

V&V Reference Report

L2 ASCDS Version : 10.6.3

Observation 21108 - L2 Version 1
Chandra X-Ray Center

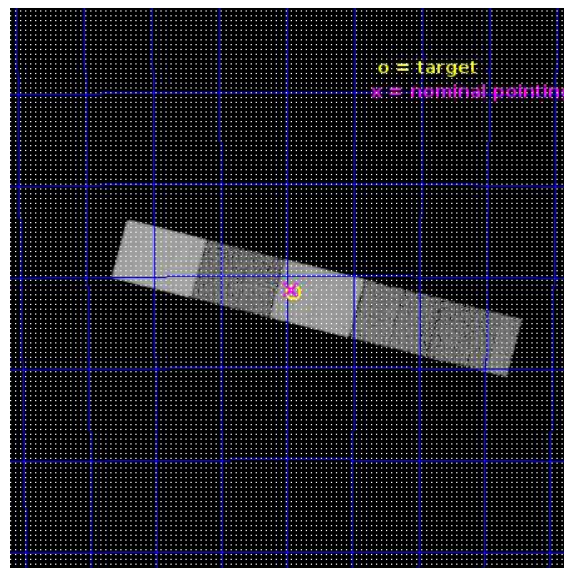
L2 Processing Date : Jun 24 2018

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1 Front

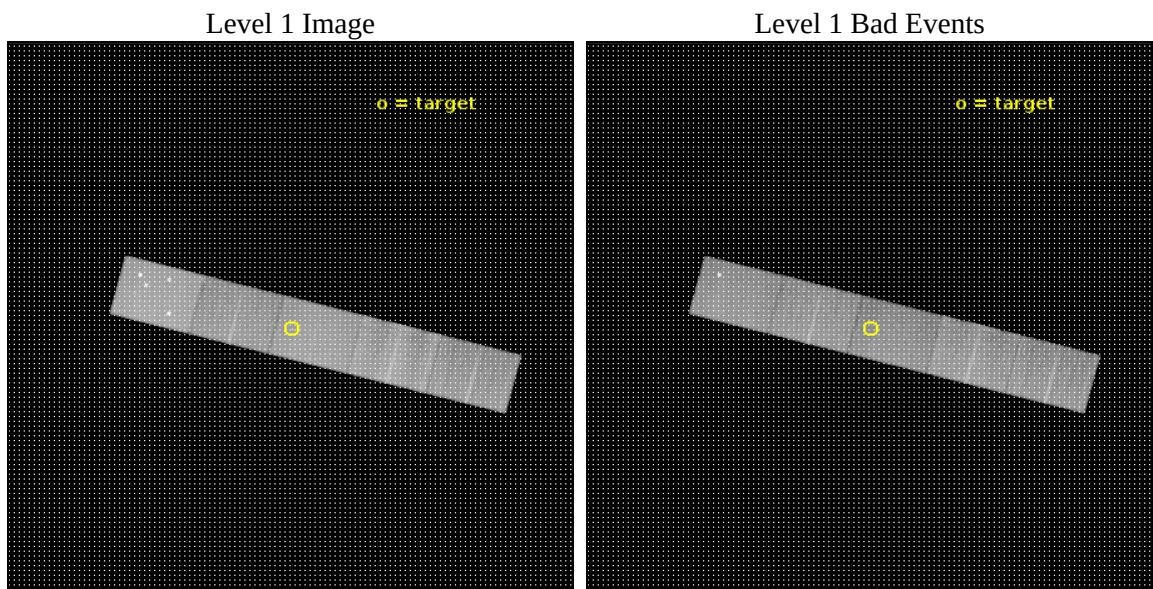
seq_num	703641	Sequence number
obs_id	21108	Observation id
title	INVESTIGATION ON FAIRALL 51 WITH CHANDRA/HETG AND NUSTAR	Proposal
observer	Claude Canizares	Principal investigator
object	Fairall 51	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	281.225	Observer's specified target RA [deg]
dec_targ	-62.364833	Observer's specified target Dec [deg]
ra_nom	281.2334065379	Nominal RA [deg]
dec_nom	-62.358480280168	Nominal Dec [deg]
roll_nom	14.664064377698	Nominal Roll [deg]
revision	1	Processing version of data
ontime	25767.157131553	Sum of GTIs [s]
livetime	25350.995194441	Livetime [s]
ontime5	25767.116091609	Sum of GTIs [s]
ontime6	25767.075051546	Sum of GTIs [s]
ontime7	25767.157131553	Sum of GTIs [s]
ontime8	25767.034011602	Sum of GTIs [s]
ontime9	25766.992971539	Sum of GTIs [s]
l2events	234798	Number of level 2 events



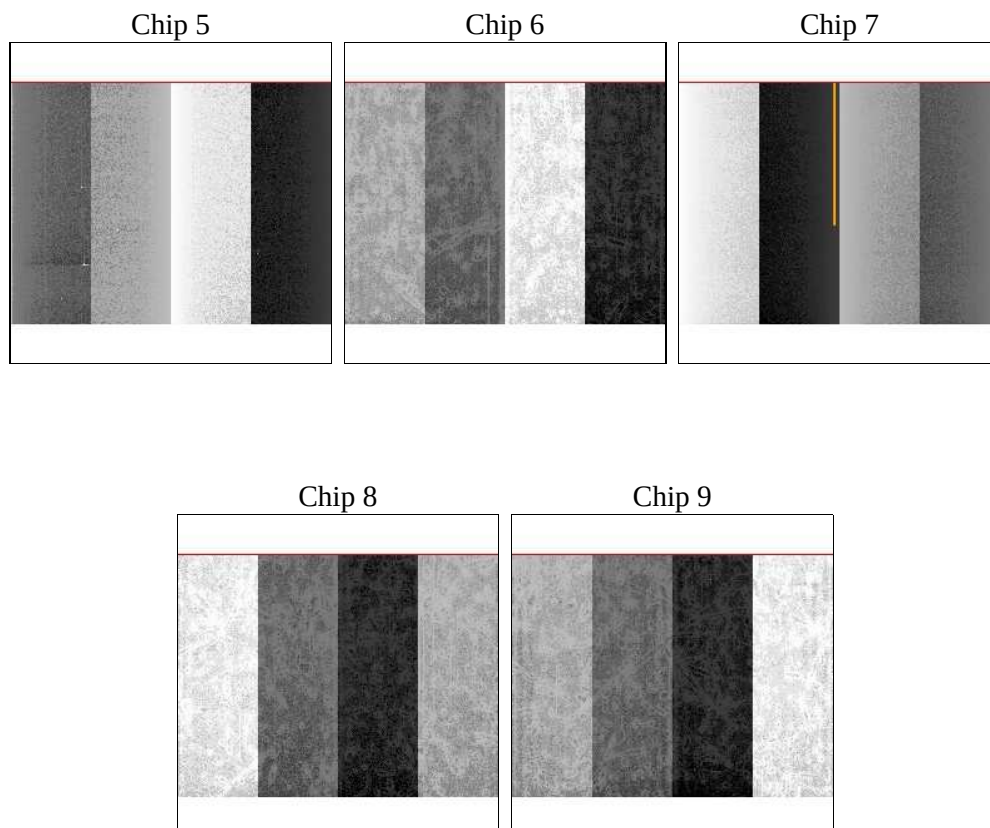
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	25682.000000	[s] Scheduled observation exposure time
ascdsver	10.6.3	Processing system revision	ontime	25767.157131553	Sum of GTIs [s]
caldsver	4.7.8	 	ontime5	25767.116091609	Sum of GTIs [s]
date	2018-06-24T17:55:32	Date and time of file creation	ontime6	25767.075051546	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	25767.157131553	Sum of GTIs [s]
			ontime8	25767.034011602	Sum of GTIs [s]
			ontime9	25766.992971539	Sum of GTIs [s]
			l1events	920150	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4125.94, 4049.77)	src1a sky pixel position

2.1.4 Events

	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	254544	145807	187647	194334	137818
rejected events	123331	129030	103643	141440	120292
rejected %	48%	88%	55%	72%	87%

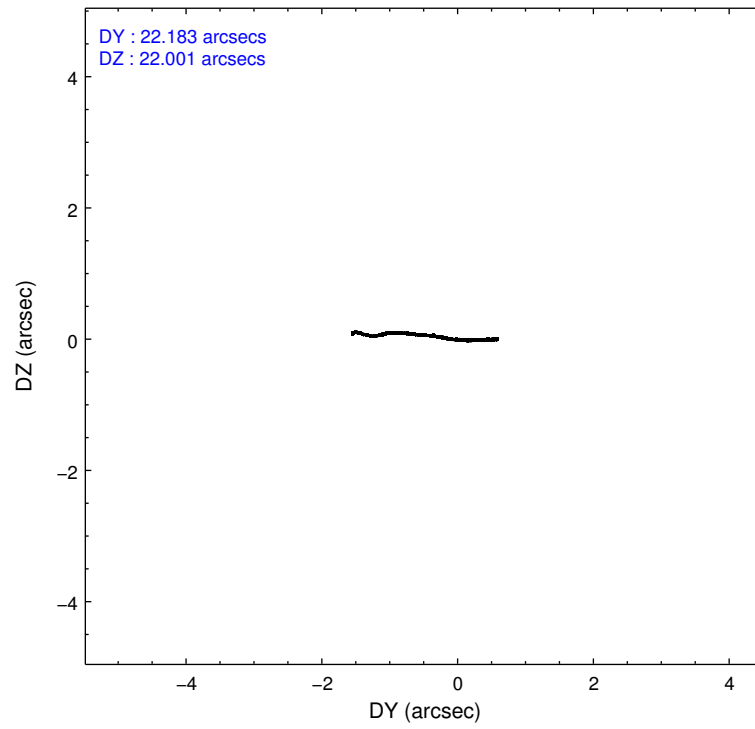
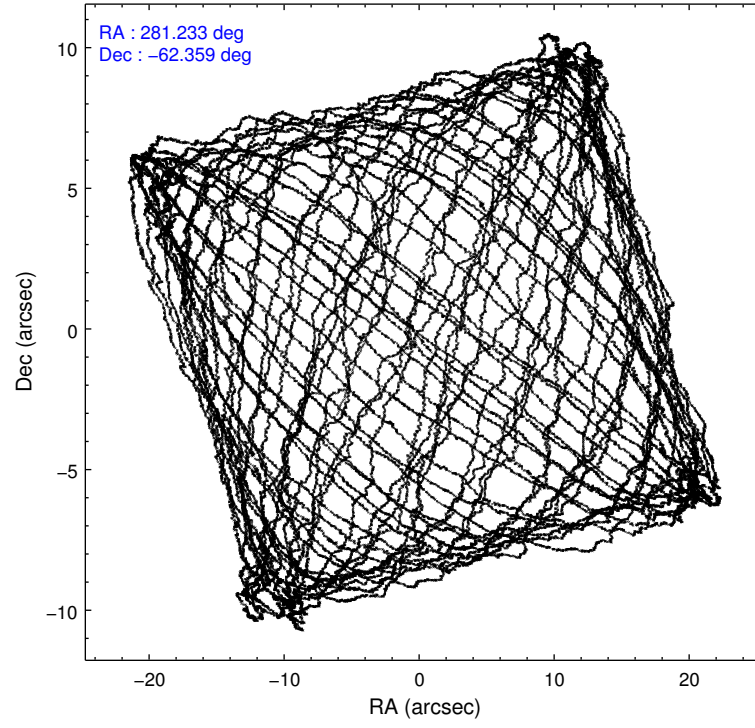
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	26016	5630	7720	14535	5989
	10%	3%	4%	7%	4%
grade 1 events	527	50	273	137	84
	0%	0%	0%	0%	0%
grade 2 events	38308	3727	17994	13132	3914
	15%	2%	9%	6%	2%
grade 3 events	4110	1810	7294	5354	1940
	1%	1%	3%	2%	1%
grade 4 events	3783	1795	7197	5054	1924
	1%	1%	3%	2%	1%
grade 5 events	17849	6864	19079	10364	7538
	7%	4%	10%	5%	5%
grade 6 events	59027	3819	43818	14822	3761
	23%	2%	23%	7%	2%
grade 7 events	104924	122112	84272	130936	112668
	41%	83%	44%	67%	81%

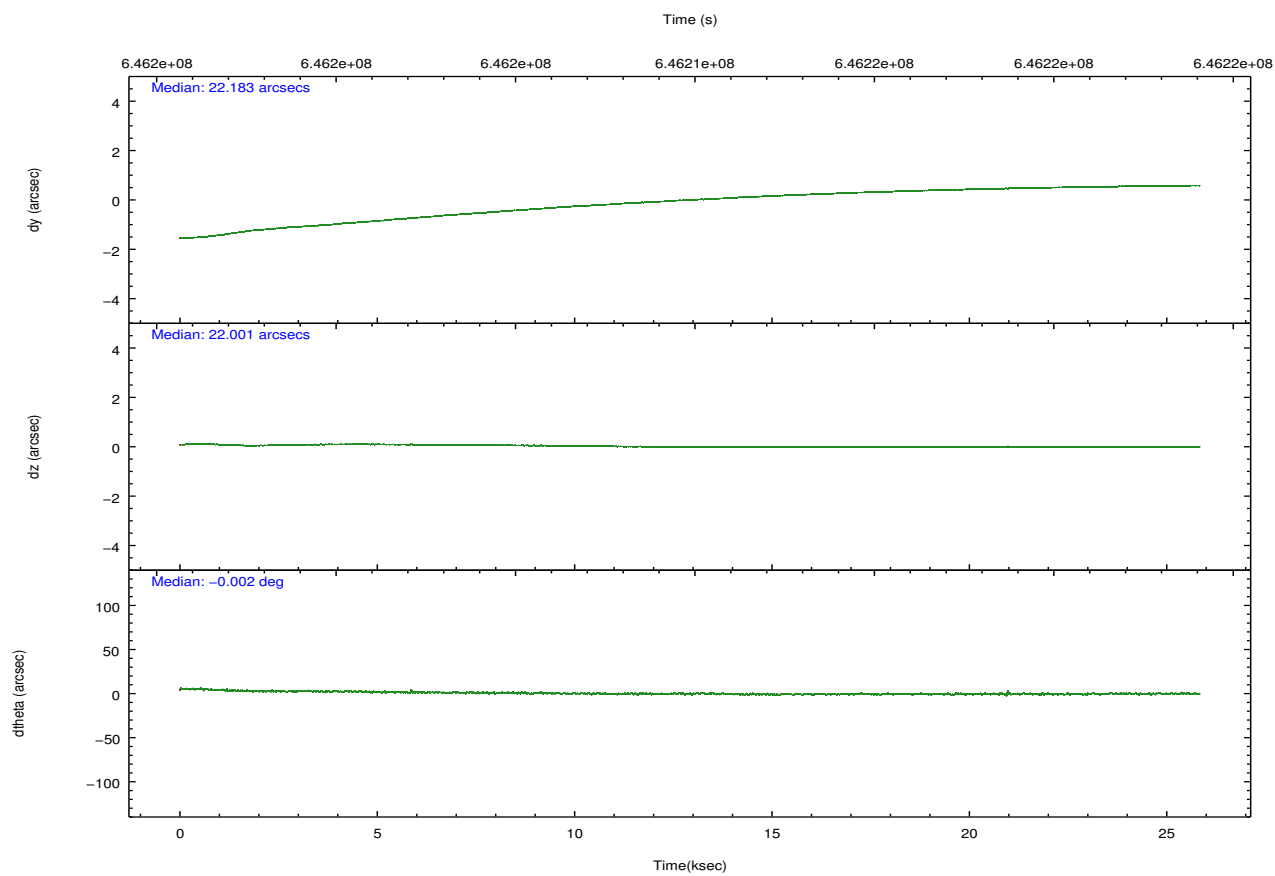
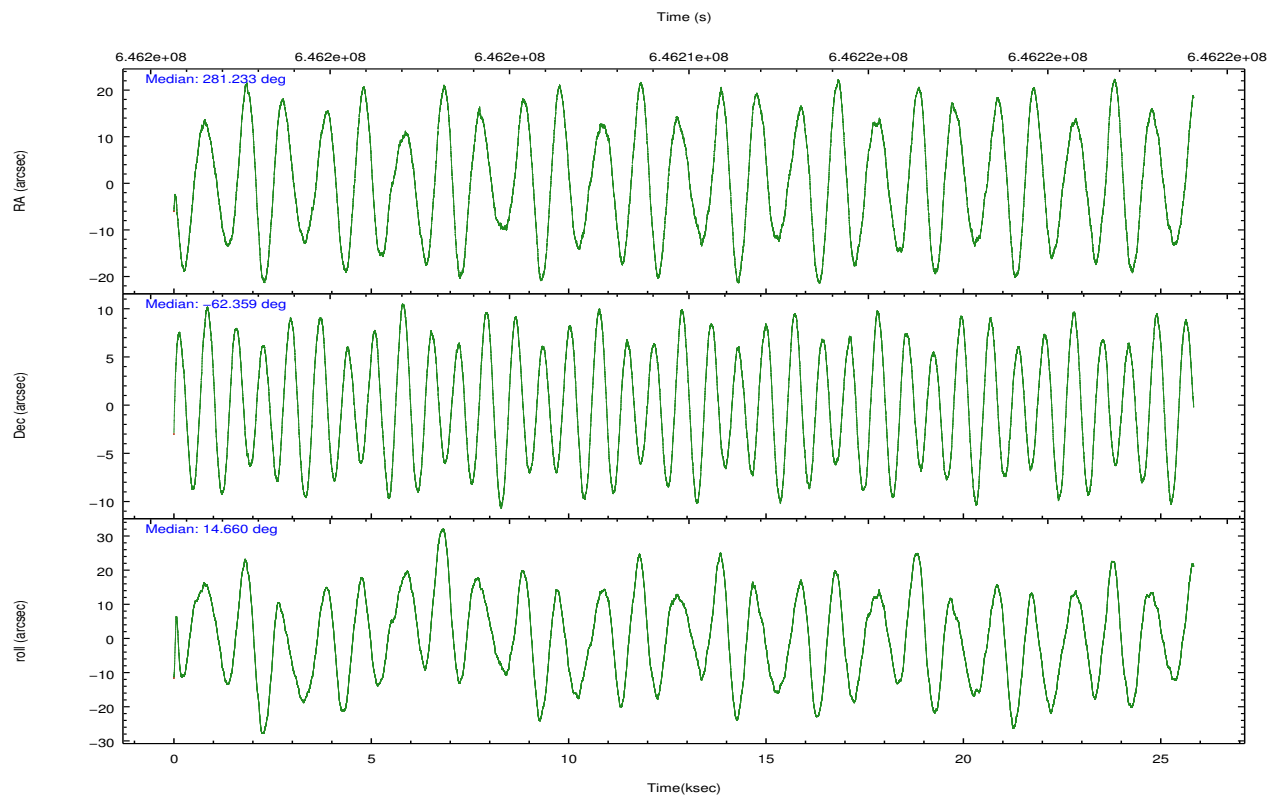
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-56789	ACIS-56789
Grating	HETG	HETG
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	281.191907	281.2334065378978
[deg] Pointing Dec	-62.378048	-62.35848028016818
[deg] Pointing Roll	14.470683	14.6640643776982
[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)	646197088.184000	646195736.0896
Observation start date	2018-06-24T03:10:19	2018-06-24T02:48:56
[s] Observation end time (MET)	646222770.184000	646224138.3287801
Observation end date	2018-06-24T10:18:21	2018-06-24T10:42:18
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	Y
Number of optional ACIS chips dropped	1	1
On-chip summing requested	N	N
Subarray requested	CUSTOM	CUSTOM
Subarray start row	125	125
Subarray row count	774	774
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	2.5

2.3 Aspect



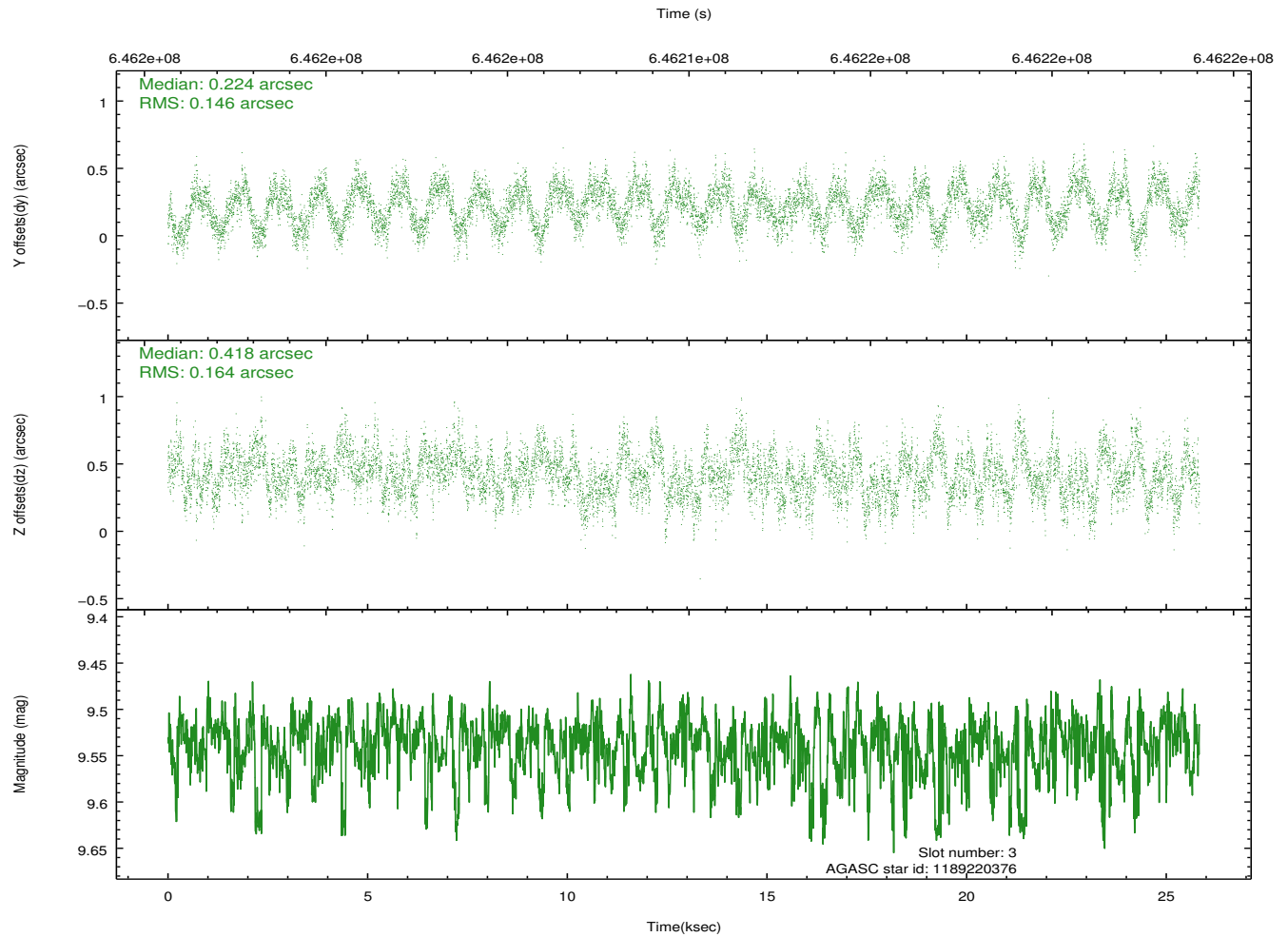
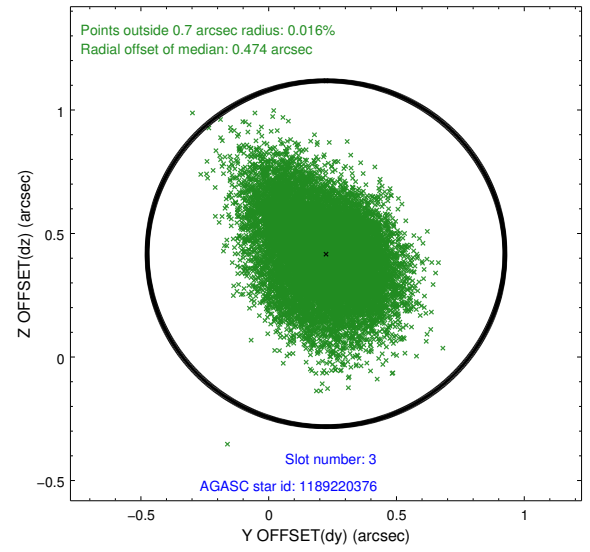
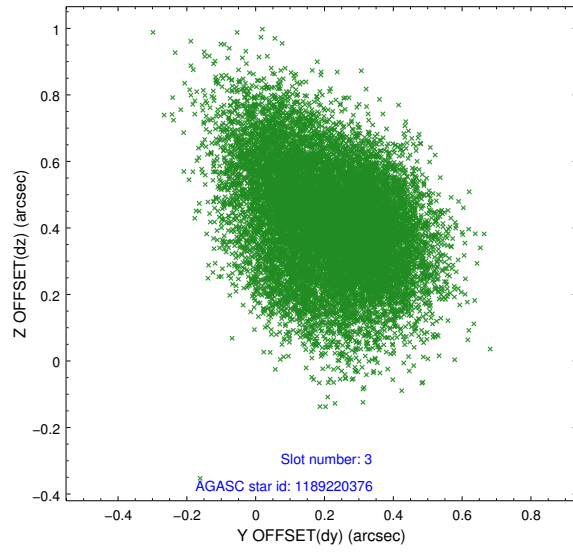


Slot Statistics

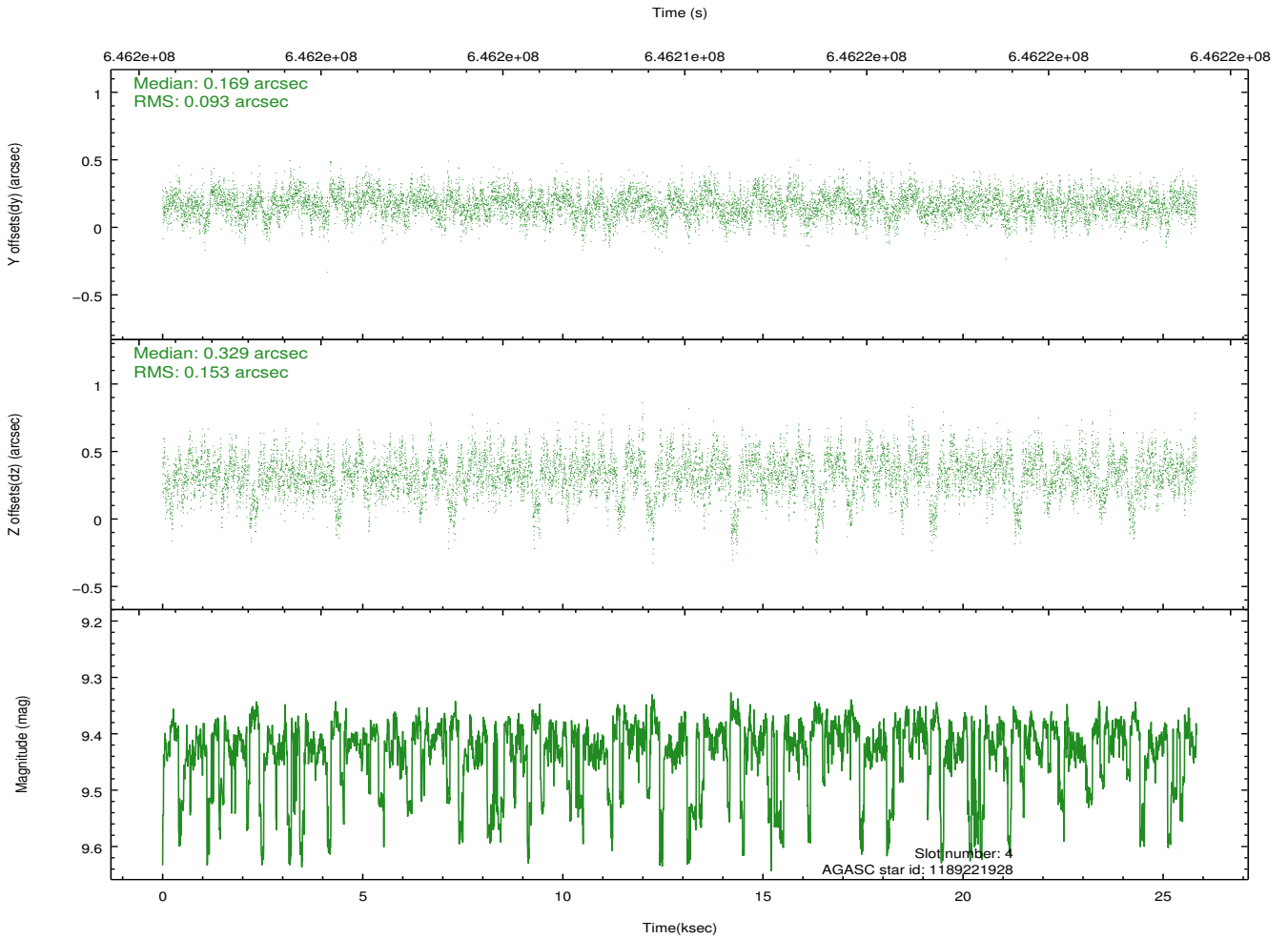
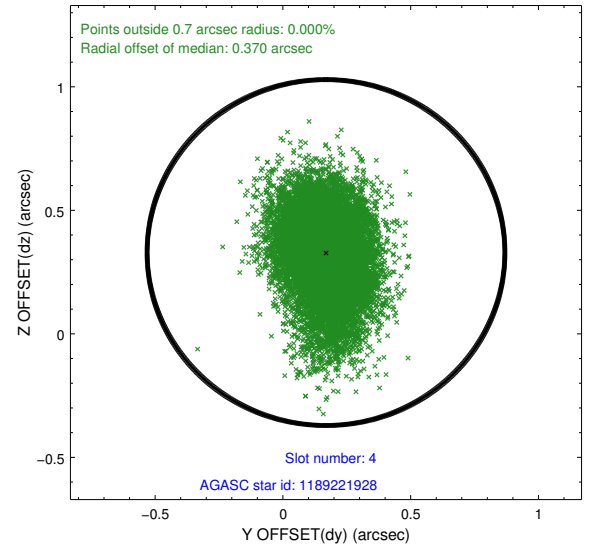
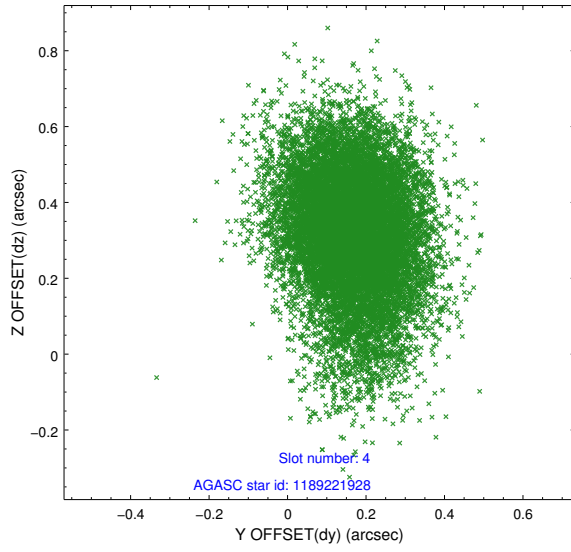
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	6.96	6302	1.000	-0.038	-0.127	0.010	0.018	0.000000	0.000000	-775.27	-1743
1	FID		ACIS-S-5	7.08	6301	1.000	-0.216	-0.023	0.020	0.029	0.000000	0.000000	-1828.55	158
2	FID		ACIS-S-6	7.23	6301	1.000	0.225	0.157	0.016	0.024	0.000000	0.000000	386.57	802
3	GUIDE	used	1189220376	9.54	12587	1.000	0.224	0.418	0.234	0.375	280.746484	-62.845138	-1128.62	-1447
4	GUIDE	used	1189221928	9.42	12582	1.000	0.169	0.329	0.183	0.326	280.539216	-62.814860	-1433.05	-1259
5	GUIDE	used	1189224080	9.40	12583	1.000	-0.293	-0.274	0.199	0.330	282.463471	-62.167626	2253.28	178
6	GUIDE	used	1189224120	8.74	12592	1.000	0.144	0.118	0.177	0.279	280.452005	-62.774497	-1537.41	-1084
7	GUIDE	used	1189228368	8.87	12590	1.000	-0.219	-0.592	0.153	0.274	280.178532	-62.461964	-1711.72	115

2.4 Star Slots

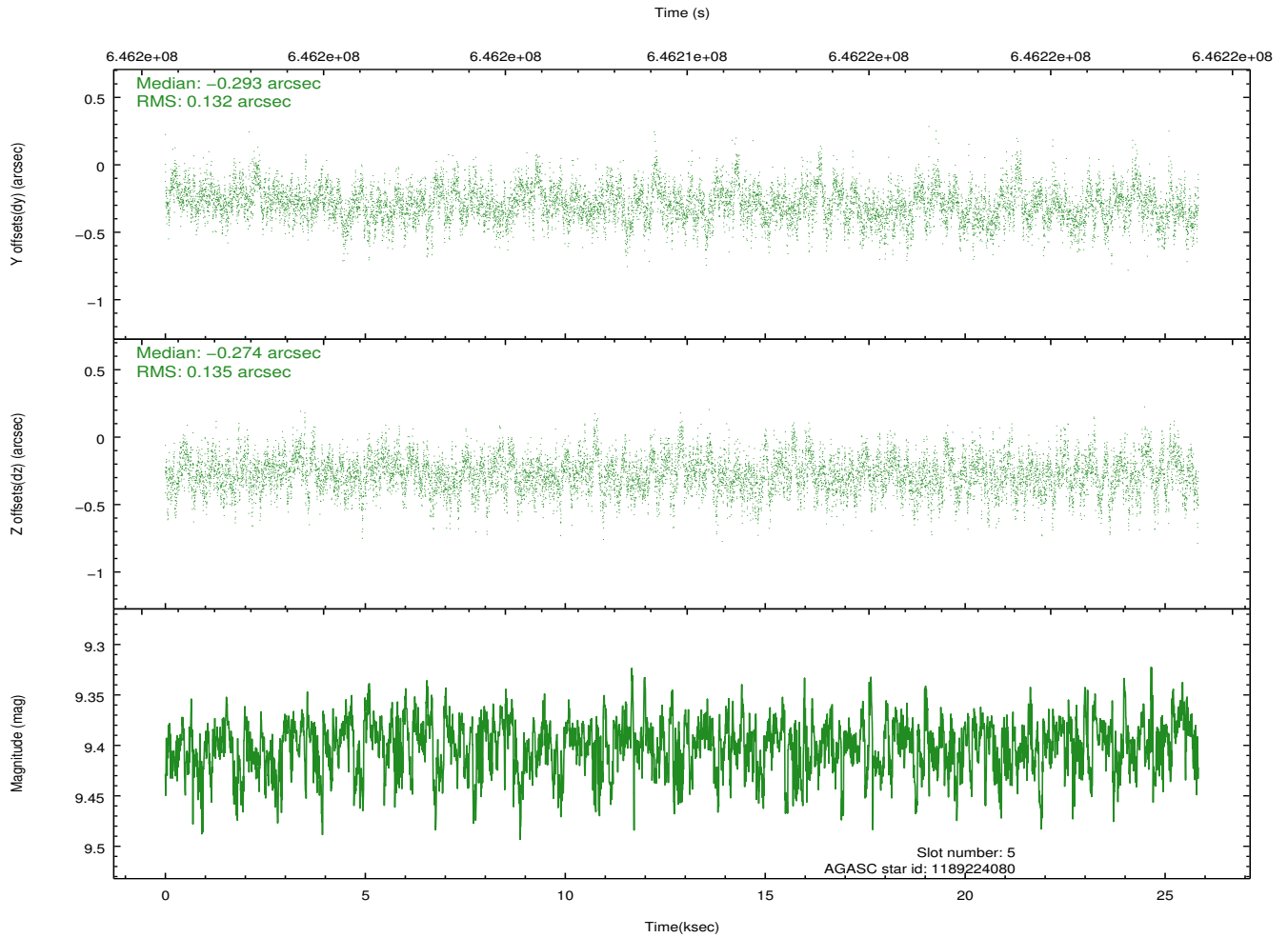
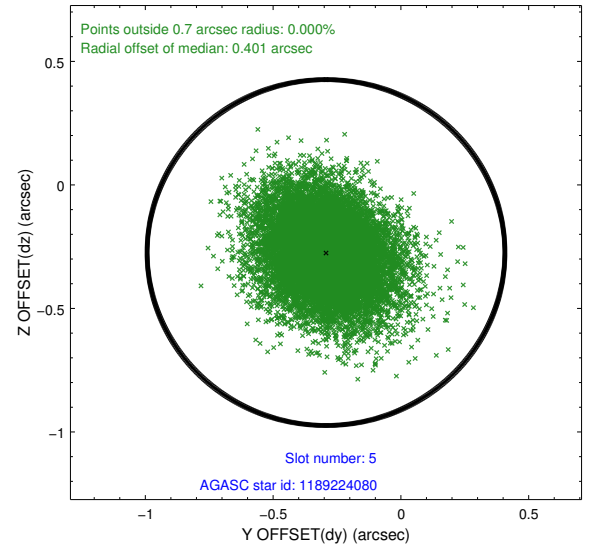
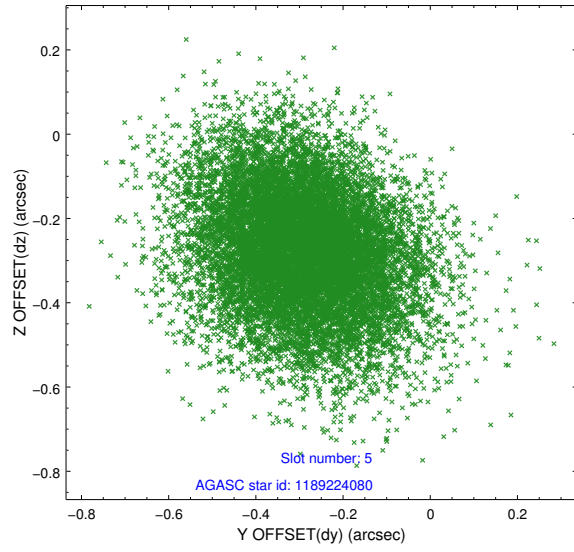
2.4.1 Slot 3



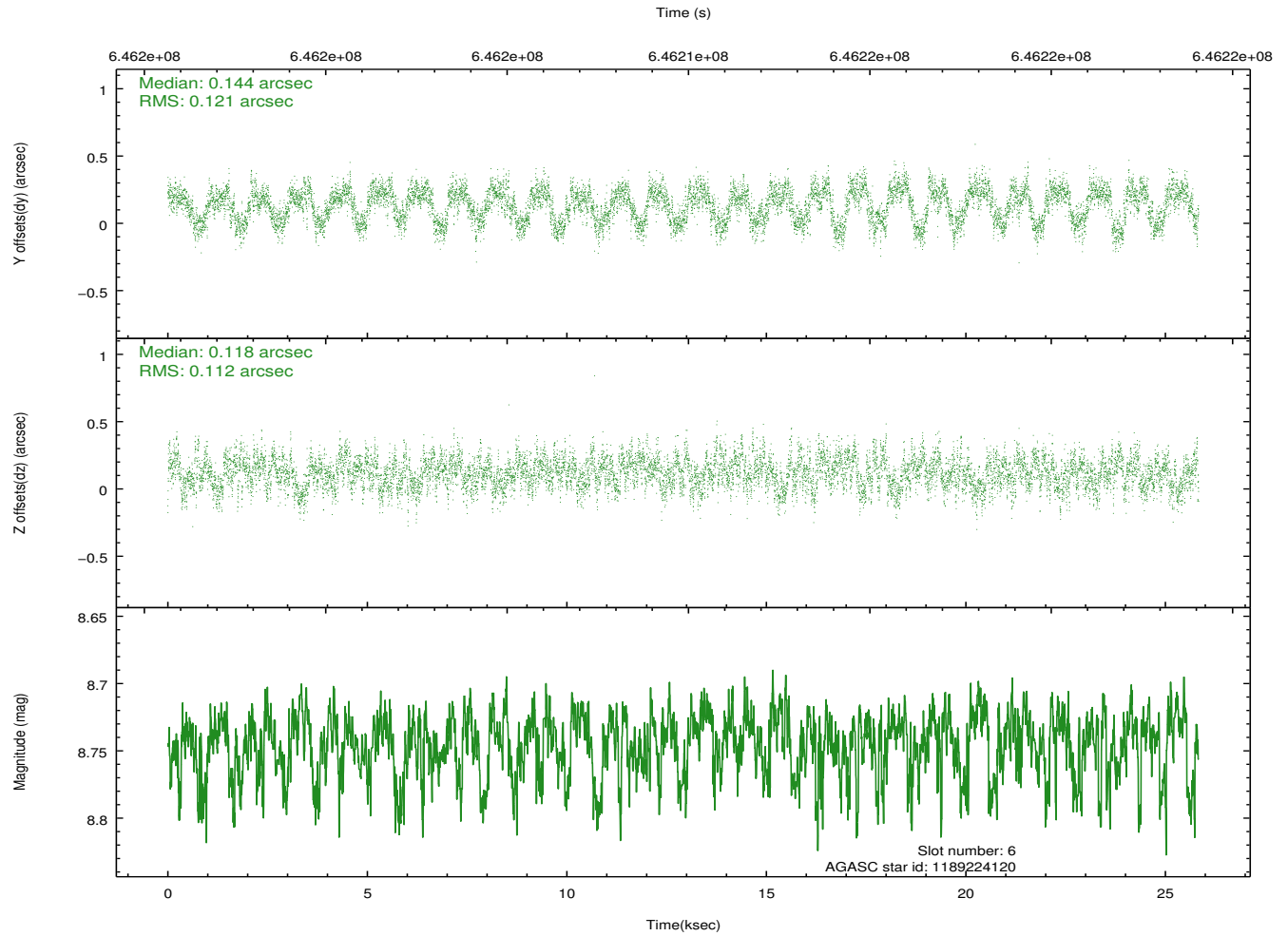
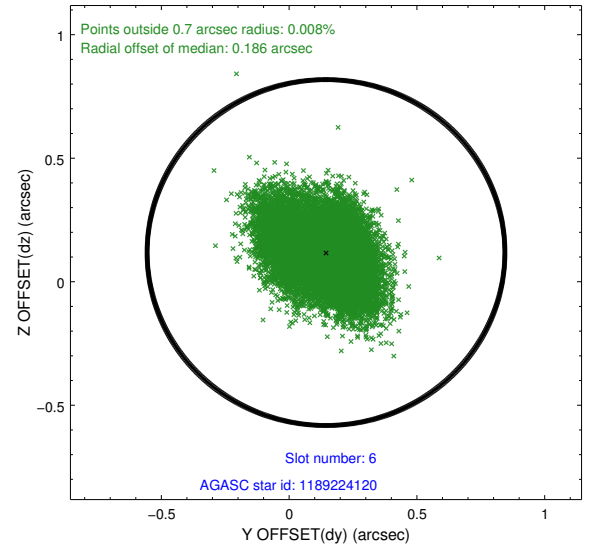
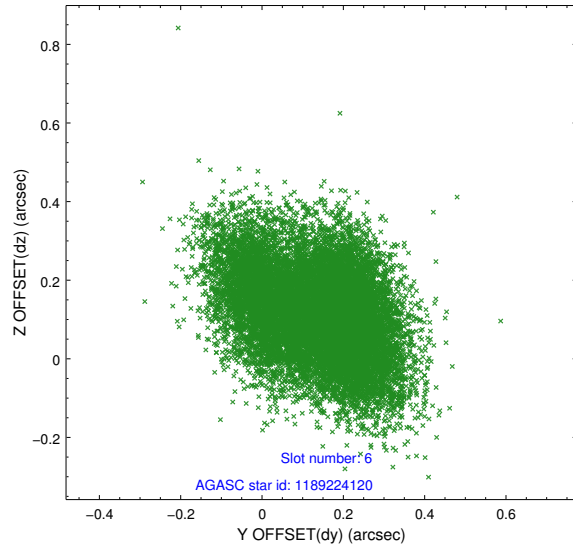
2.4.2 Slot 4



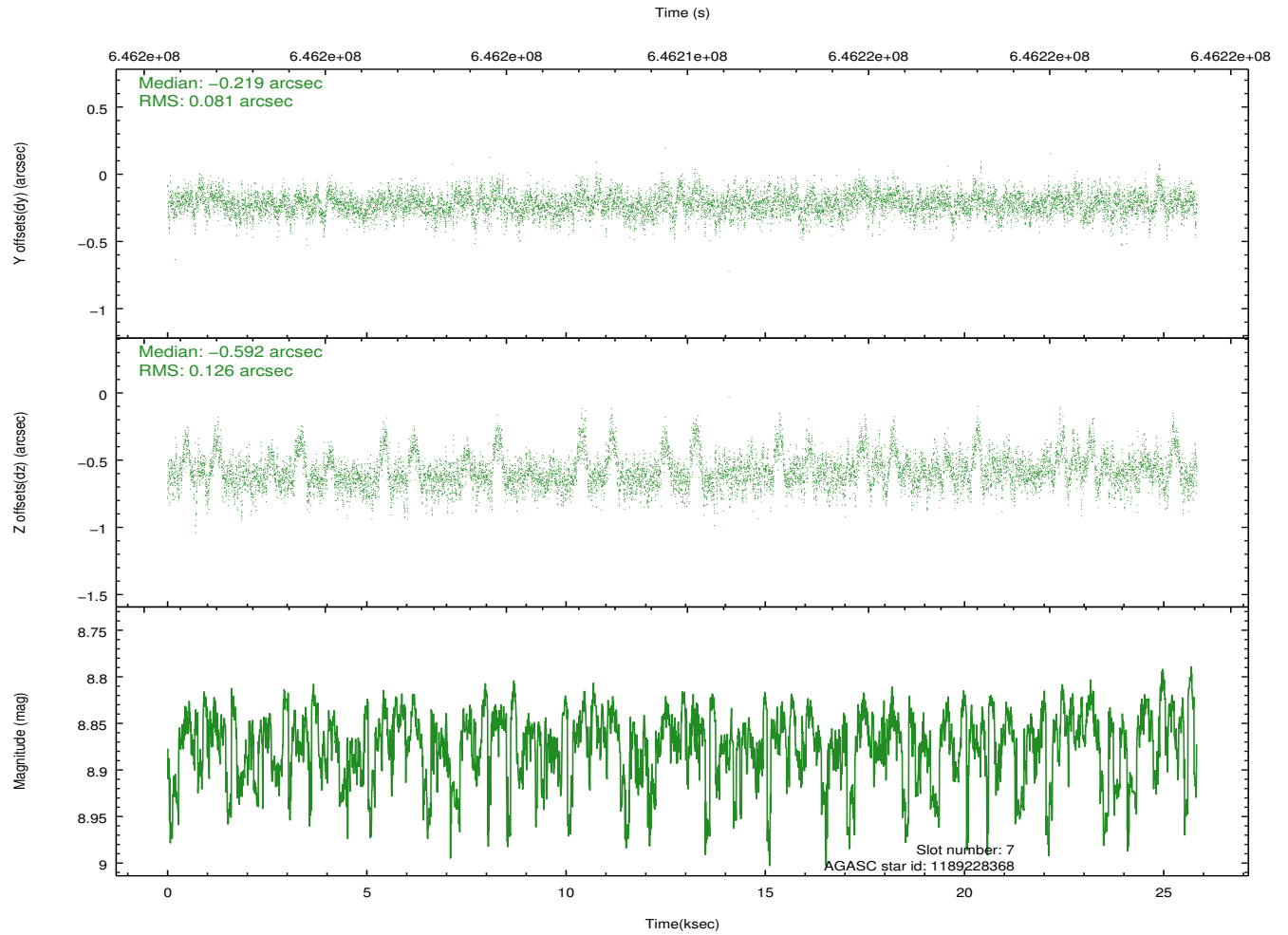
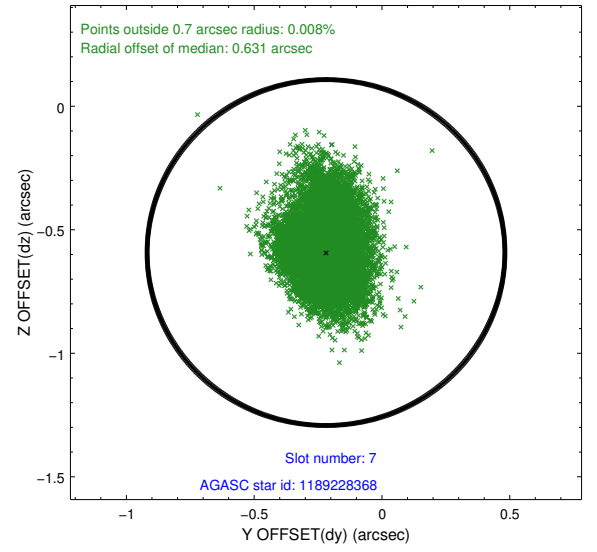
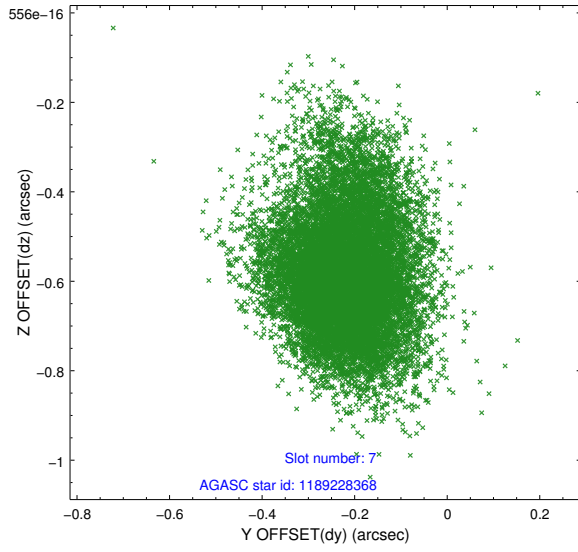
2.4.3 Slot 5



2.4.4 Slot 6

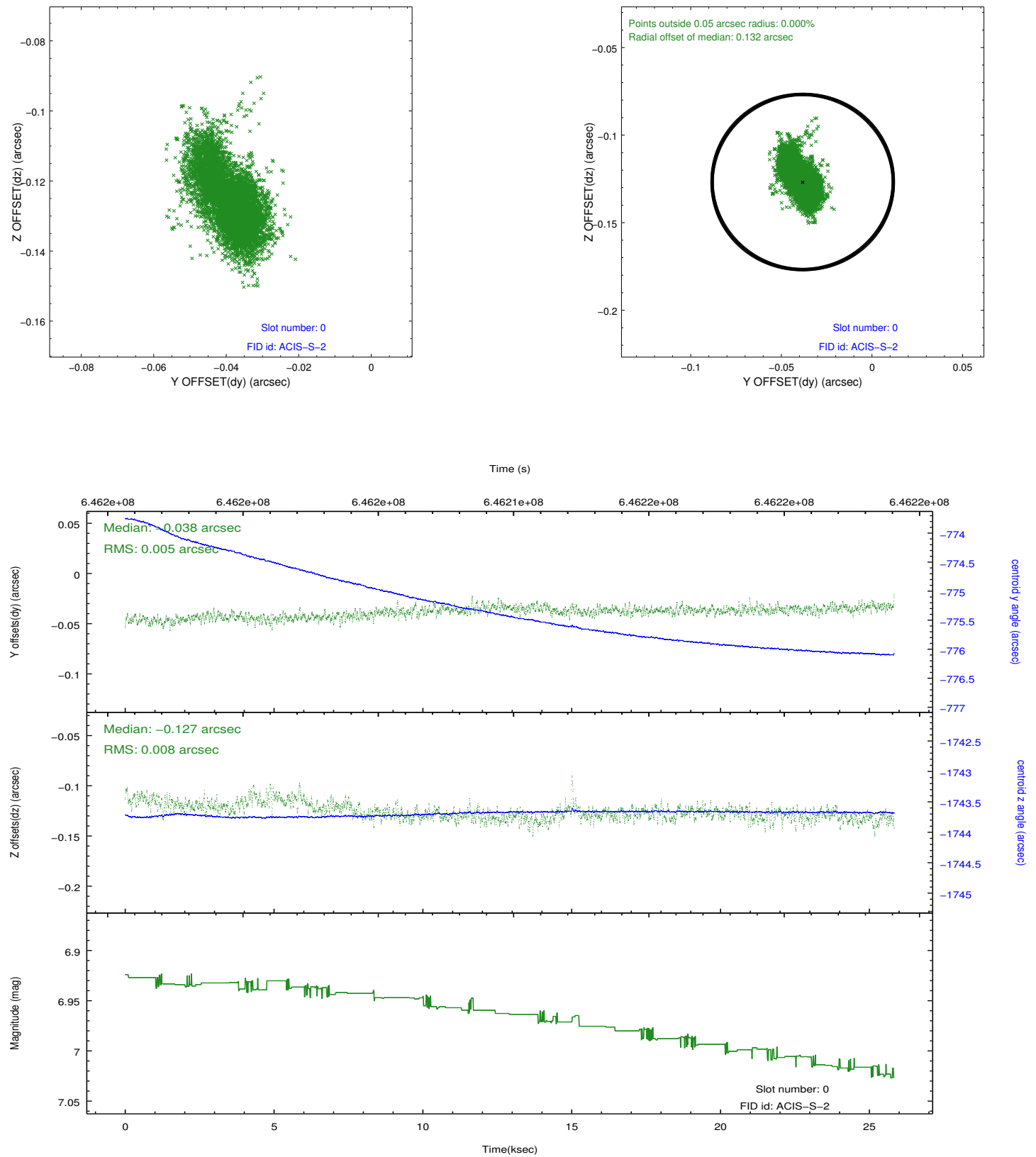


2.4.5 Slot 7

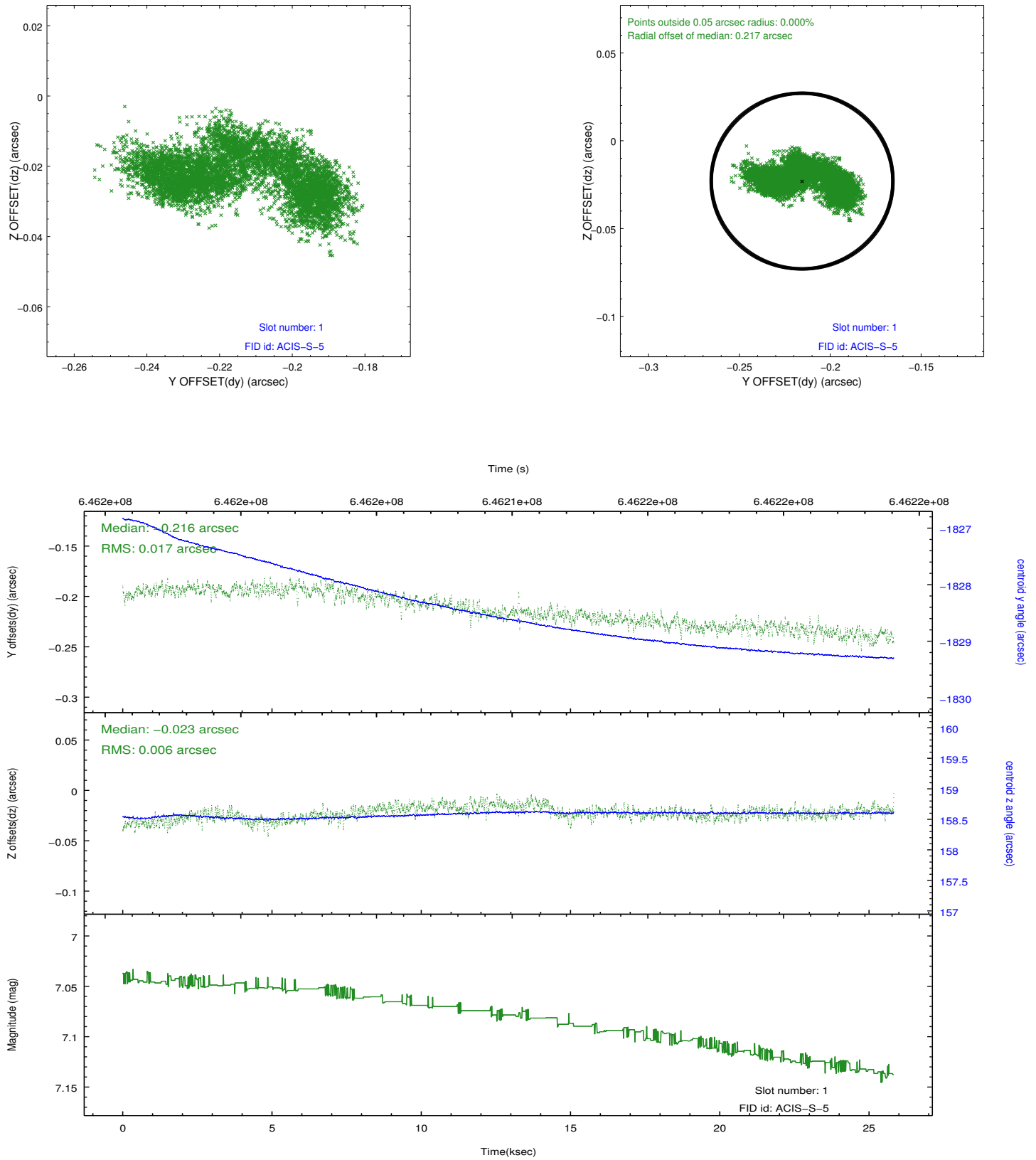


2.5 FID Slots

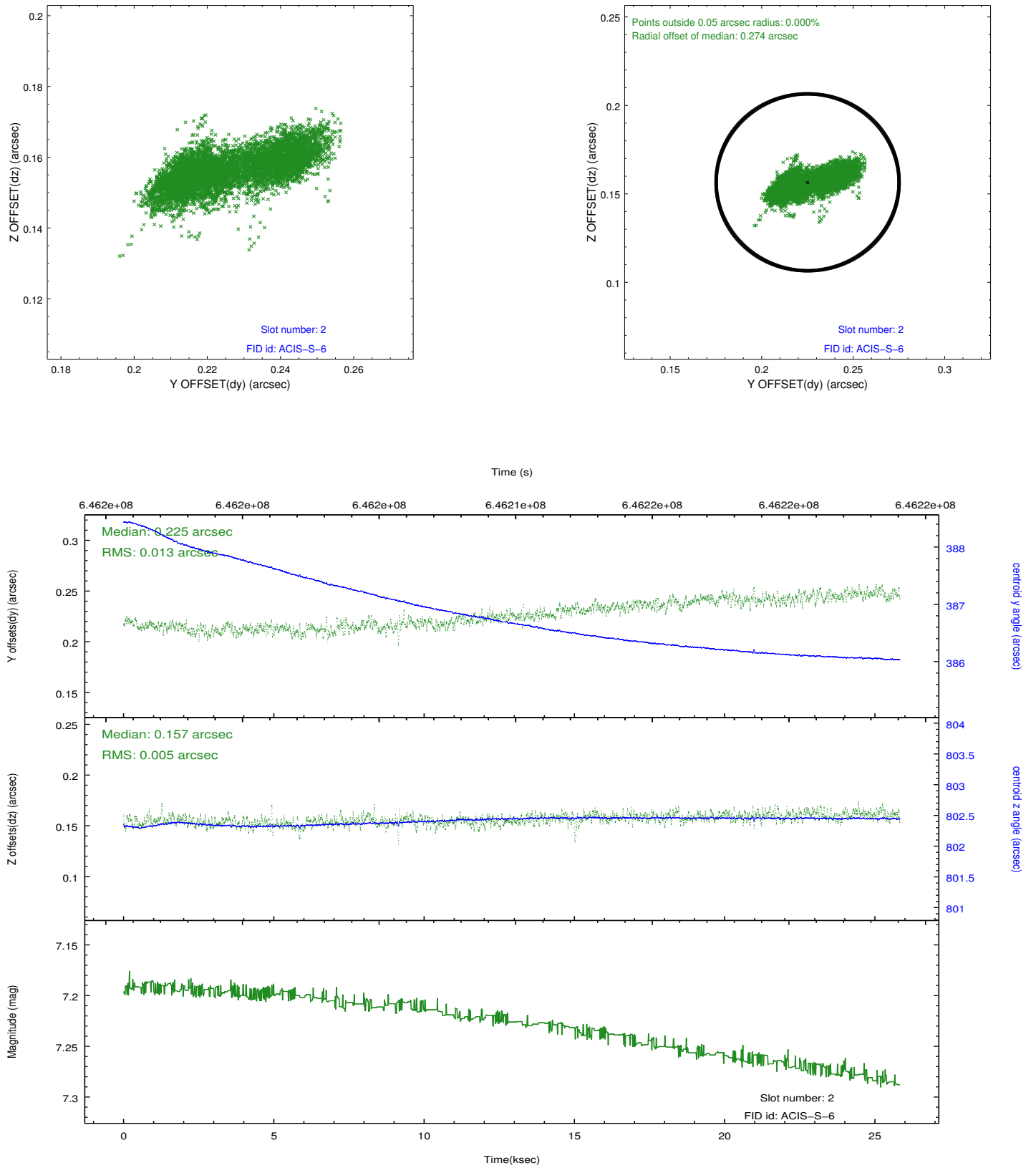
2.5.1 Slot 0



2.5.2 Slot 1

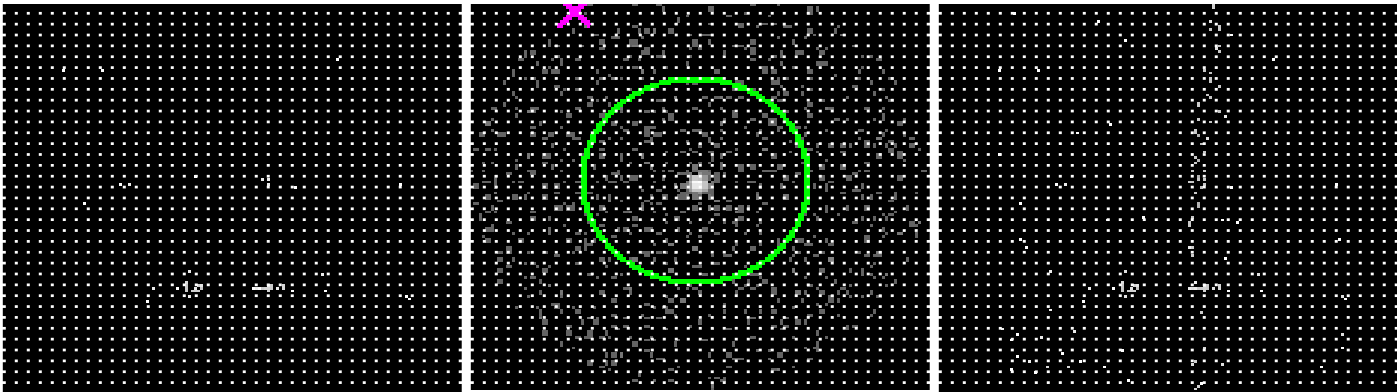


2.5.3 Slot 2



3 Gratings

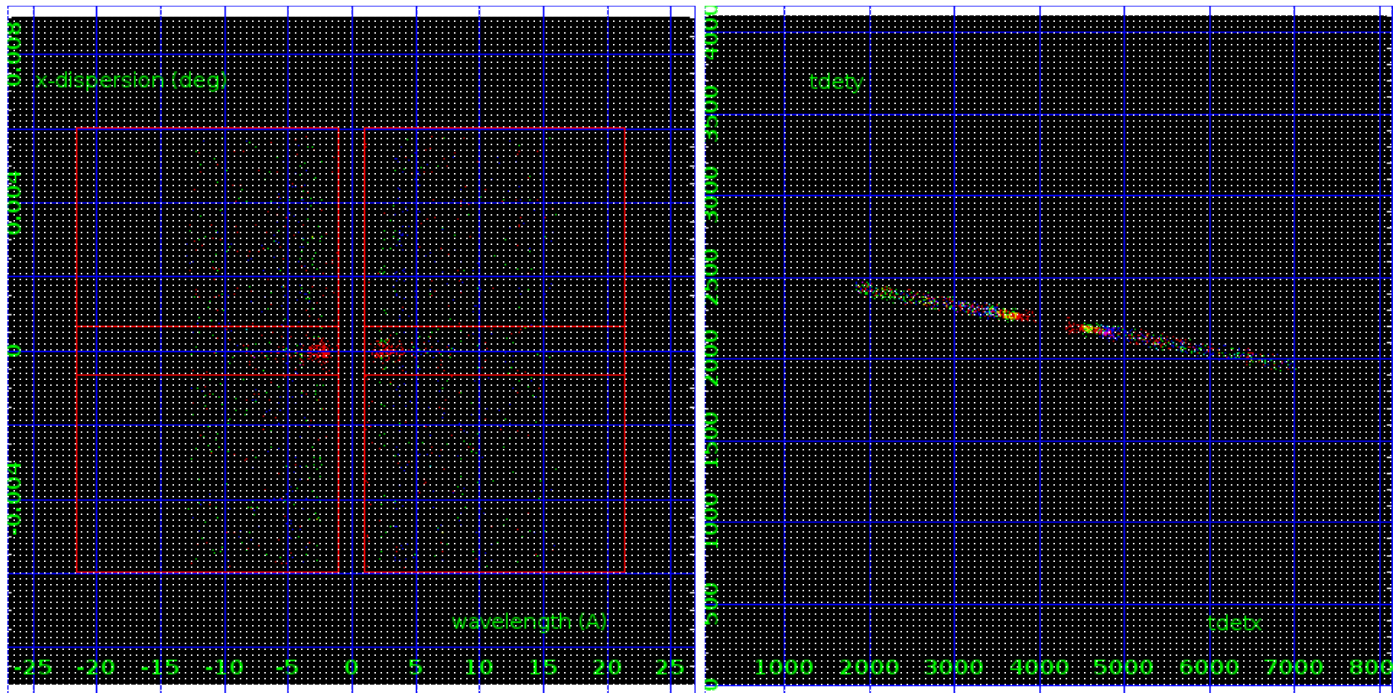
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

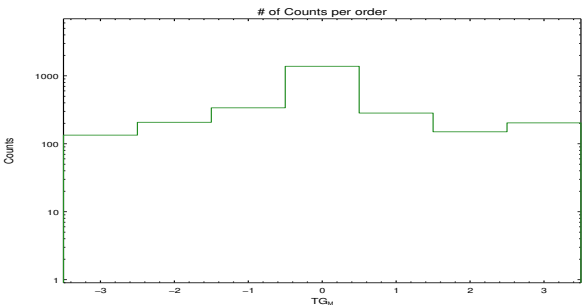
HEG Order Sort ALL

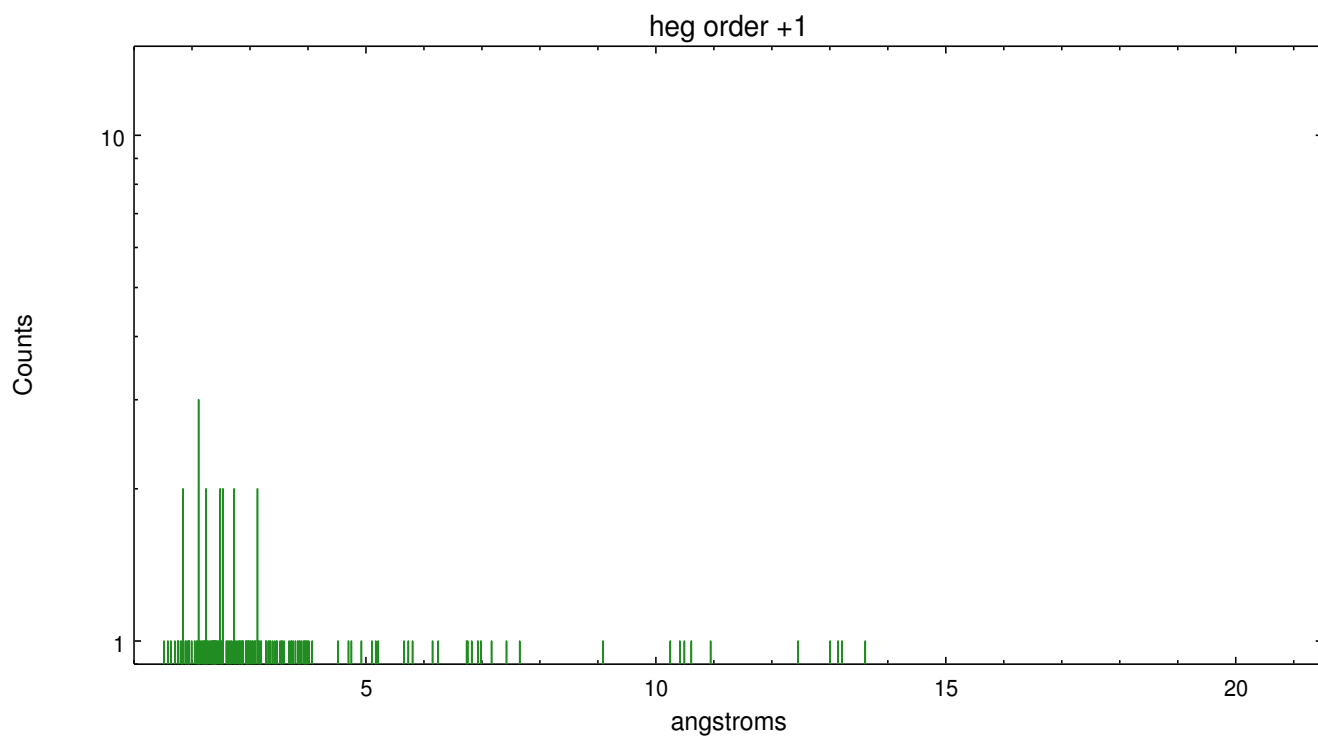
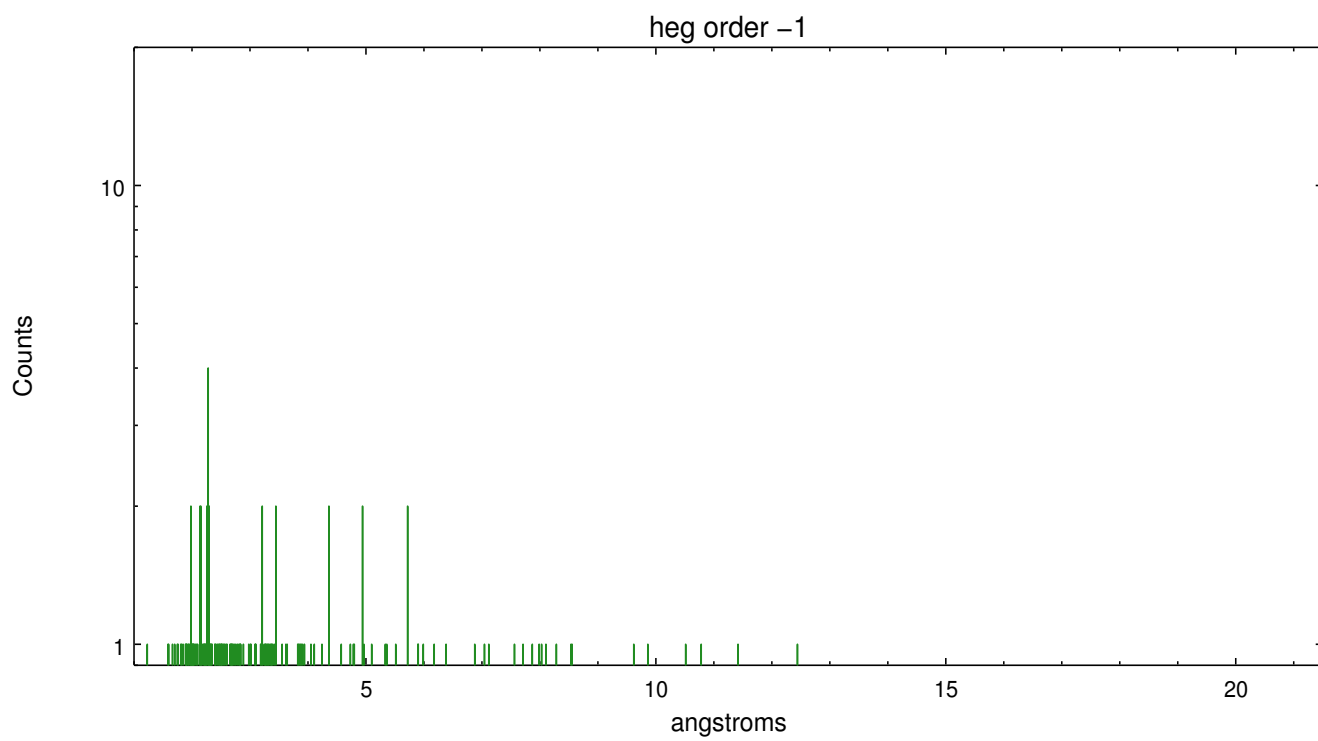


Spot Image HEG

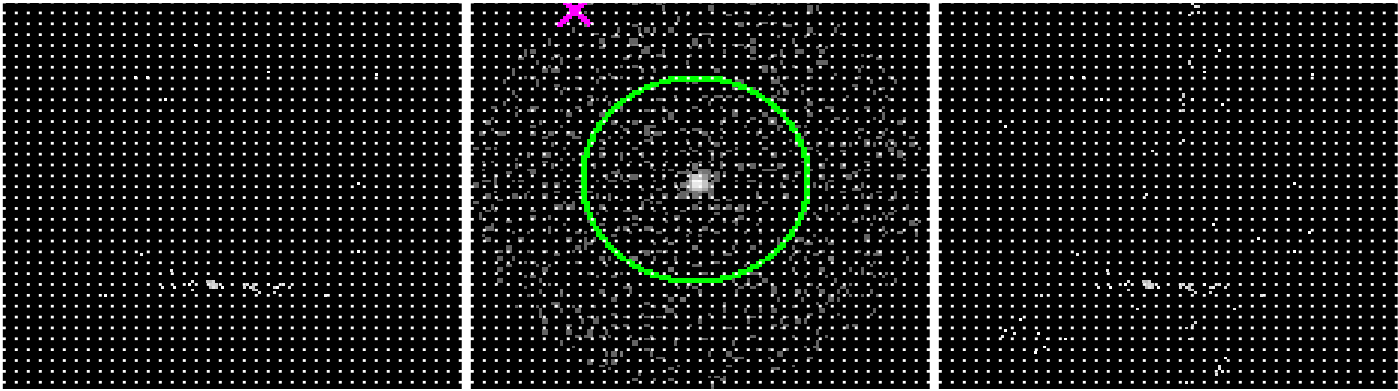
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	134	207	338	1381	283	150	203





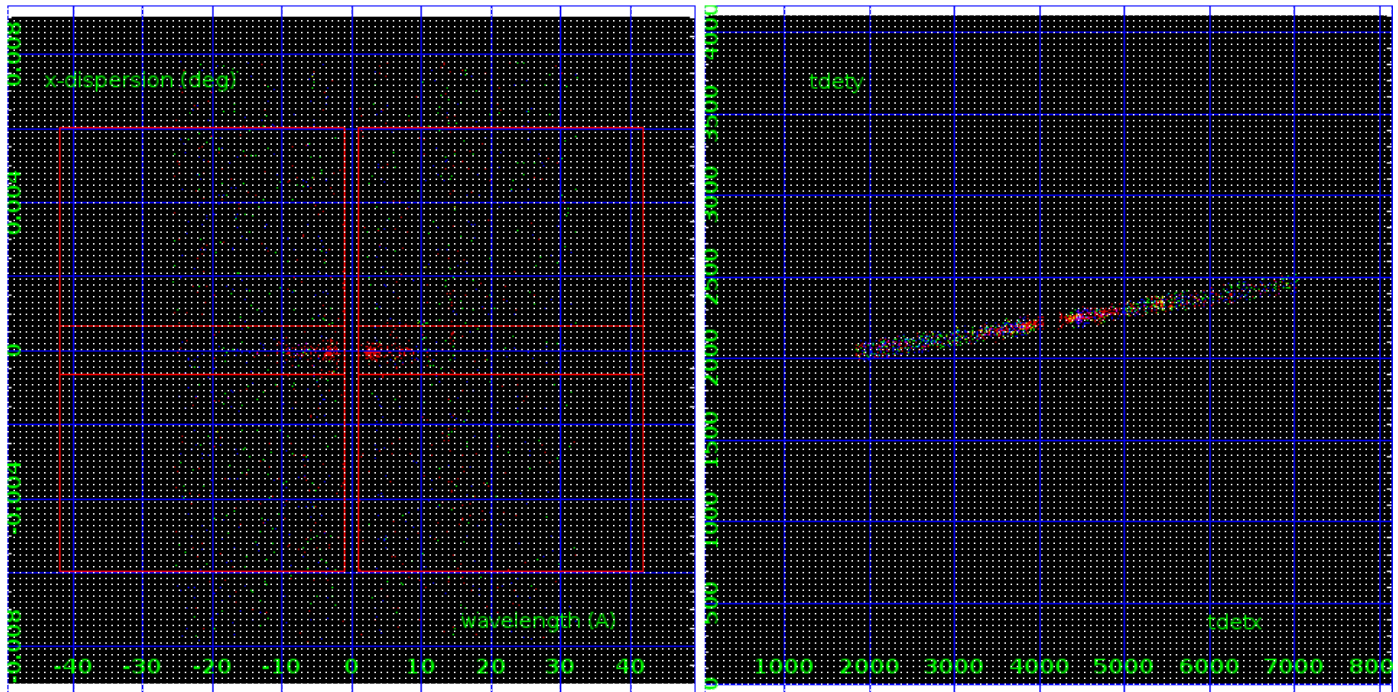
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

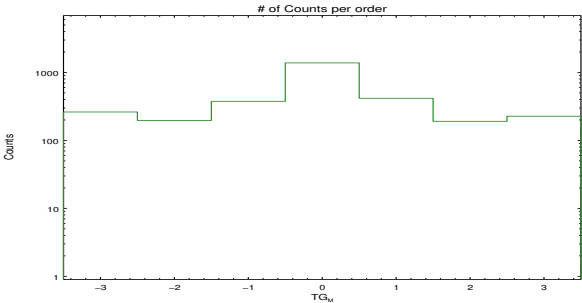
MEG Order Sort ALL

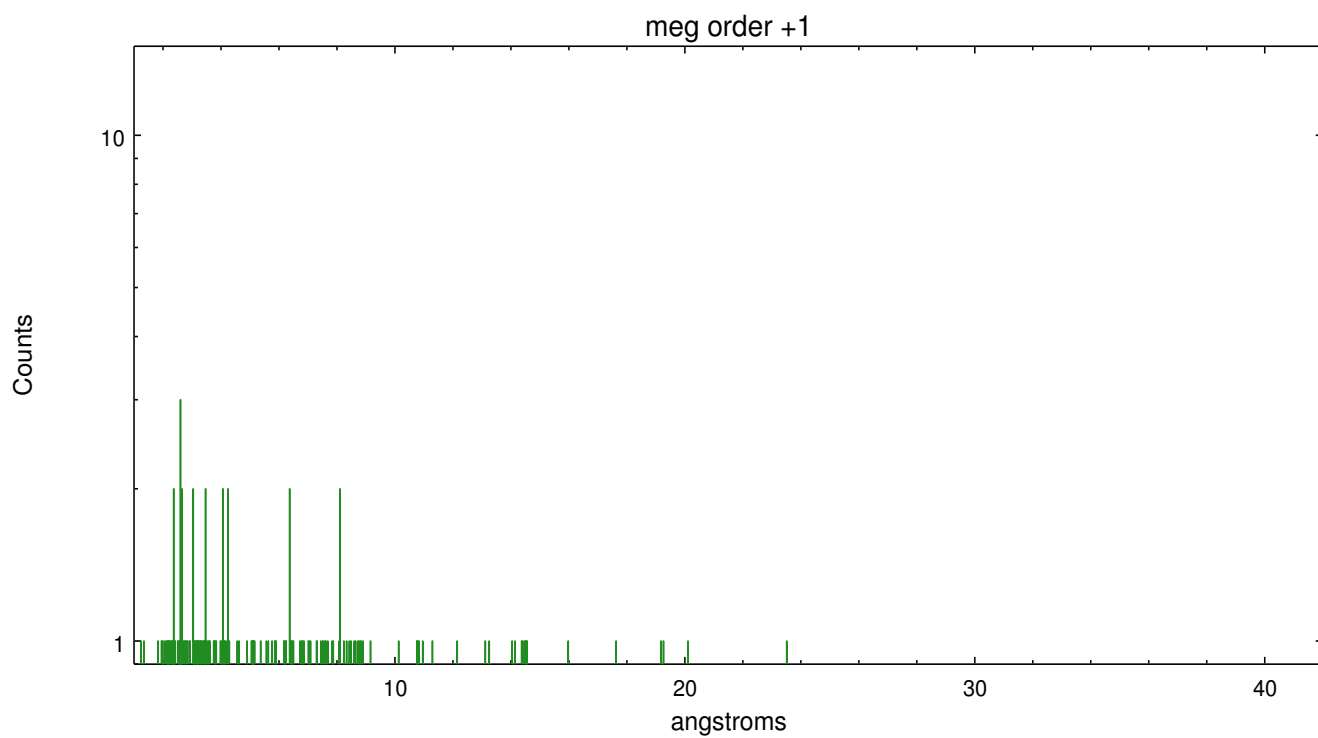
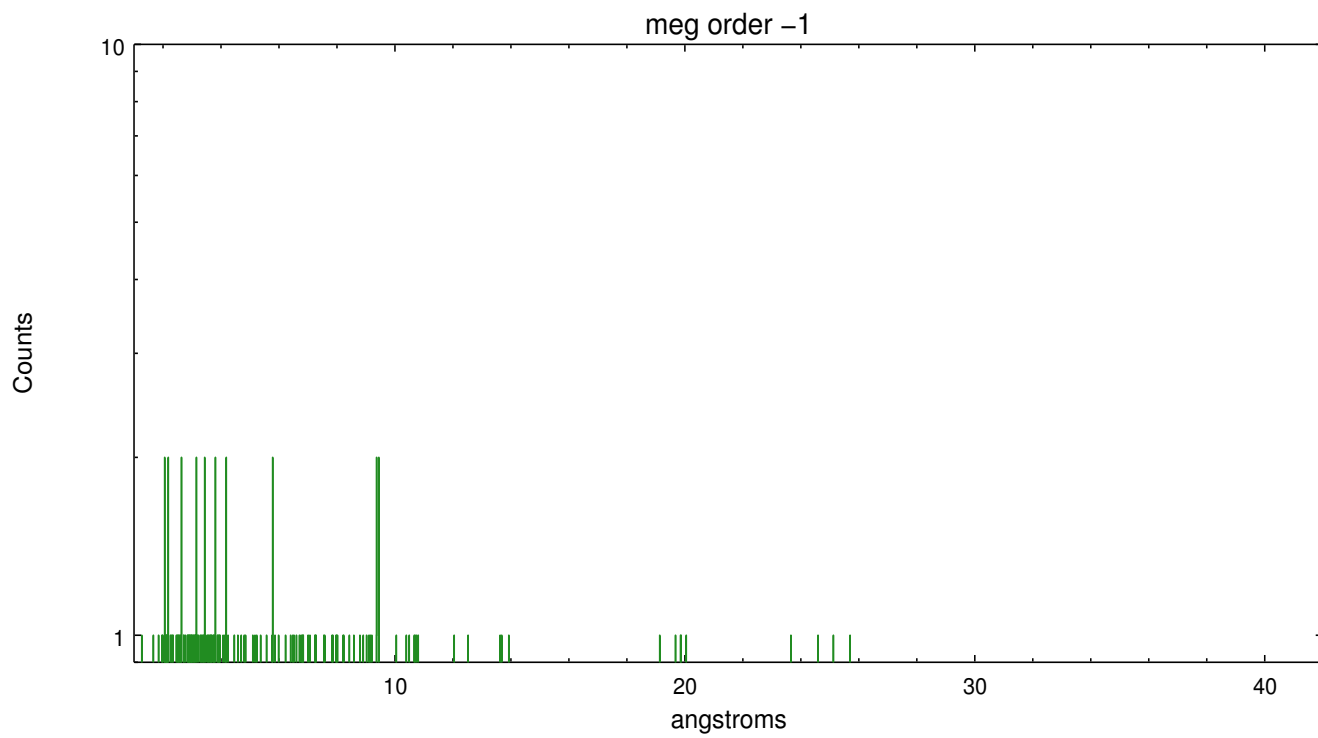


Spot Image MEG

Full Detector MEG

	order	order	order	order	order	order	order
	-3	-2	-1	0	1	2	3
Events	262	197	376	1381	417	191	227





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2018.06.25
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.767157131553

A.2 Comments