

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 20737 - L2 Version 1
Chandra X-Ray Center

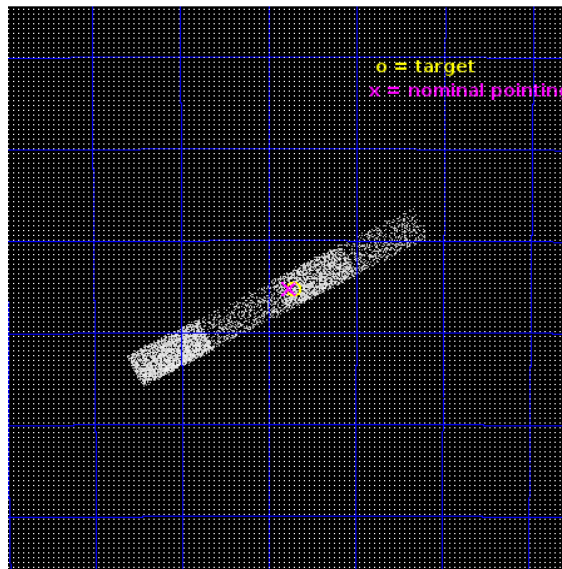
L2 Processing Date : Jun 12 2018

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1 Front

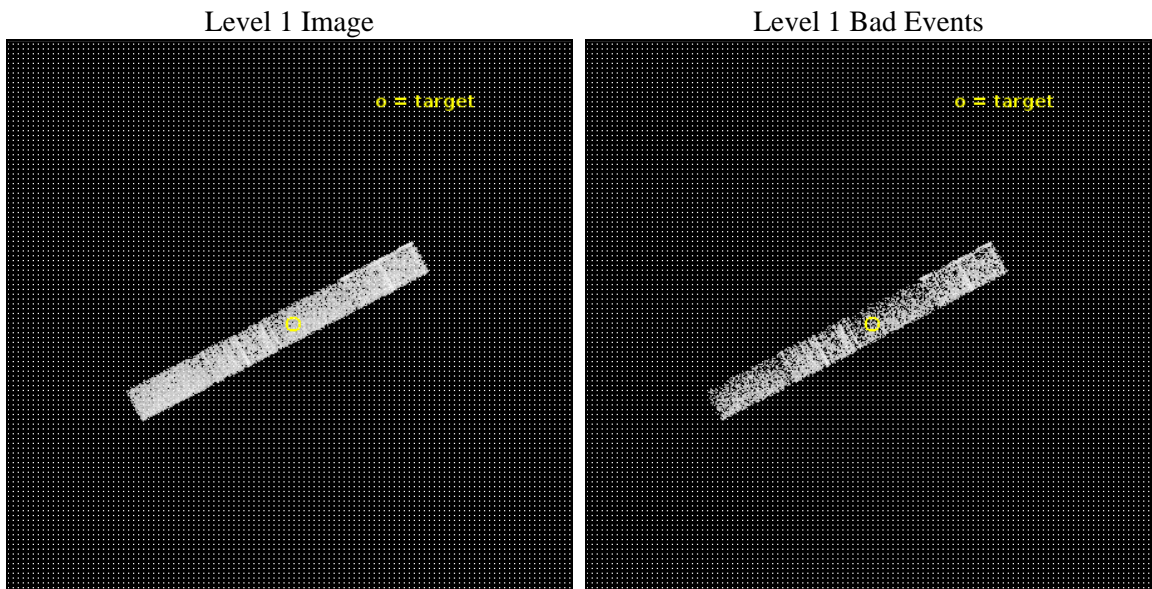
seq_num	402006	Sequence number
obs_id	20737	Observation id
title	Investigating astrosilicate through a Mg and Si K-edges synergetic analysis of 4U 1608-522	Proposal title
observer	Jelle Kaastra	Principal investigator
object	4U 1608-522	Source name
dtcycle	0	
cycle	P	events are from which exps? P[primary] S[econdar]
ra_targ	243.179167	Observer's specified target RA [deg]
dec_targ	-52.423056	Observer's specified target Dec [deg]
ra_nom	243.19037077447	Nominal RA [deg]
dec_nom	-52.42109424728	Nominal Dec [deg]
roll_nom	331.47387504821	Nominal Roll [deg]
revision	1	Processing version of data
ontime	3987.9449813366	Sum of GTIs [s]
livetime	677.0857825876	Livetime [s]
ontime5	3987.9449813366	Sum of GTIs [s]
ontime6	3987.9449813366	Sum of GTIs [s]
ontime7	3987.9449813366	Sum of GTIs [s]
ontime8	3987.9449813366	Sum of GTIs [s]
l2events	6058	Number of level 2 events



2 OBI Primary

2.1 OBI

2.1.1 Images



2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	3987.9449813366	Sum of GTIs [s]
caldsver	4.7.8	 	ontime5	3987.9449813366	Sum of GTIs [s]
date	2018-06-11T20:53:21	Date and time of file creation	ontime6	3987.9449813366	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	3987.9449813366	Sum of GTIs [s]
			ontime8	3987.9449813366	Sum of GTIs [s]
			l1events	33592	Number of level 1 events
			tgmethod	USER	Method used to create src1a file
			zo_pos	(4146.40, 4081.76)	src1a sky pixel position

2.1.3 Events

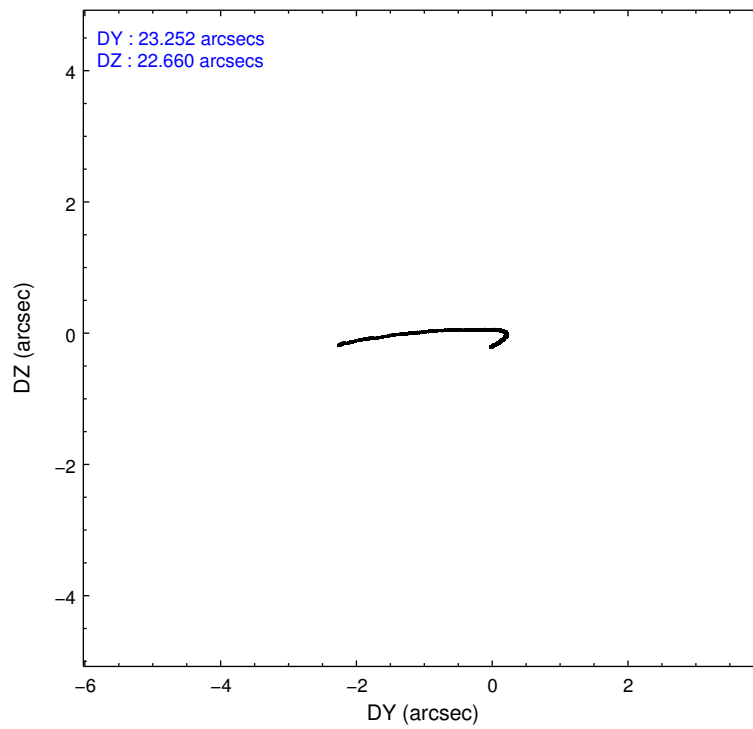
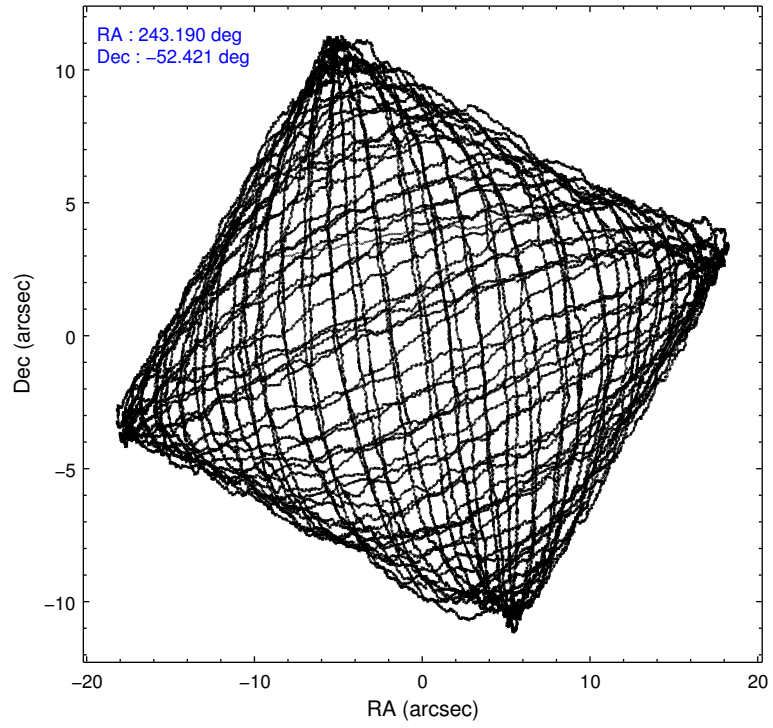
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	8069	8402	6646	10475
rejected events	4961	7709	4612	8642
rejected %	61%	91%	69%	82%

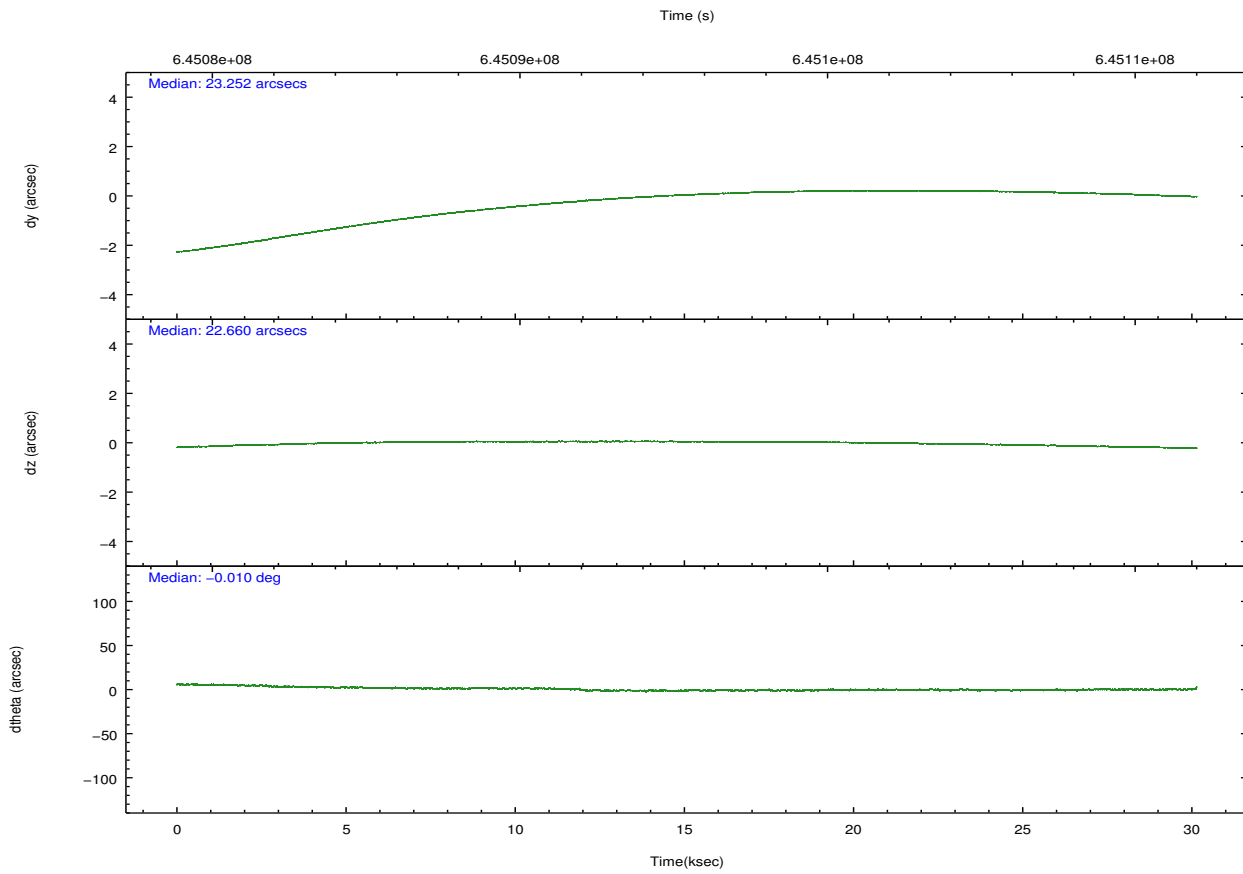
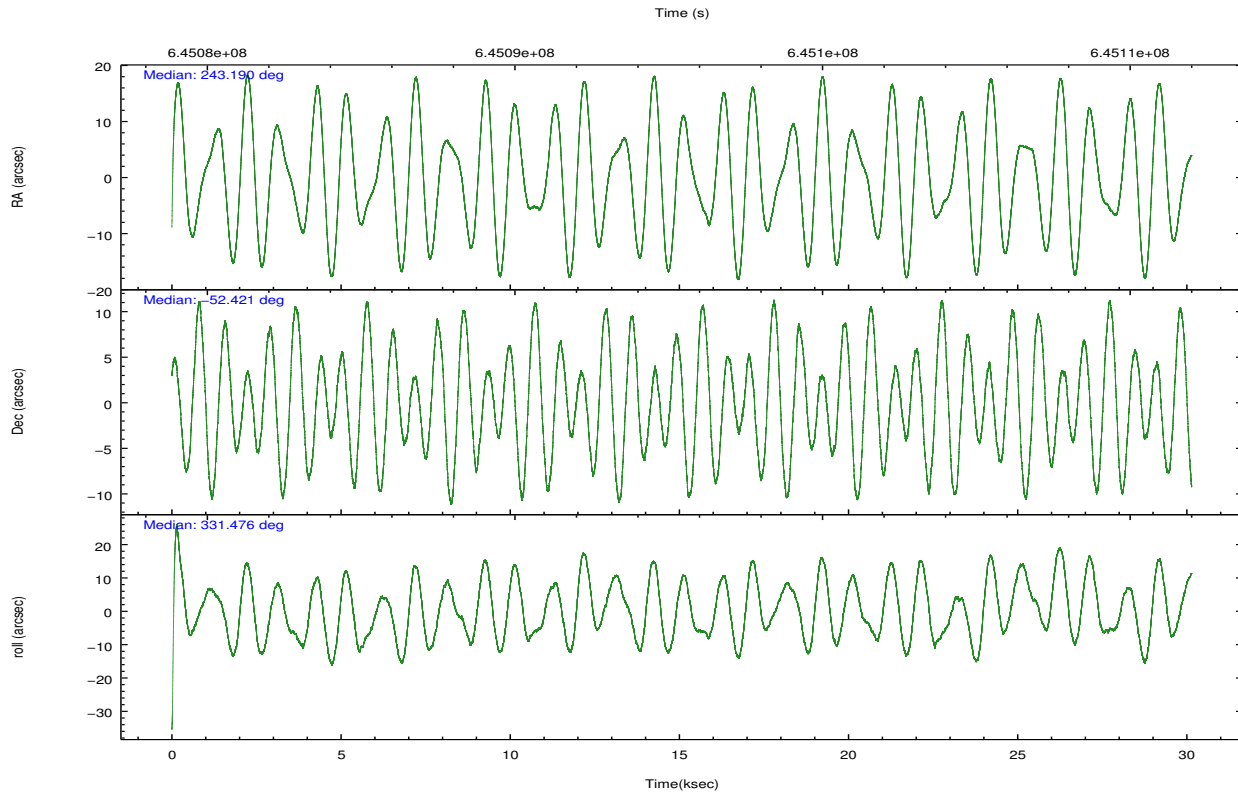
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	161	149	145	331
	1%	1%	2%	3%
grade 1 events	20	0	5	1
	0%	0%	0%	0%
grade 2 events	802	140	494	460
	9%	1%	7%	4%
grade 3 events	173	115	190	220
	2%	1%	2%	2%
grade 4 events	157	127	185	198
	1%	1%	2%	1%
grade 5 events	478	226	498	374
	5%	2%	7%	3%
grade 6 events	1819	163	1022	624
	22%	1%	15%	5%
grade 7 events	4459	7482	4107	8267
	55%	89%	61%	78%

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	GRADED	GRADED	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	243.145382	243.1903707744693	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-52.422154	-52.42109424728	Subarray start row	15	15
[deg] Pointing Roll	331.281609	331.4738750482115	Subarray row count	440	440
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	Y	Y
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.300000	0.3
[mm] SIM translation stage pos	-183.792523	-183.7838769675282	[s] Secondary exposure time	1.400000	1.4
[mm] SIM translation stage offset	-6.34	-6.348645615479597	Duty cycle	8	8
[s] Observation start time (MET)	645080492.184000	645079080.52354			
Observation start date	2018-06-11T05:00:23	2018-06-11T04:38:00			
[s] Observation end time (MET)	645110492.184000	645111292.68795			
Observation end date	2018-06-11T13:20:23	2018-06-11T13:34:52			
Read mode	TIMED	TIMED			

2.3 Aspect





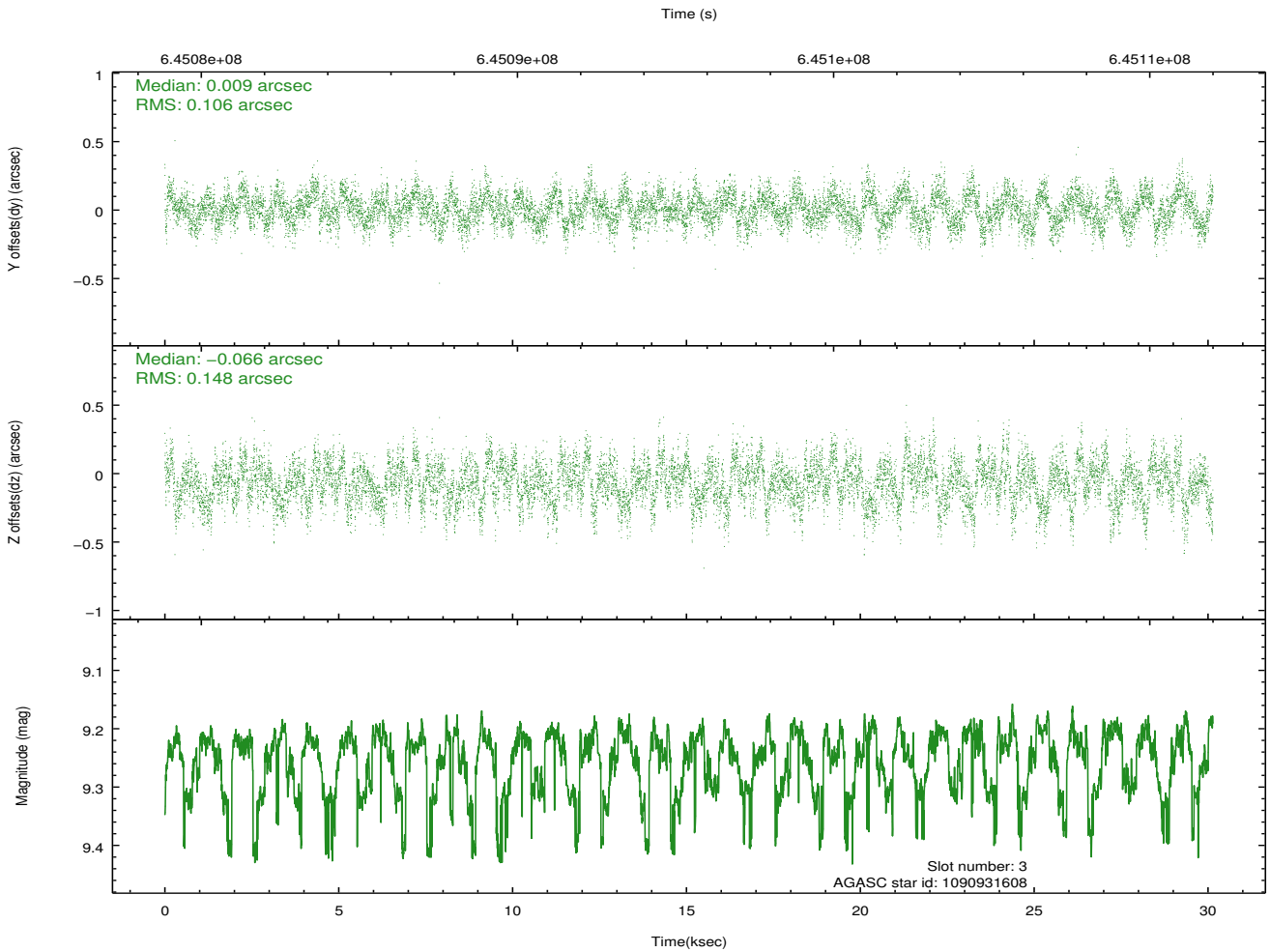
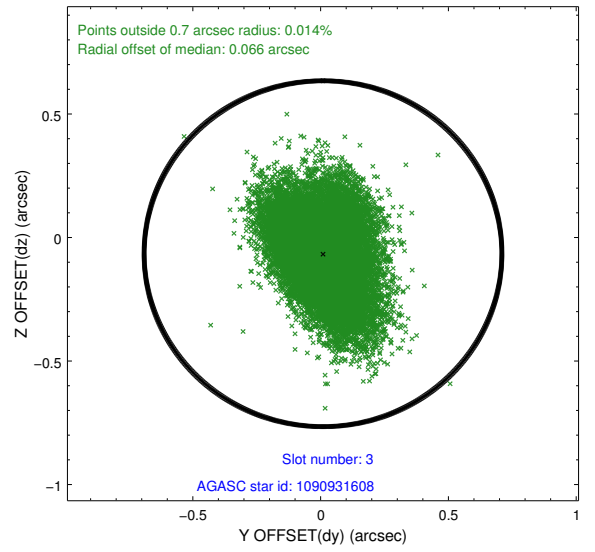
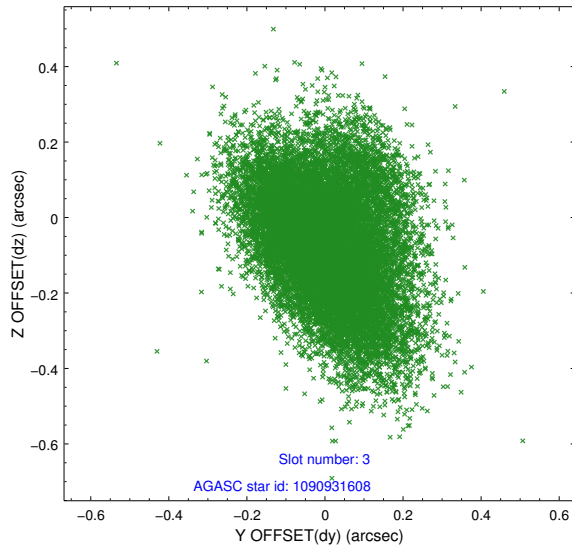
Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-1	7.12	7352	1.000	-0.039	0.058	0.013	0.028	0.000000	0.000000	920.54	-1870
1	FID		ACIS-S-4	7.11	7352	1.000	0.506	-0.017	0.033	0.051	0.000000	0.000000	2138.37	33
2	FID		ACIS-S-5	7.14	7352	1.000	-0.493	-0.029	0.032	0.059	0.000000	0.000000	-1828.83	26
3	GUIDE	used	1090931608	9.25	14681	1.000	0.009	-0.066	0.192	0.321	243.085233	-52.161901	-566.16	758
4	GUIDE	used	1141642808	8.91	14685	1.000	0.814	0.712	0.192	0.322	242.344762	-52.759774	-939.84	-1911
5	GUIDE	used	1141772104	6.00	14704	1.000	-0.680	-0.687	0.160	0.278	244.177019	-52.603809	2299.73	495
6	GUIDE	used	1090912584	8.50	14690	1.000	-0.230	-0.258	0.117	0.203	243.674080	-52.336921	874.92	824
7	GUIDE	used	1141646040	8.71	14688	1.000	0.074	0.305	0.171	0.296	243.143039	-52.904491	830.70	-1524

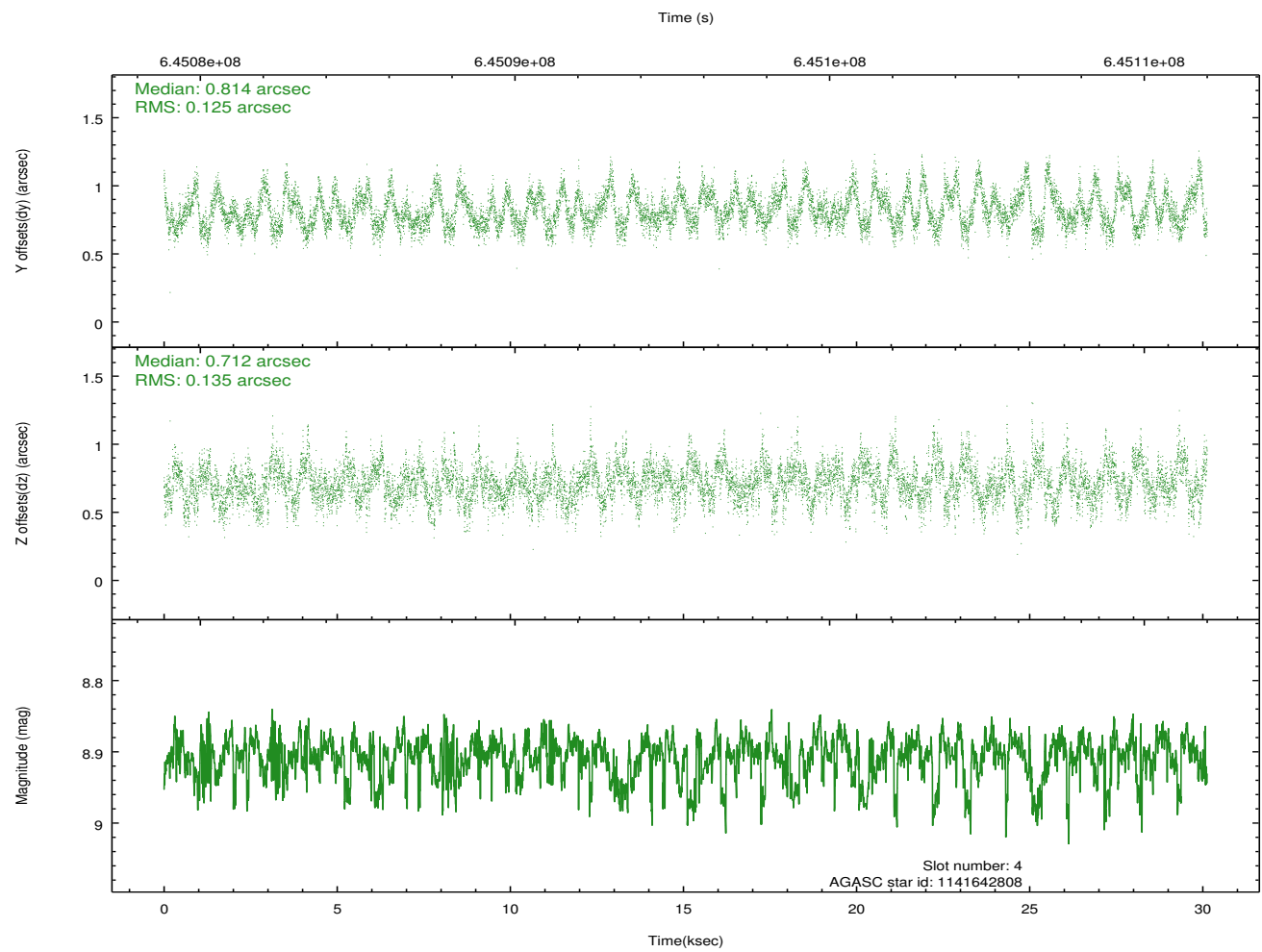
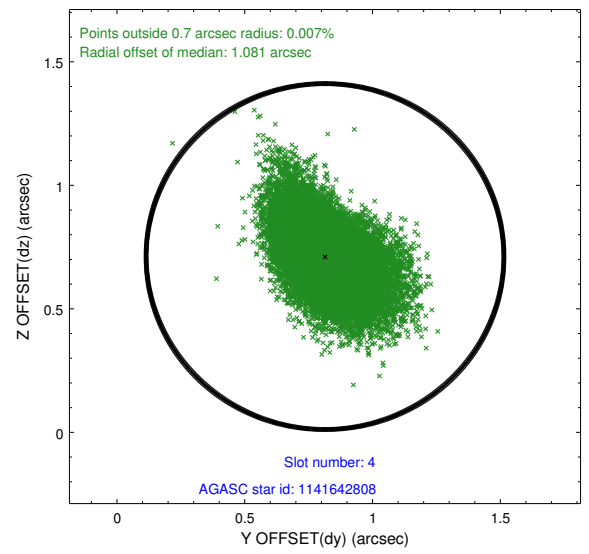
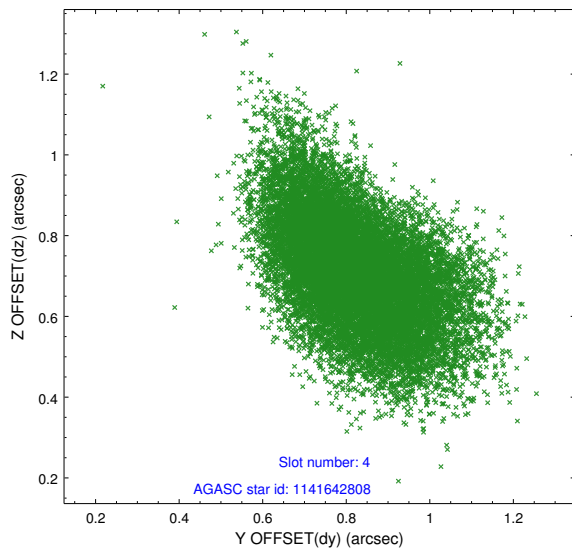
∞

2.4 Star Slots

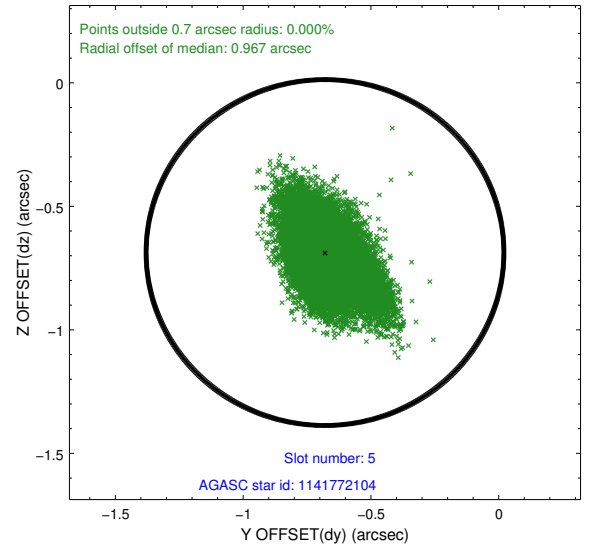
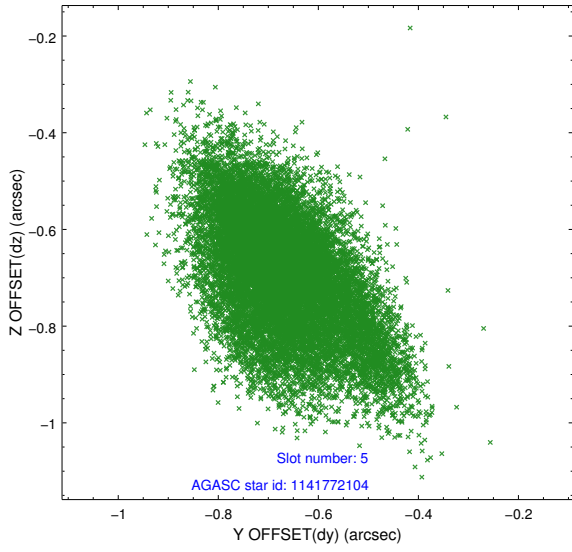
2.4.1 Slot 3



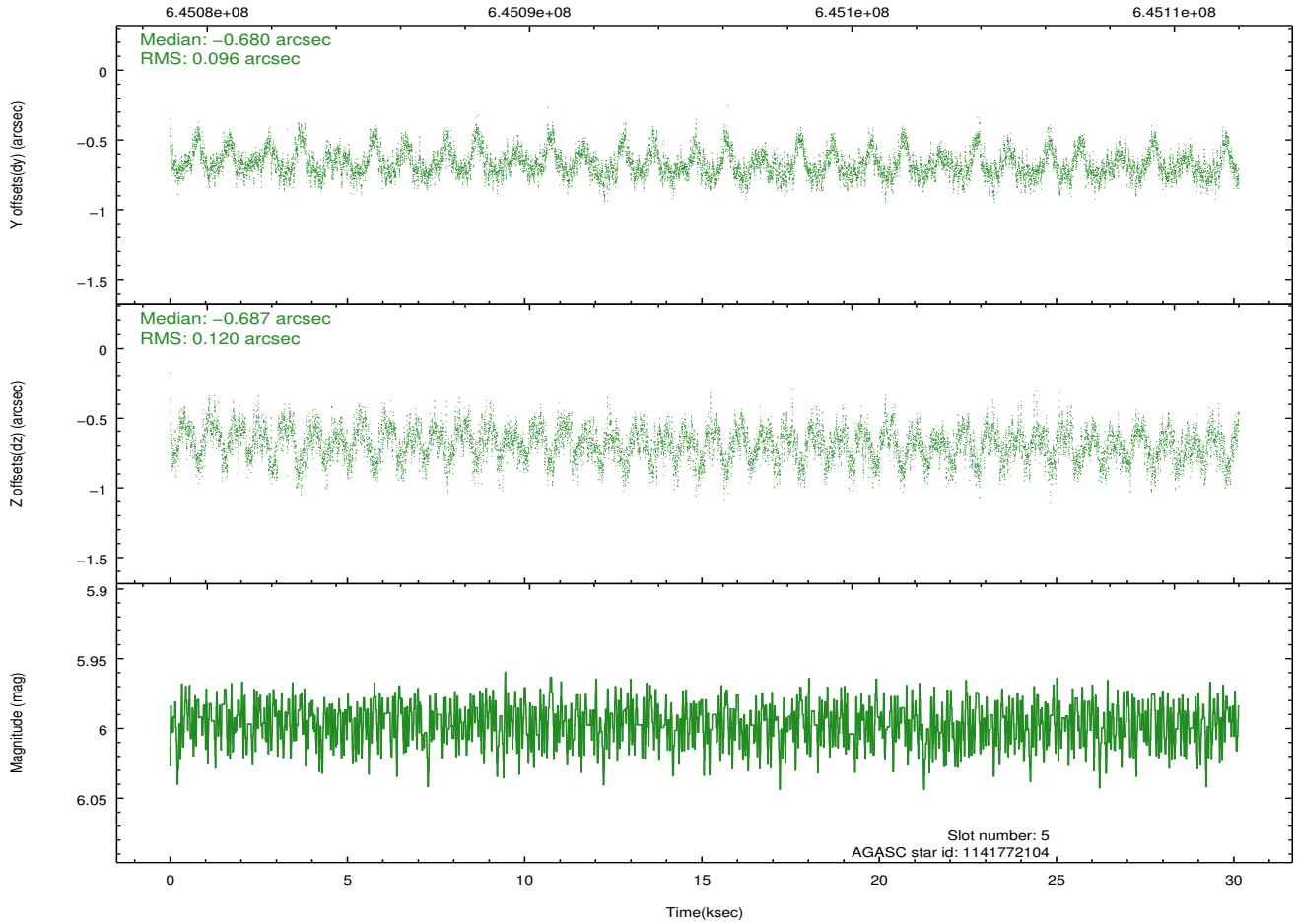
2.4.2 Slot 4



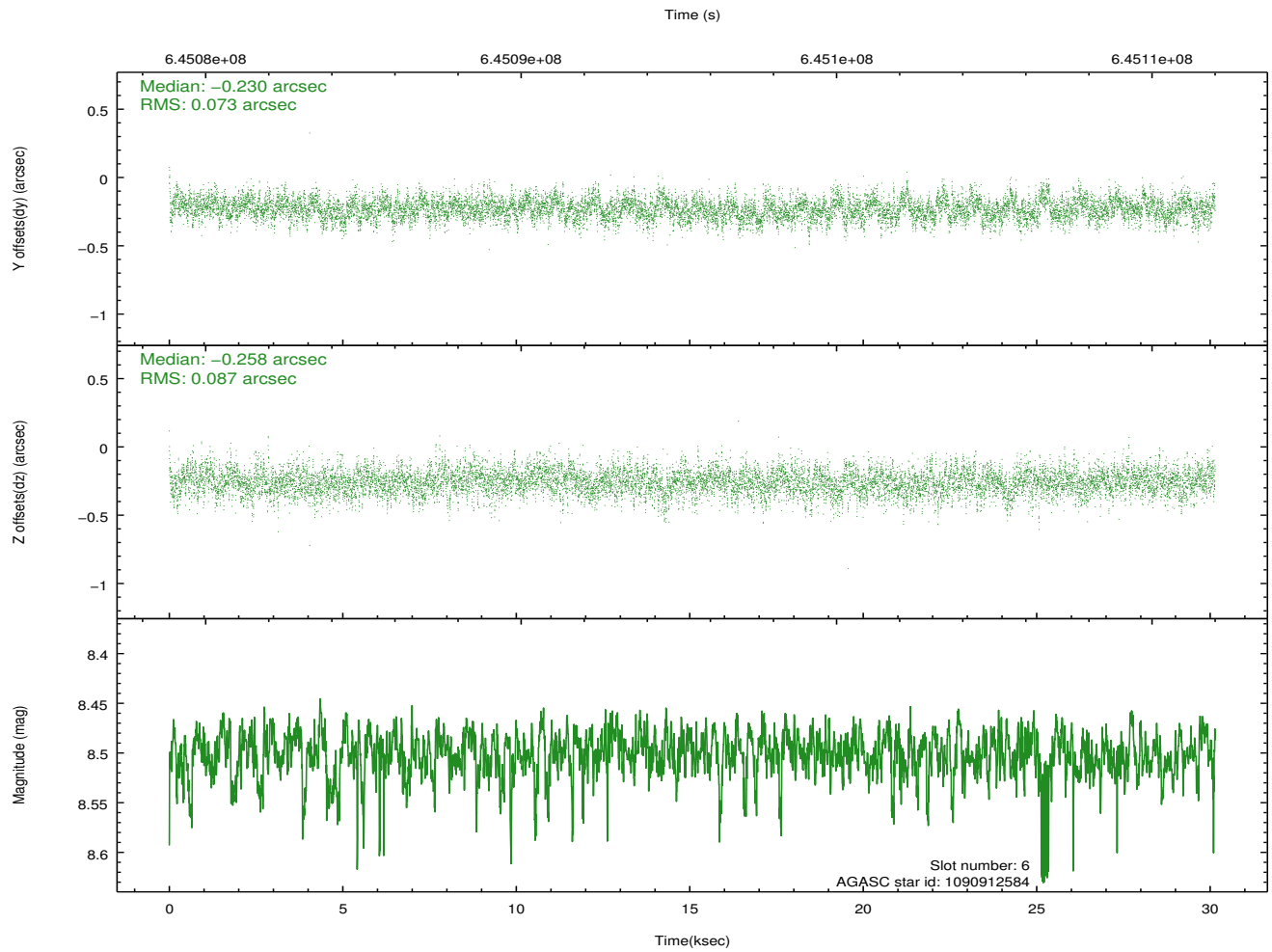
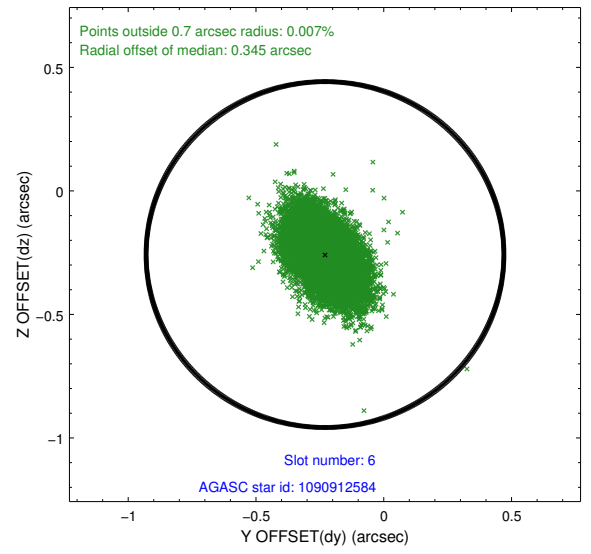
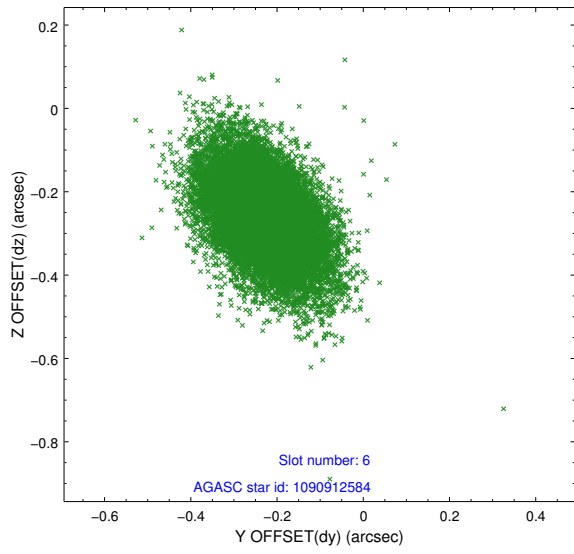
2.4.3 Slot 5



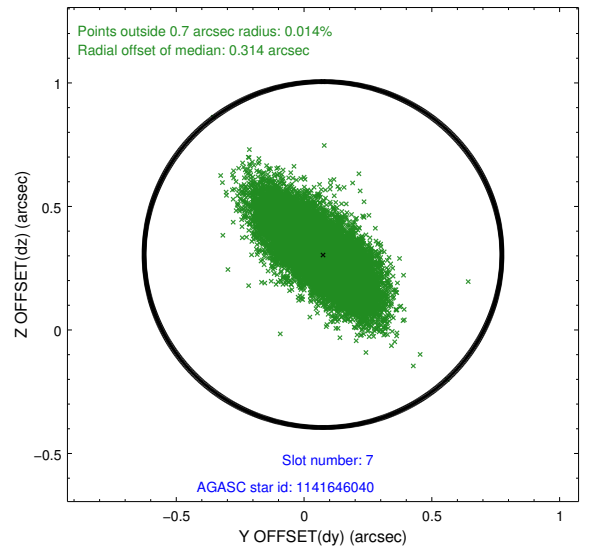
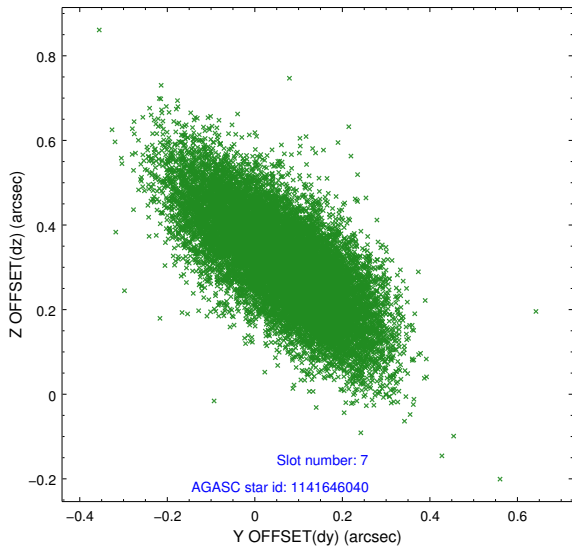
Time (s)



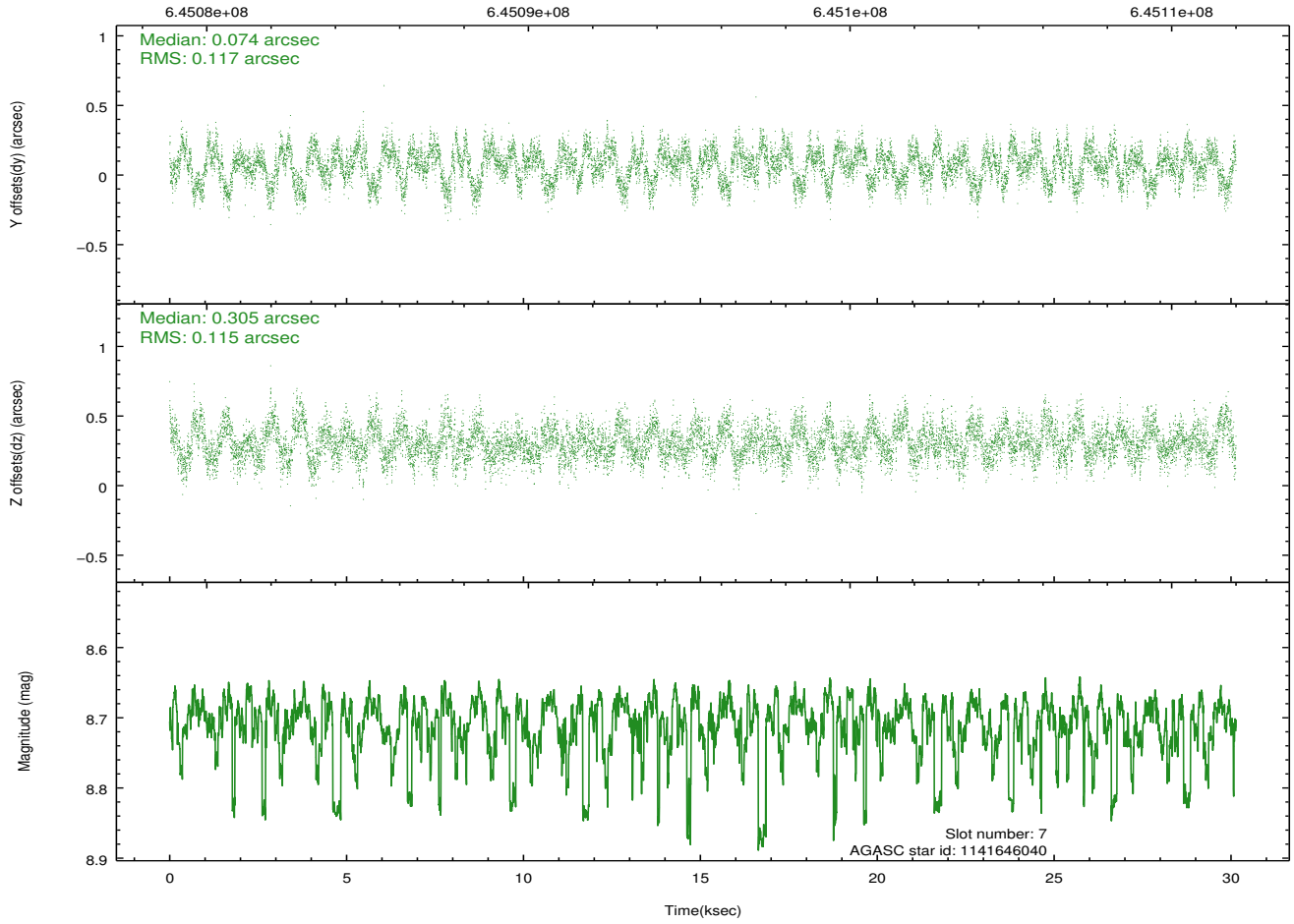
2.4.4 Slot 6



2.4.5 Slot 7

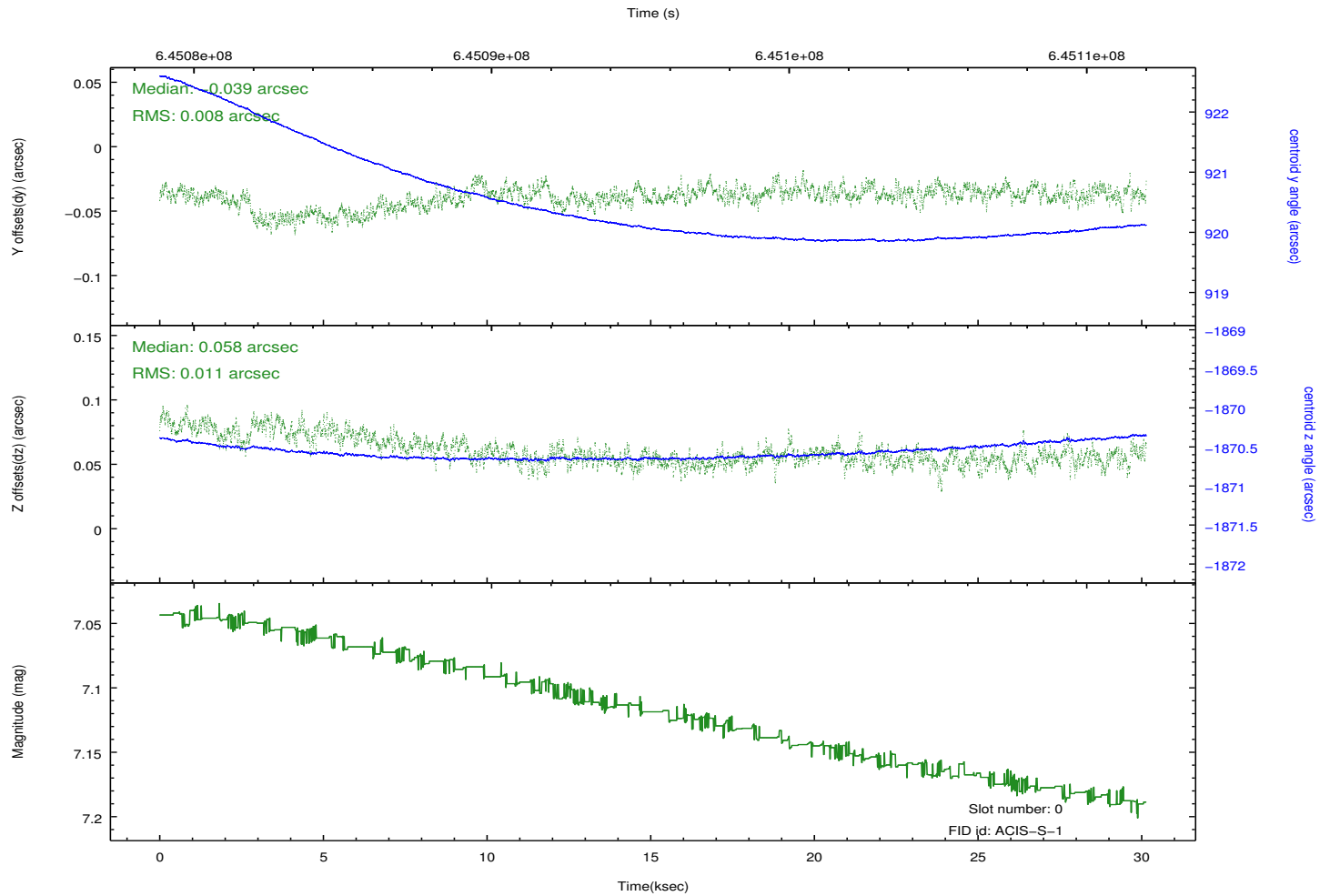
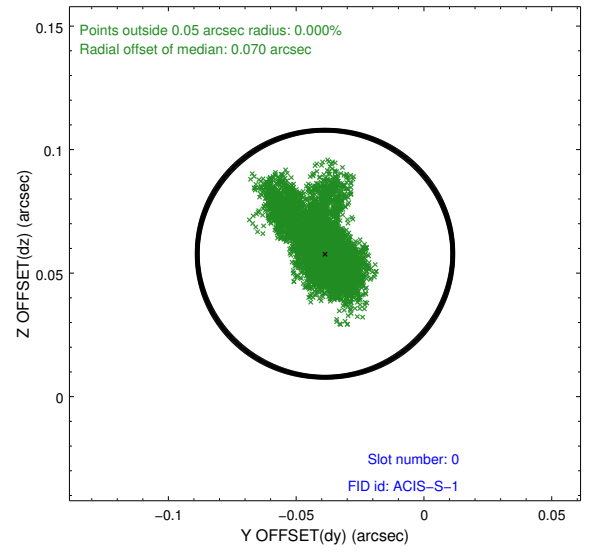
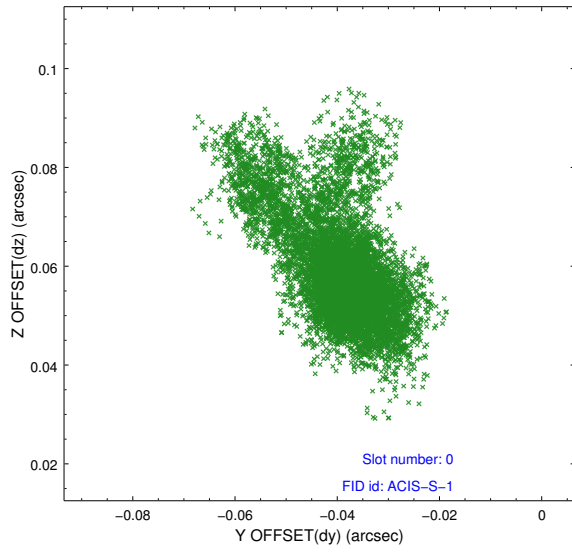


Time (s)

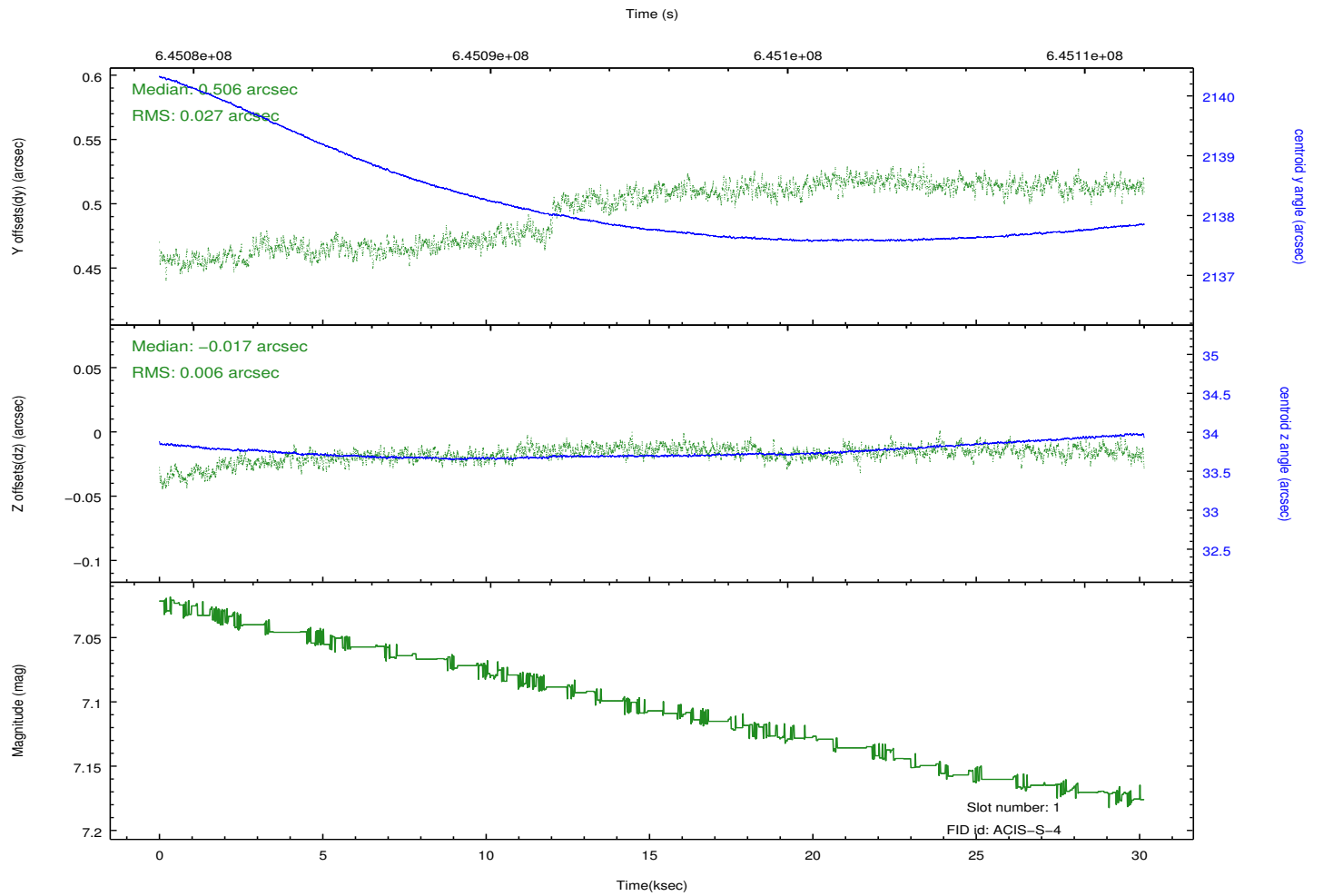
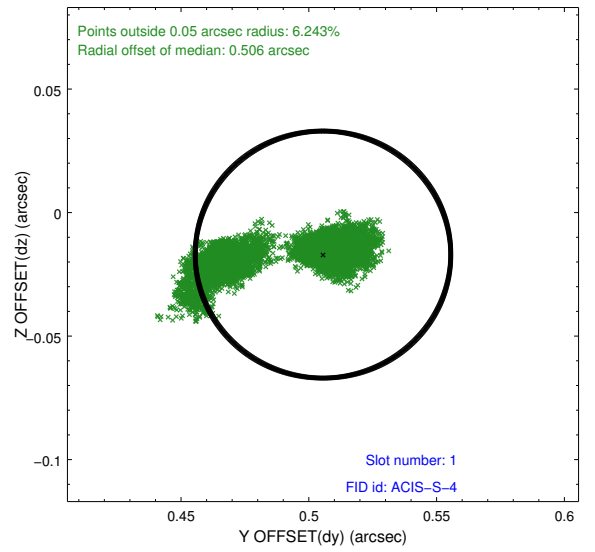
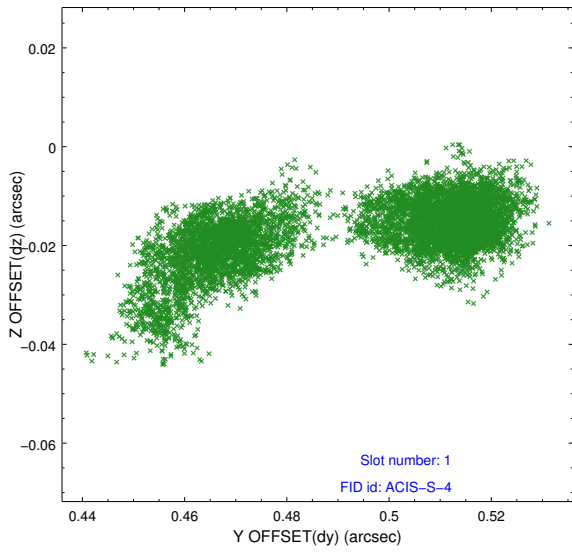


2.5 FID Slots

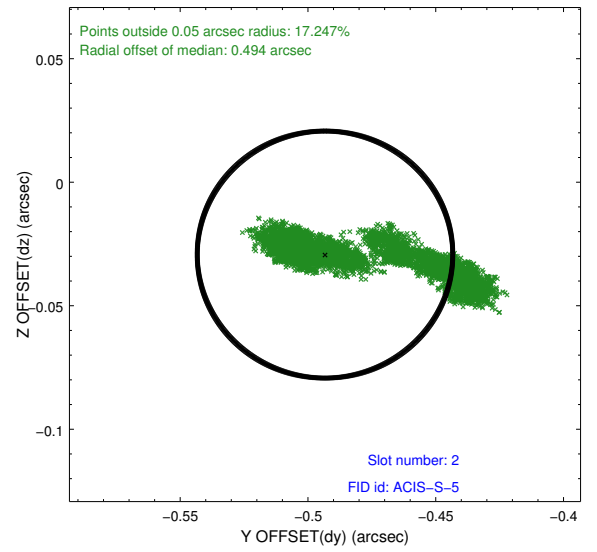
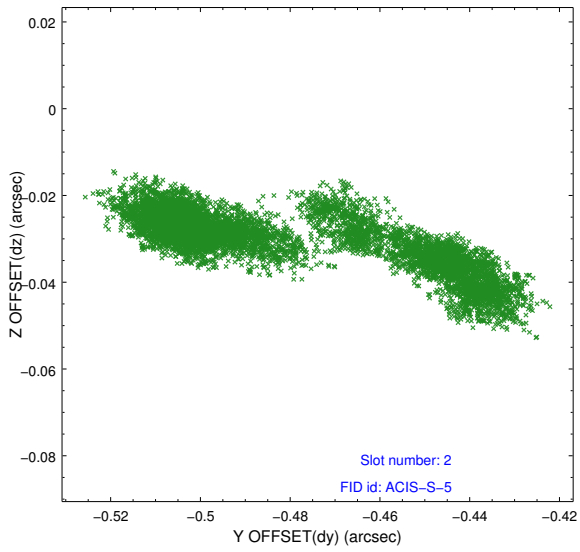
2.5.1 Slot 0



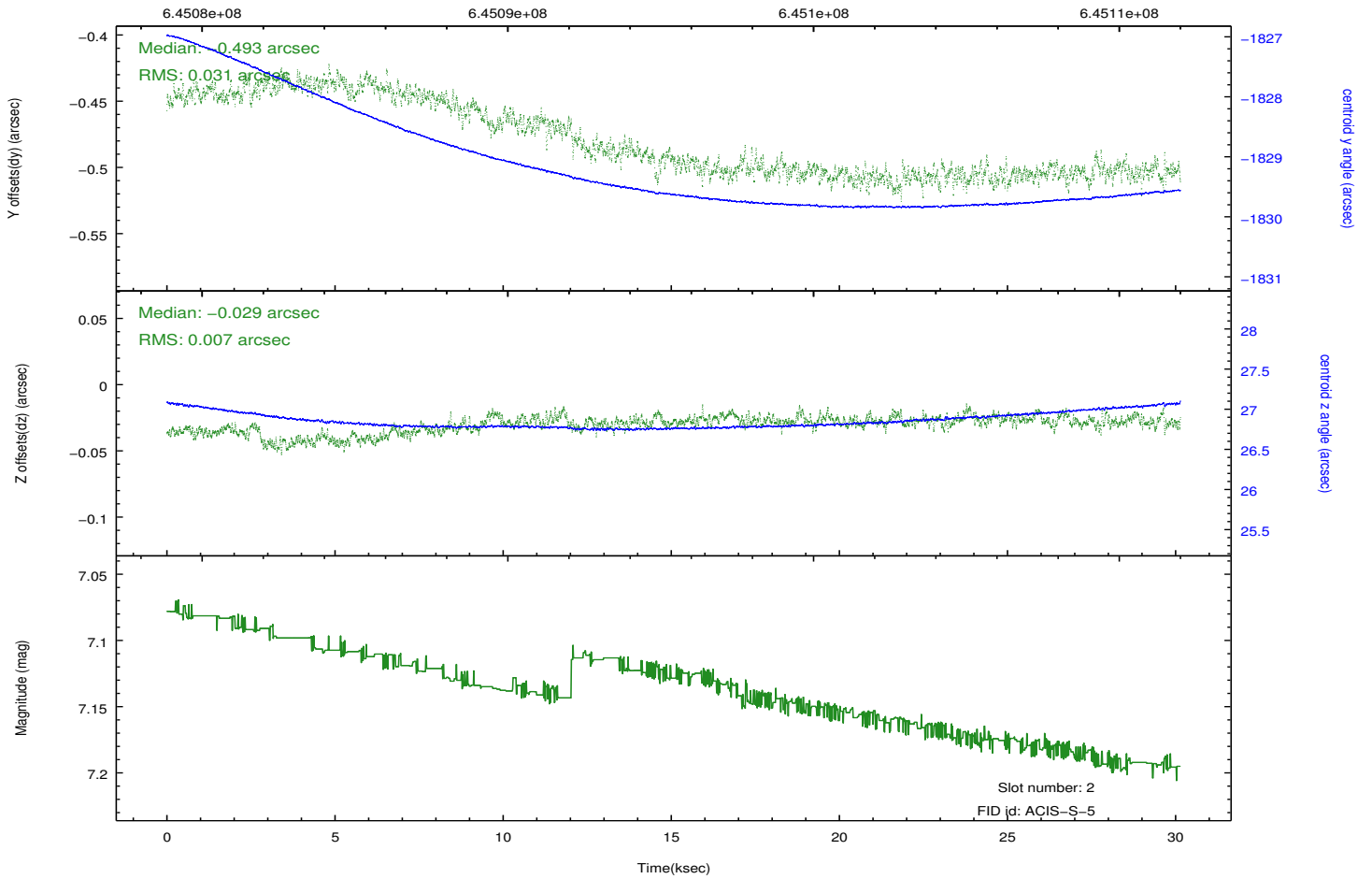
2.5.2 Slot 1



2.5.3 Slot 2



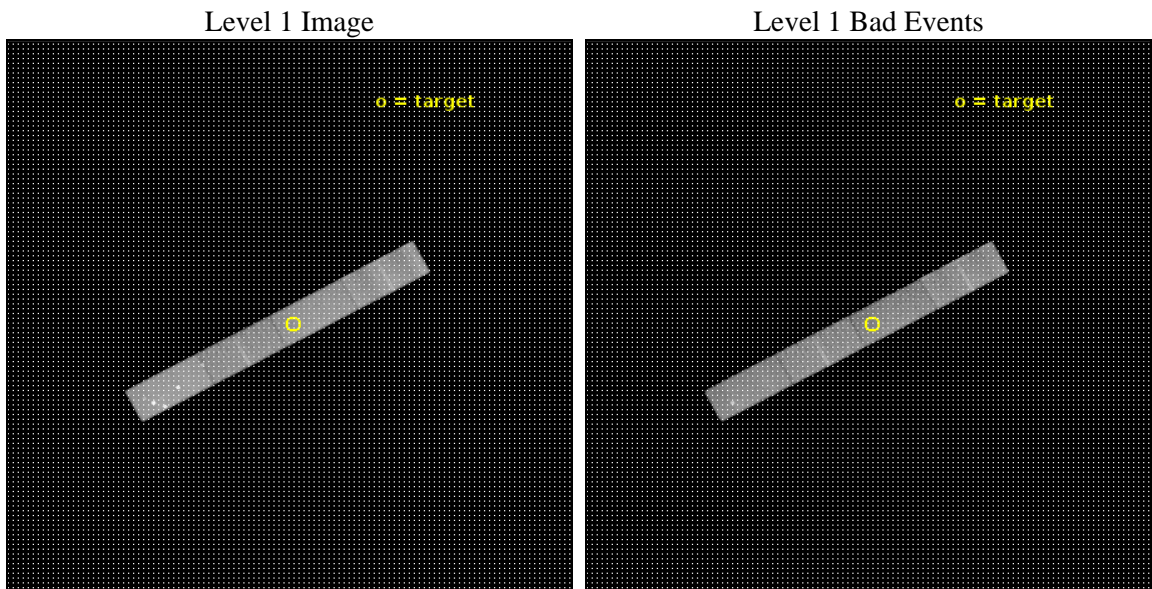
Time (s)



3 OBI Secondary

3.1 OBI

3.1.1 Images



3.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	26045.600374341	Sum of GTIs [s]
caldsver	4.7.8	 	ontime5	26045.600645185	Sum of GTIs [s]
date	2018-06-11T20:53:30	Date and time of file creation	ontime6	26045.600232601	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	26045.600374341	Sum of GTIs [s]
			ontime8	26044.159427762	Sum of GTIs [s]
			l1events	512260	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4146.40, 4081.76)	src1a sky pixel position

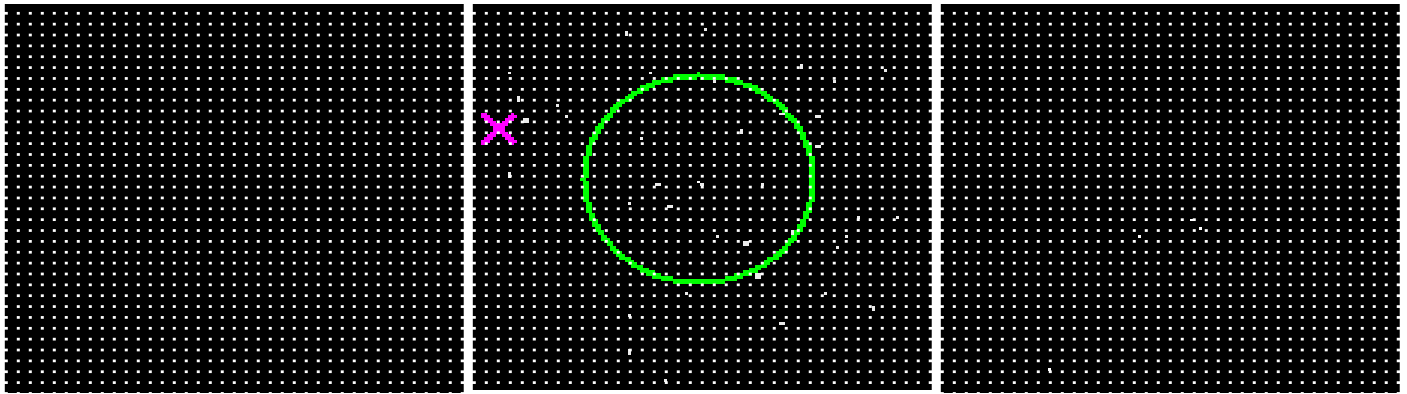
3.1.3 Events

	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	182199	92526	113587	123948
rejected events	77764	81438	65796	90888
rejected %	42%	88%	57%	73%

	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	30842	3299	3123	8113
	16%	3%	2%	6%
grade 1 events	3733	30	136	57
	2%	0%	0%	0%
grade 2 events	26943	2556	11390	8008
	14%	2%	10%	6%
grade 3 events	5032	1325	3182	3721
	2%	1%	2%	3%
grade 4 events	3436	1358	3122	3393
	1%	1%	2%	2%
grade 5 events	7696	3815	8728	5619
	4%	4%	7%	4%
grade 6 events	38188	2551	26976	9832
	20%	2%	23%	7%
grade 7 events	66329	77592	56930	85205
	36%	83%	50%	68%

4 Gratings

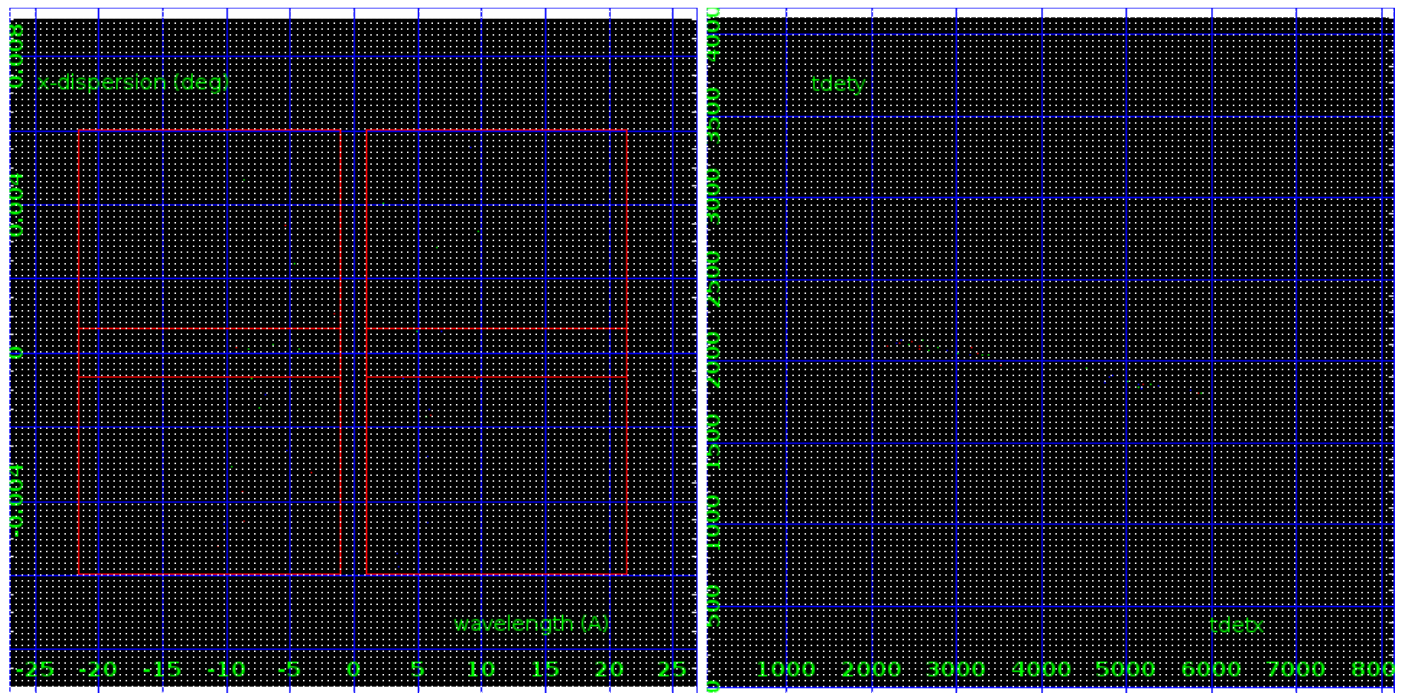
4.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

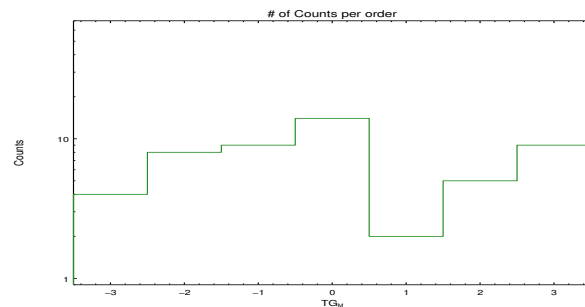
HEG Order Sort ALL

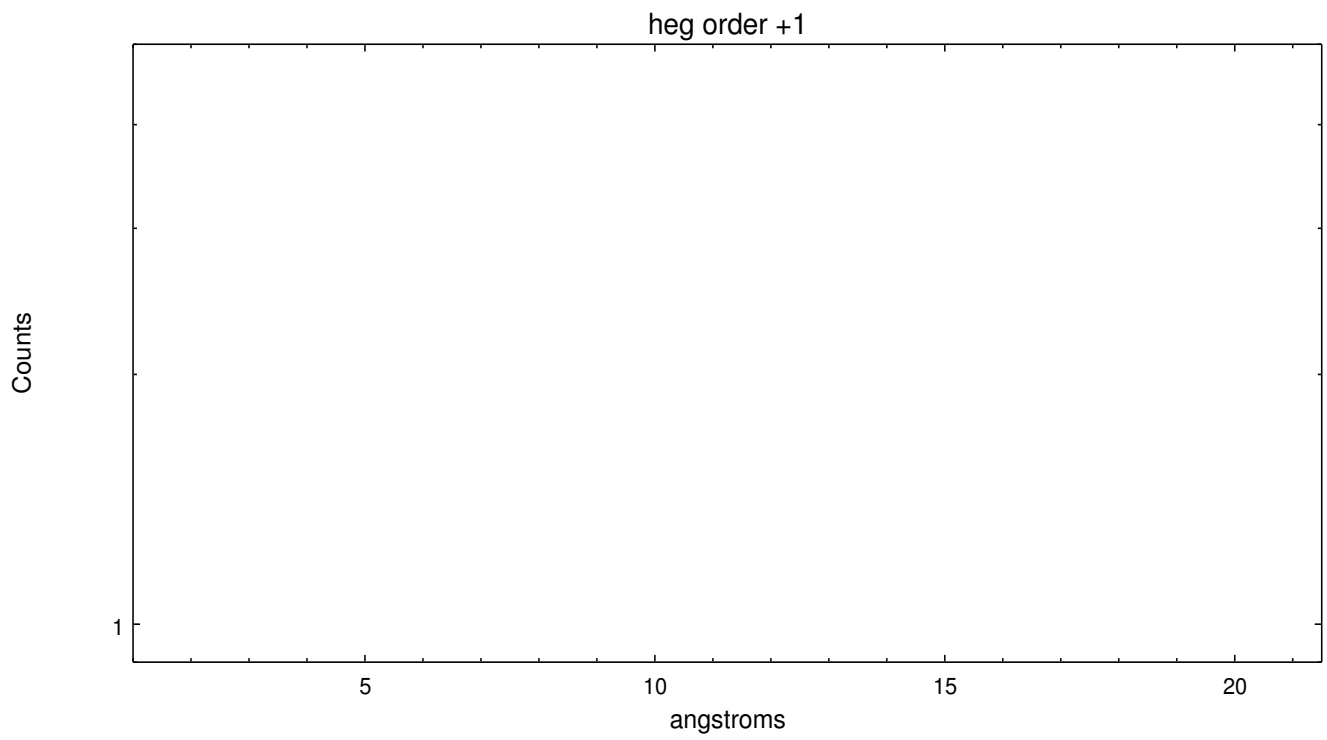
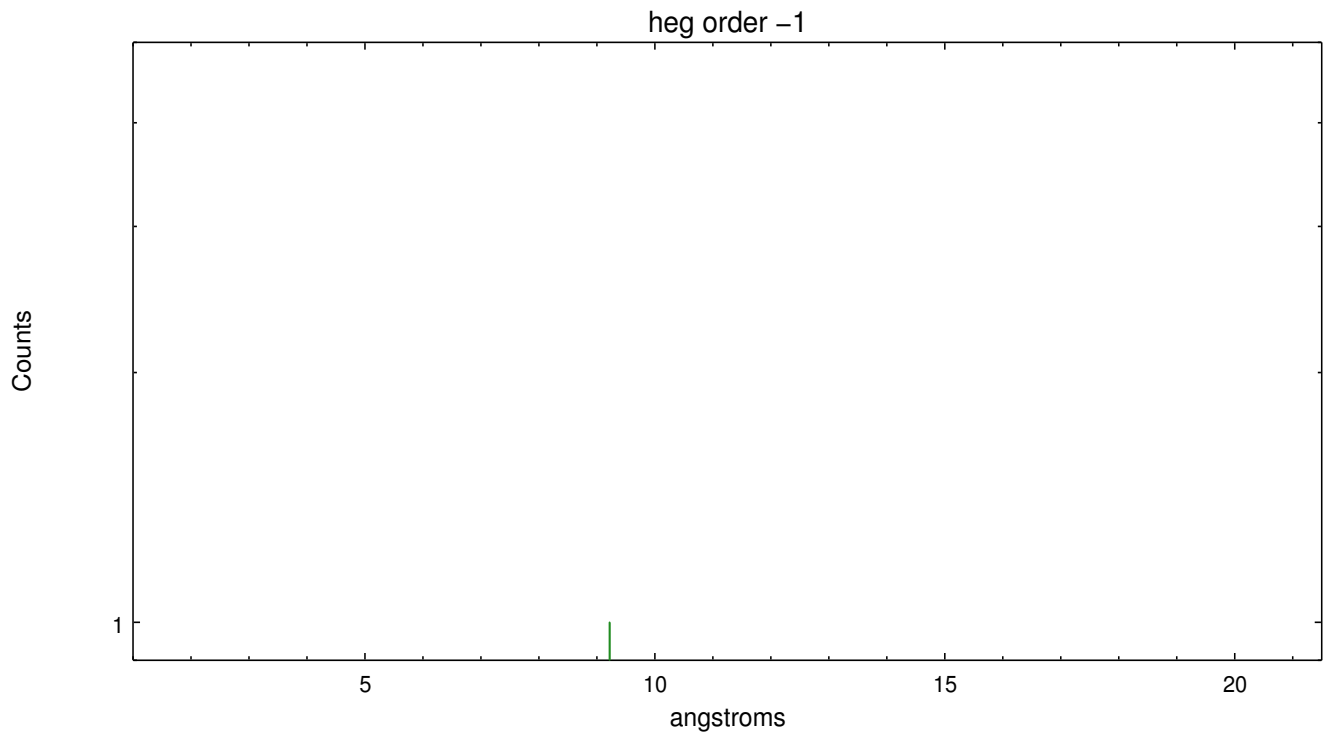


Spot Image HEG

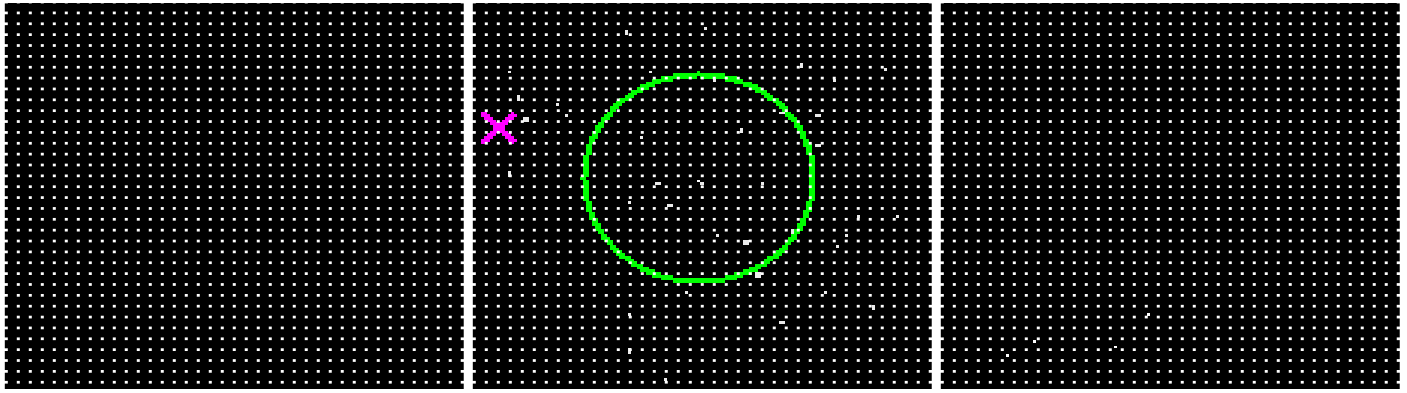
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	4	8	9	14	2	5	9





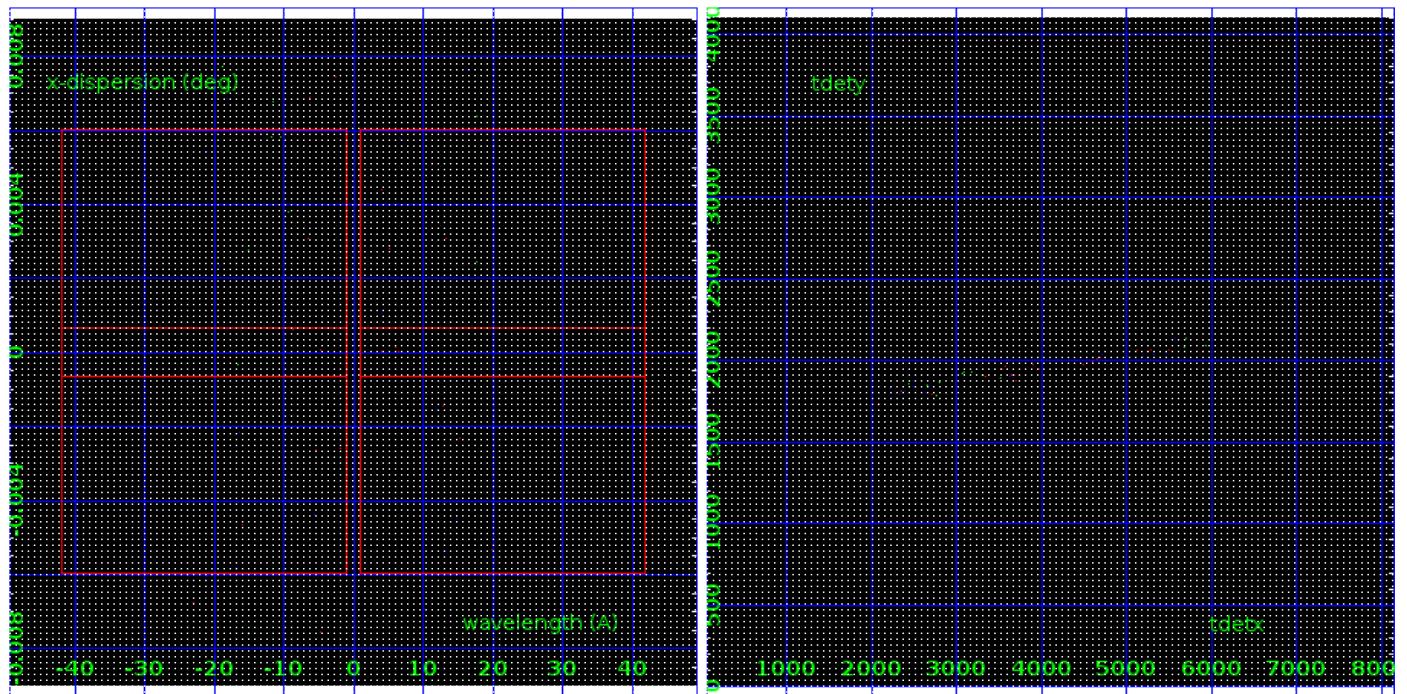
4.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

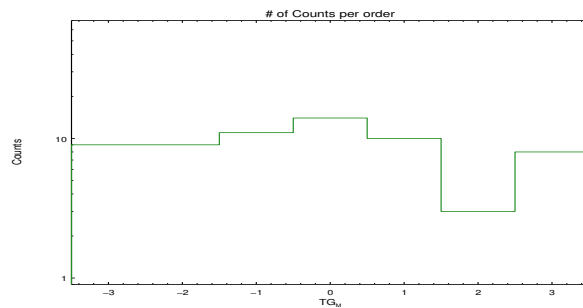
MEG Order Sort ALL



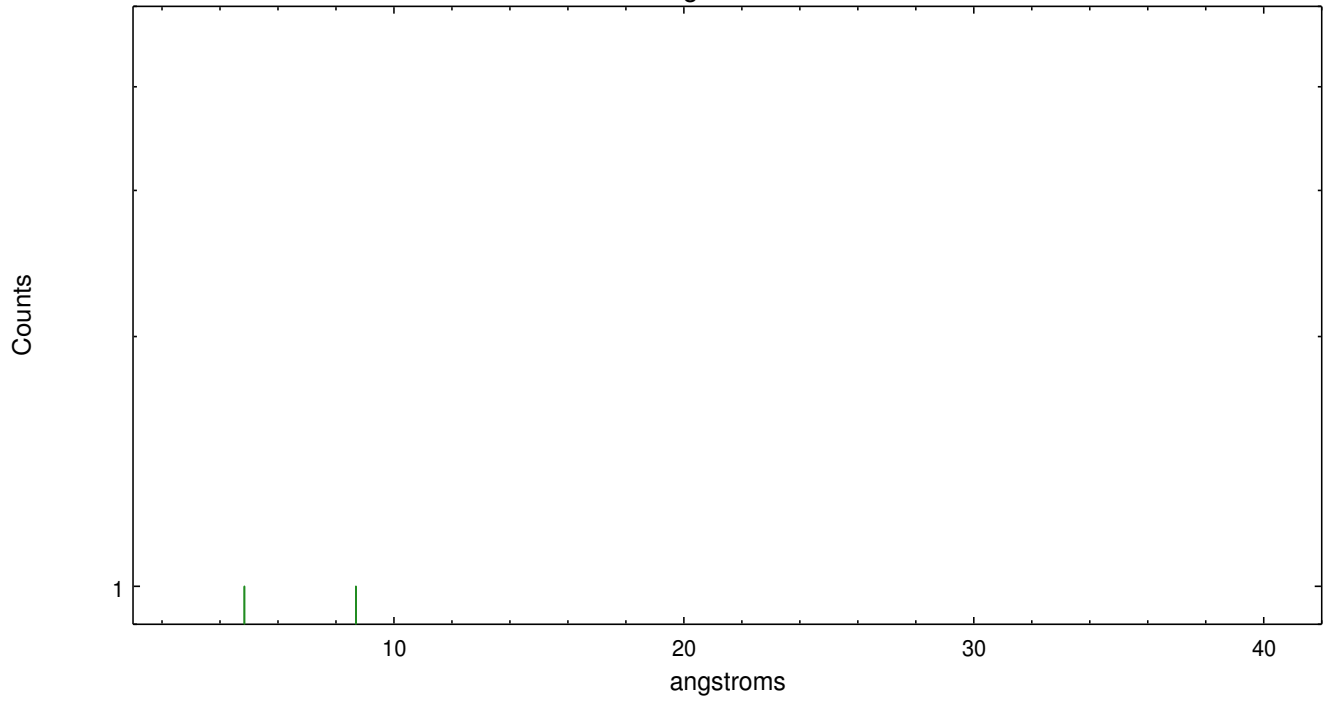
Spot Image MEG

Full Detector MEG

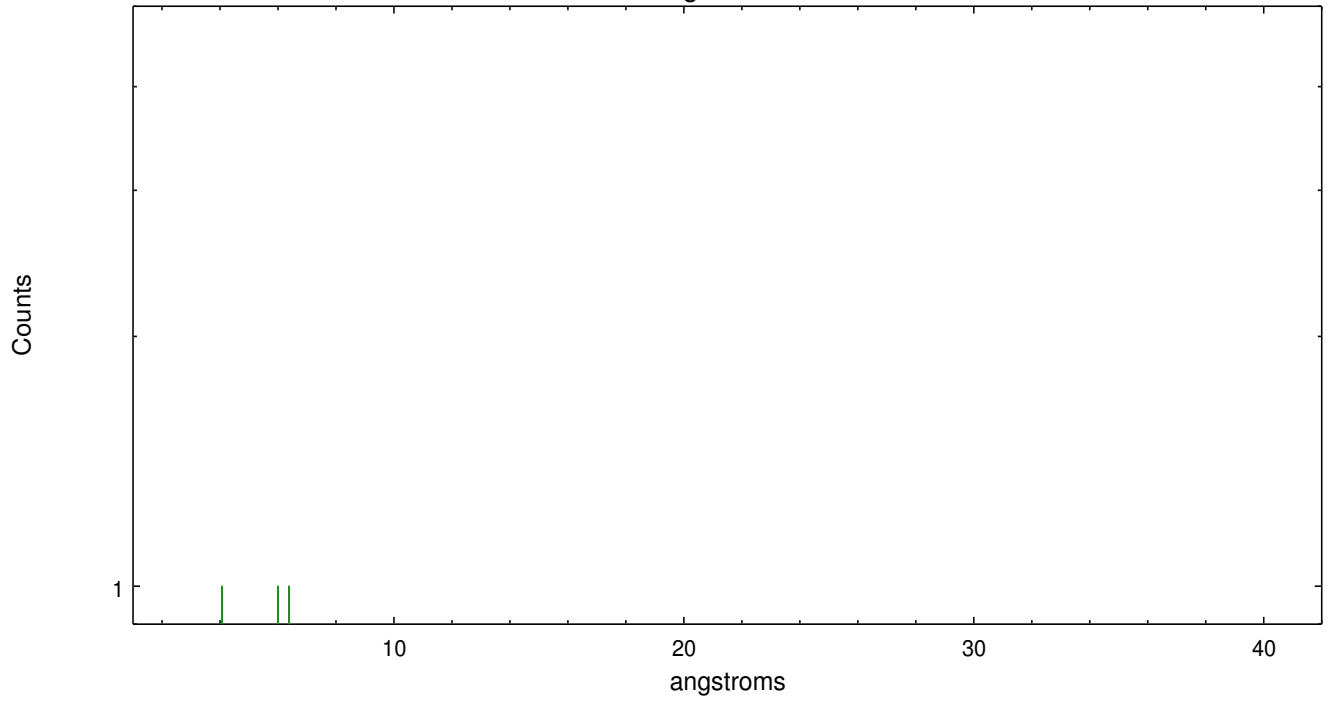
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	9	9	11	14	10	3	8



meg order -1



meg order +1



A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2018.06.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.0335453556776

A.2 Comments

Note: used a manually specified source position, since none was visible in the short frame (e1). Used the nominal source location. A source is seen at the nominal coordinates in the long frame (e2).