

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 19933 - L2 Version 2
Chandra X-Ray Center

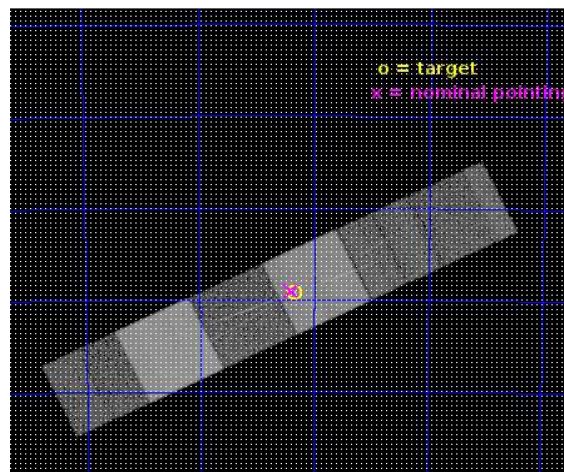
L2 Processing Date : Dec 27 2017

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1 Front

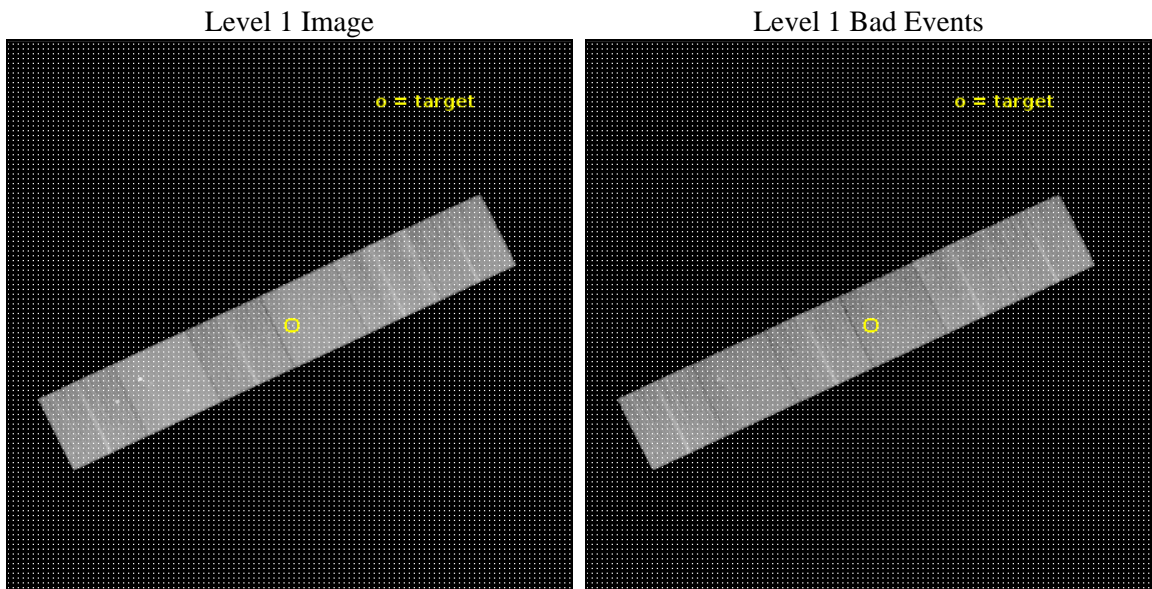
seq_num	401882	Sequence number
obs_id	19933	Observation id
title	HETG Spectroscopy of the Ultra-Luminous X-ray Source NGC 1313 X-1	
observer	Claude Canizares	Principal investigator
object	NGC 1313 X-1	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	49.583333	Observer's specified target RA [deg]
dec_targ	-66.486389	Observer's specified target Dec [deg]
ra_nom	49.599007535466	Nominal RA [deg]
dec_nom	-66.484130901692	Nominal Dec [deg]
roll_nom	334.17099460357	Nominal Roll [deg]
revision	2	Processing version of data
ontime	25193.600375414	Sum of GTIs [s]
livetime	24874.583837696	Livetime [s]
ontime4	25193.600375414	Sum of GTIs [s]
ontime5	25193.600375414	Sum of GTIs [s]
ontime6	25193.600375414	Sum of GTIs [s]
ontime7	25193.600375414	Sum of GTIs [s]
ontime8	25193.600375414	Sum of GTIs [s]
ontime9	25193.600375414	Sum of GTIs [s]
l2events	314139	Number of level 2 events



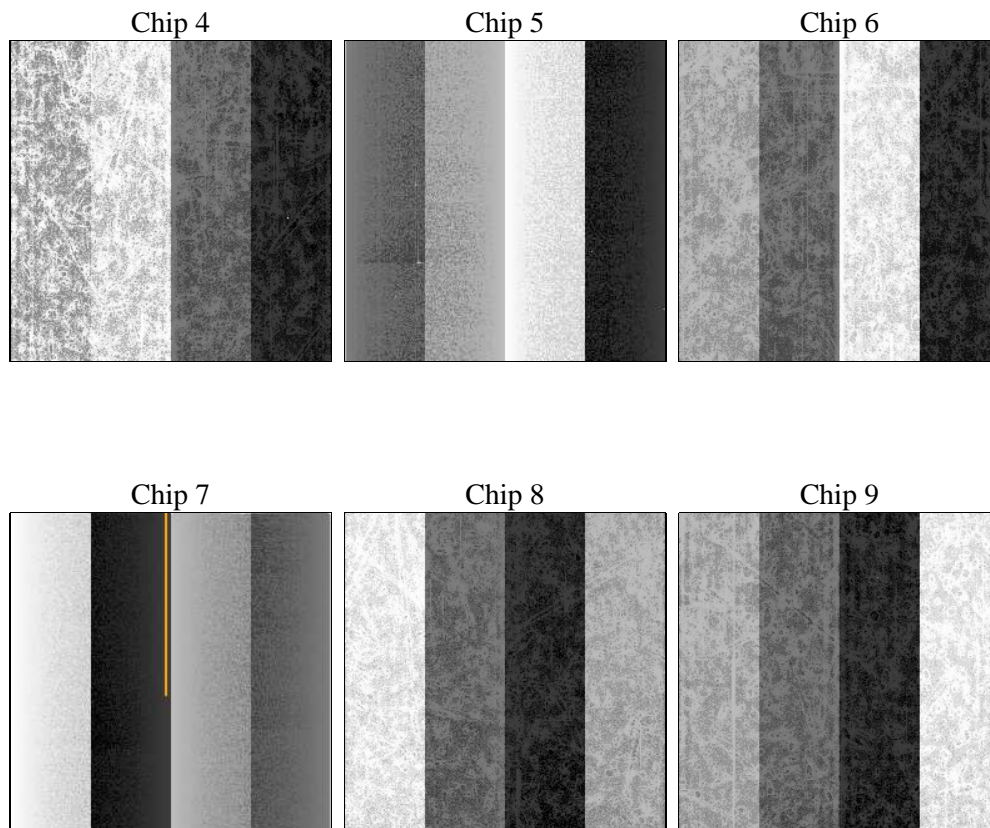
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	25246.712000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	25193.600375414	Sum of GTIs [s]
caldbver	4.7.7	 	ontime4	25193.600375414	Sum of GTIs [s]
date	2017-12-27T19:14:07	Date and time of file creation	ontime5	25193.600375414	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	25193.600375414	Sum of GTIs [s]
			ontime7	25193.600375414	Sum of GTIs [s]
			ontime8	25193.600375414	Sum of GTIs [s]
			ontime9	25193.600375414	Sum of GTIs [s]
			l1events	1360366	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			ra_pos	(4142.71 4070.22)	src1a sky pixel position

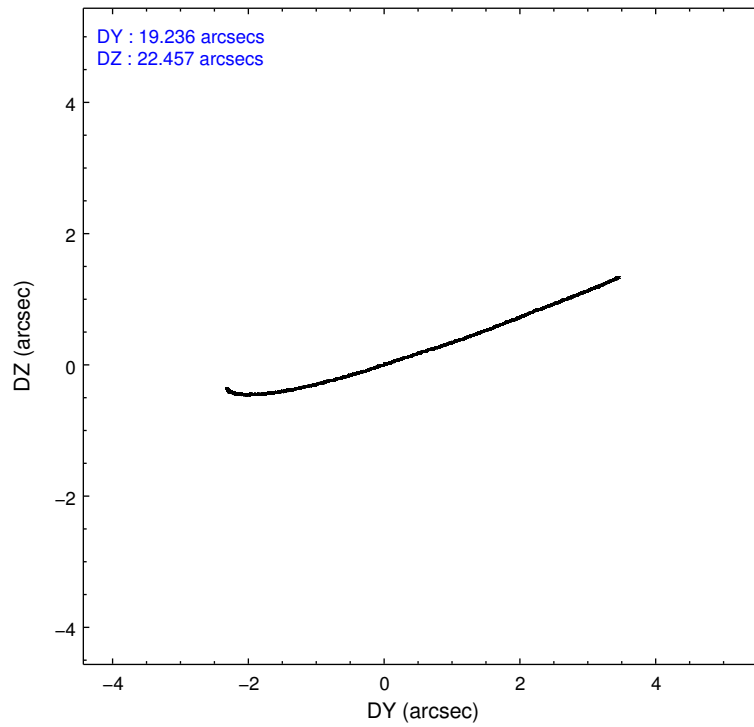
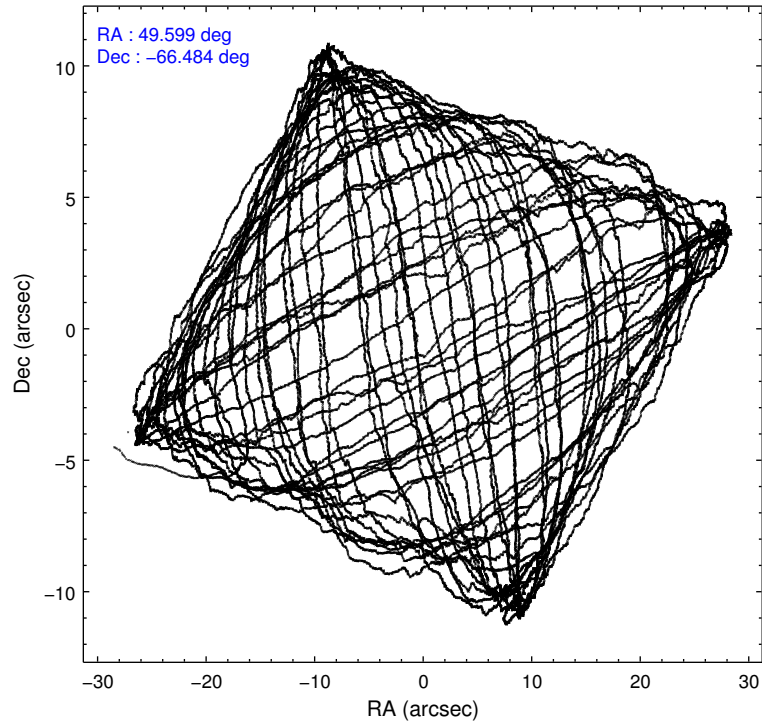
2.1.4 Events

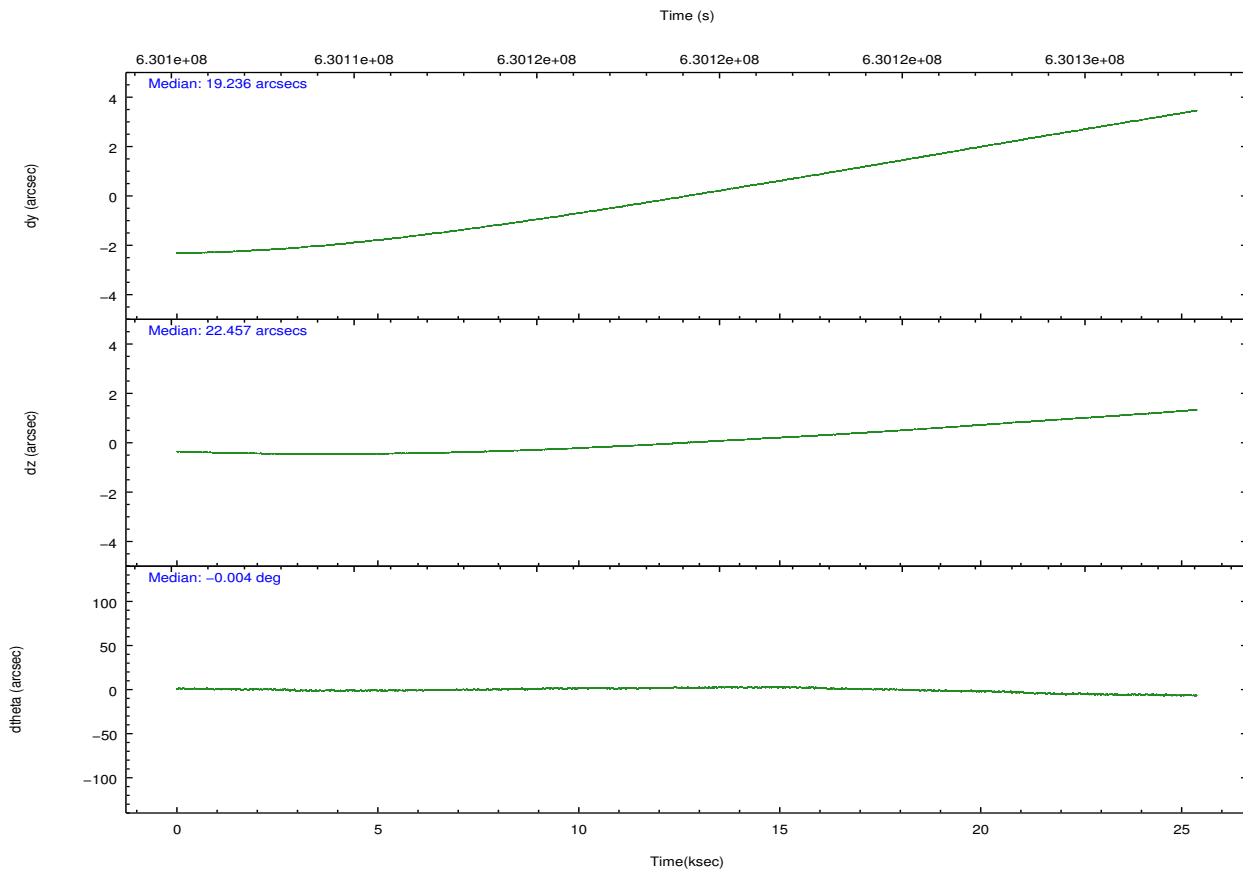
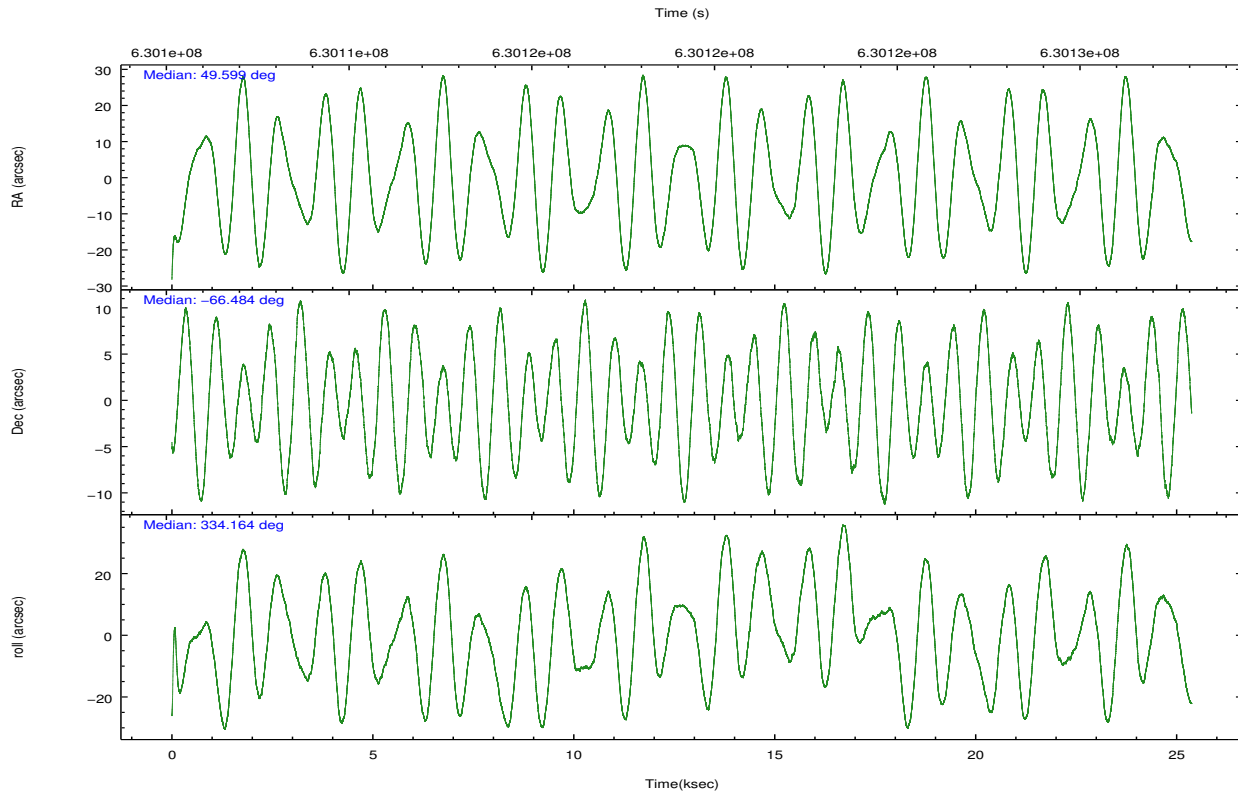
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	213462	293636	185217	235415	246530	186106	grade 0 events	12065	14816	7945	9306	20339	8019
rejected events	186978	148686	163310	131035	179062	163757		5%	5%	4%	3%	8%	4%
rejected %	87%	50%	88%	55%	72%	87%	grade 1 events	215	1271	108	385	199	103
								0%	0%	0%	0%	0%	0%
							grade 2 events	5699	45433	5013	22267	16064	5050
								2%	15%	2%	9%	6%	2%
							grade 3 events	2378	4623	2062	8387	6837	2205
								1%	1%	1%	3%	2%	1%
							grade 4 events	2325	4332	2071	8333	6376	2234
								1%	1%	1%	3%	2%	1%
							grade 5 events	8877	20548	8715	23171	12737	9851
								4%	6%	4%	9%	5%	5%
							grade 6 events	4018	75770	4817	56095	17854	4841
								1%	25%	2%	23%	7%	2%
							grade 7 events	177885	126843	154486	107471	166124	153803
								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	49.530528	49.59900753546611	CCD I2 on	N	N
[deg] Pointing Dec	-66.486483	-66.48413090169227	CCD I3 on	N	N
[deg] Pointing Roll	333.951585	334.1709946035665	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	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	Y	Y
[s] Observation start time (MET)	630106541.184000	630104994.04048	CCD S5 on	Y	Y
Observation start date	2017-12-19T21:34:32	2017-12-19T21:09:54	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	630131787.184000	630132684.92961	On-chip summing requested	N	N
Observation end date	2017-12-20T04:35:18	2017-12-20T04:51:24	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

2.3 Aspect





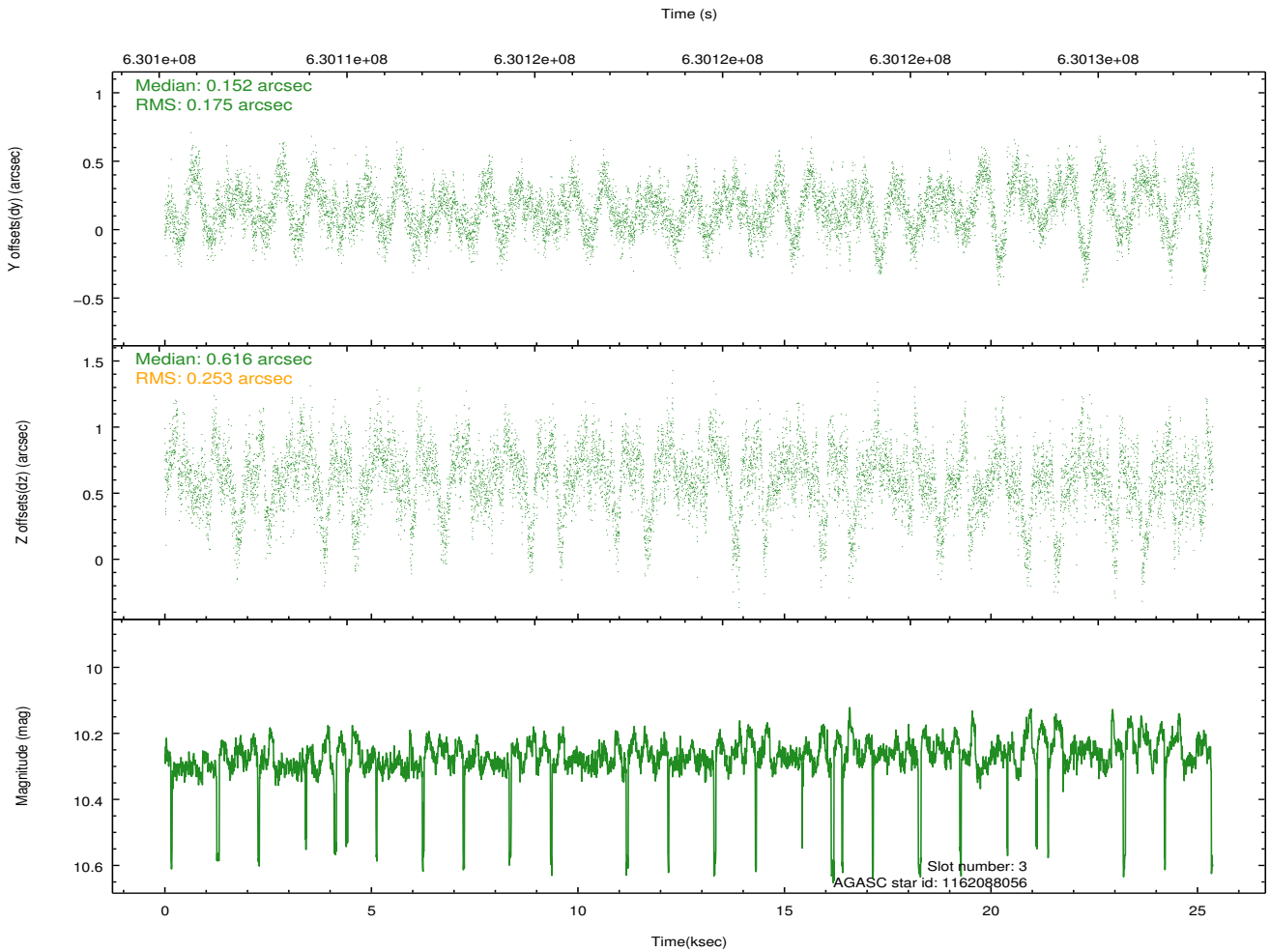
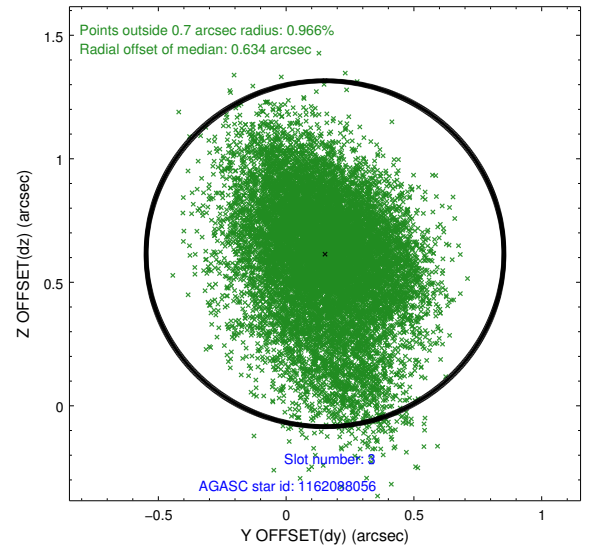
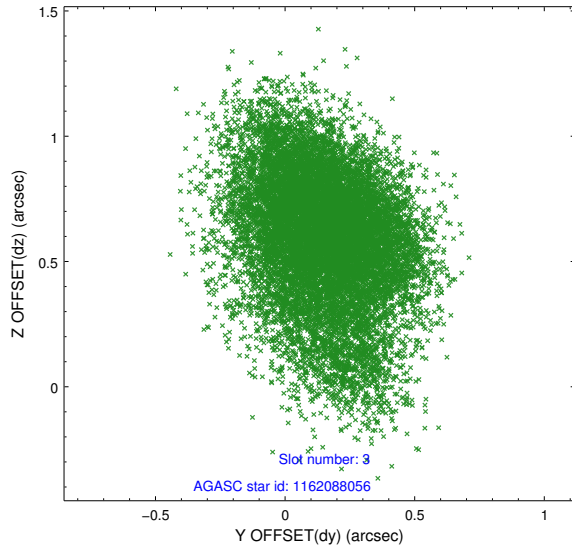
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.00	6189	-0.218	-0.126	0.034	0.048	0.000000	0.000000	-772.68	-1744.27
1	FID		ACIS-S-4	7.10	6187	0.486	0.141	0.044	0.062	0.000000	0.000000	2141.22	164.37
2	FID		ACIS-S-5	7.10	6189	-0.299	0.002	0.015	0.039	0.000000	0.000000	-1825.48	158.02
3	GUIDE	used	1162088056	10.27	12313	0.152	0.616	0.319	0.556	48.729349	-66.949806	-277.88	-2000.34
4	GUIDE	used	1162088248	7.57	12379	0.113	-1.404	0.171	0.289	49.751966	-65.888113	-652.58	2076.24
5	GUIDE	used	1162089104	9.53	12365	-0.304	0.368	0.177	0.307	48.422126	-66.410699	-1547.73	-468.38
6	GUIDE	used	1162090824	9.23	12370	0.046	0.431	0.196	0.327	48.677982	-66.885202	-447.71	-1825.67
7	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00

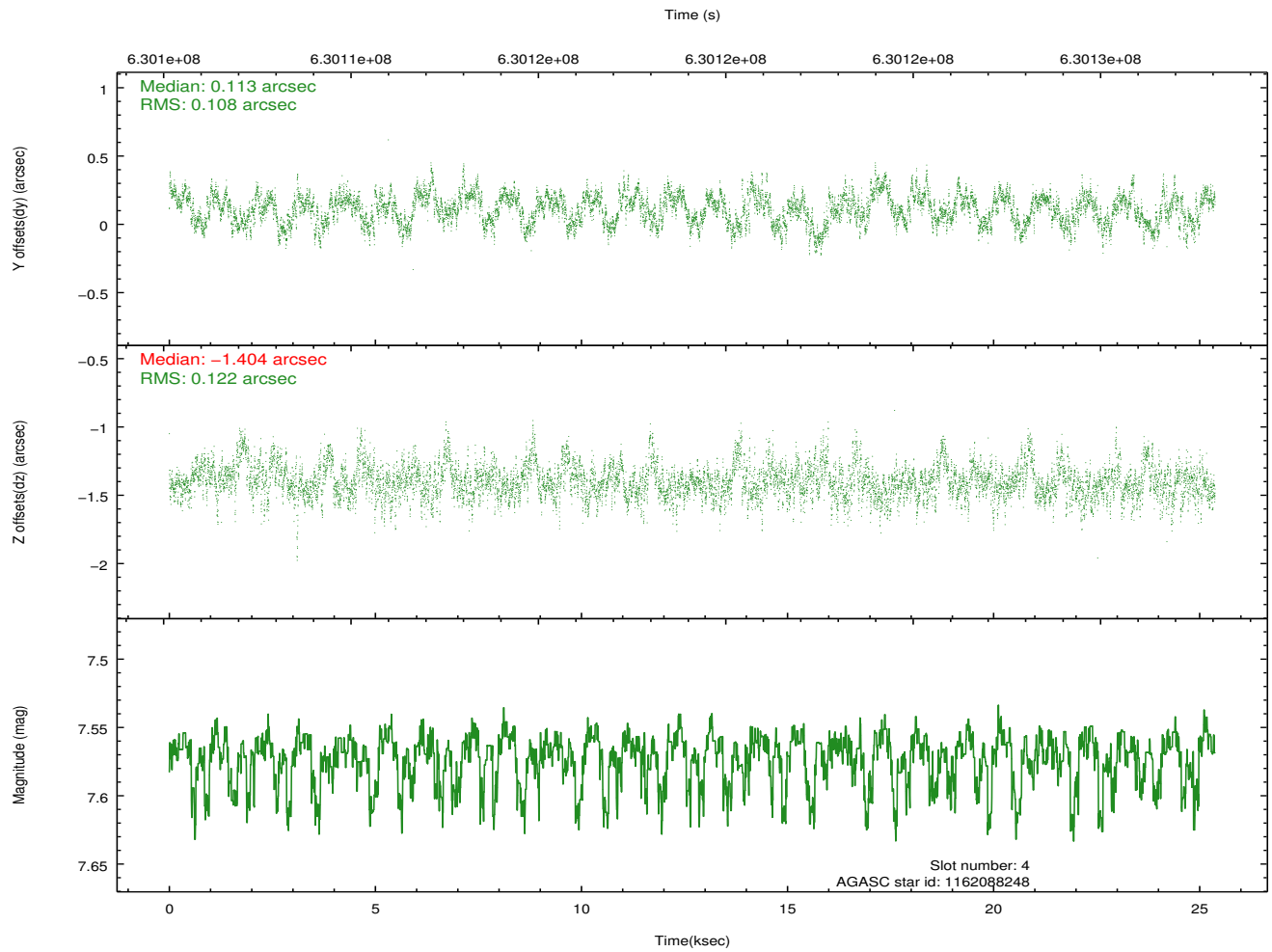
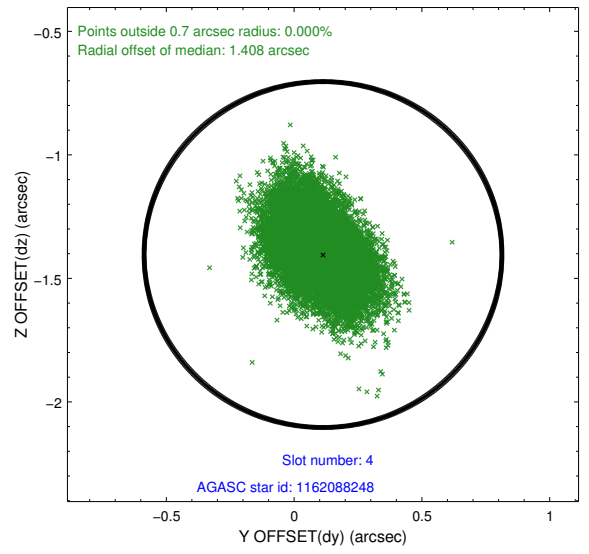
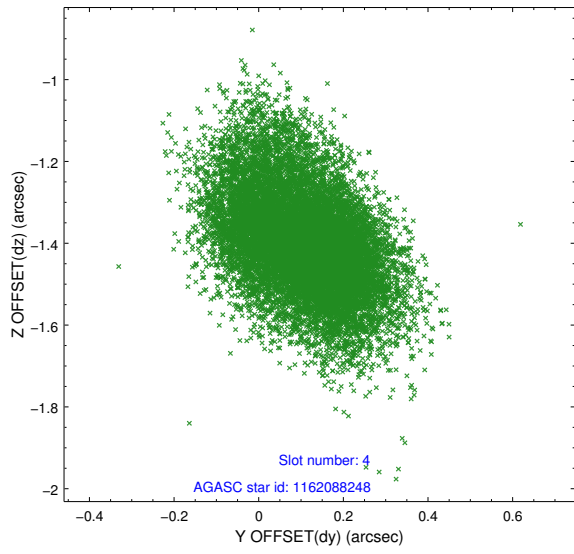
∞

2.4 Star Slots

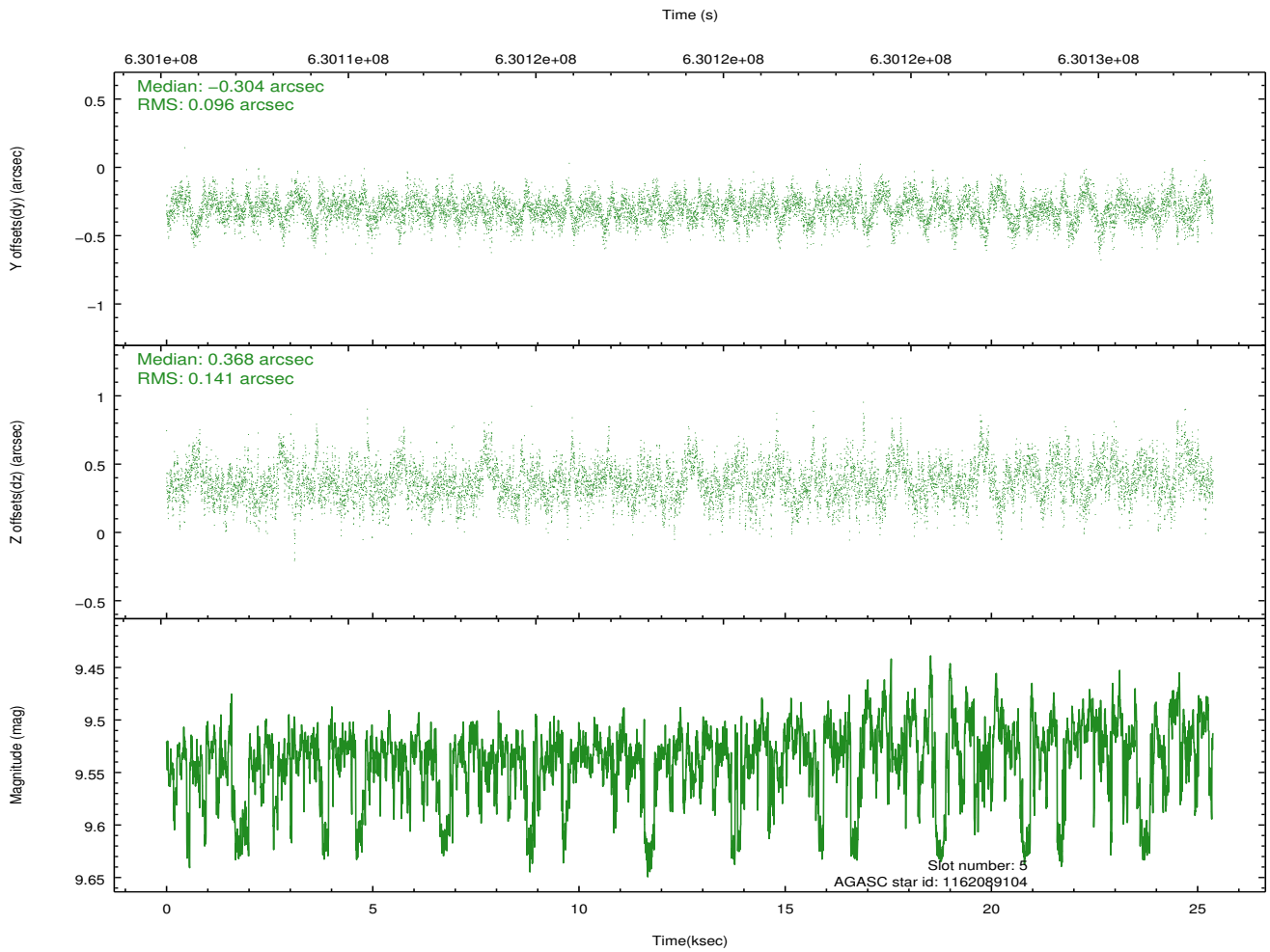
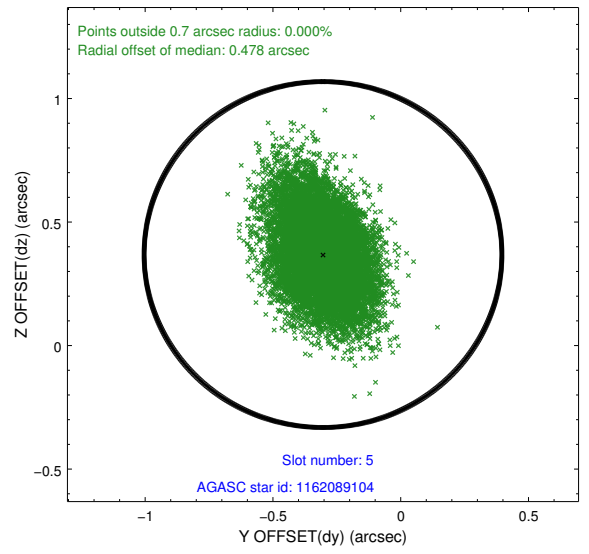
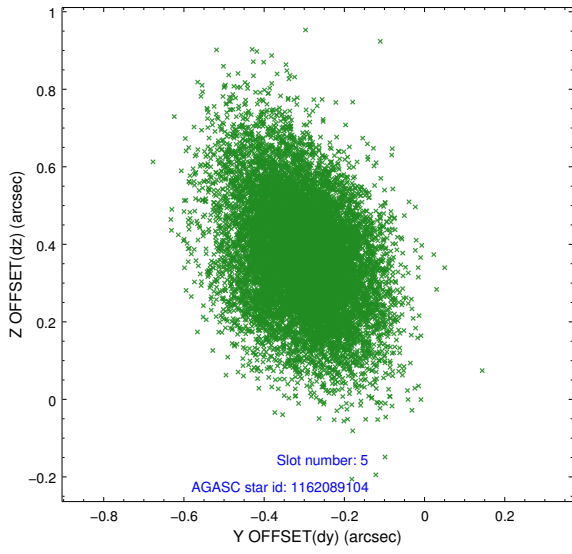
2.4.1 Slot 3



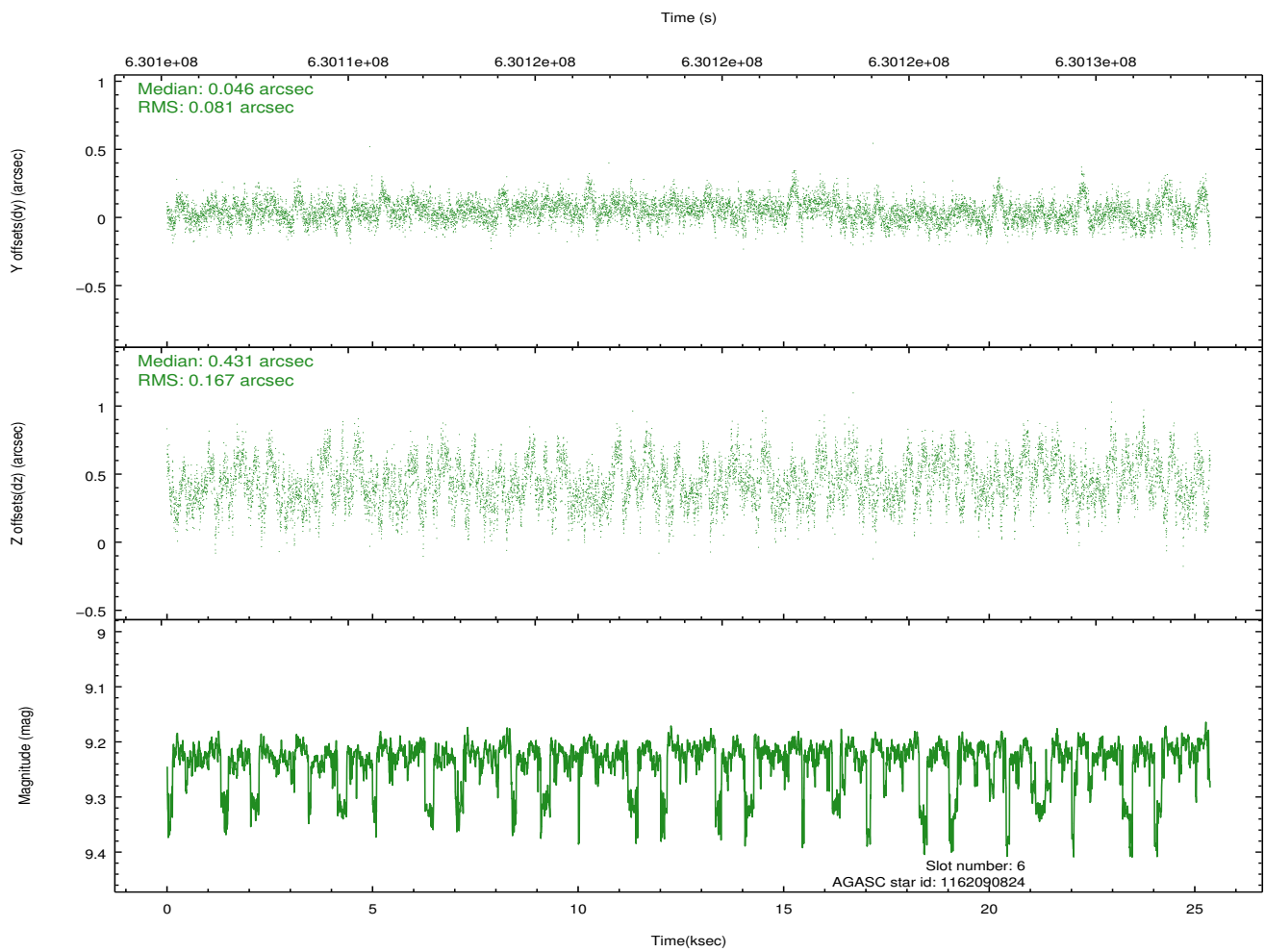
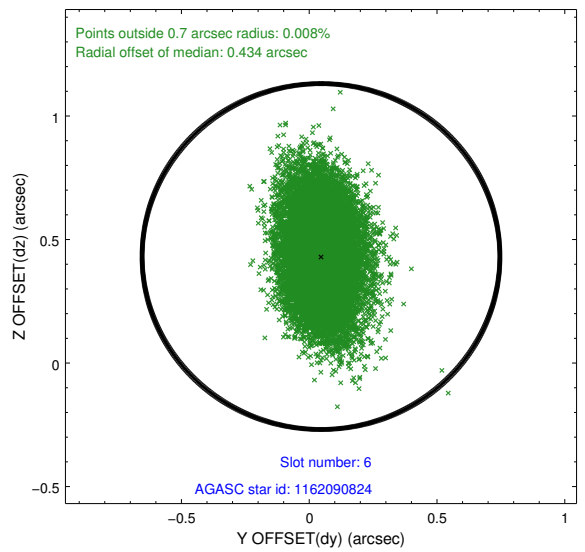
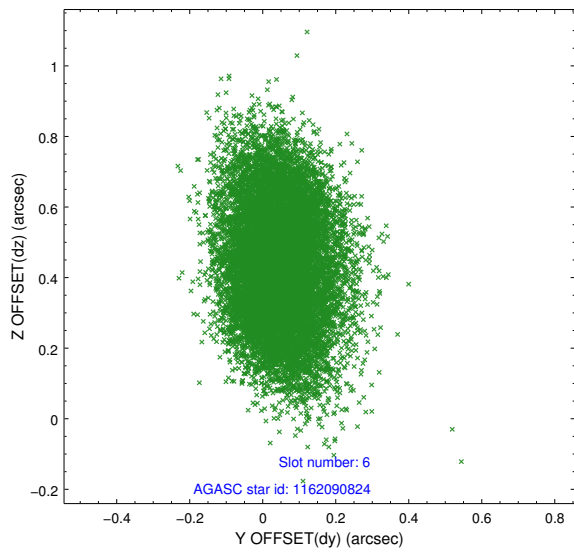
2.4.2 Slot 4



2.4.3 Slot 5

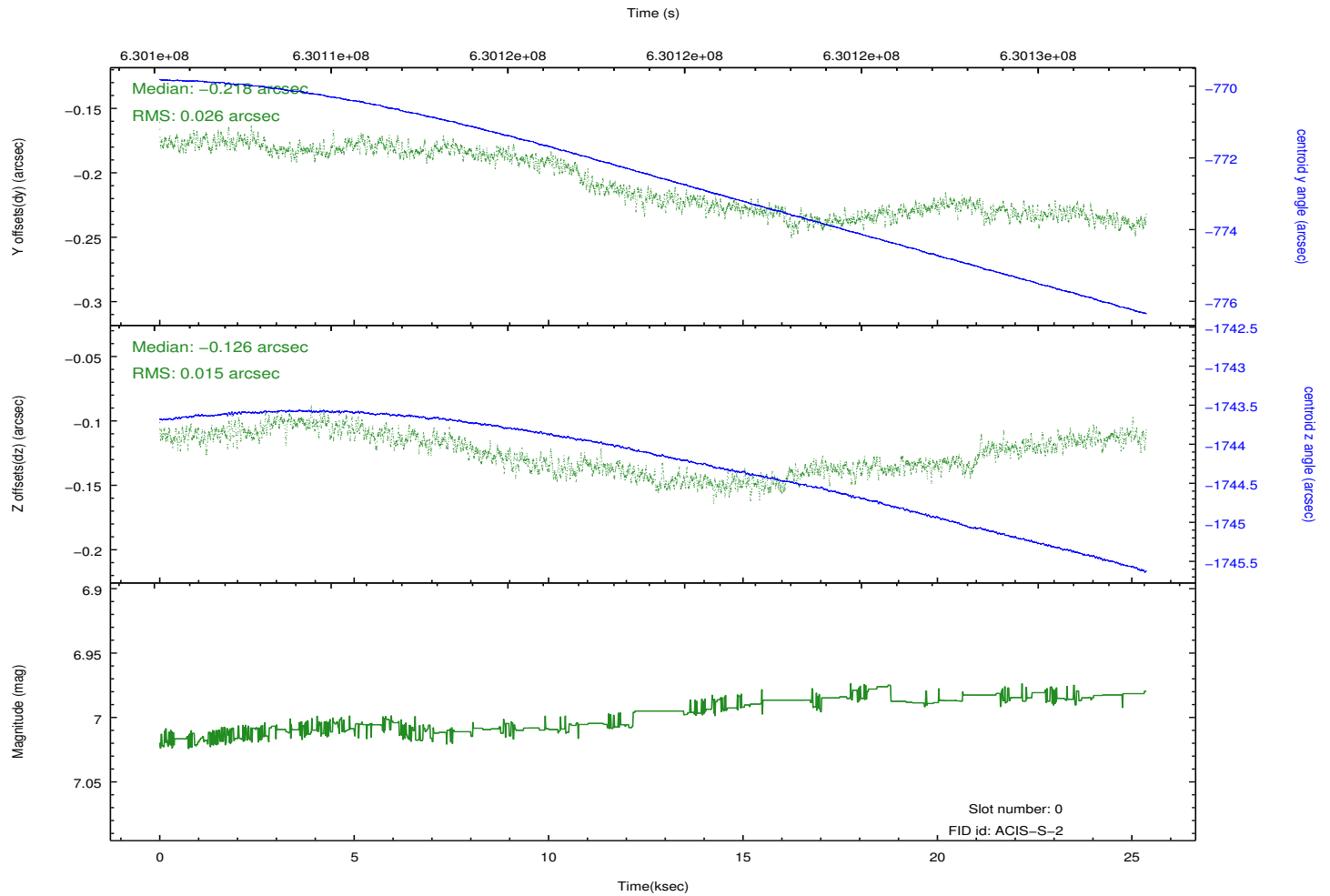
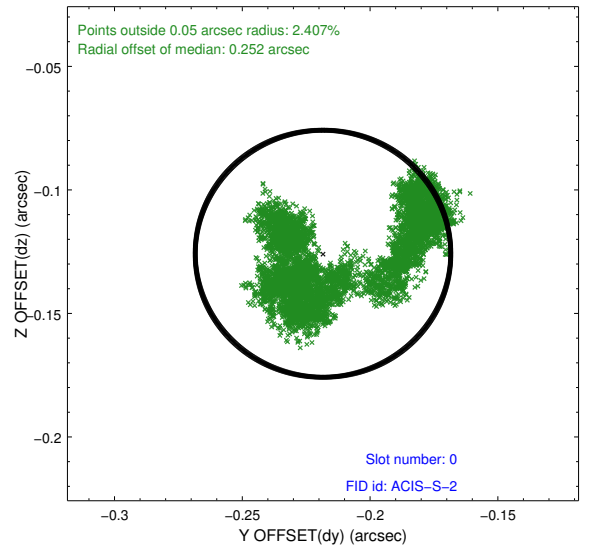
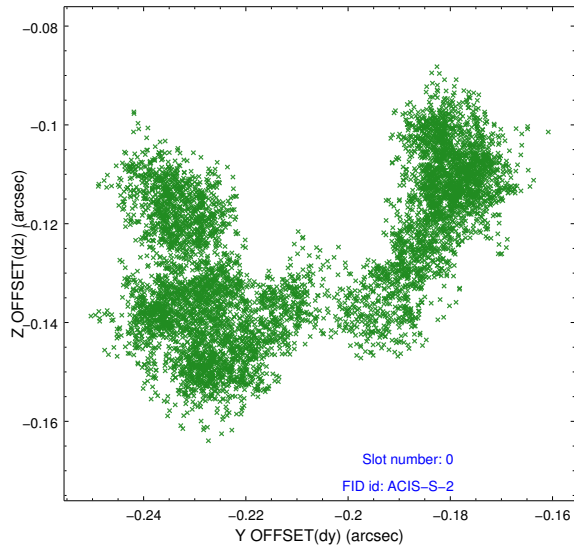


2.4.4 Slot 6

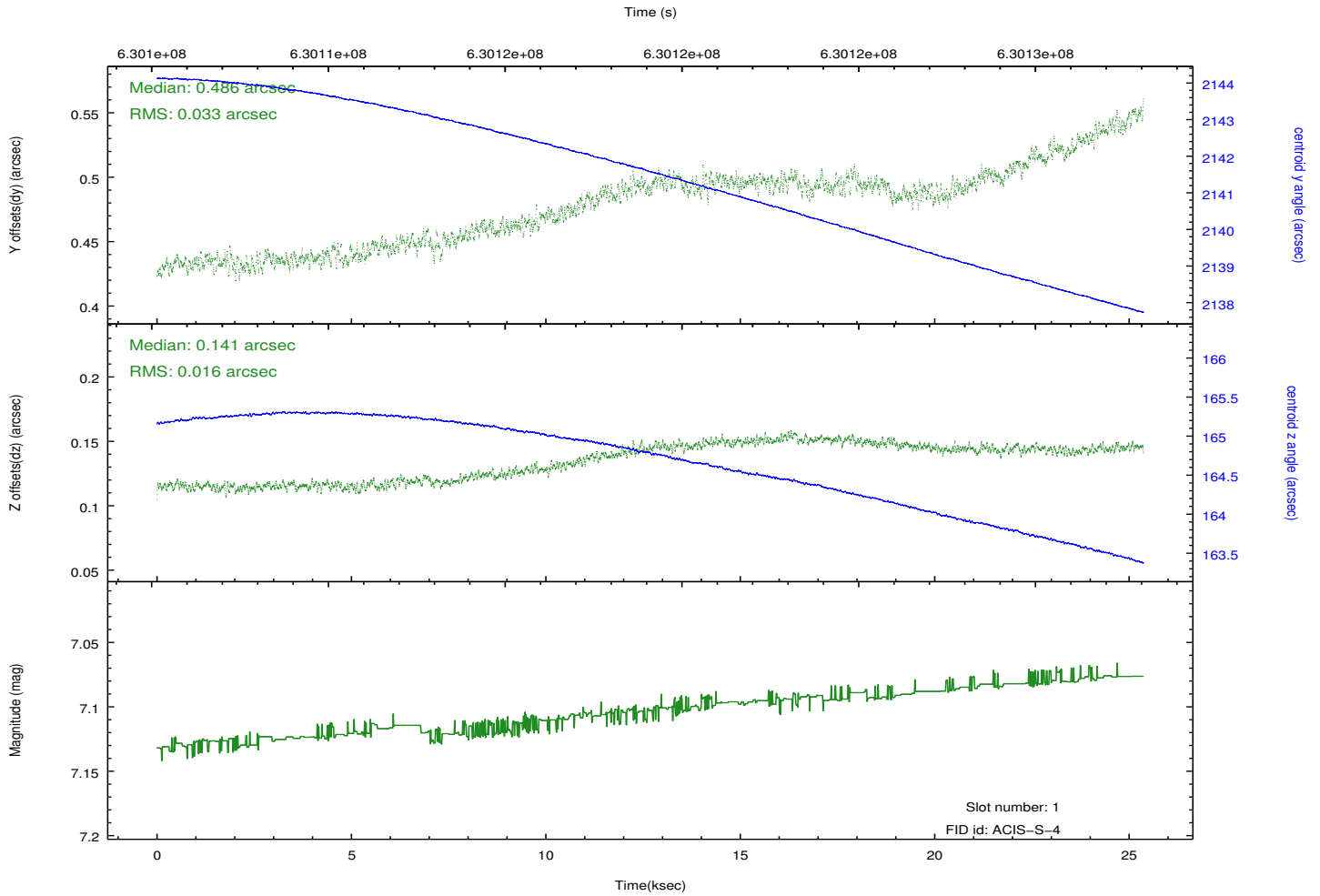
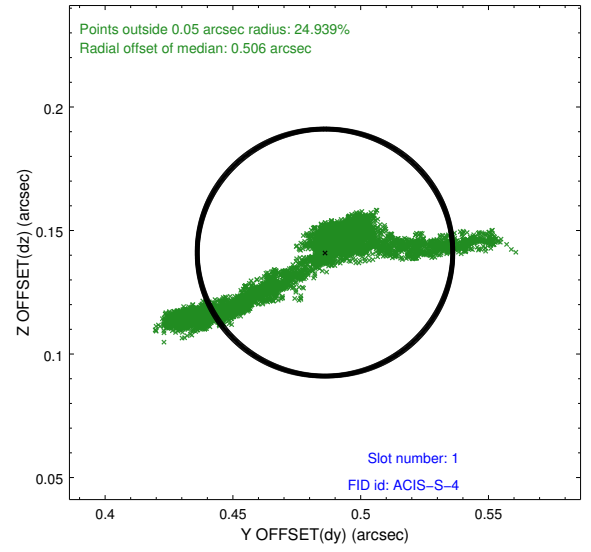
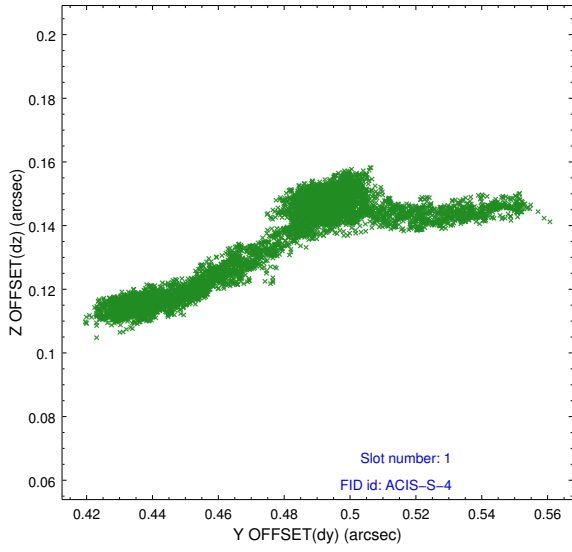


2.5 FID Slots

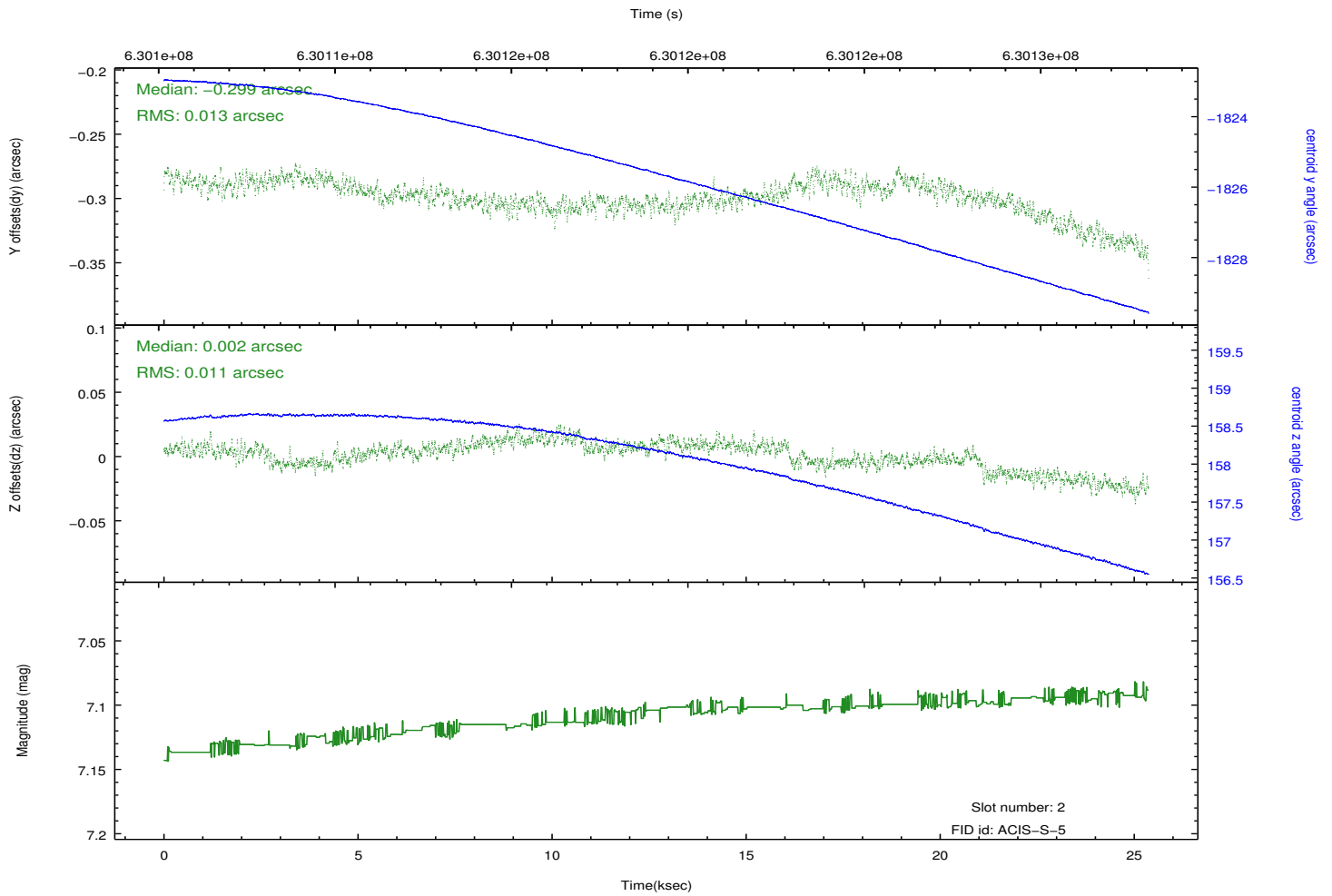
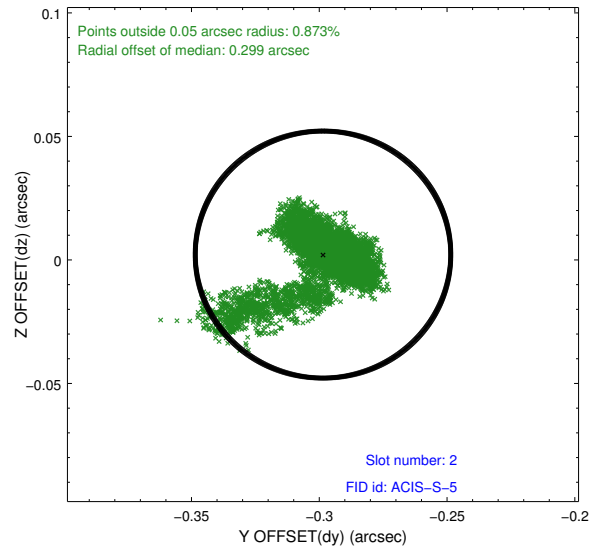
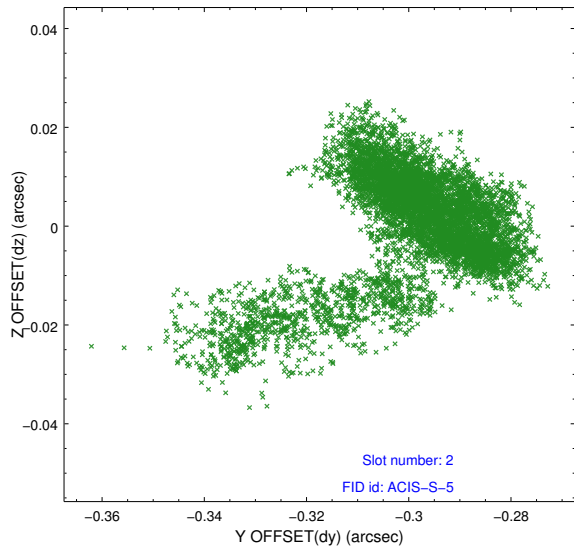
2.5.1 Slot 0



2.5.2 Slot 1

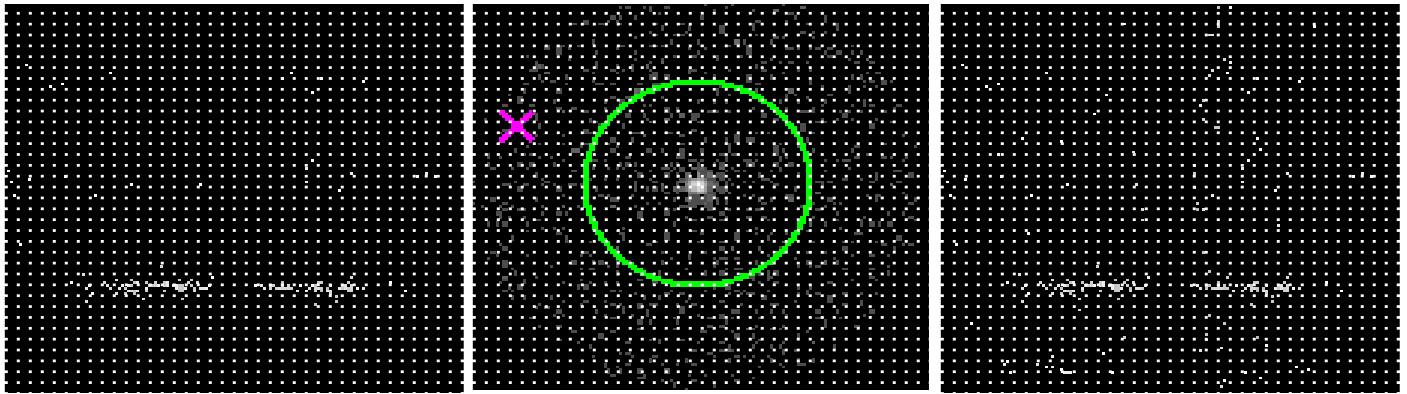


2.5.3 Slot 2



3 Gratings

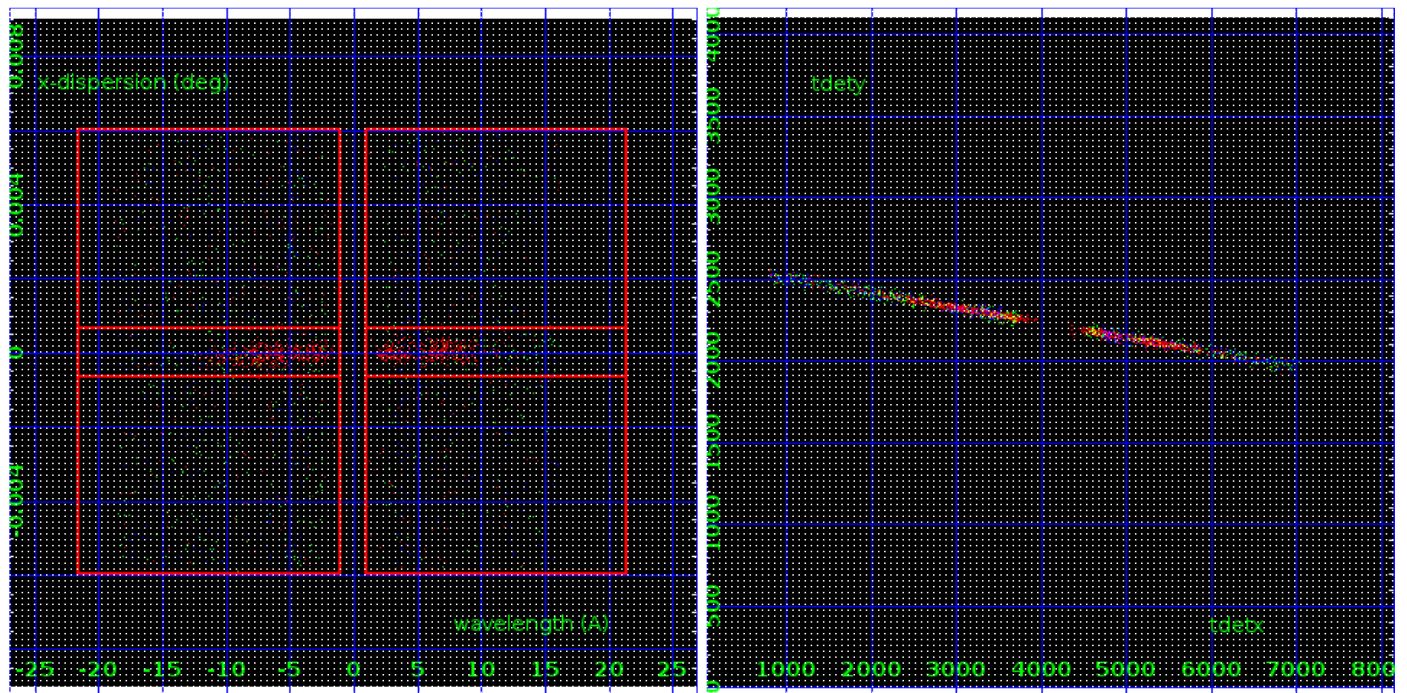
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

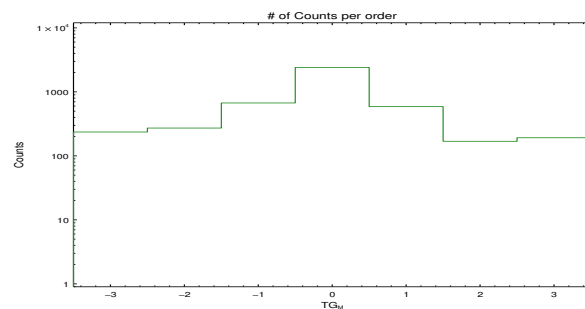
HEG Order Sort ALL

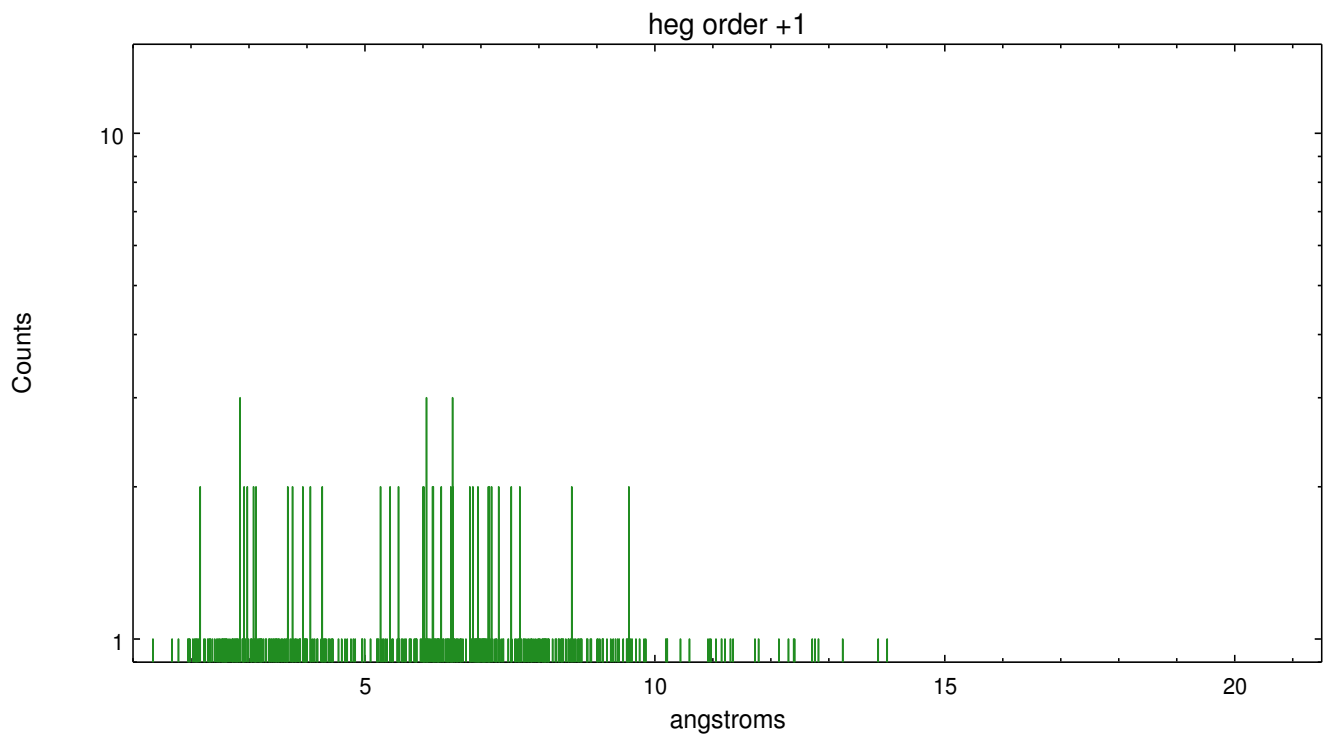
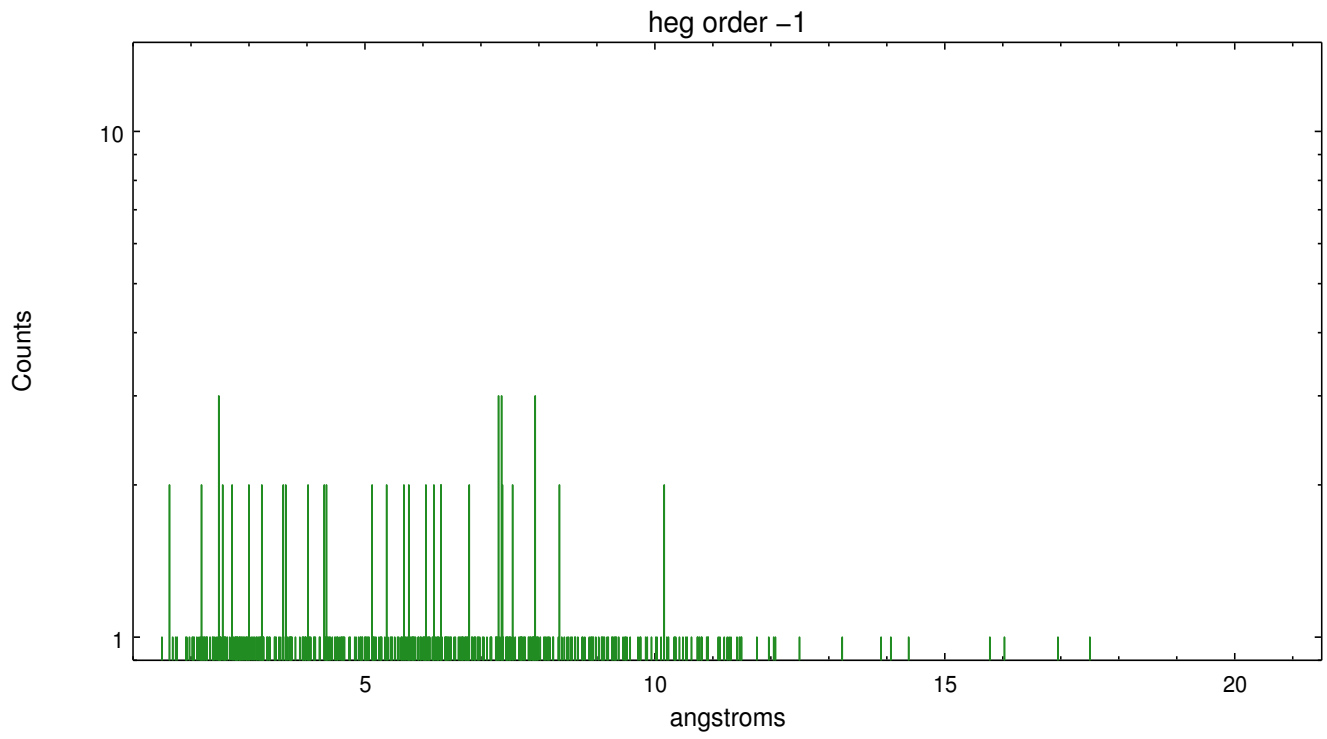


Spot Image HEG

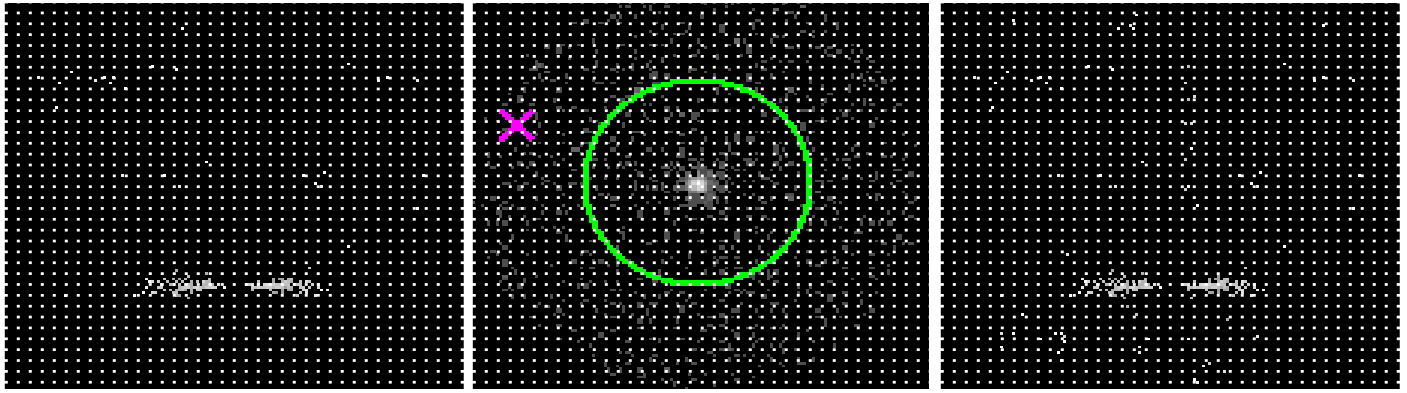
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	236	272	671	2402	588	169	192





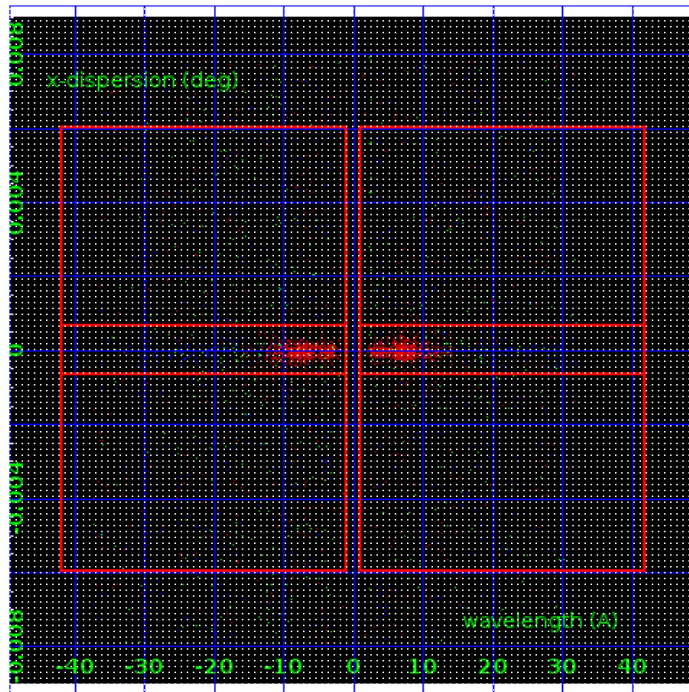
3.2 MEG Arm



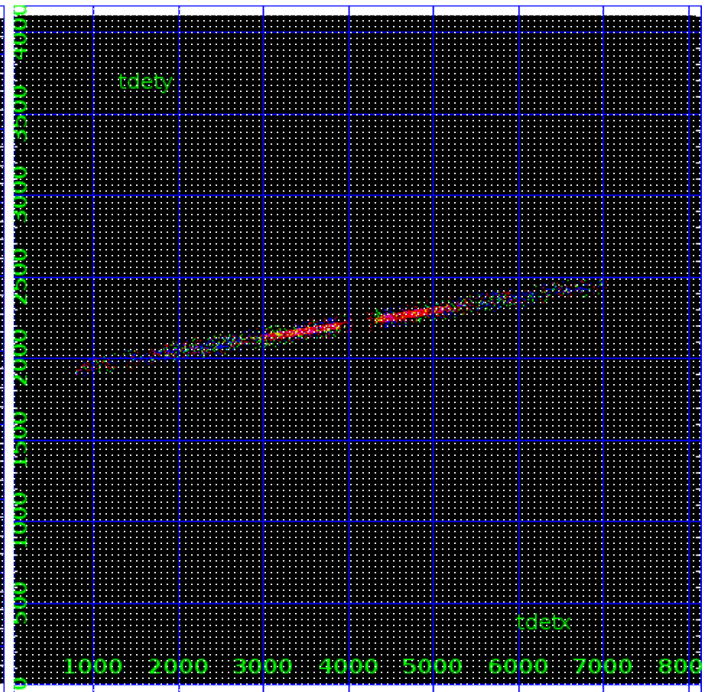
MEG Order Sort 123

MEG Zero Order

MEG Order Sort ALL

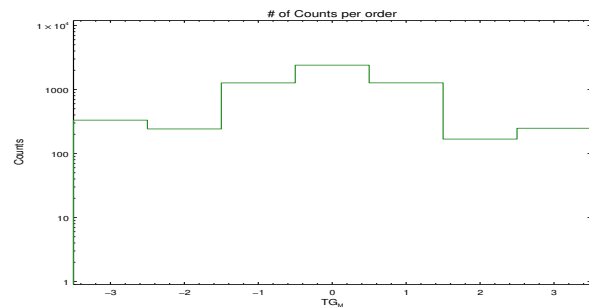


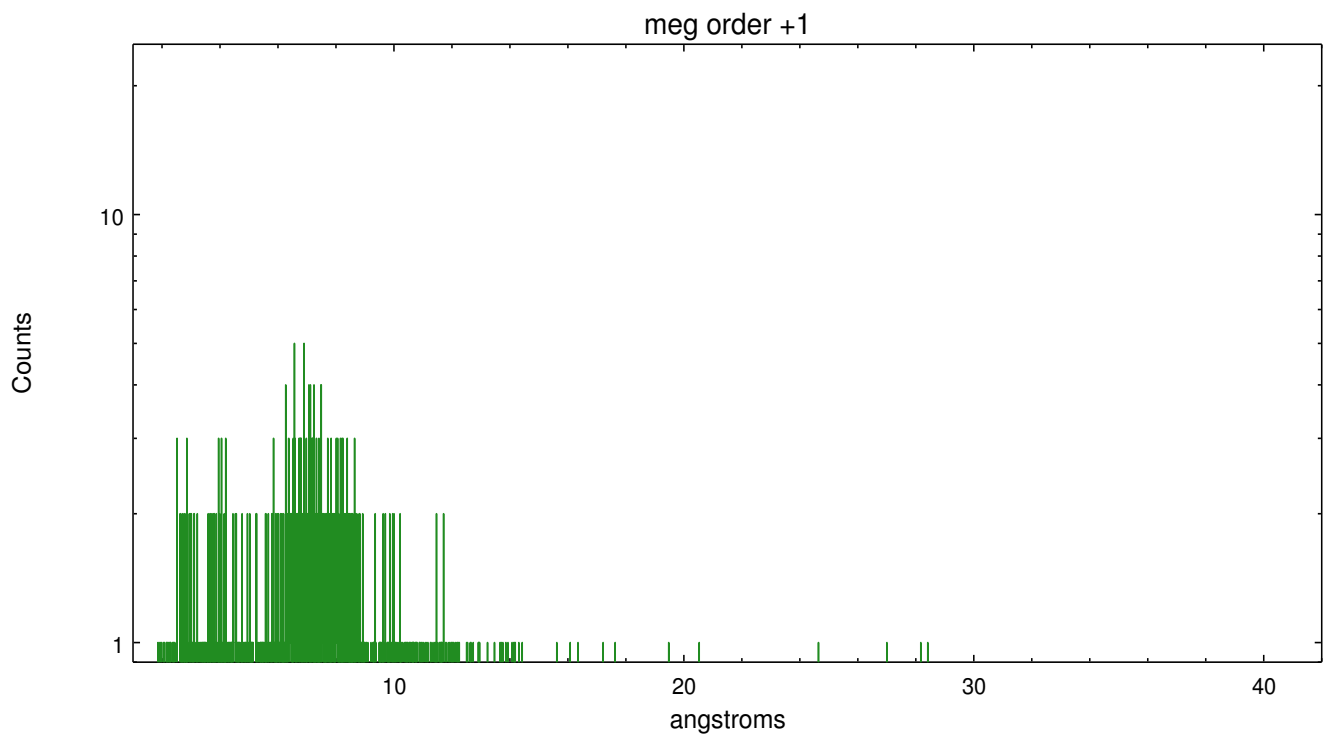
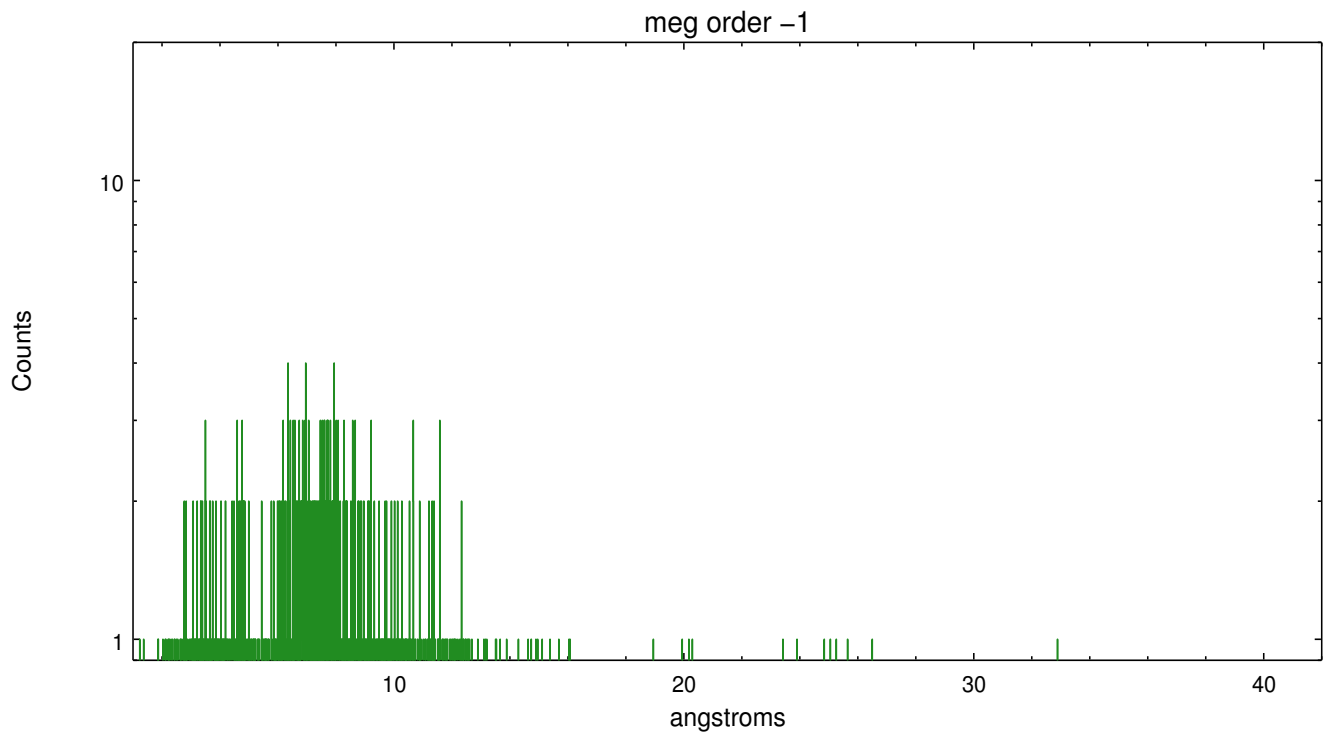
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	332	242	1269	2402	1271	168	248





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2017.12.28
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.193600375414

A.2 Comments

The guide star in slot 7 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this guide star from the solution.