

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 20886 - L2 Version 2
Chandra X-Ray Center

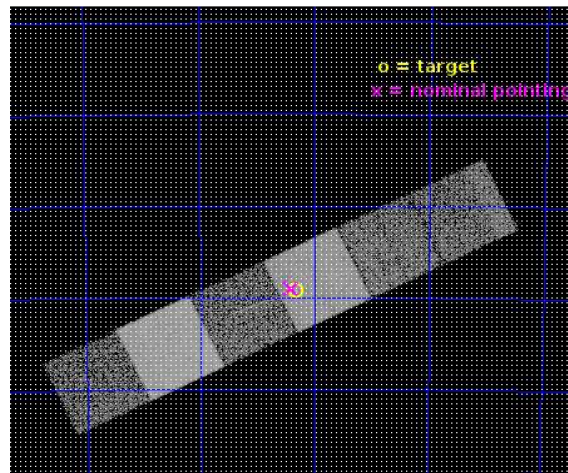
L2 Processing Date : Dec 29 2017

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1 Front

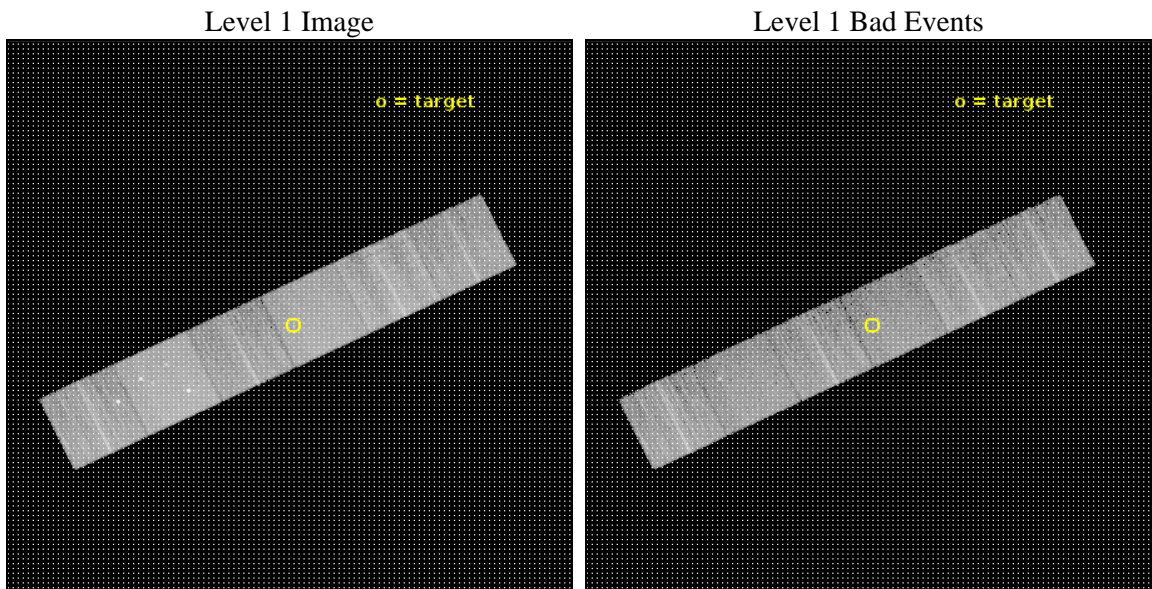
seq_num	401882	Sequence number
obs_id	20886	Observation id
title	HETG Spectroscopy of the Ultra-Luminous X-ray Source NGC 1313 X-1	
observer	Claude Canizares	Principal investigator
object	NGC 1313 X-1	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	49.583333	Observer's specified target RA [deg]
dec_targ	-66.486389	Observer's specified target Dec [deg]
ra_nom	49.600609573555	Nominal RA [deg]
dec_nom	-66.484185695677	Nominal Dec [deg]
roll_nom	334.17246633626	Nominal Roll [deg]
revision	2	Processing version of data
ontime	9951.0778968334	Sum of GTIs [s]
livetime	9825.071356684	Livetime [s]
ontime4	9951.1189367771	Sum of GTIs [s]
ontime5	9951.0368567705	Sum of GTIs [s]
ontime6	9950.9958168268	Sum of GTIs [s]
ontime7	9951.0778968334	Sum of GTIs [s]
ontime8	9947.7137364149	Sum of GTIs [s]
ontime9	9950.9137368202	Sum of GTIs [s]
l2events	121309	Number of level 2 events



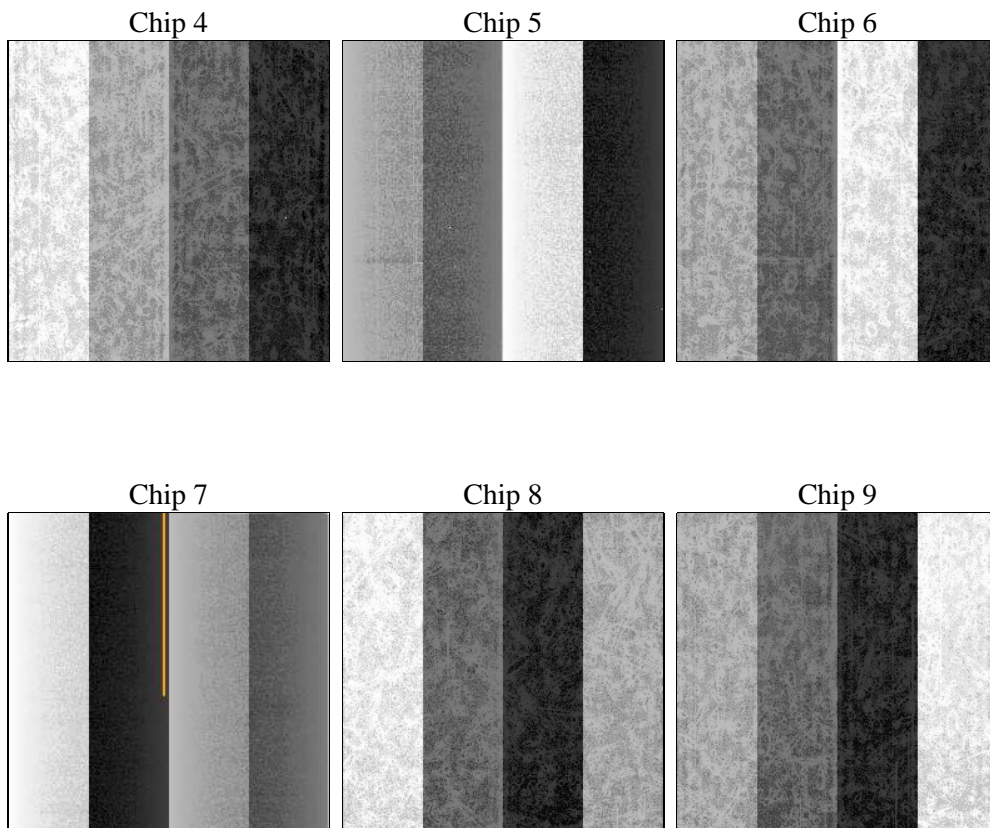
2 OBI

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	Processing system revision	ontime	9951.0778968334	Sum of GTIs [s]
caldbver	4.7.7	 	ontime4	9951.1189367771	Sum of GTIs [s]
date	2017-12-29T15:12:21	Date and time of file creation	ontime5	9951.0368567705	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	9950.9958168268	Sum of GTIs [s]
			ontime7	9951.0778968334	Sum of GTIs [s]
			ontime8	9947.7137364149	Sum of GTIs [s]
			ontime9	9950.9137368202	Sum of GTIs [s]
			l1events	531489	Number of level 1 events
			tgmetho	TGDETECT	Method used to create src1a file
			ra_pos	(4148.24, 4078.11)	src1a sky pixel position

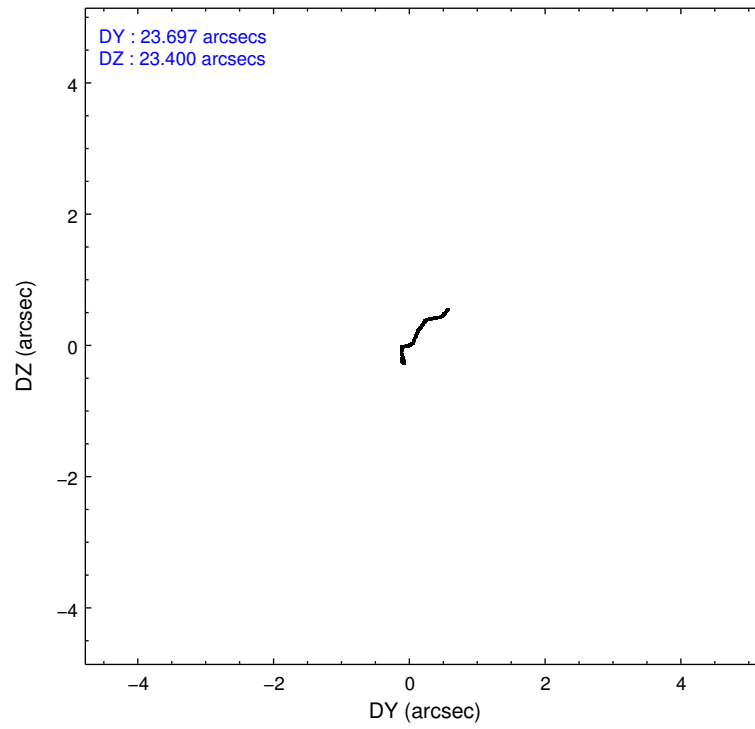
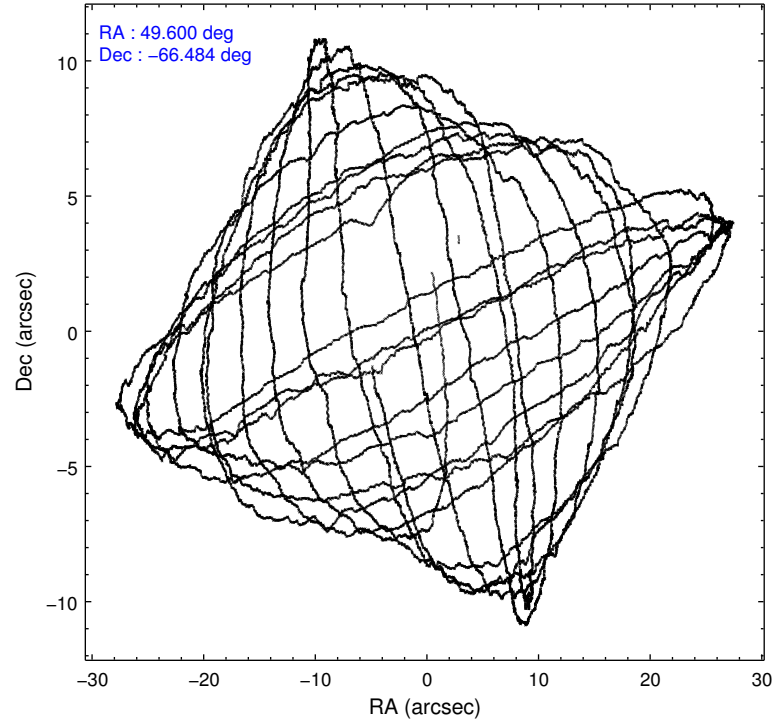
2.1.4 Events

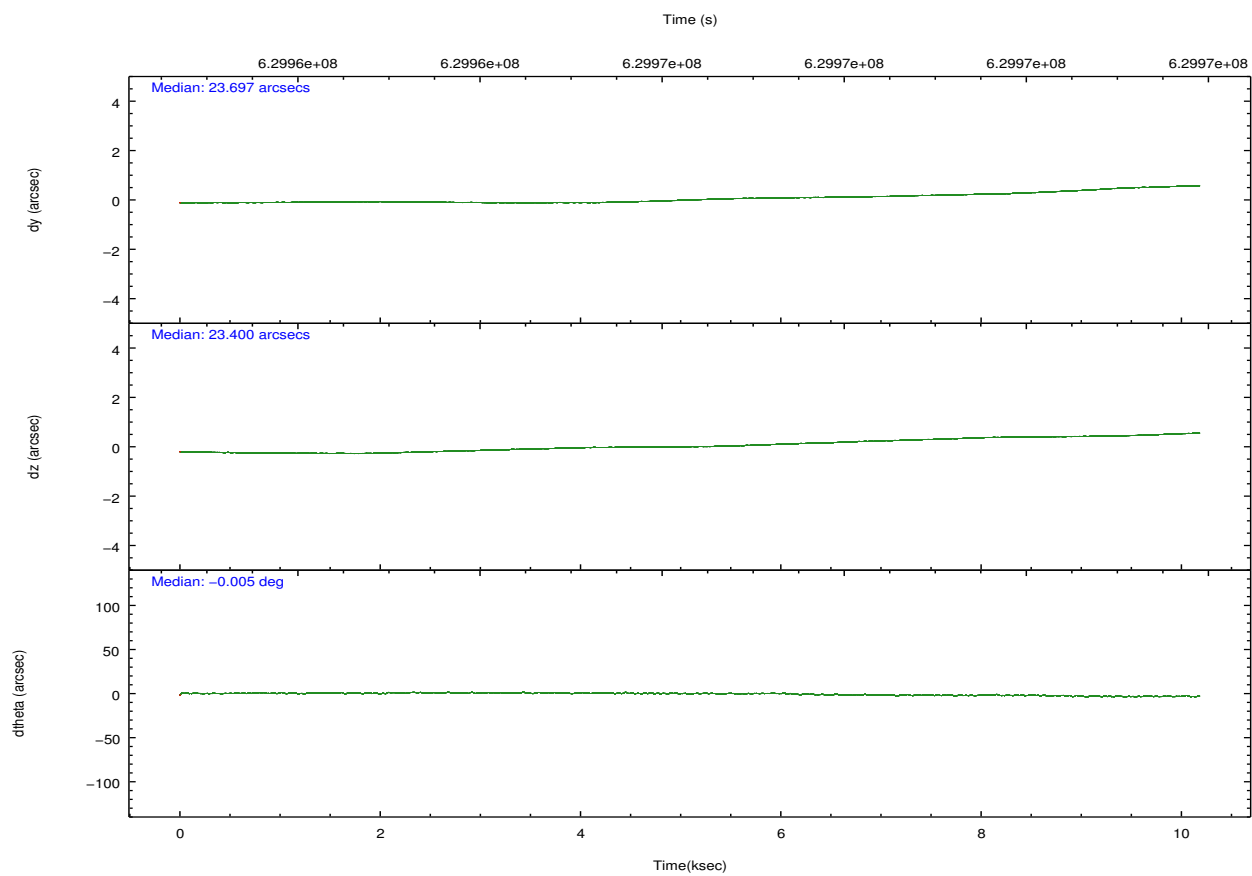
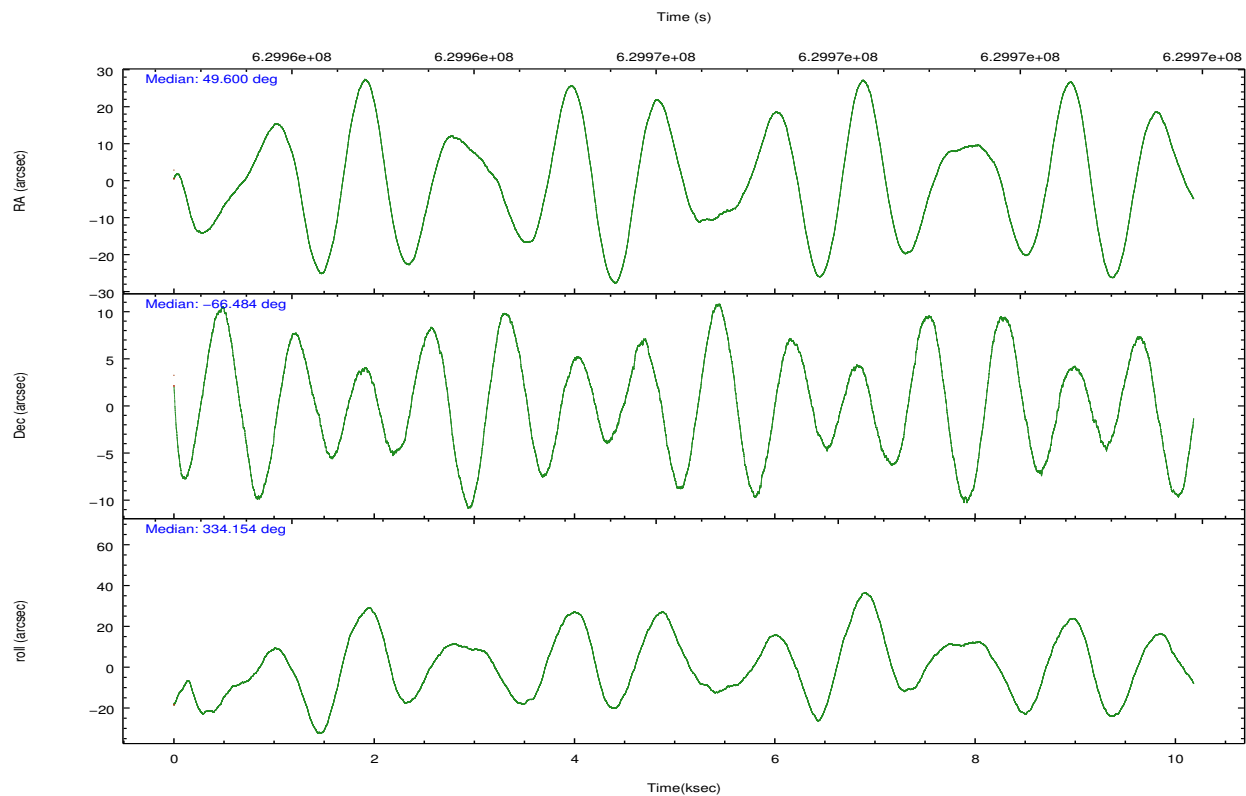
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	85027	116784	69863	92270	97000	70545	grade 0 events	5024	6853	2808	3551	7414	3039
rejected events	74684	59429	61727	51545	70672	62030		5%	5%	4%	3%	7%	4%
rejected %	87%	50%	88%	55%	72%	87%	grade 1 events	95	632	31	126	66	32
								0%	0%	0%	0%	0%	0%
							grade 2 events	2107	17340	1865	8752	6536	1924
								2%	14%	2%	9%	6%	2%
							grade 3 events	906	1700	830	3280	2735	847
								1%	1%	1%	3%	2%	1%
							grade 4 events	842	1611	748	3273	2456	809
								0%	1%	1%	3%	2%	1%
							grade 5 events	3508	8296	3368	9334	5155	3823
								4%	7%	4%	10%	5%	5%
							grade 6 events	1472	29878	1896	21891	7200	1900
								1%	25%	2%	23%	7%	2%
							grade 7 events	71073	50474	58317	42063	65438	58171
								83%	43%	83%	45%	67%	82%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	49.532082	49.60060957355469	CCD I2 on	N	N
[deg] Pointing Dec	-66.486487	-66.48418569567728	CCD I3 on	N	N
[deg] Pointing Roll	333.953003	334.1724663362571	CCD S0 on	O1	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	Y	Y
[s] Observation start time (MET)	629961412.184000	629960365.50699	CCD S5 on	Y	Y
Observation start date	2017-12-18T05:15:43	2017-12-18T04:59:25	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	629971412.184000	629972797.73272	On-chip summing requested	N	N
Observation end date	2017-12-18T08:02:23	2017-12-18T08:26:37	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

2.3 Aspect



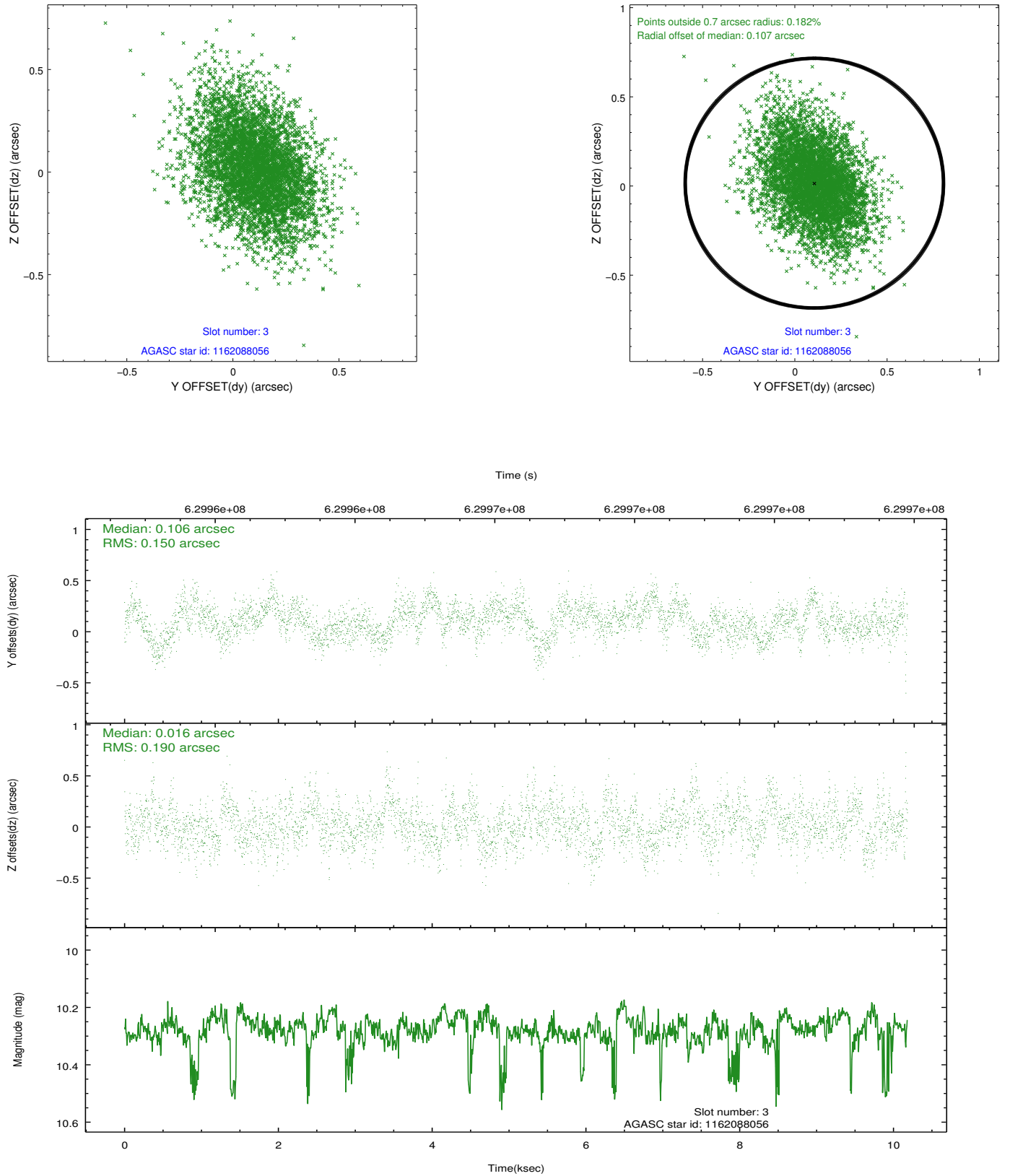


Slot Statistics

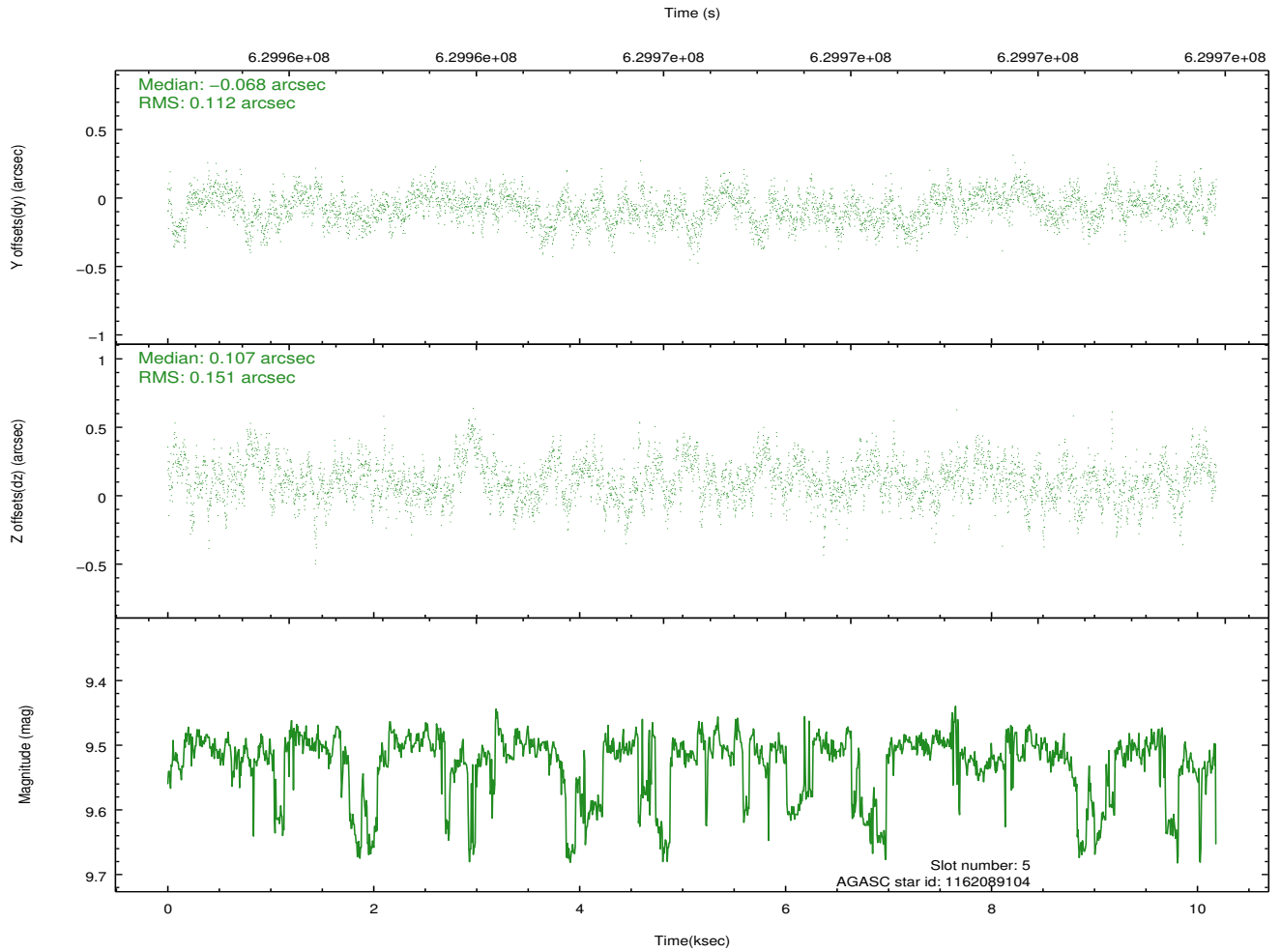
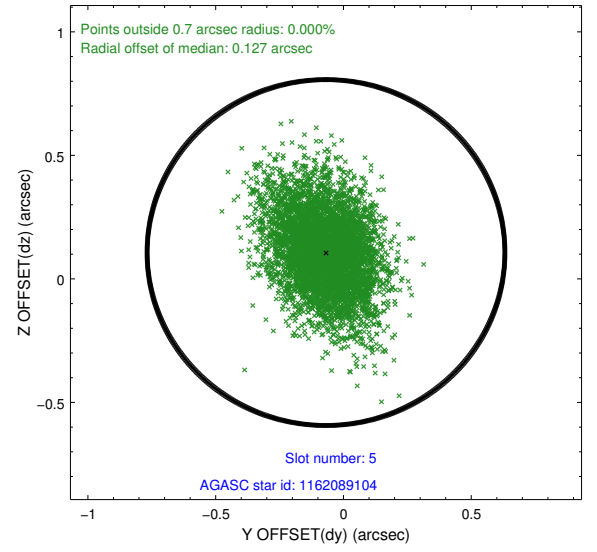
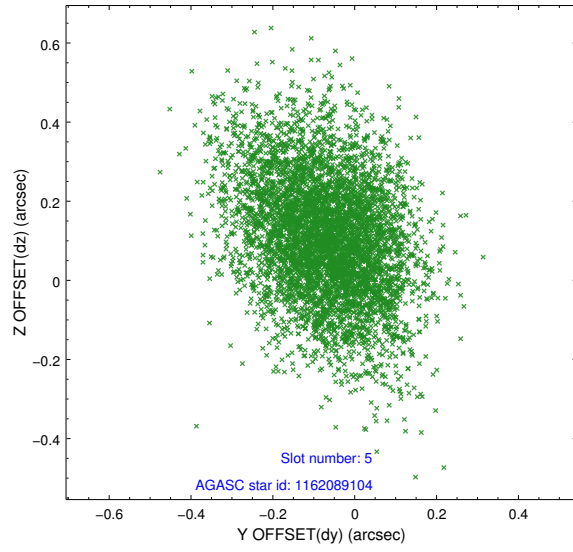
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.94	2484	-0.267	-0.126	0.026	0.049	0.000000	0.000000	-777.21	-1745.21
1	FID		ACIS-S-4	7.04	2484	0.607	0.163	0.014	0.024	0.000000	0.000000	2136.66	163.08
2	FID		ACIS-S-5	7.04	2484	-0.368	-0.027	0.024	0.045	0.000000	0.000000	-1829.53	157.05
3	GUIDE	used	1162088056	10.28	4937	0.106	0.016	0.254	0.423	48.729349	-66.949806	-279.85	-2001.17
4	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
5	GUIDE	used	1162089104	9.51	4961	-0.068	0.107	0.196	0.333	48.422126	-66.410699	-1549.74	-469.72
6	GUIDE	used	1162090824	9.23	4961	-0.030	-0.125	0.190	0.319	48.677982	-66.885202	-449.95	-1826.58
7	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00

2.4 Star Slots

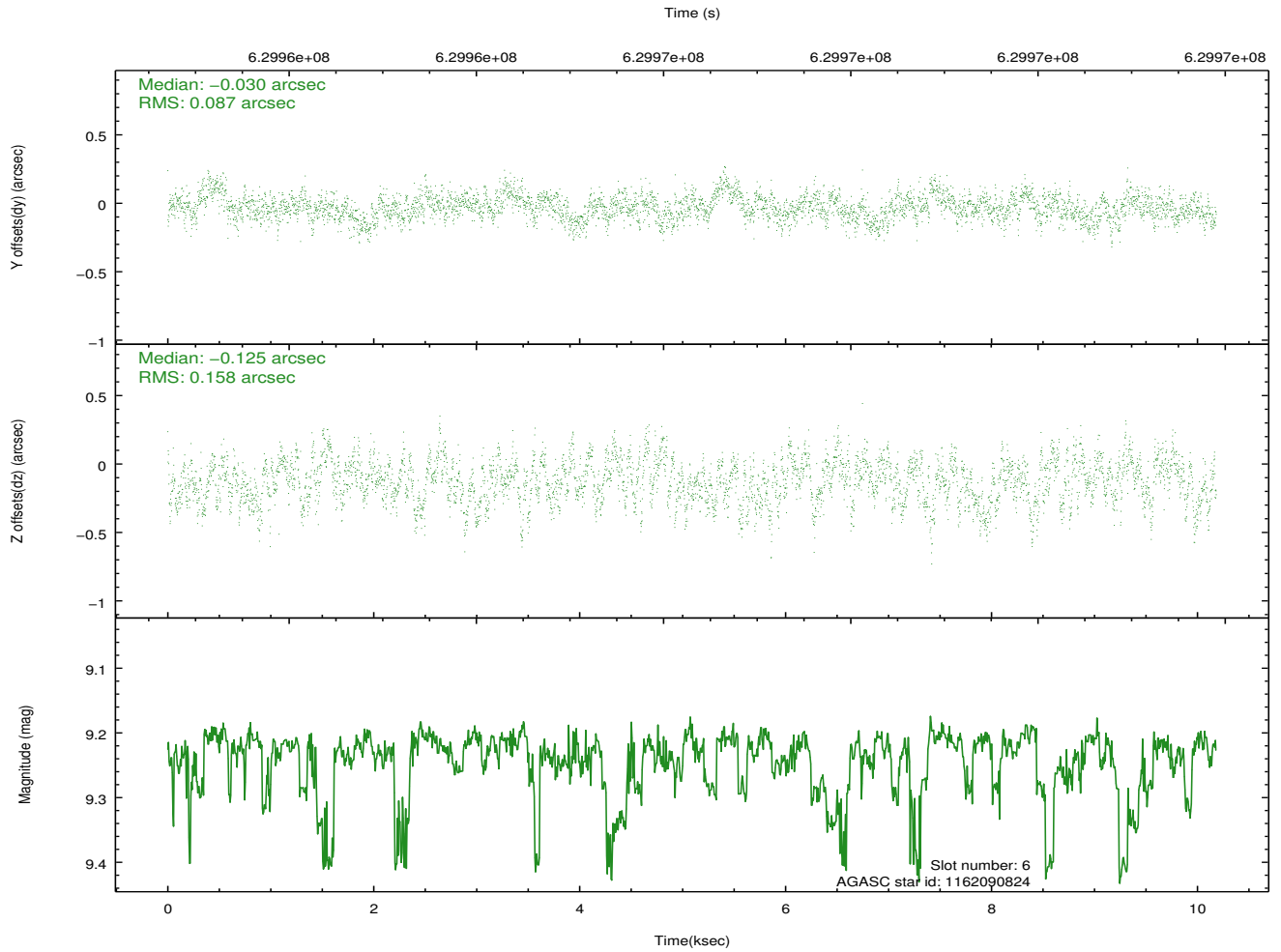
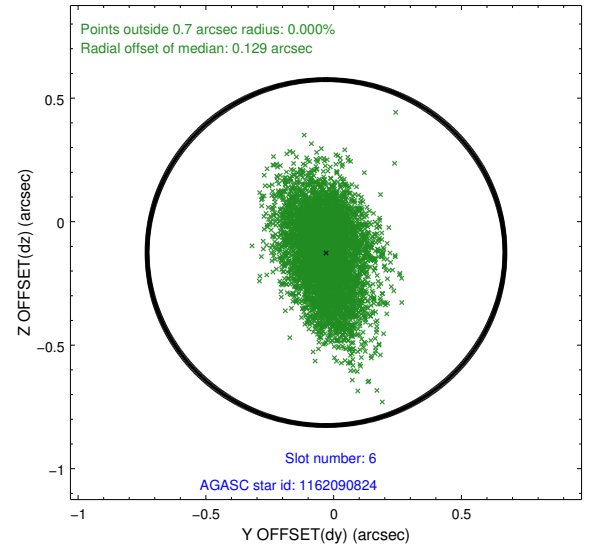
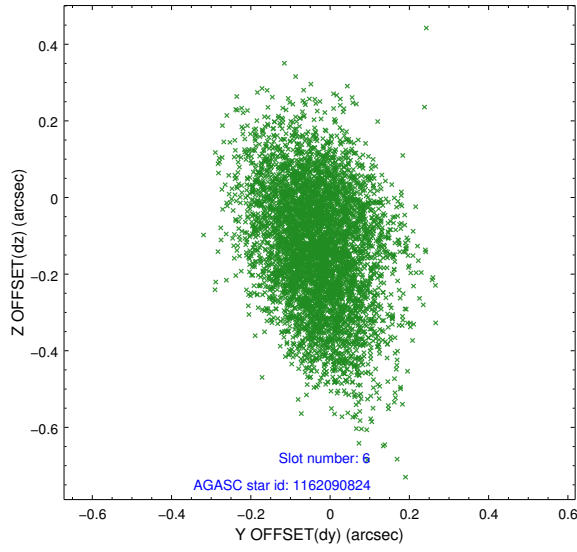
2.4.1 Slot 3



2.4.2 Slot 5

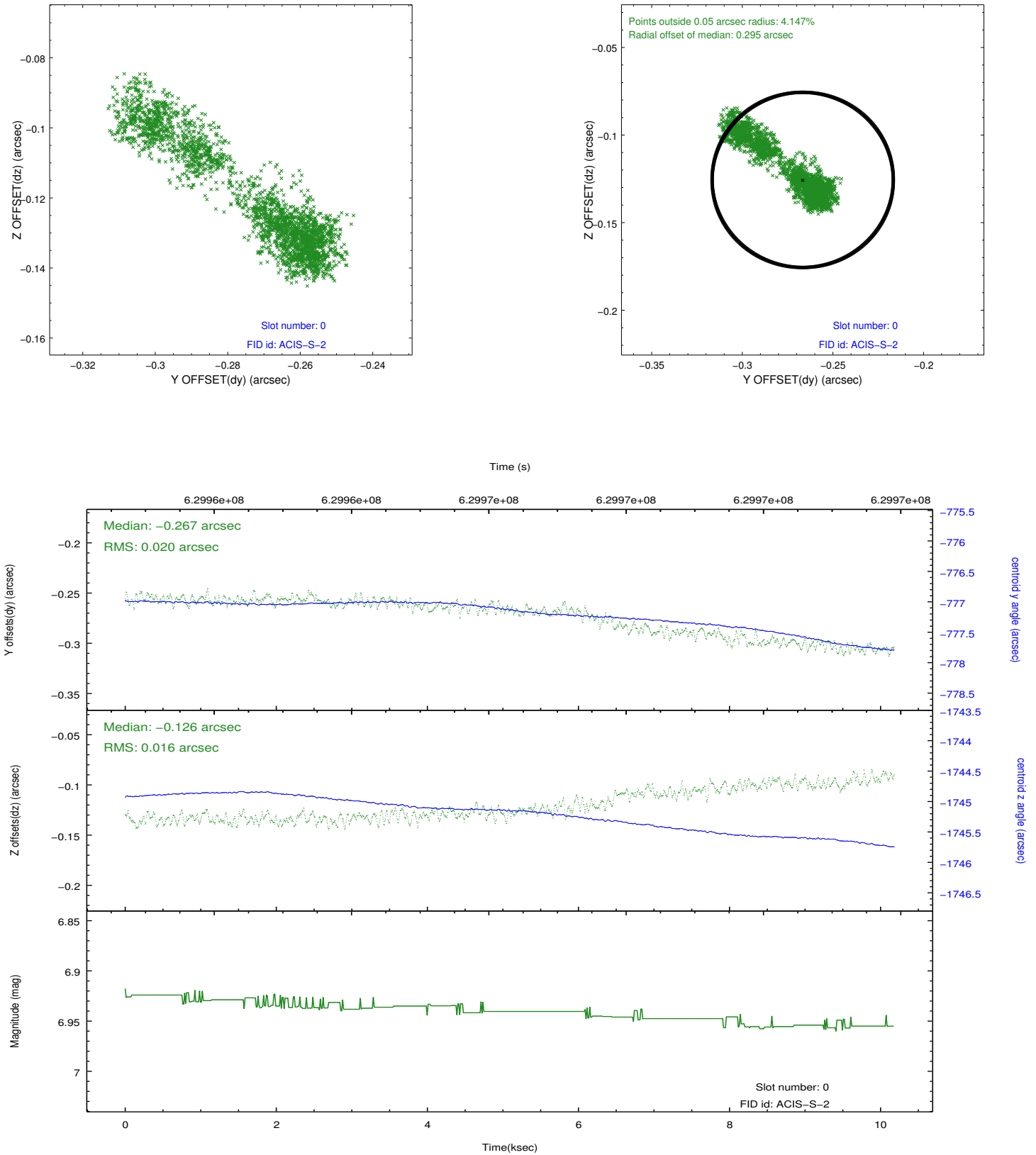


2.4.3 Slot 6

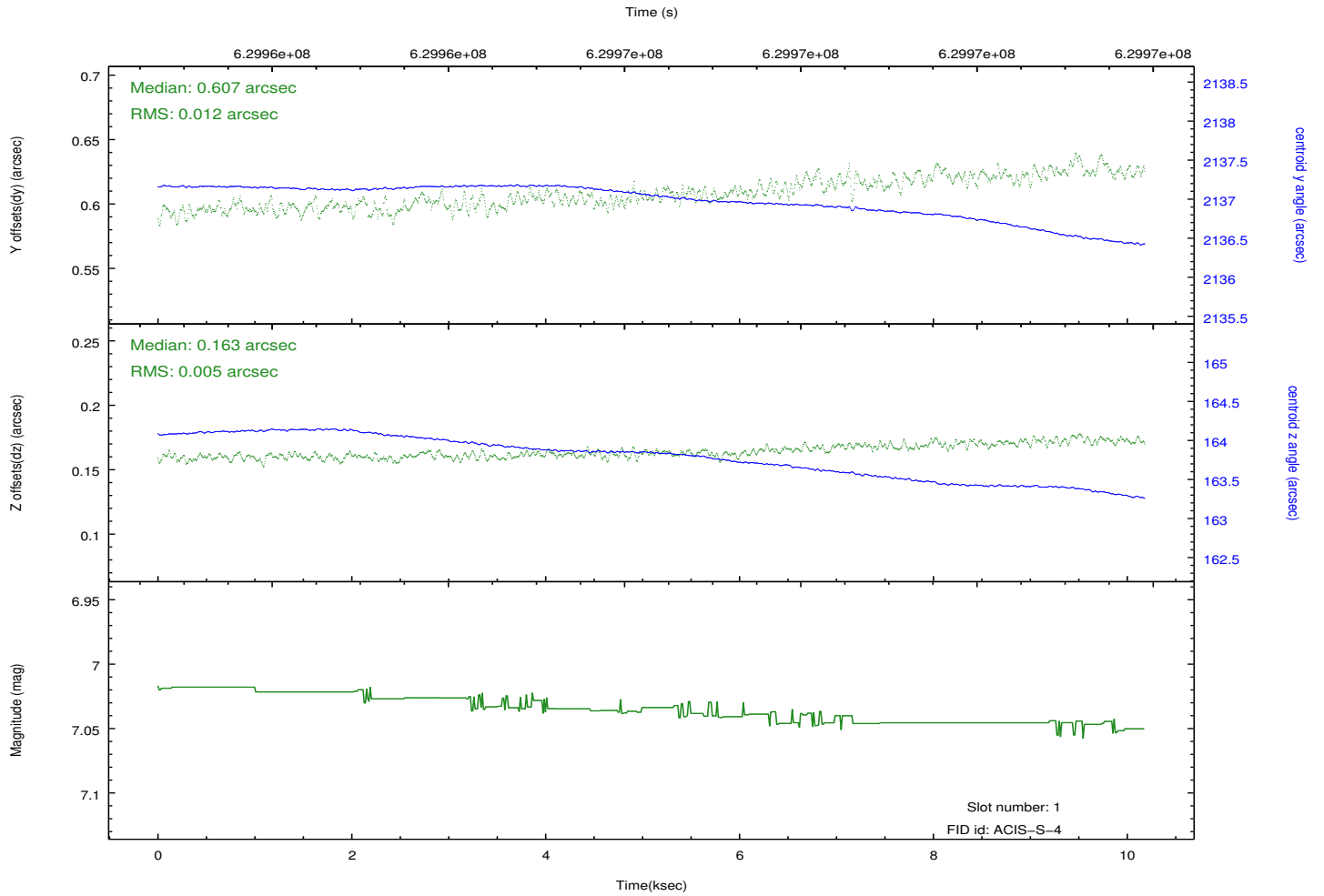
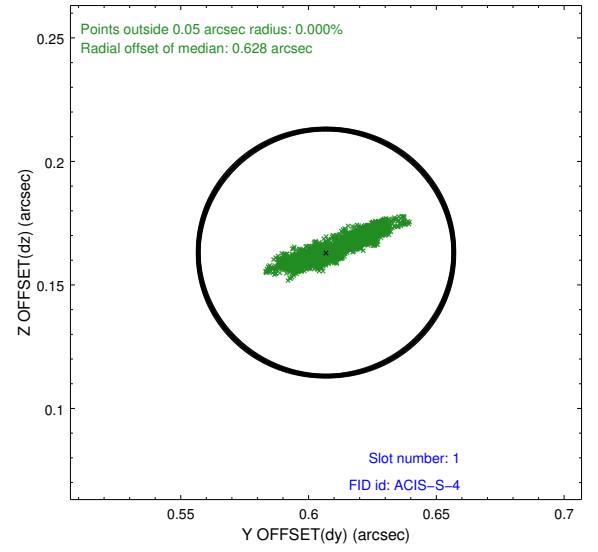
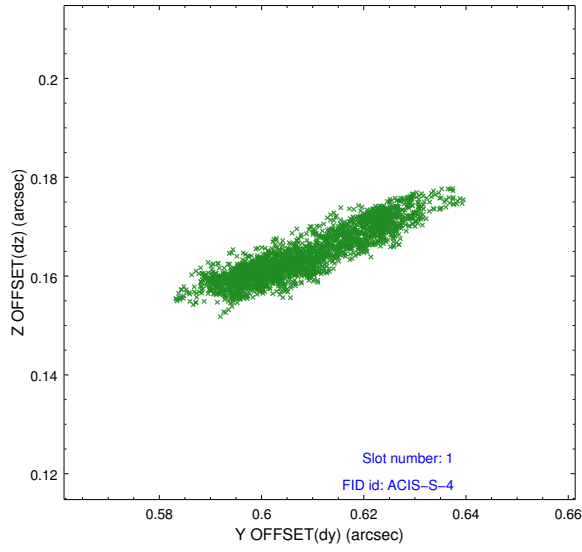


2.5 FID Slots

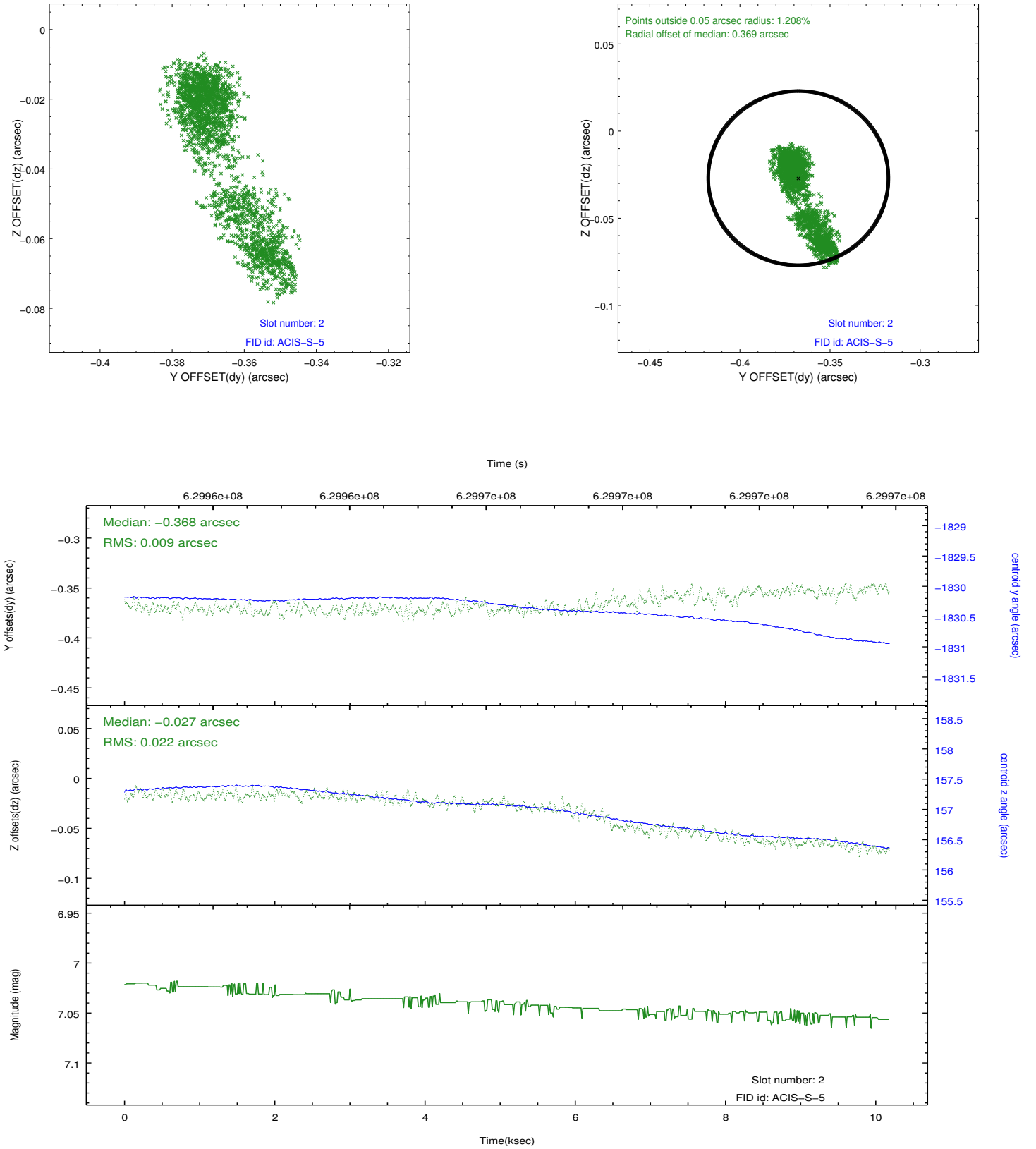
2.5.1 Slot 0



2.5.2 Slot 1

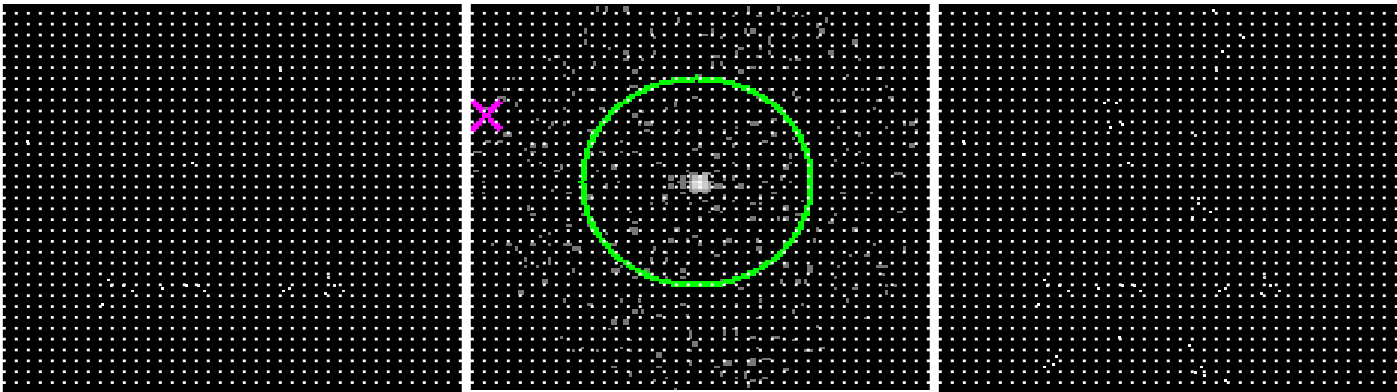


2.5.3 Slot 2



3 Gratings

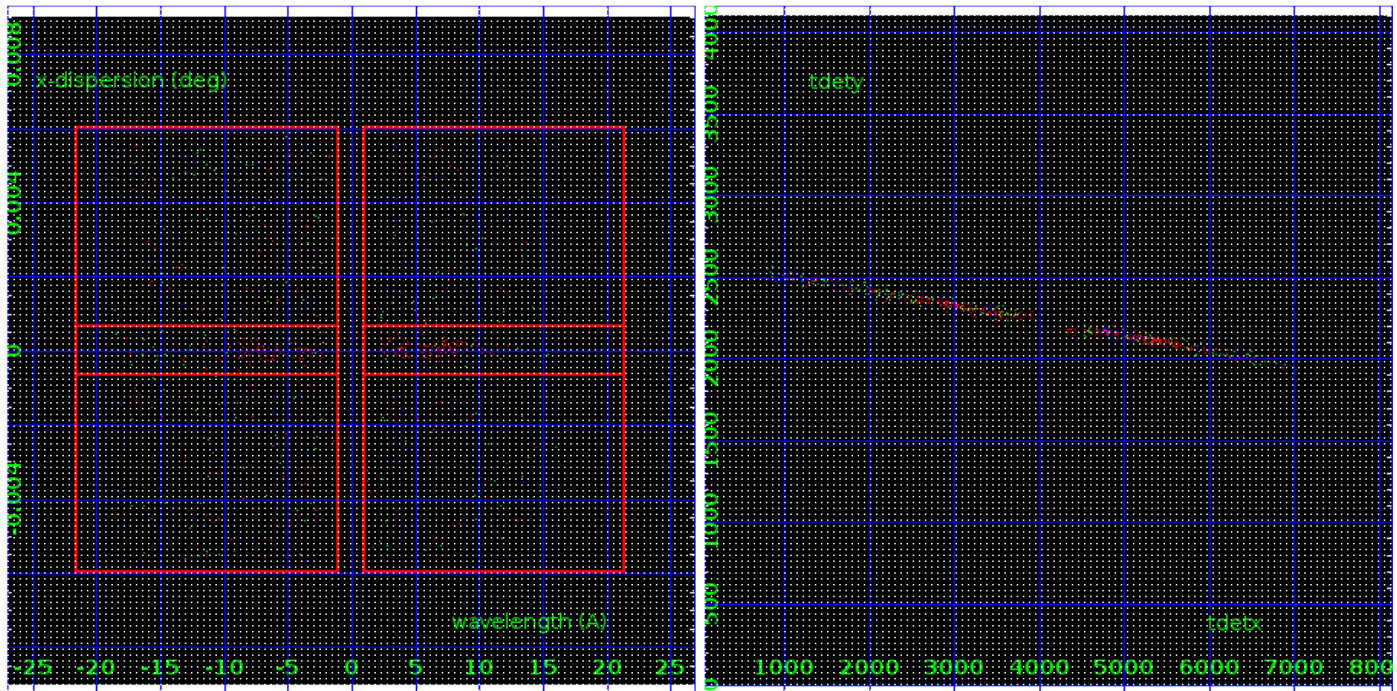
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

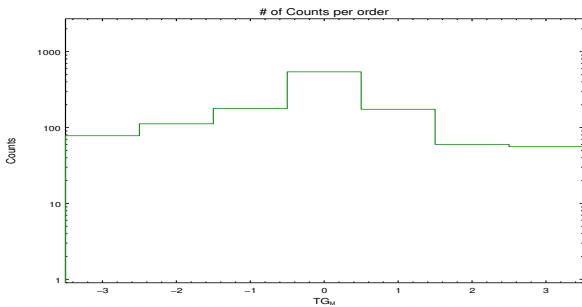
HEG Order Sort ALL

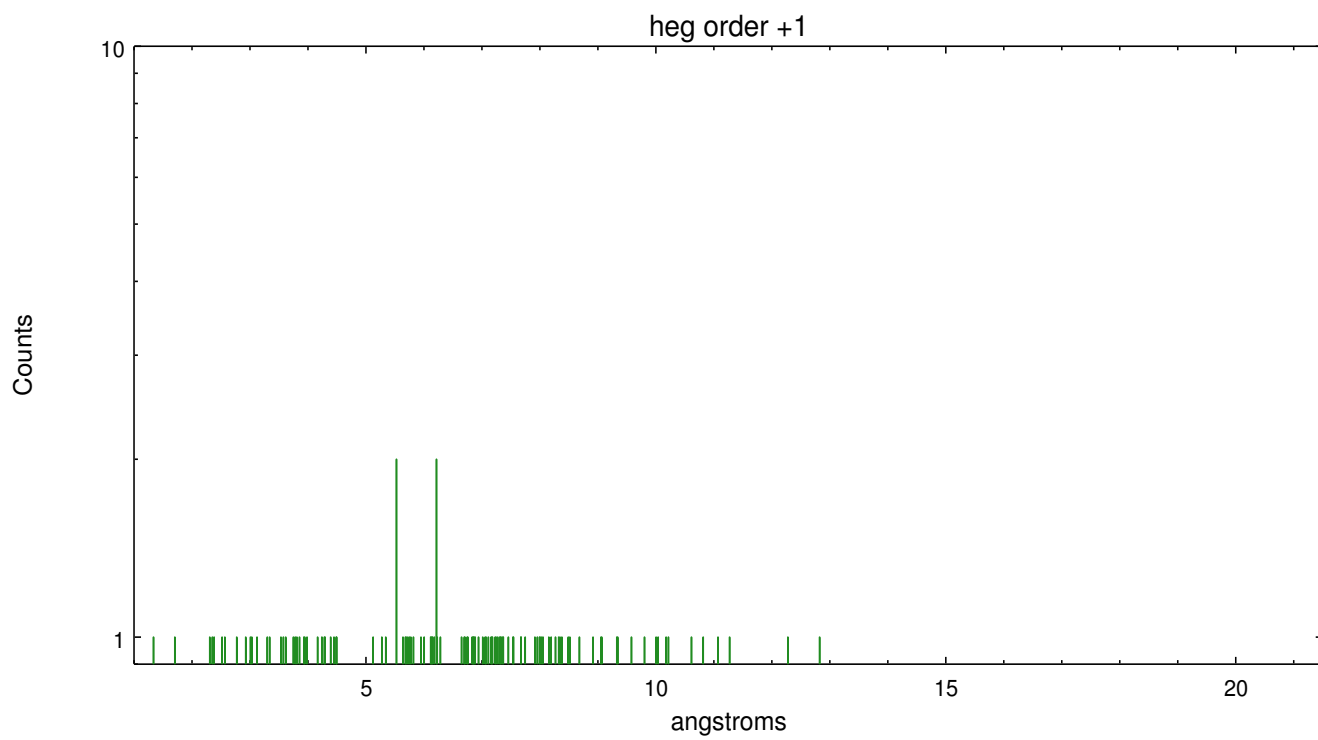
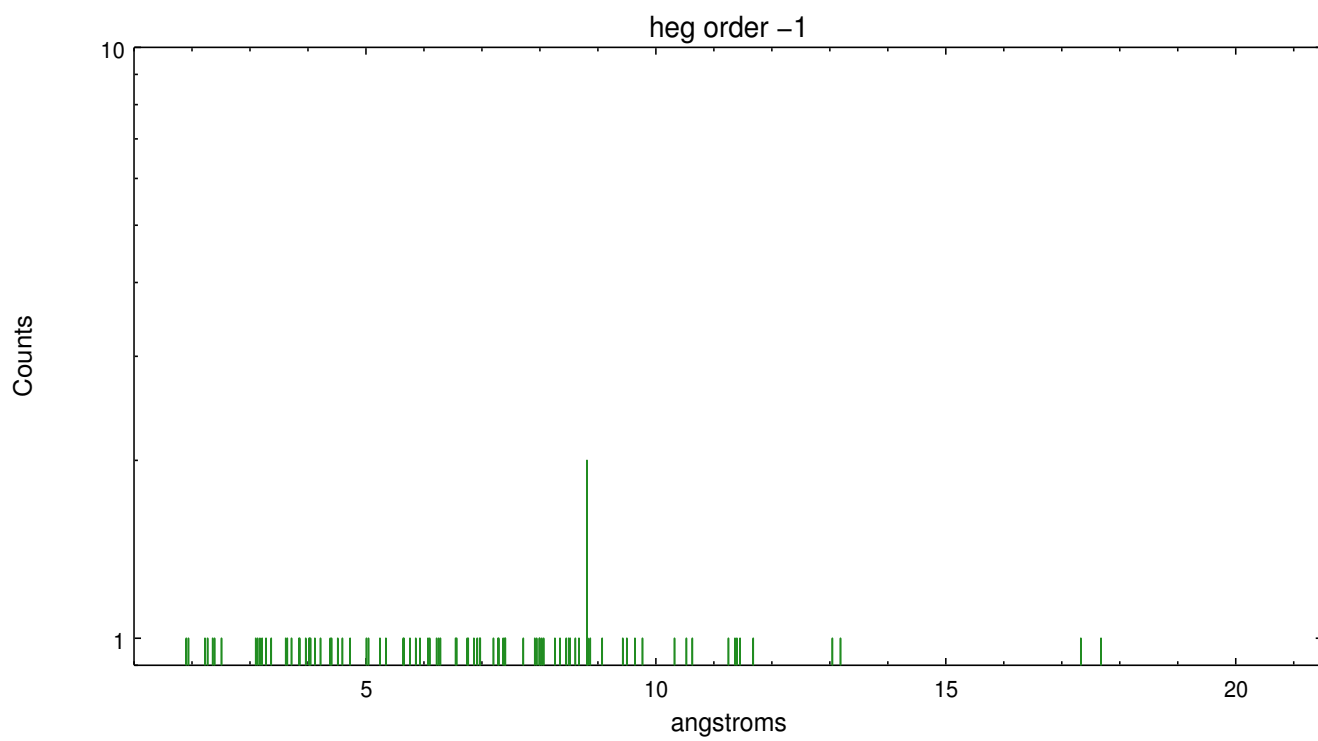


Spot Image HEG

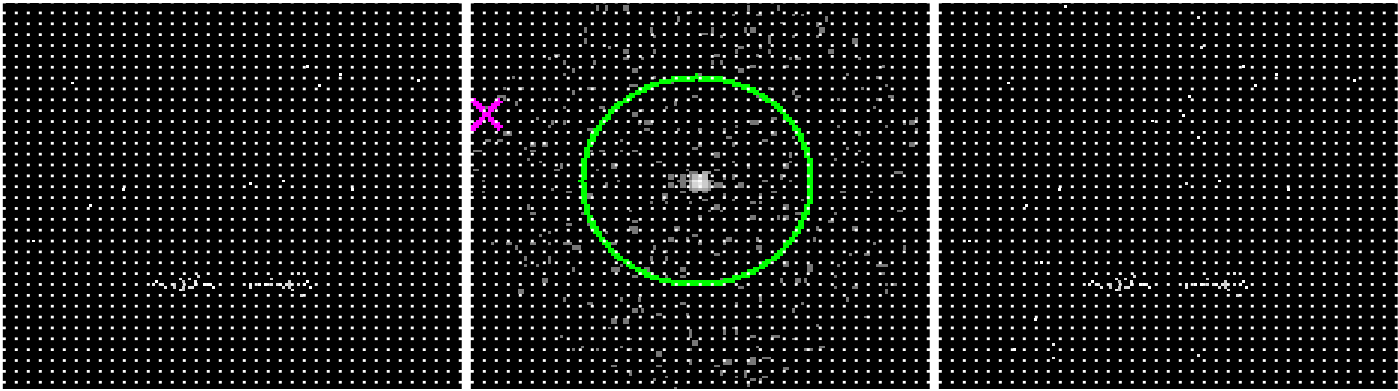
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	78	112	178	542	174	60	56





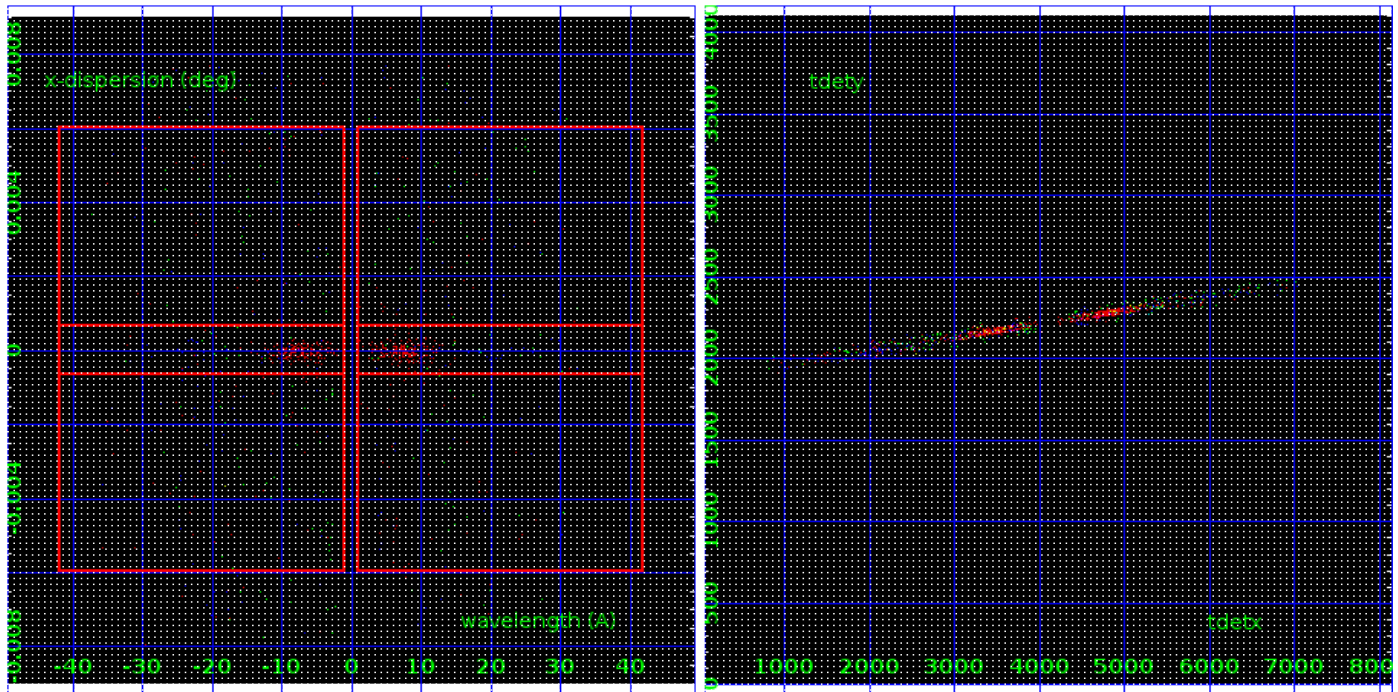
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

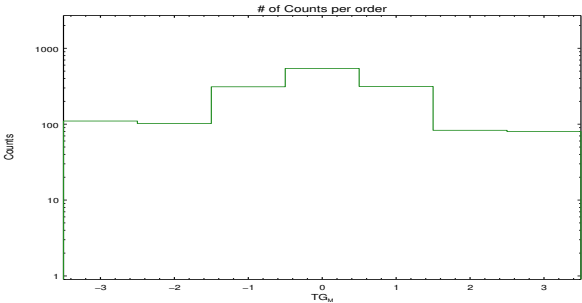
MEG Order Sort ALL

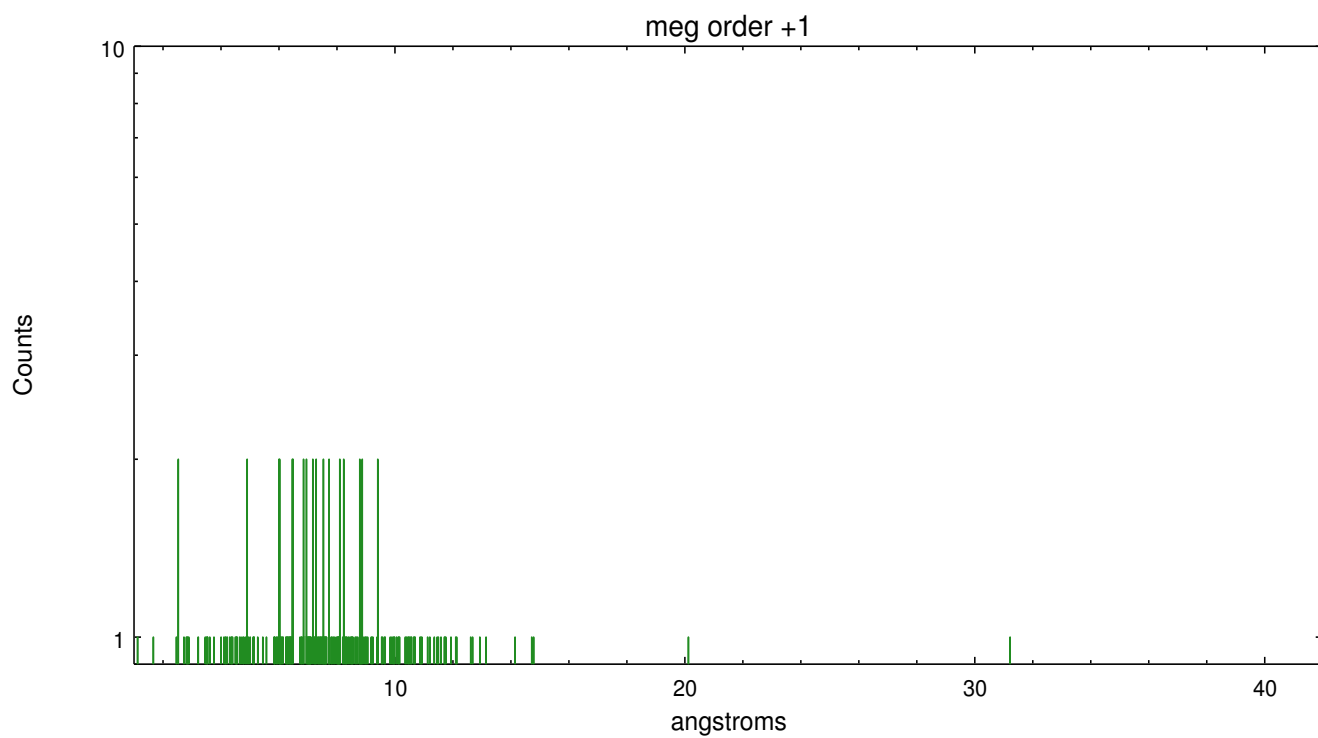
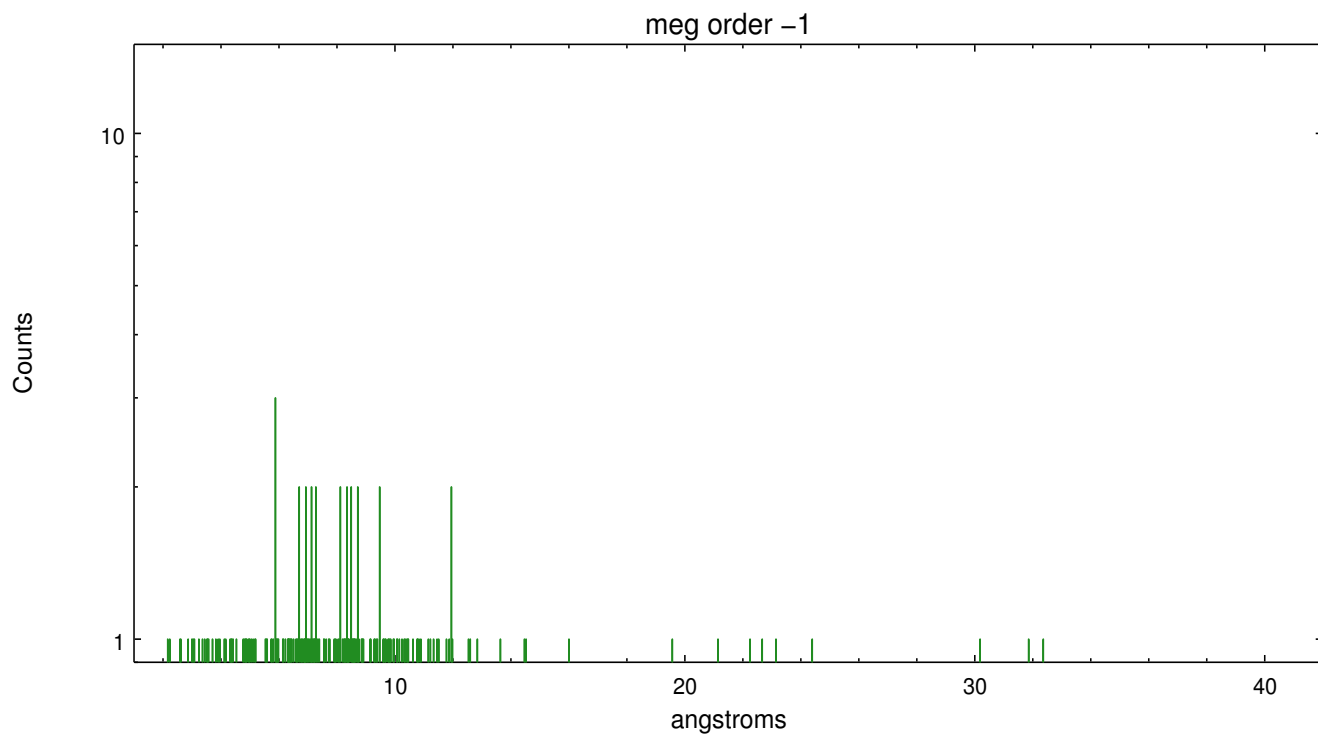


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	110	102	311	542	314	83	80





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2017.12.29
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.9510778968334

A.2 Comments

The guide stars in slots 4 and 7 were removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of these guide stars from the solution.