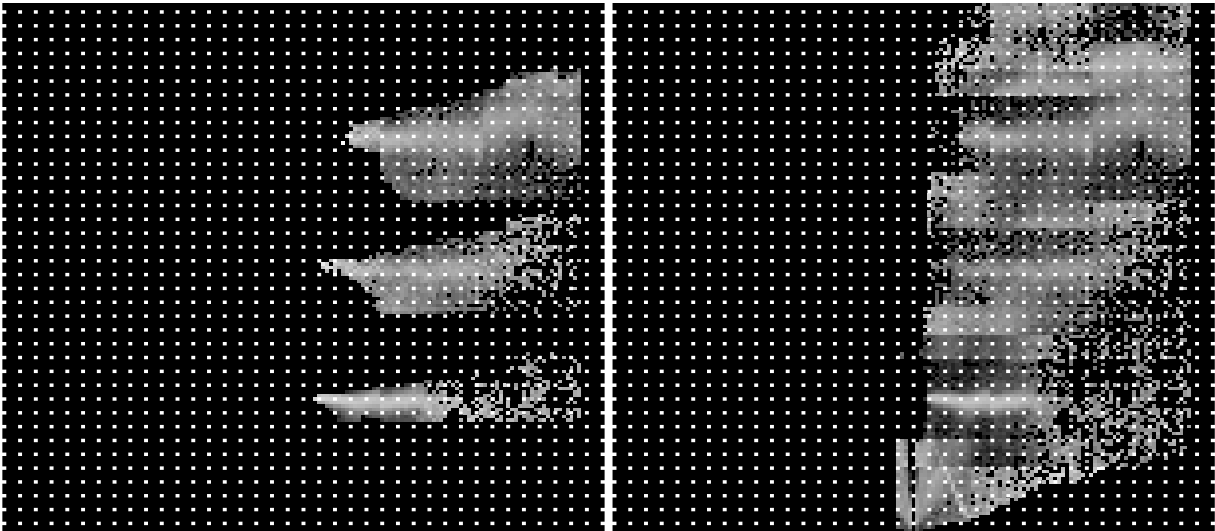
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	50726	91591	610952	3330	0	0	0



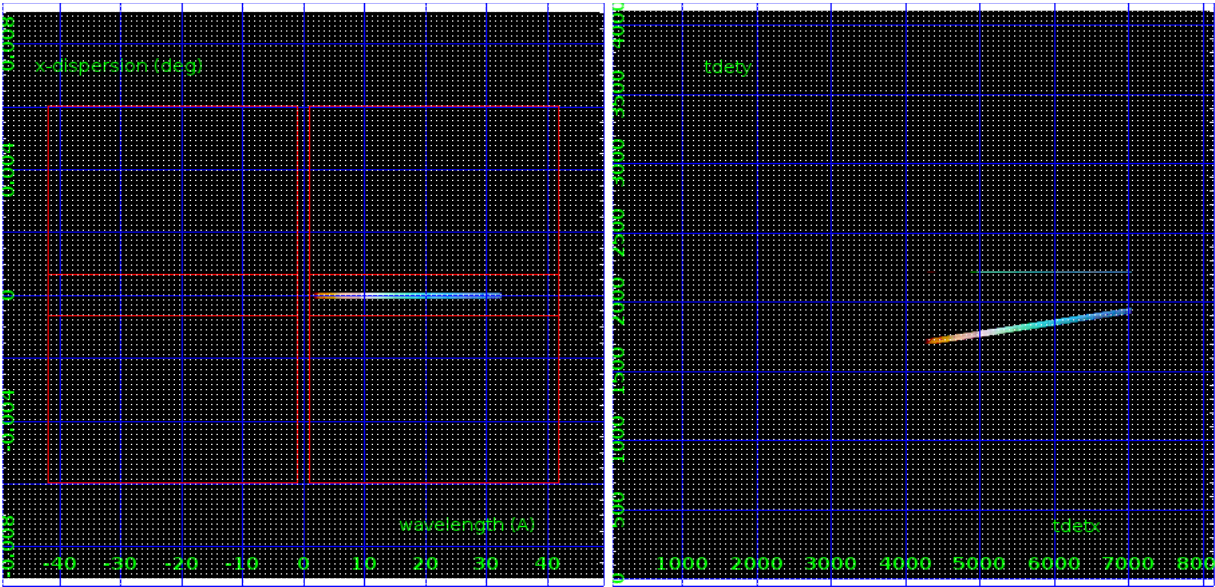


3.2 MEG Arm



MEG Order Sort 123

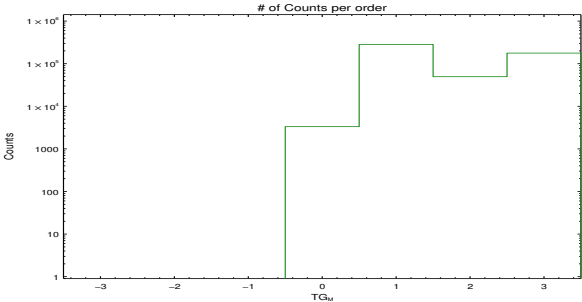
MEG Order Sort ALL

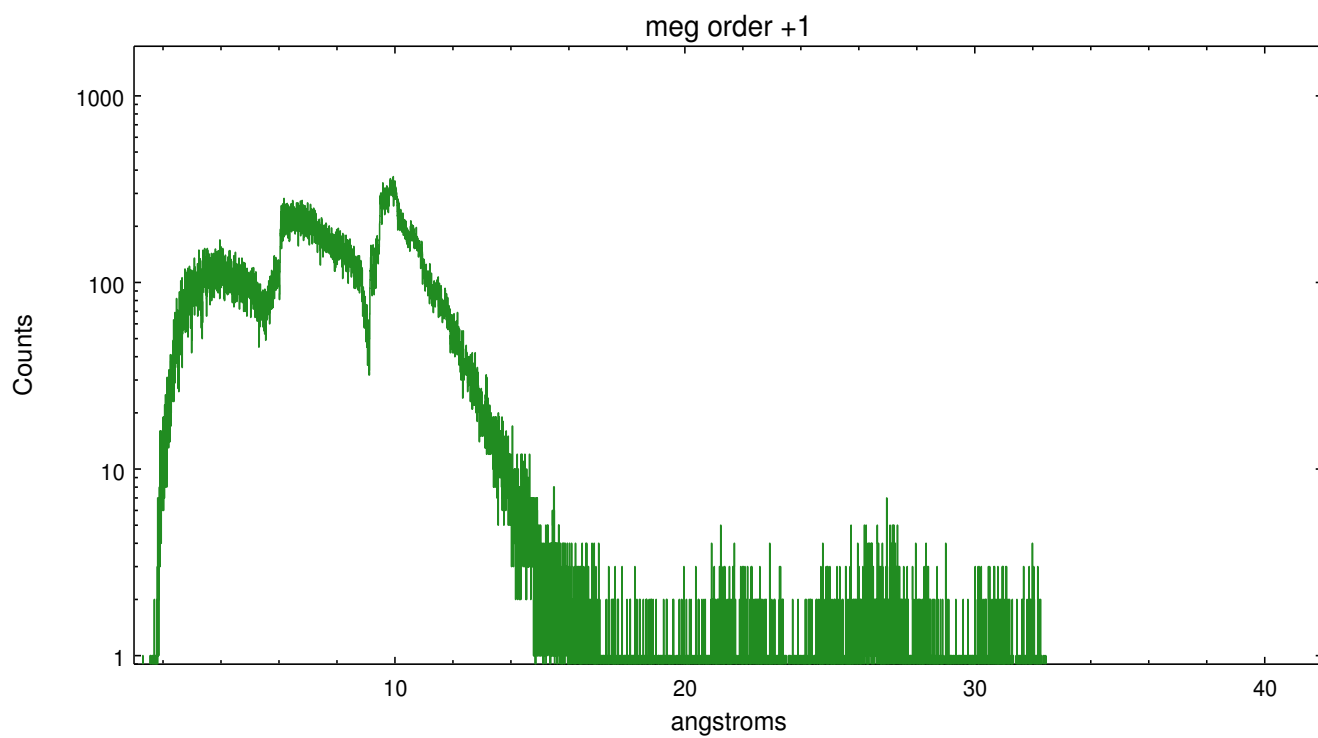
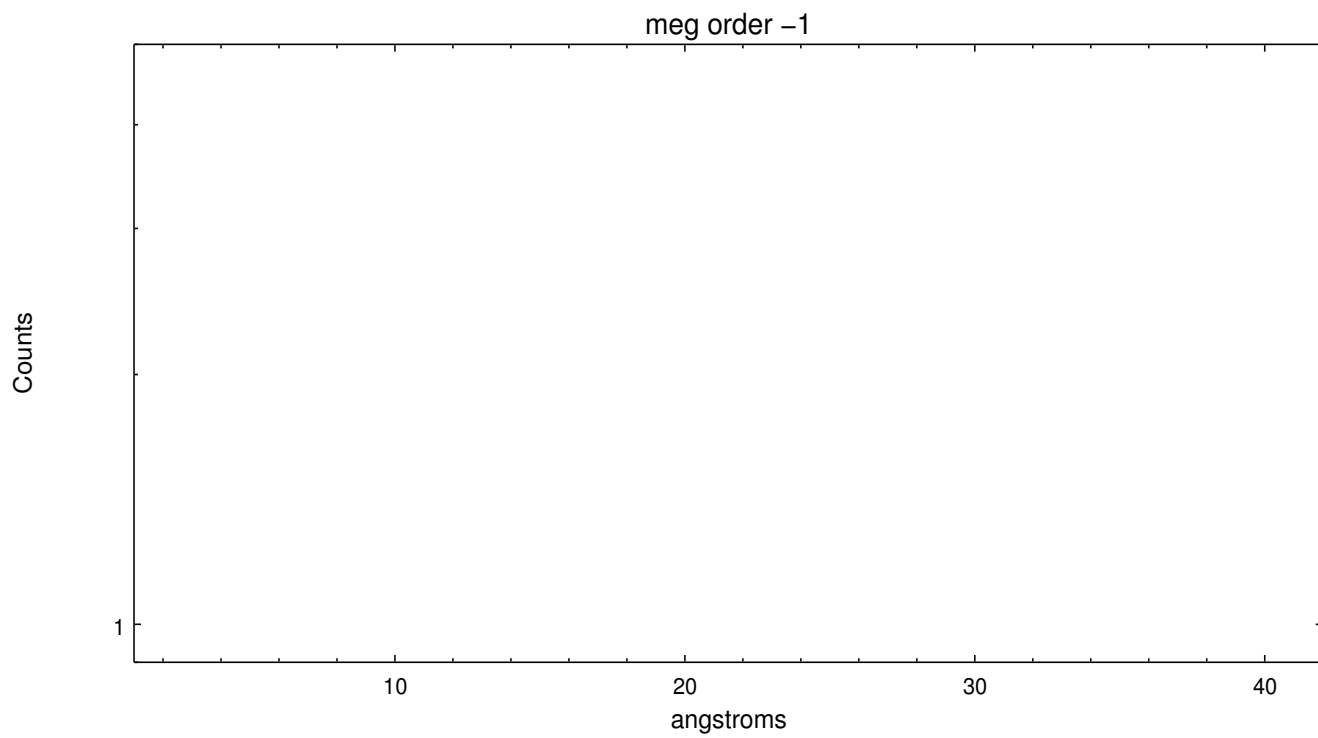


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	0	3330	283763	49567	177385





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2017.11.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.09

A.2 Comments

Note: ONTIMES are less than the observation duration due to telemetry saturation by a very bright source. Used the observation duration for the charge time.

Charge time:

Variation in Chips > 15% threshold.

Low Chip 7, ONTIME=4576.787430 seconds

High Chip 5, ONTIME=14535.887764 seconds

Chip 9, ONTIME=15112.207167 seconds is less than 80% of scheduled time=25000.000000 seconds

Chip 8, ONTIME=12236.144124 seconds is less than 80% of scheduled time=25000.000000 seconds

Chip 7, ONTIME=4576.787430 seconds is less than 80% of scheduled time=25000.000000 seconds

Chip 6, ONTIME=5996.488157 seconds is less than 80% of scheduled time=25000.000000 seconds

Chip 5, ONTIME=14535.887764 seconds is less than 80% of scheduled time=25000.000000 seconds

ONTIME of 4576.7874301672 seconds is less than 85% of expected scheduled time of 25000 seconds