

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 19929 - L2 Version 2
Chandra X-Ray Center

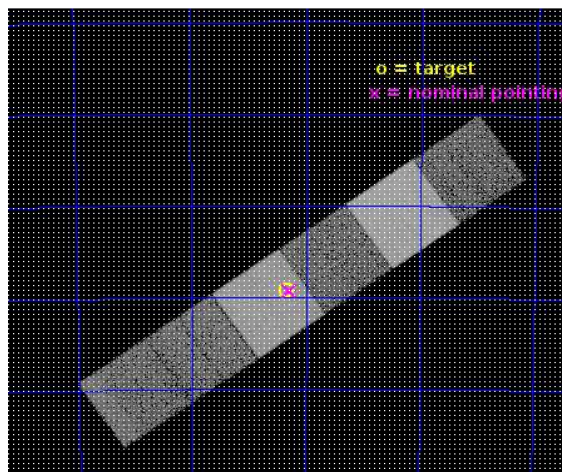
L2 Processing Date : Jul 6 2017

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 5	10
2.4.3	Slot 6	11
2.4.4	Slot 7	12
2.5	FID Slots	13
2.5.1	Slot 0	13
2.5.2	Slot 1	14
2.5.3	Slot 2	15
3	Gratings	16
3.1	HEG Arm	16
3.2	MEG Arm	18
A	Summary	20
A.1	Status	20
A.2	Comments	20

1 Front

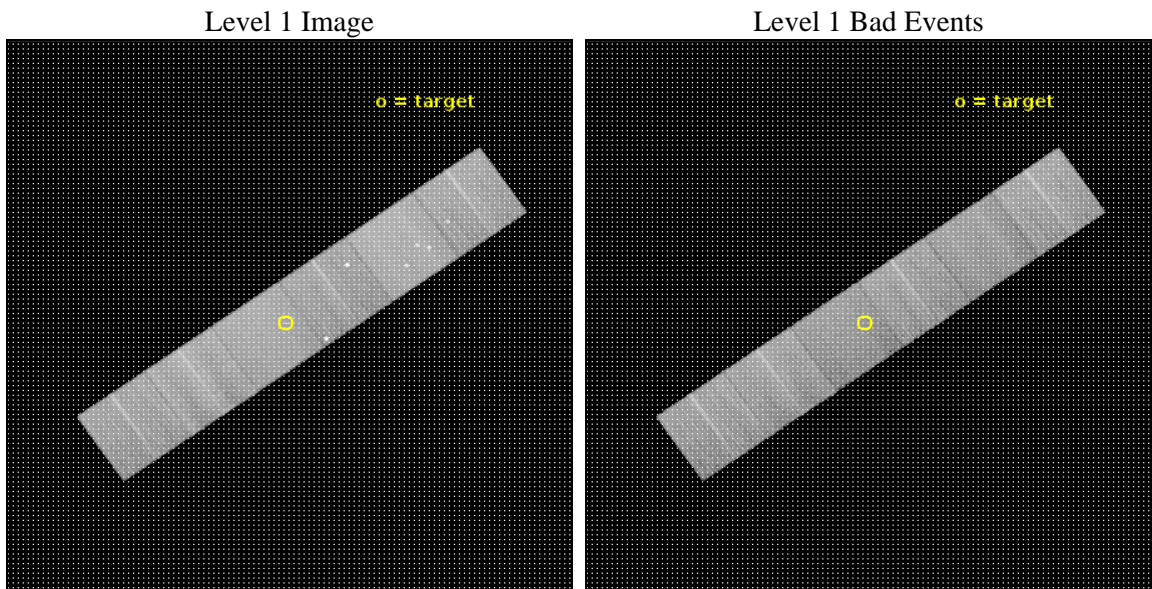
seq_num	401882	Sequence number
obs_id	19929	Observation id
title	HETG Spectroscopy of the Ultra-Luminous X-ray Source NGC 1313 X-1	
observer	Claude Canizares	Principal investigator
object	NGC 1313 X-1	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	49.583333	Observer's specified target RA [deg]
dec_targ	-66.486389	Observer's specified target Dec [deg]
ra_nom	49.571616174718	Nominal RA [deg]
dec_nom	-66.487865812671	Nominal Dec [deg]
roll_nom	145.14580191926	Nominal Roll [deg]
revision	2	Processing version of data
ontime	17945.60026741	Sum of GTIs [s]
livetime	17718.362271281	Livetime [s]
ontime4	17945.60026741	Sum of GTIs [s]
ontime5	17945.60026741	Sum of GTIs [s]
ontime6	17945.60026741	Sum of GTIs [s]
ontime7	17945.60026741	Sum of GTIs [s]
ontime8	17945.60026741	Sum of GTIs [s]
ontime9	17945.60026741	Sum of GTIs [s]
l2events	212449	Number of level 2 events



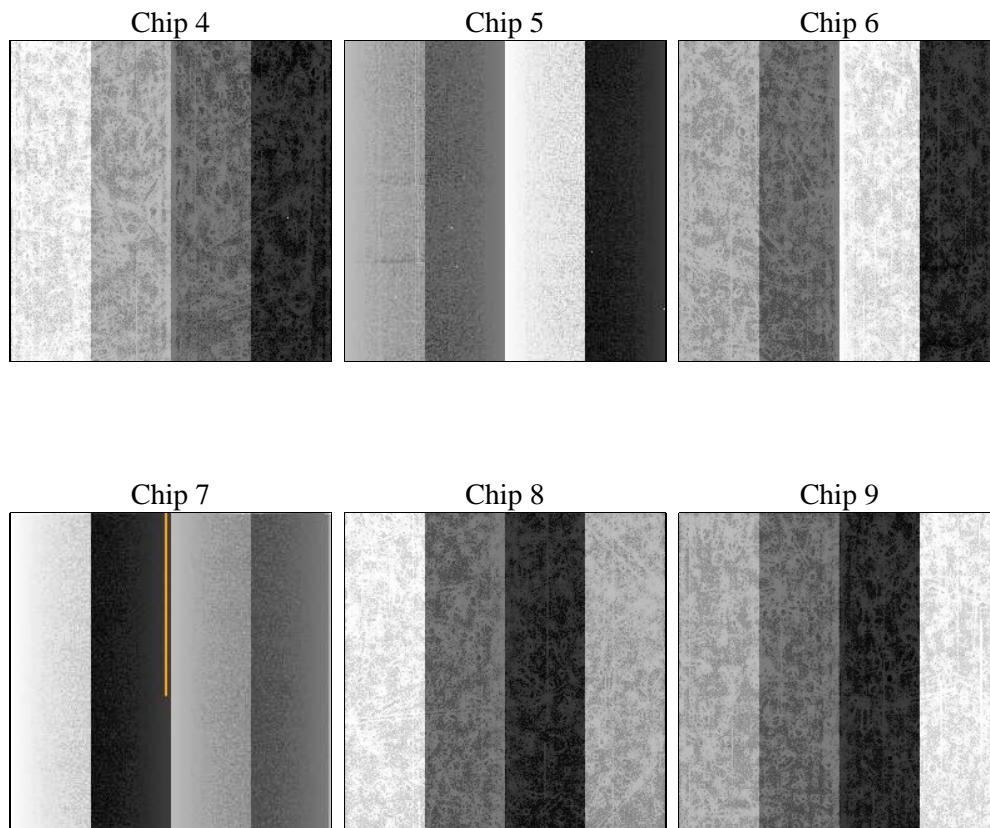
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	18000.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	17945.60026741	Sum of GTIs [s]
caldbver	4.7.5	 	ontime4	17945.60026741	Sum of GTIs [s]
date	2017-07-06T21:32:46	Date and time of file creation	ontime5	17945.60026741	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	17945.60026741	Sum of GTIs [s]
			ontime7	17945.60026741	Sum of GTIs [s]
			ontime8	17945.60026741	Sum of GTIs [s]
			ontime9	17945.60026741	Sum of GTIs [s]
			l1events	976847	Number of level 1 events
			tgmetho	TGDETECT	Method used to create srcla file

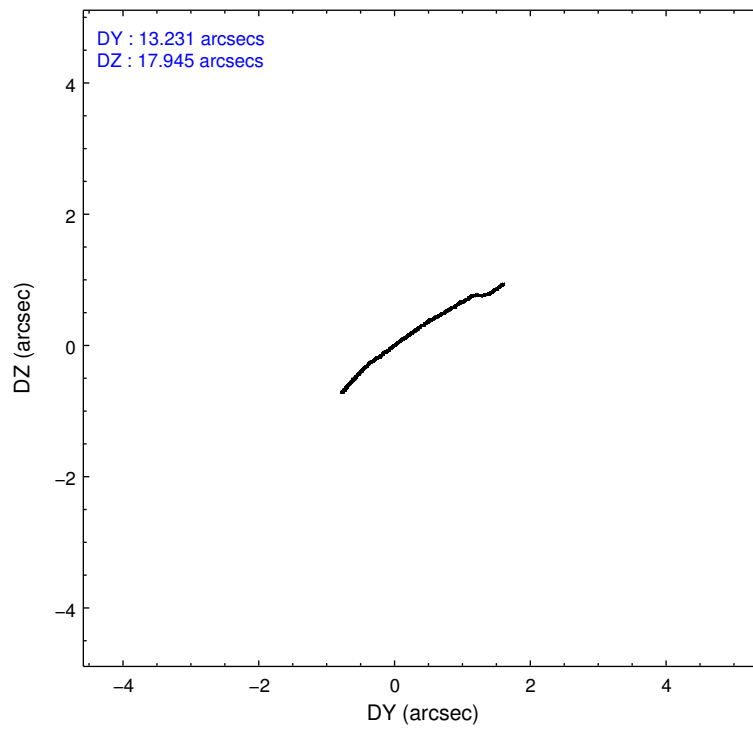
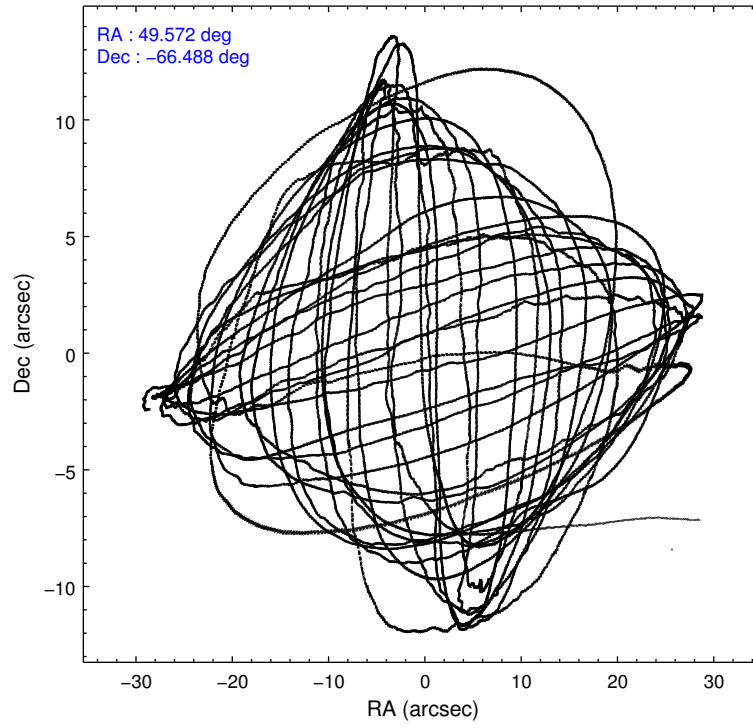
2.1.4 Events

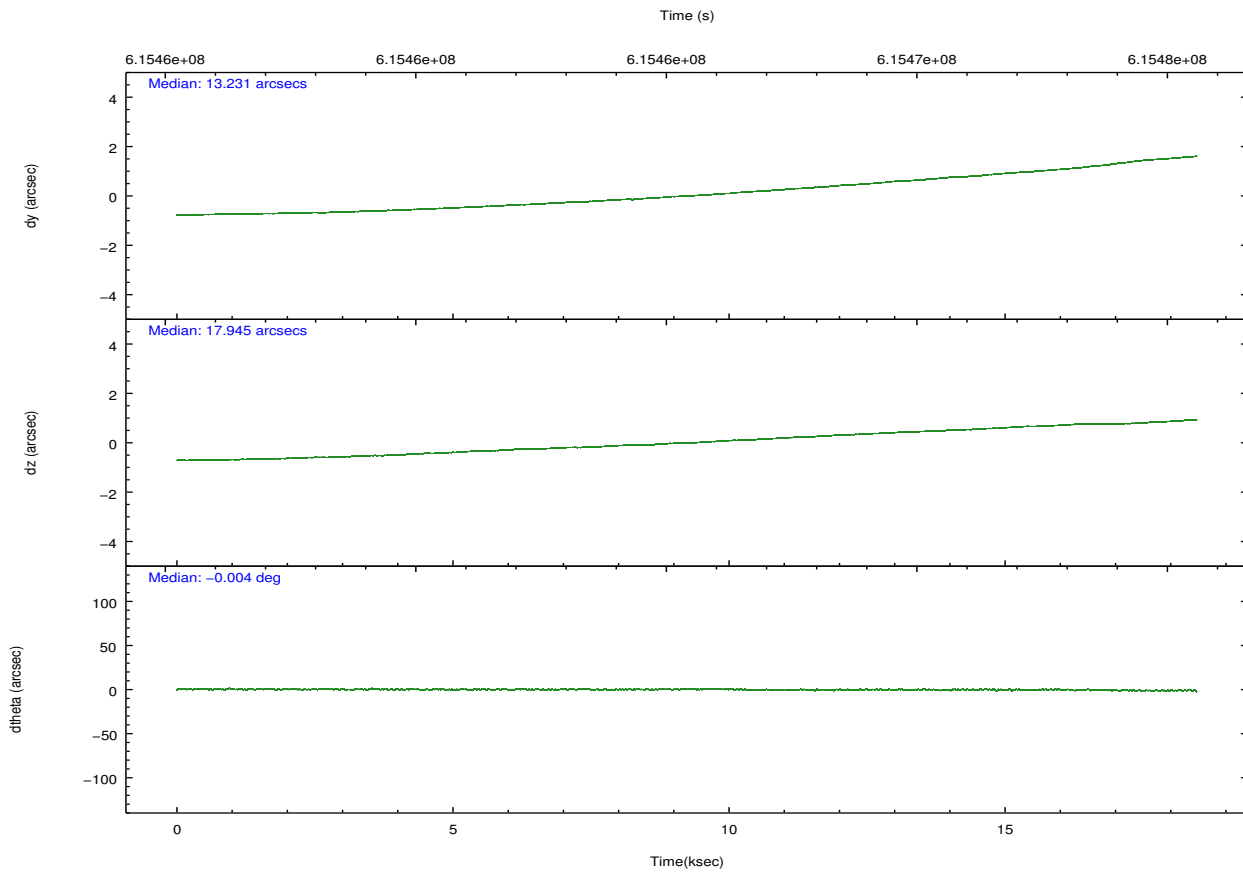
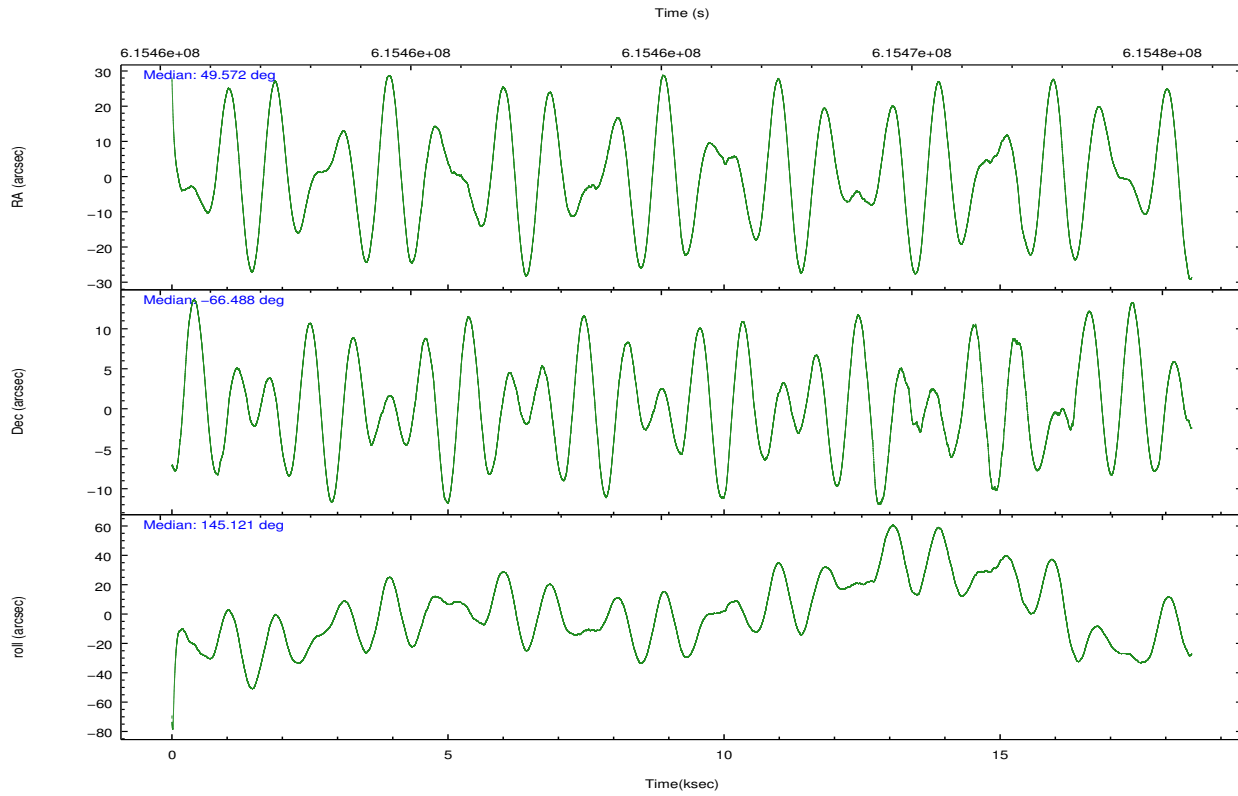
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	158455	206588	146492	163725	167658	133929	grade 0 events	6619	9495	9879	6064	12093	5261
rejected events	142554	106044	121334	92403	124479	118808		4%	4%	6%	3%	7%	3%
rejected %	89%	51%	82%	56%	74%	88%	grade 1 events	160	729	64	235	108	89
								0%	0%	0%	0%	0%	0%
							grade 2 events	3537	30988	8899	14834	10718	3472
								2%	14%	6%	9%	6%	2%
							grade 3 events	1638	2829	1355	5721	4465	1518
								1%	1%	0%	3%	2%	1%
							grade 4 events	1492	2659	1376	5761	4062	1471
								0%	1%	0%	3%	2%	1%
							grade 5 events	5995	13177	5651	16204	8653	6248
								3%	6%	3%	9%	5%	4%
							grade 6 events	2618	54608	3659	38966	11850	3404
								1%	26%	2%	23%	7%	2%
							grade 7 events	136396	92103	115609	75940	115709	112466
								86%	44%	78%	46%	69%	83%

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	49.640259	49.57161617471823	CCD I2 on	N	N
[deg] Pointing Dec	-66.489834	-66.48786581267133	CCD I3 on	N	N
[deg] Pointing Roll	145.052204	145.1458019192635	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)	615456635.184000	615455348.783	CCD S5 on	Y	Y
Observation start date	2017-07-03T08:09:26	2017-07-03T07:49:08	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	615474635.184000	615475682.2216901	On-chip summing requested	N	N
Observation end date	2017-07-03T13:09:26	2017-07-03T13:28:02	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

2.3 Aspect



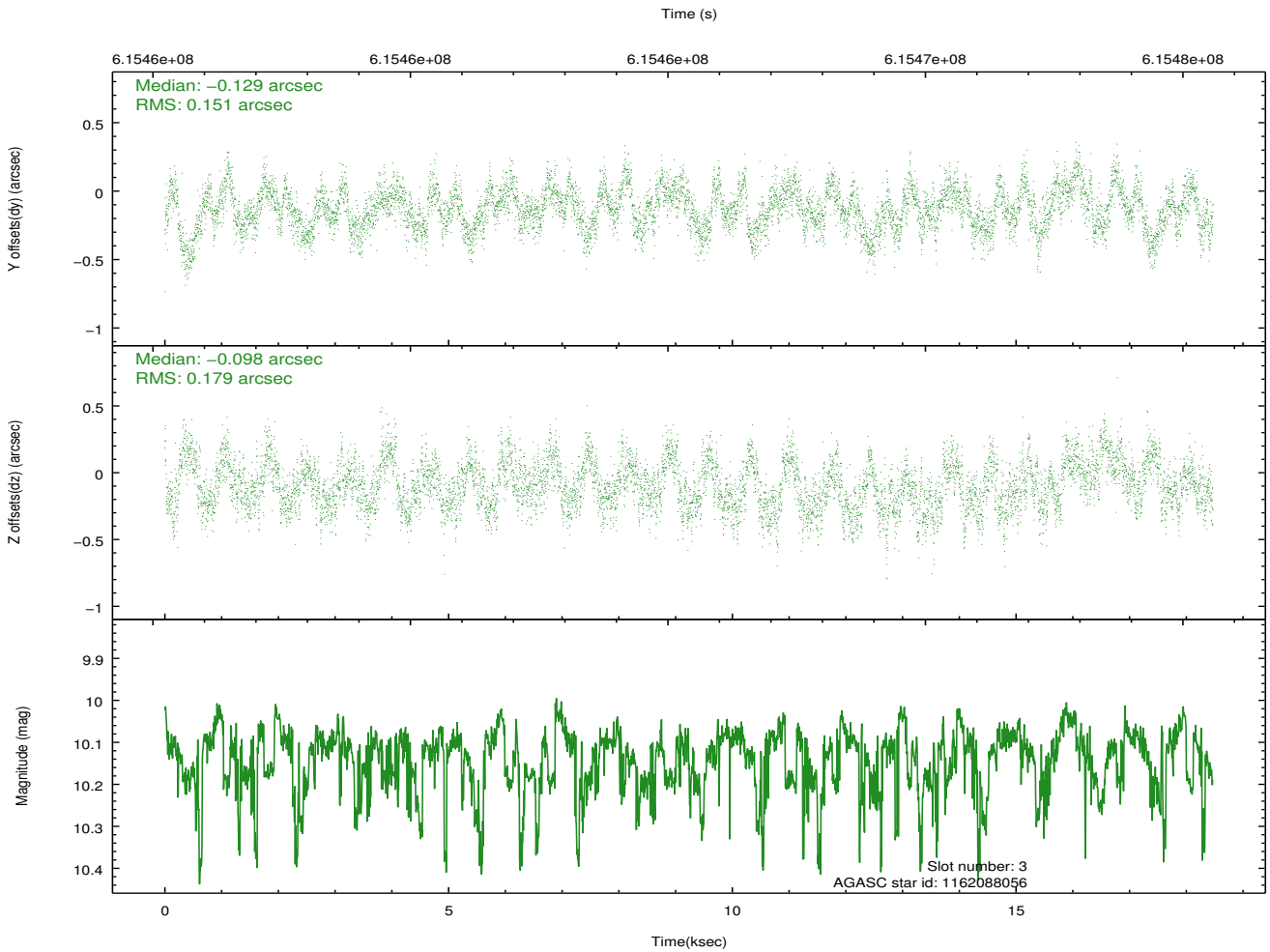
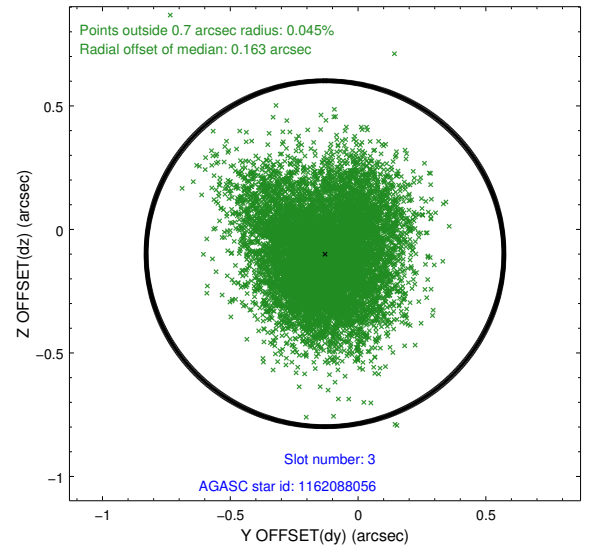
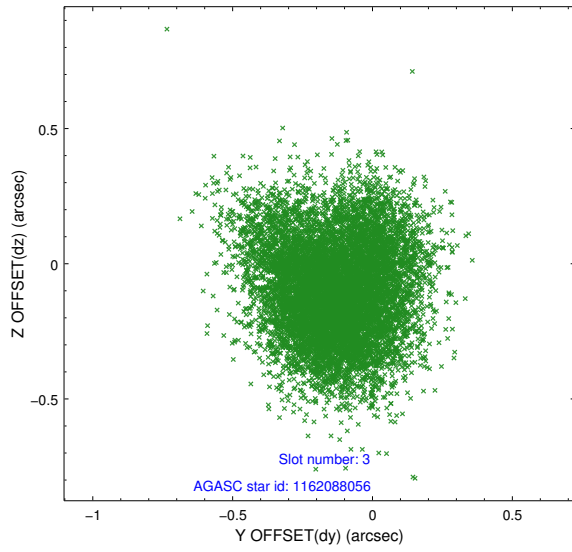


Slot Statistics

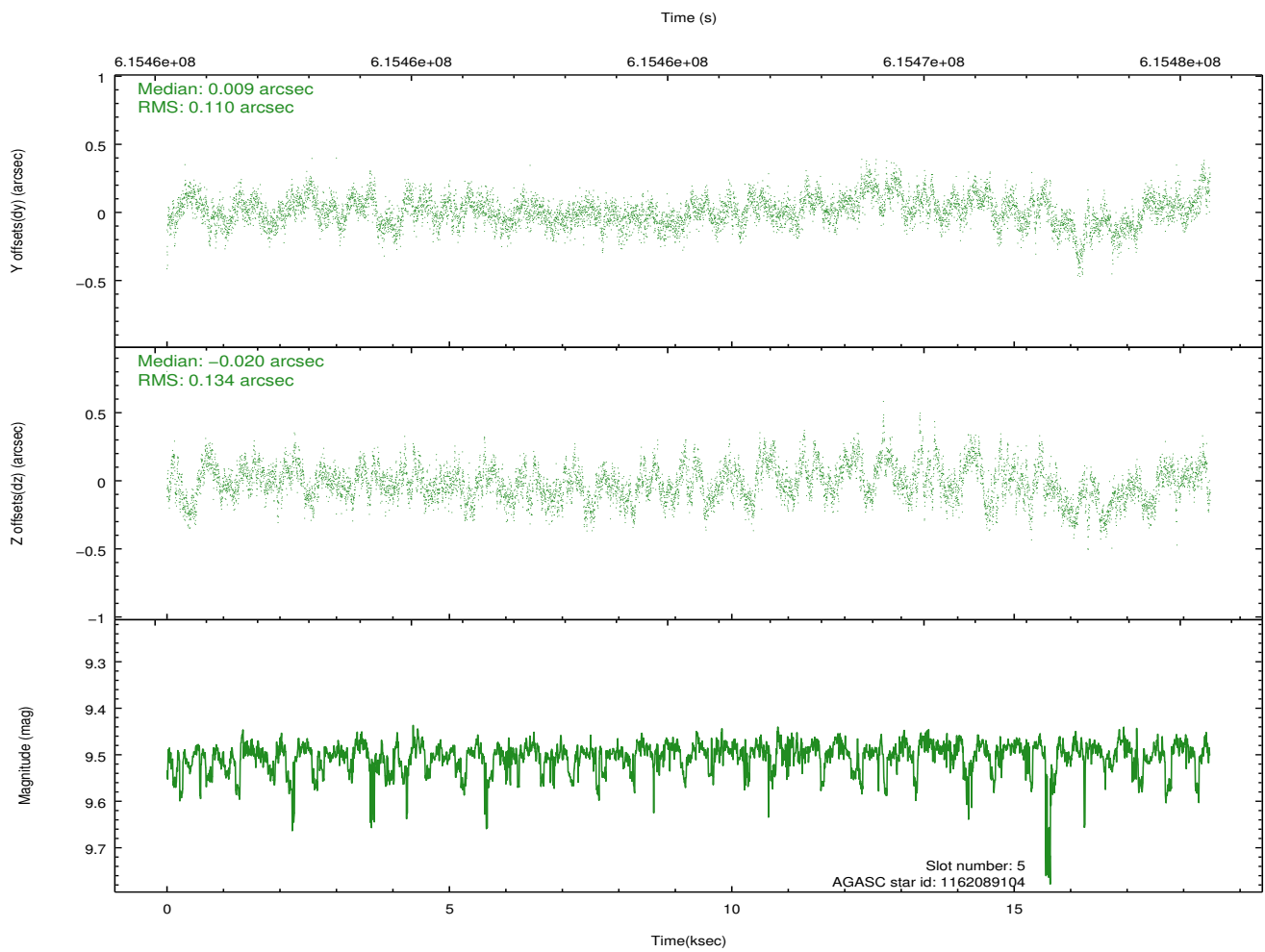
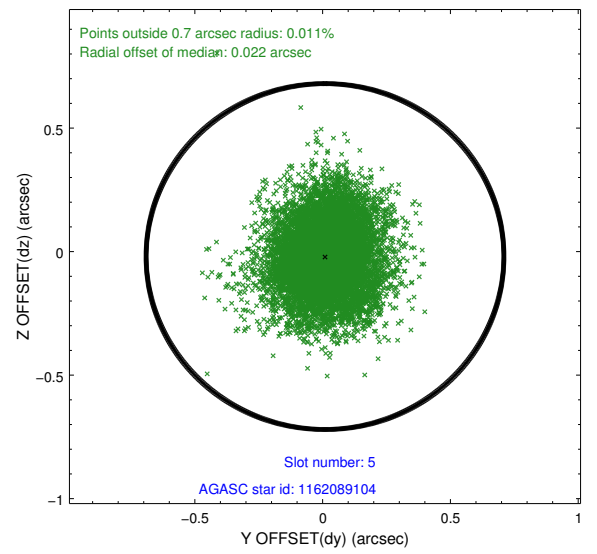
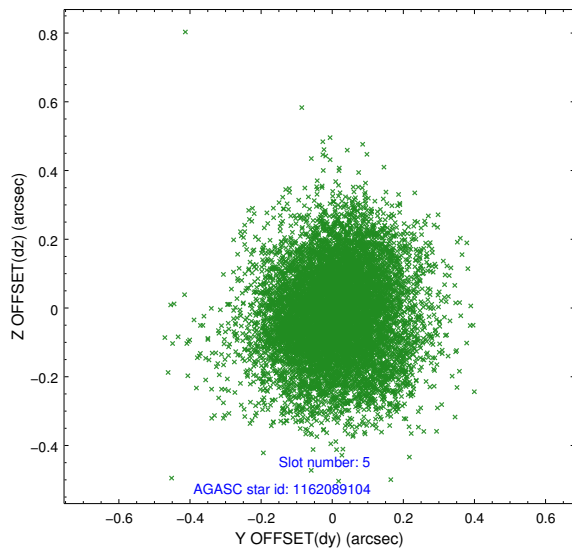
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.12	4504	-0.128	-0.124	0.026	0.062	0.000000	0.000000	-766.42	-1739.57
1	FID		ACIS-S-4	7.24	4505	0.439	0.097	0.030	0.051	0.000000	0.000000	2147.33	168.93
2	FID		ACIS-S-5	7.25	4505	-0.336	0.033	0.016	0.032	0.000000	0.000000	-1819.19	162.75
3	GUIDE	used	1162088056	10.13	8986	-0.129	-0.098	0.251	0.398	48.729349	-66.949806	97.95	2099.97
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	9.50	9003	0.009	-0.020	0.183	0.301	48.422126	-66.410699	1591.94	786.18
6	GUIDE	used	1162090824	9.22	9007	-0.079	0.151	0.151	0.239	48.677982	-66.885202	293.13	1954.19
7	GUIDE	used	1162095520	9.94	8997	0.199	-0.037	0.199	0.332	47.993238	-66.636141	1607.73	1804.95

2.4 Star Slots

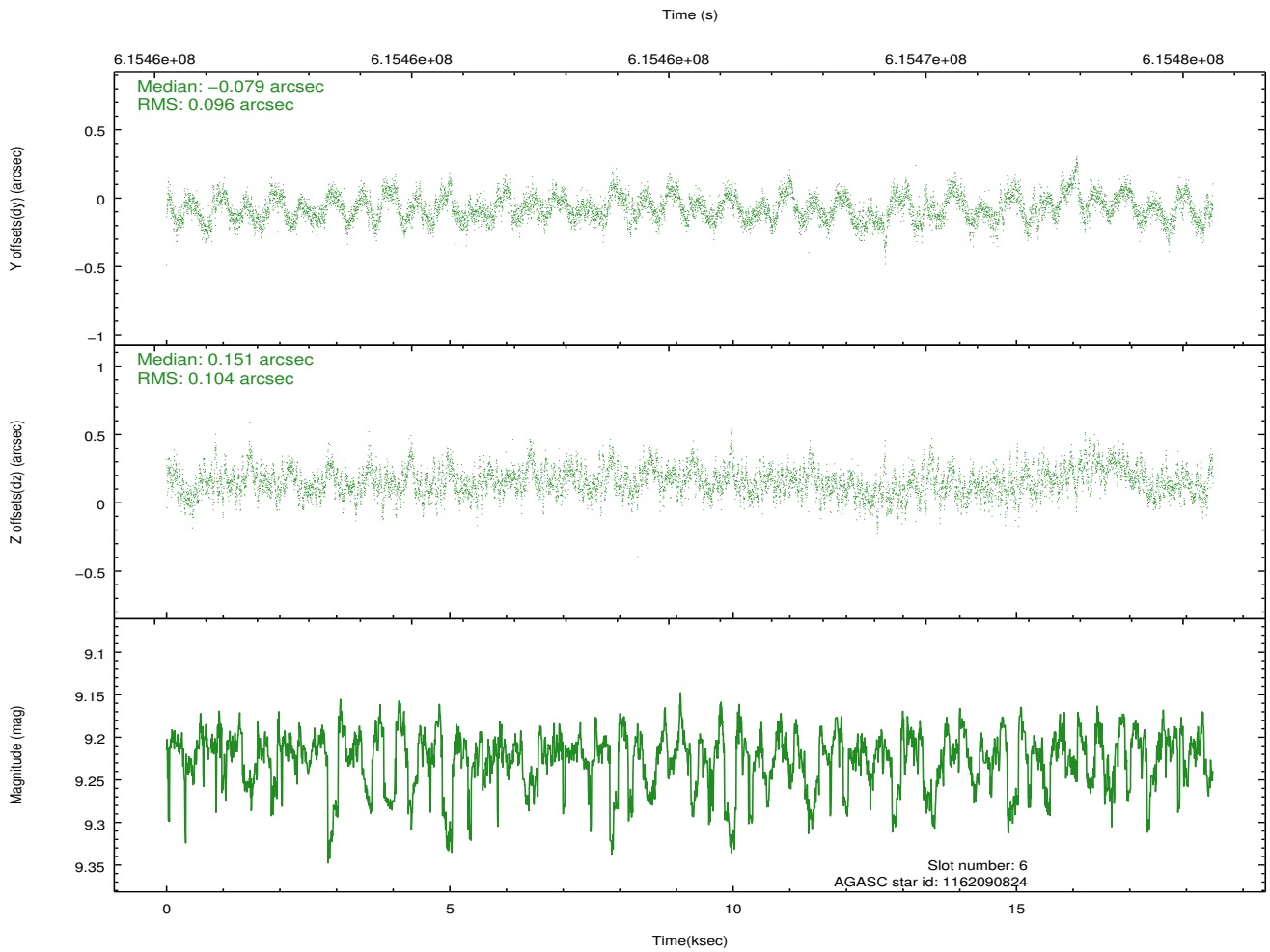
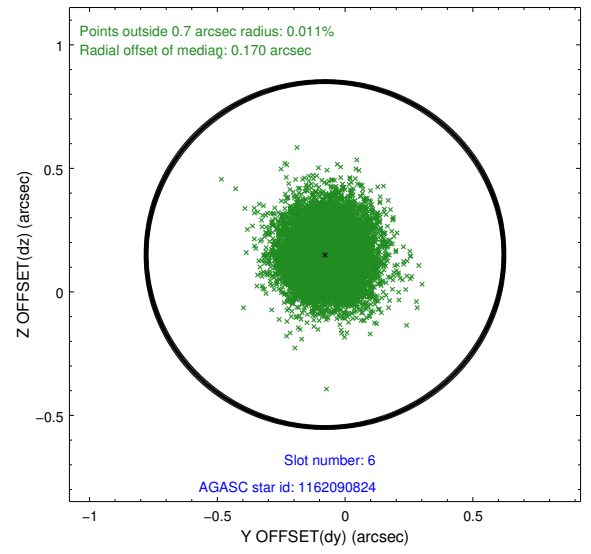
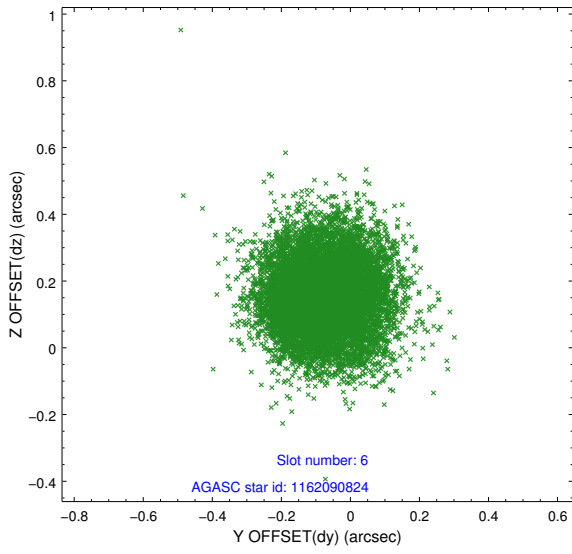
2.4.1 Slot 3



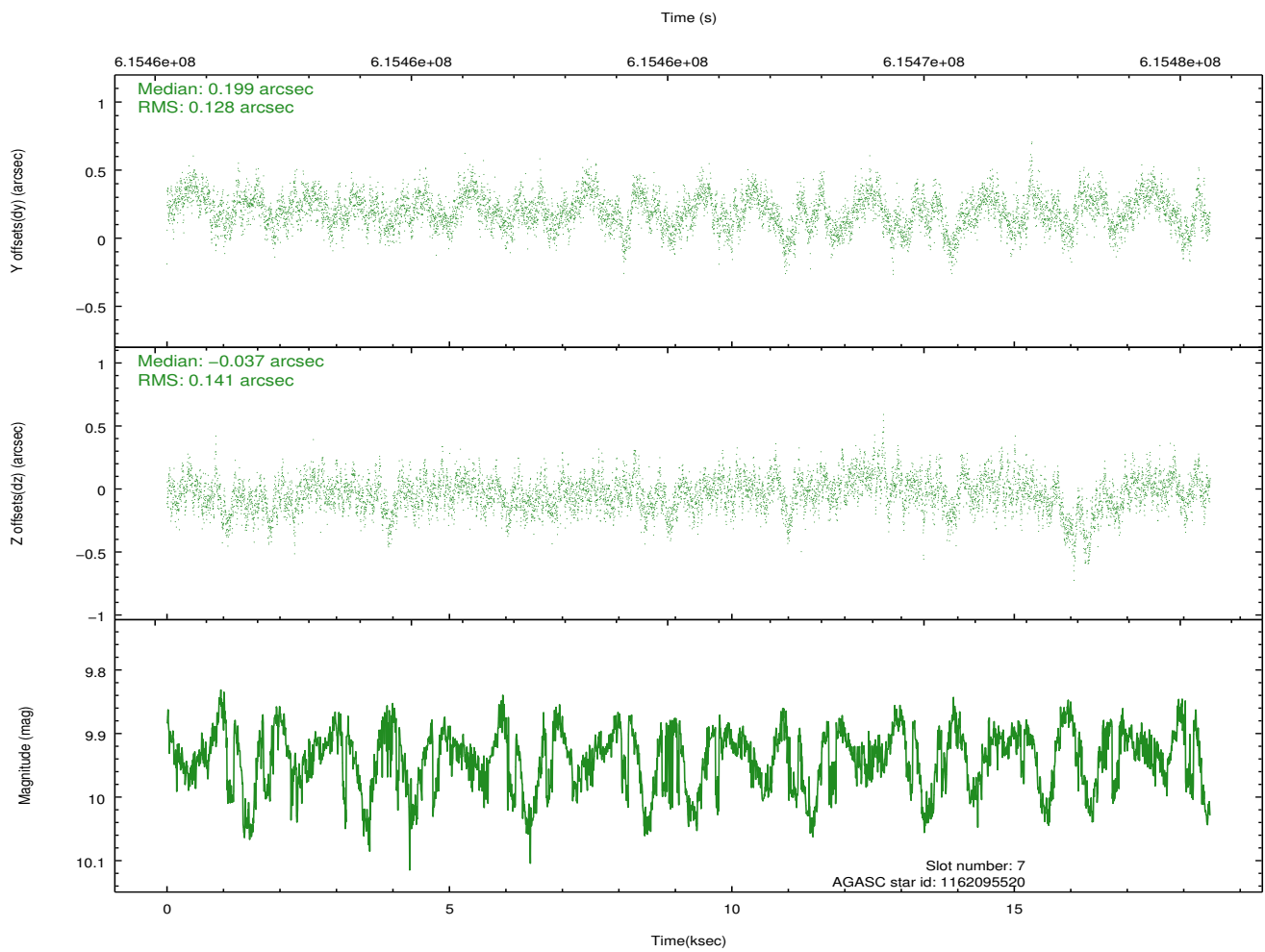
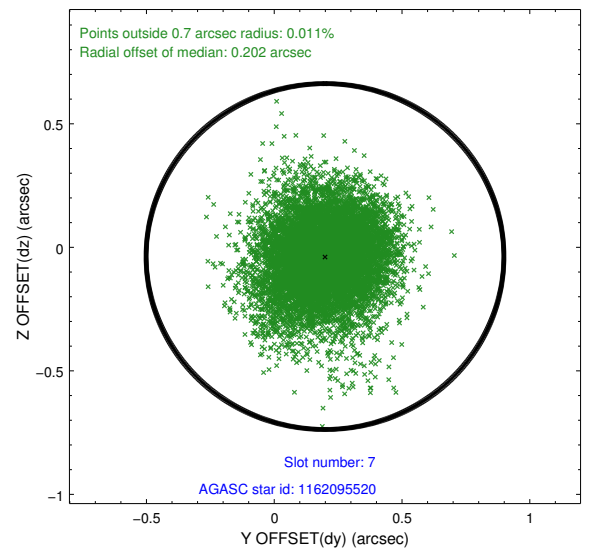
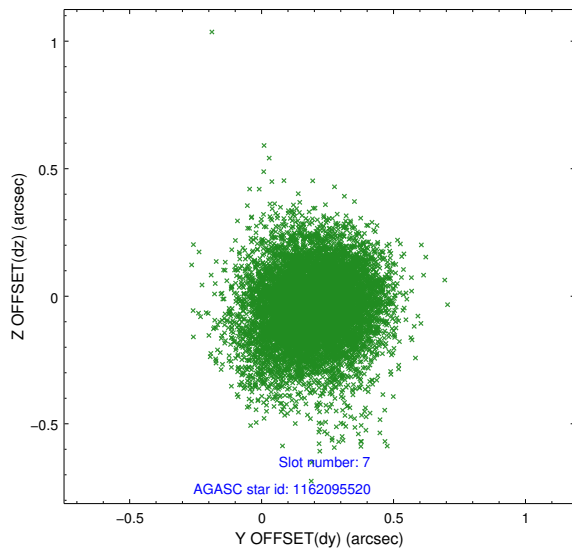
2.4.2 Slot 5



2.4.3 Slot 6

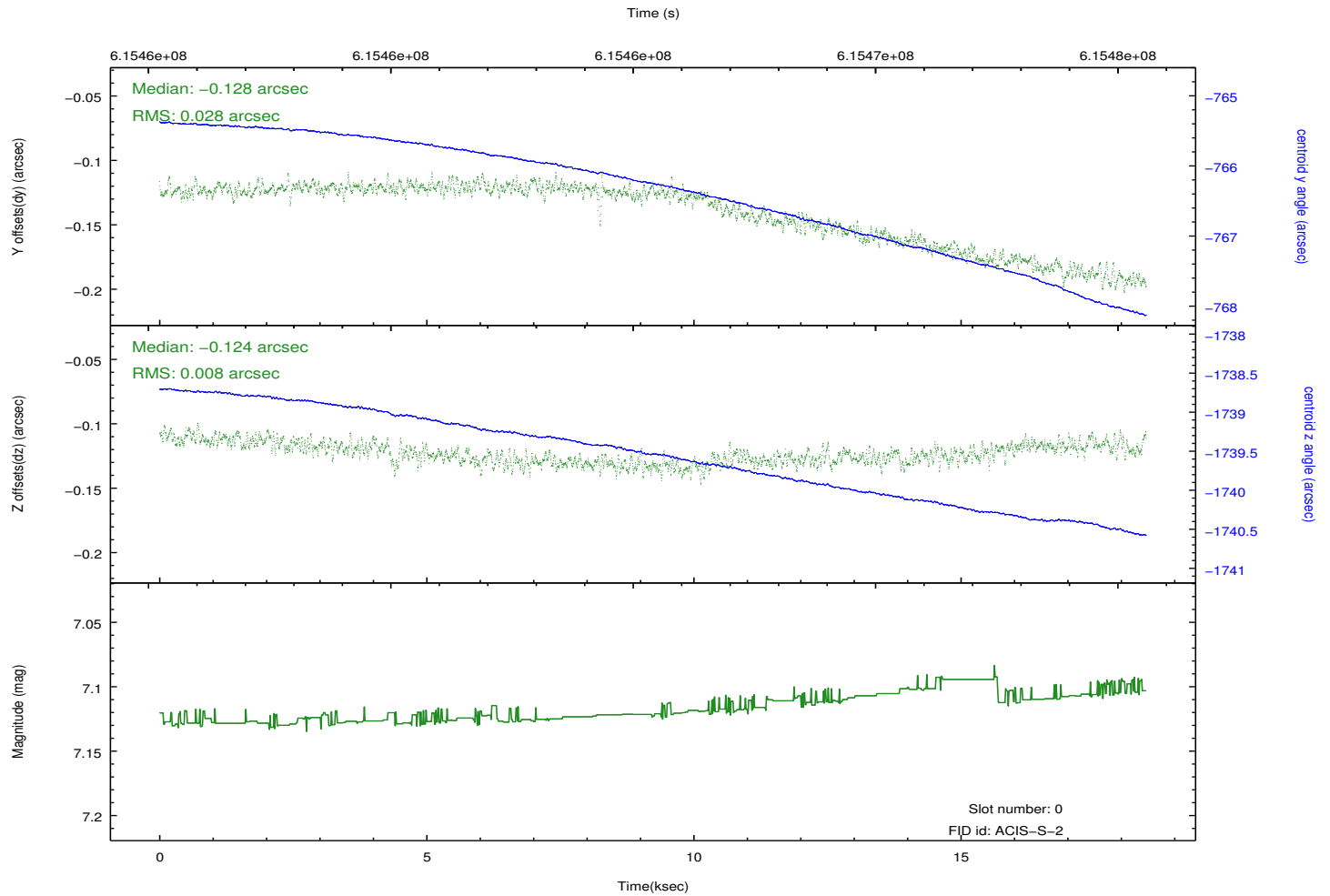
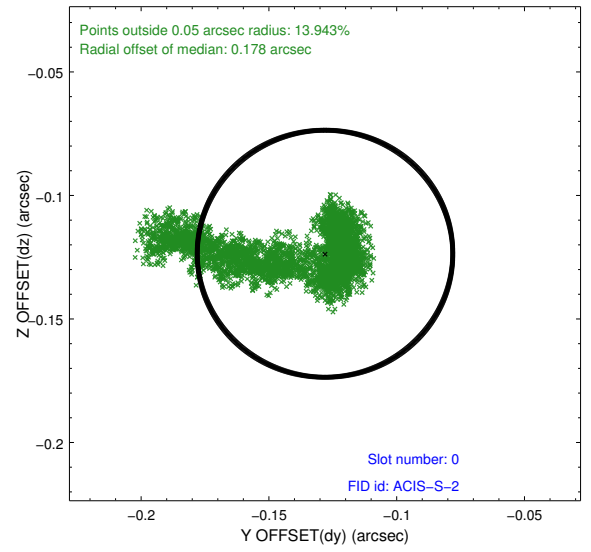
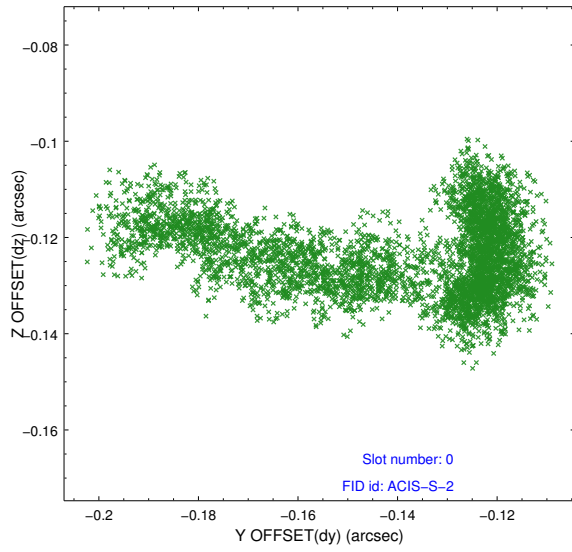


2.4.4 Slot 7

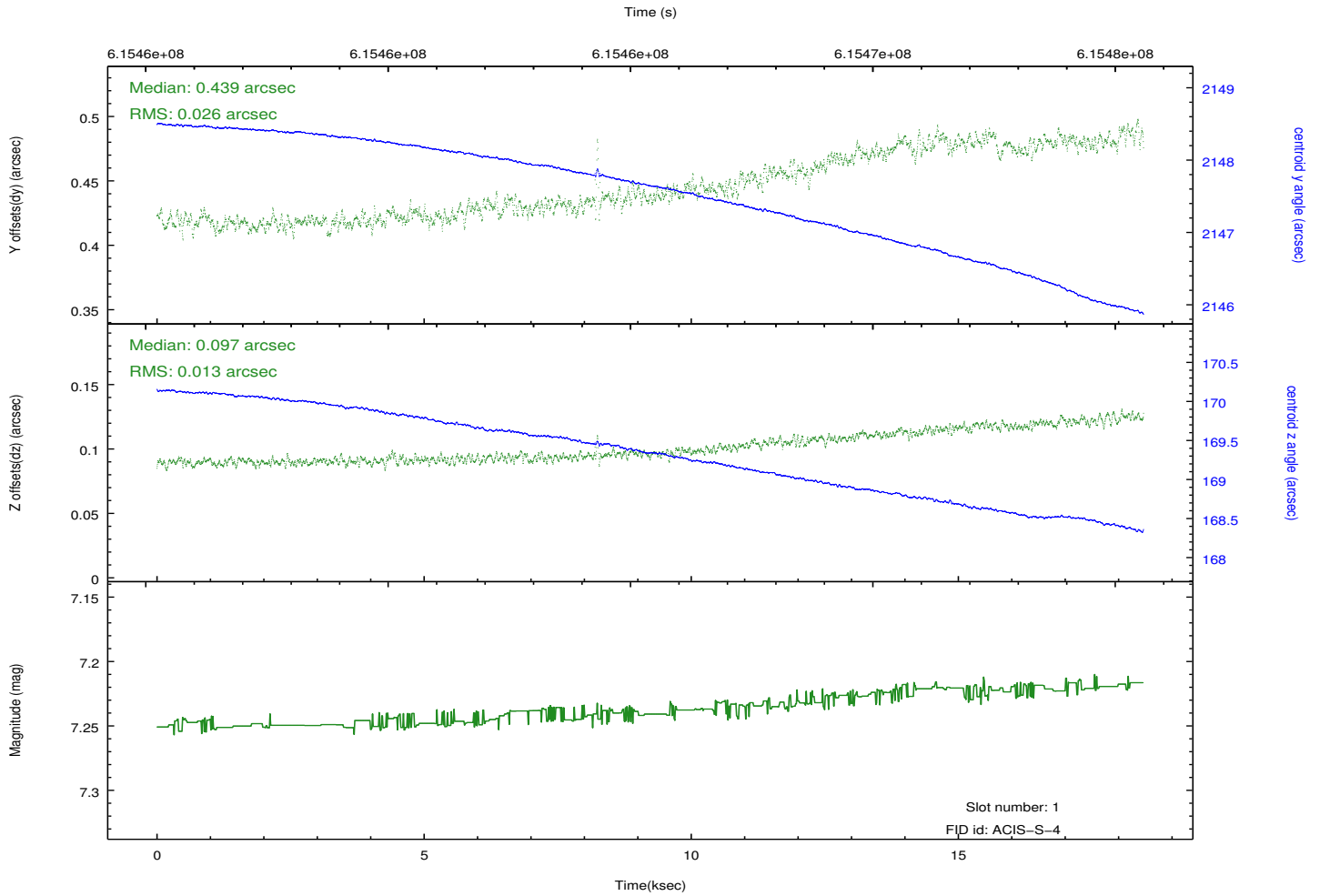
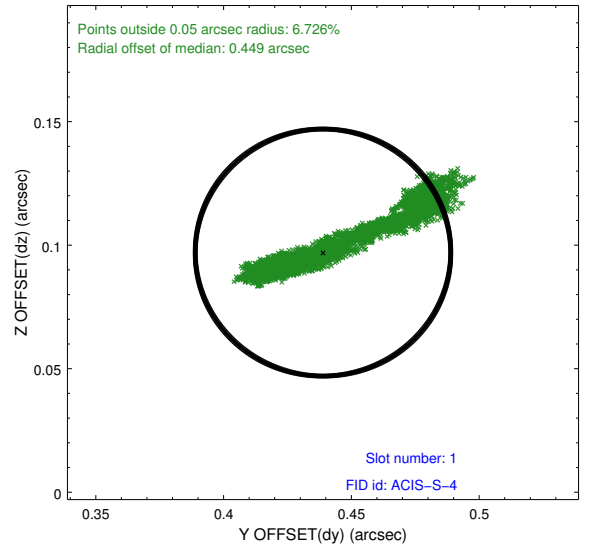
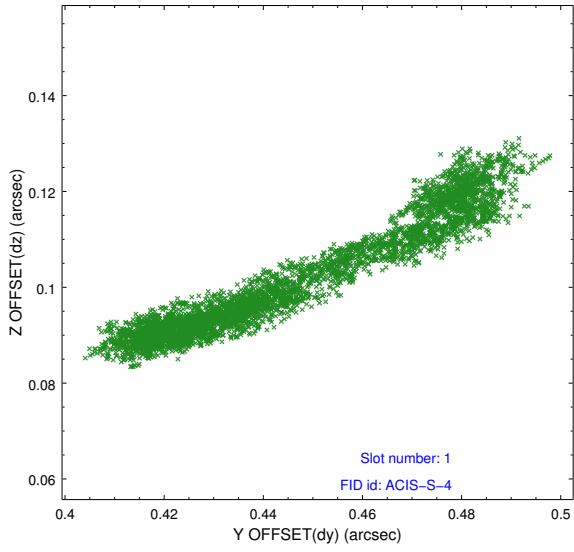


2.5 FID Slots

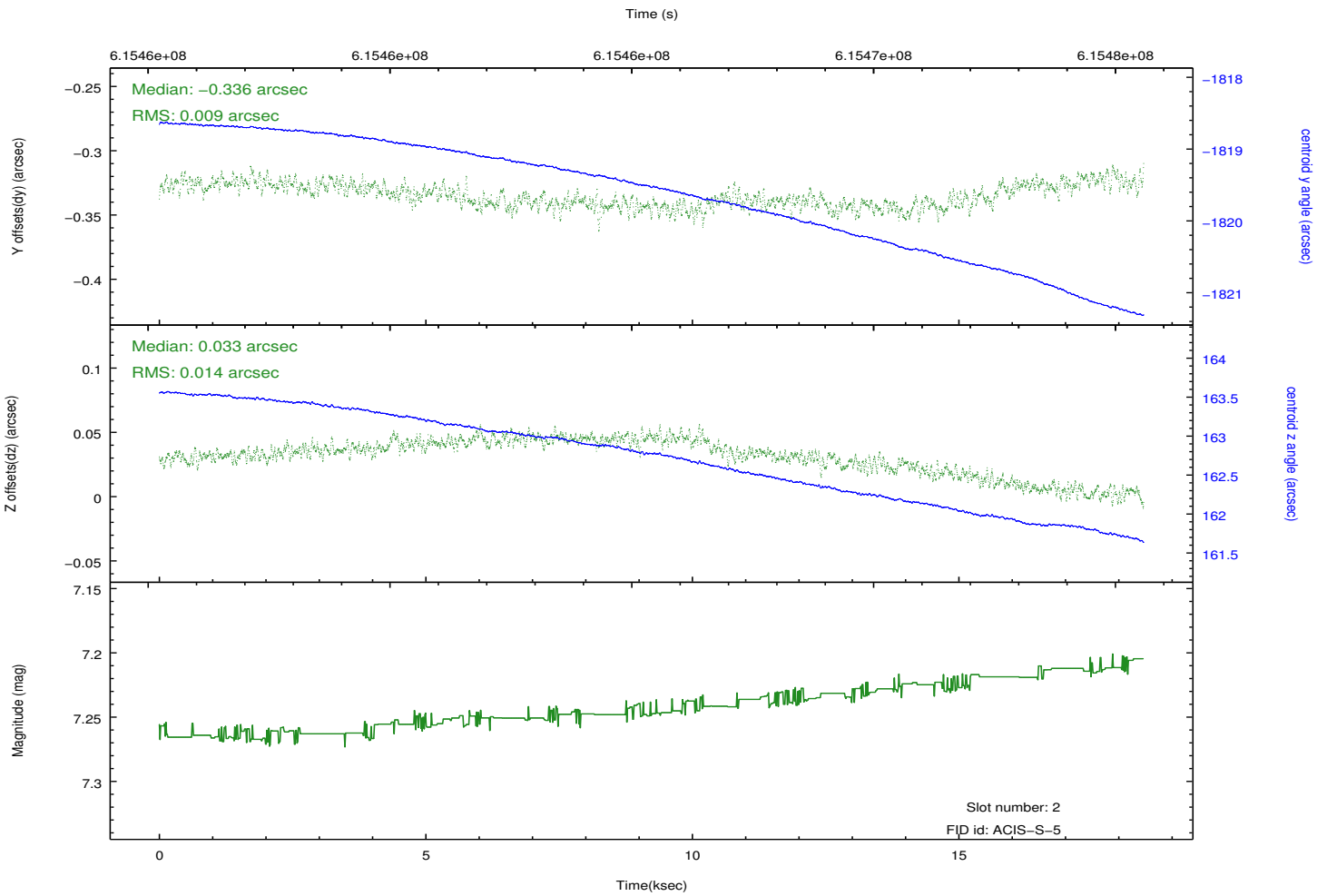
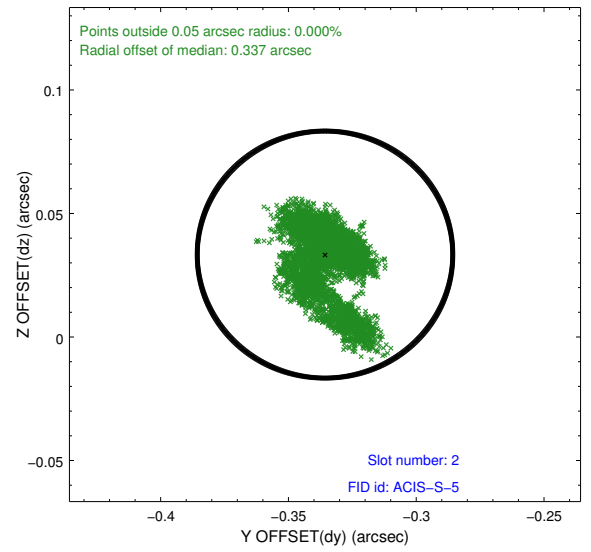
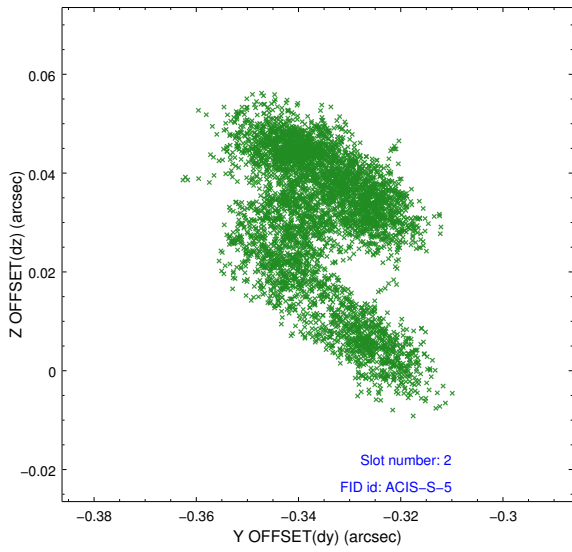
2.5.1 Slot 0



2.5.2 Slot 1

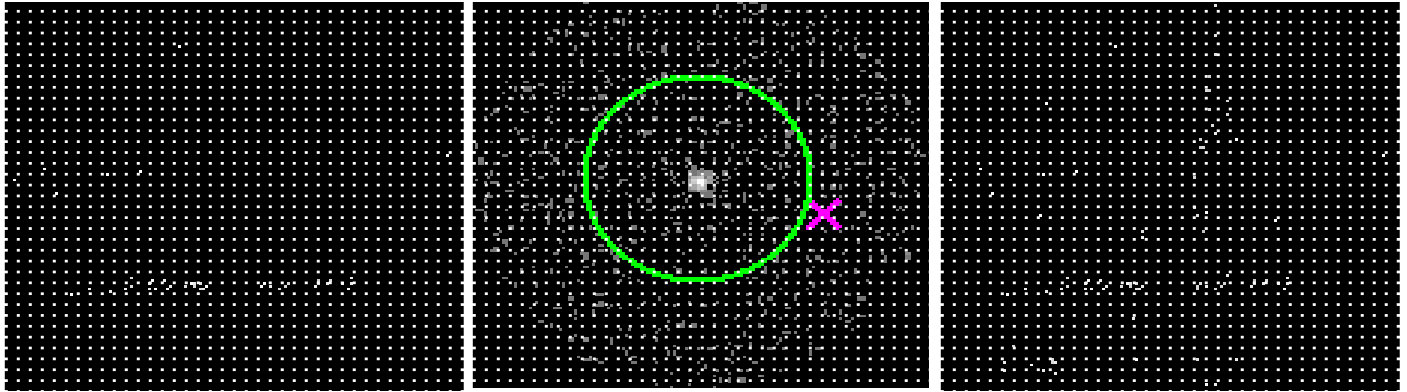


2.5.3 Slot 2



3 Gratings

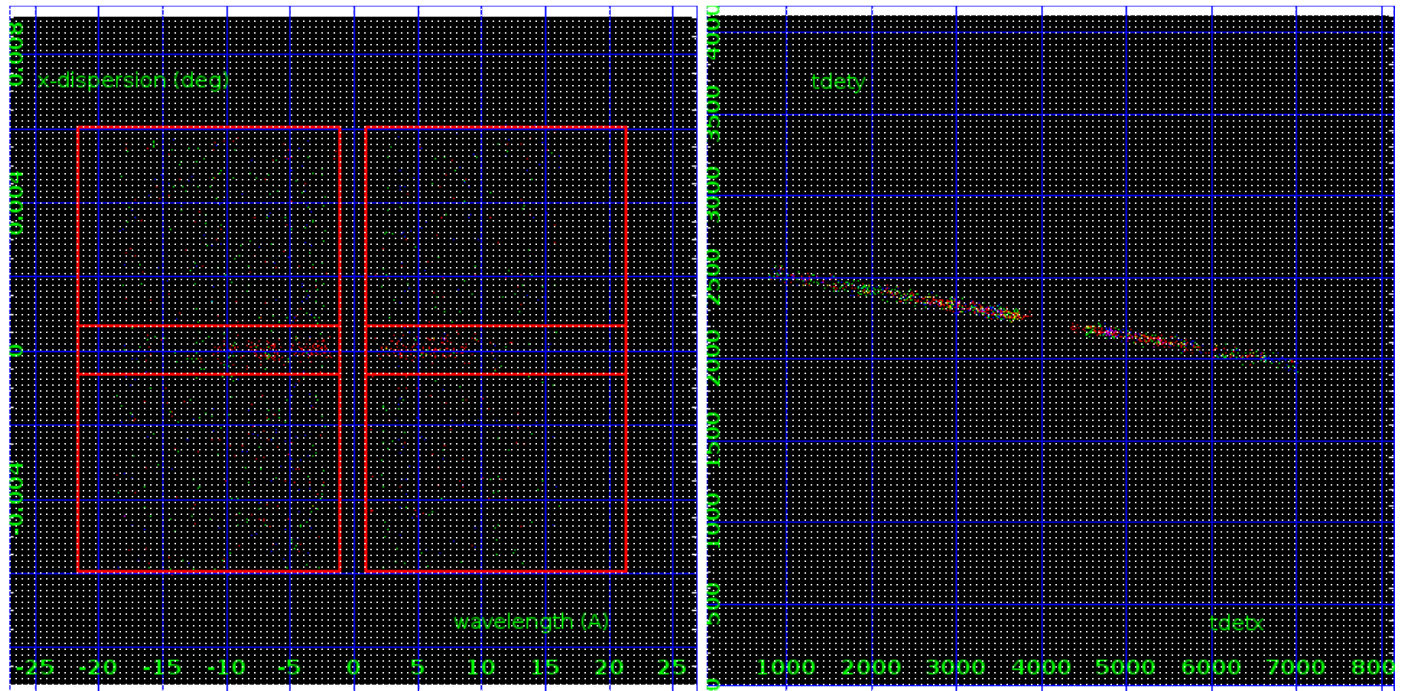
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

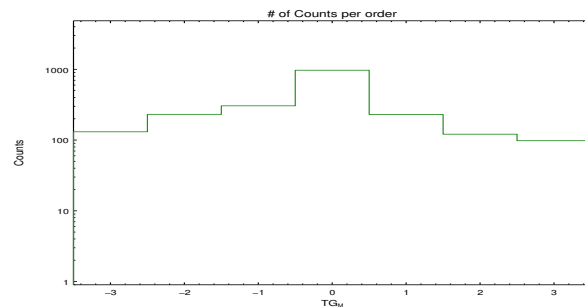
HEG Order Sort ALL

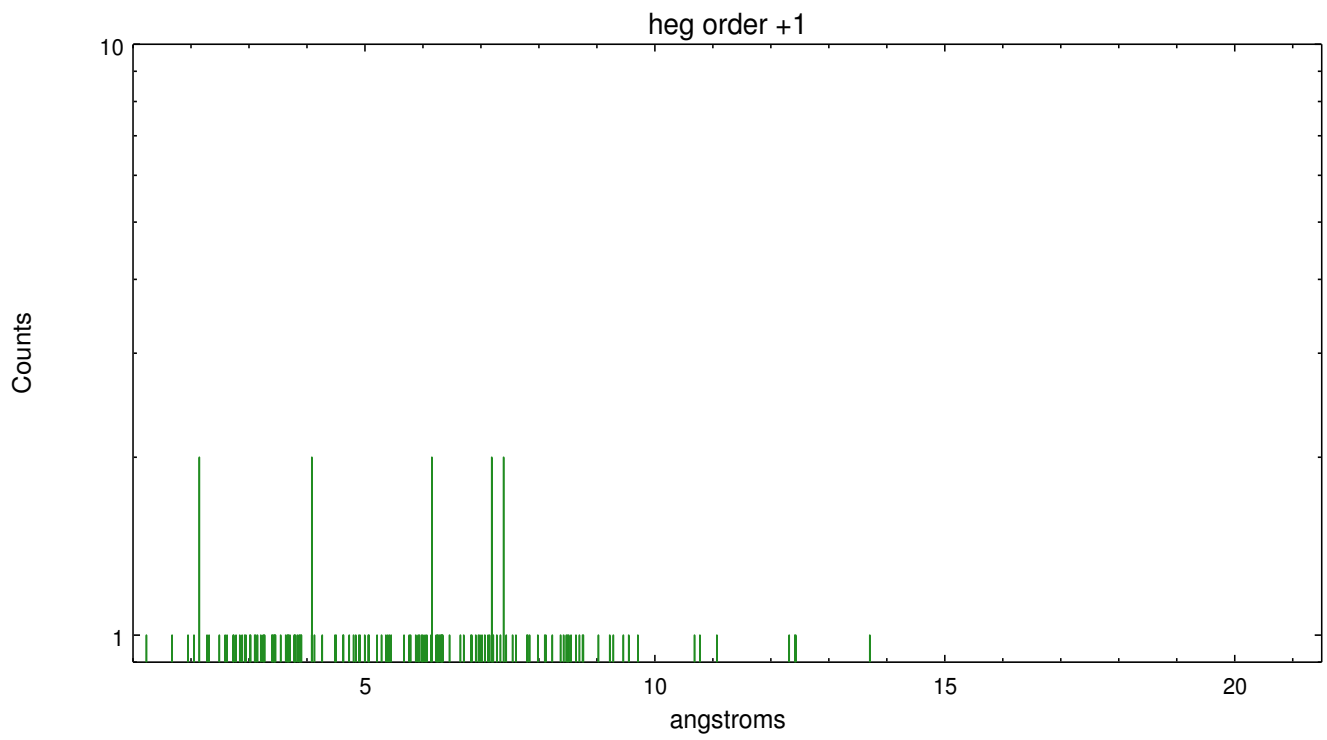
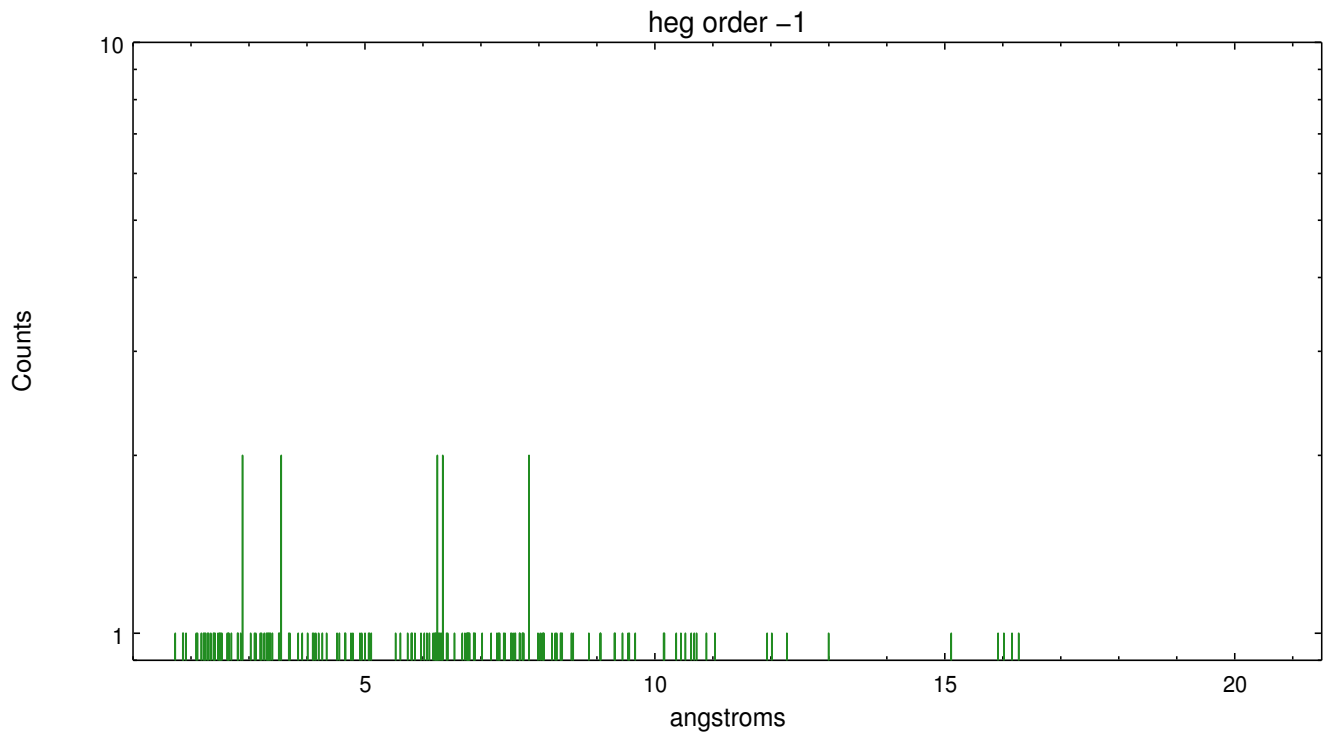


Spot Image HEG

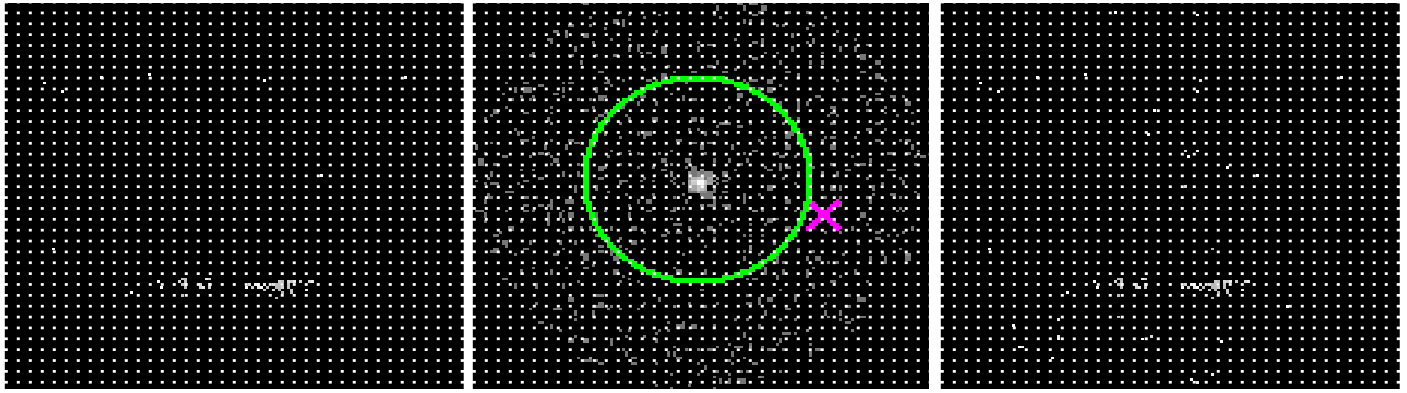
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	131	231	305	971	230	121	98





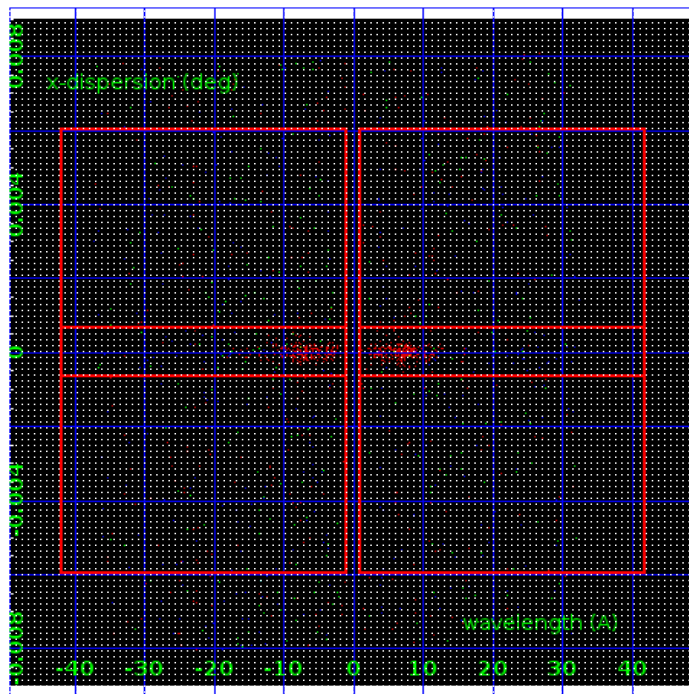
3.2 MEG Arm



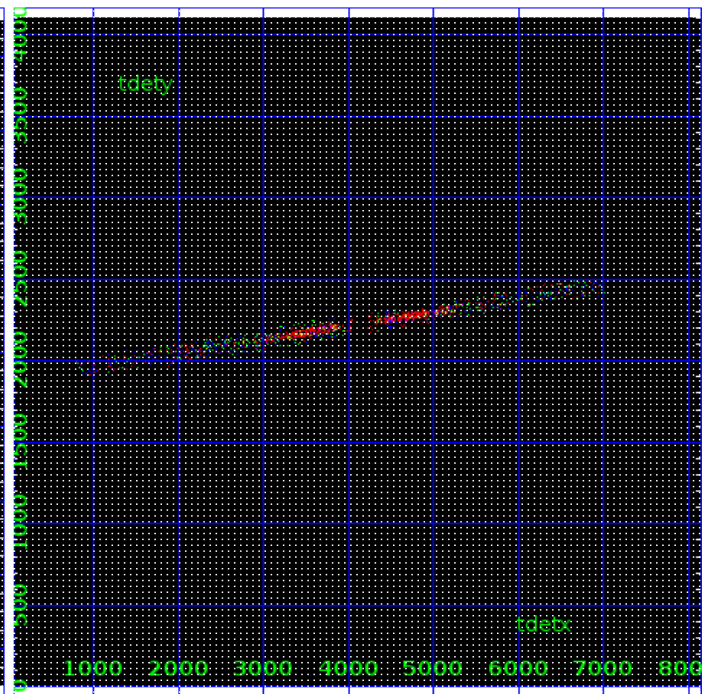
MEG Order Sort 123

MEG Zero Order

MEG Order Sort ALL

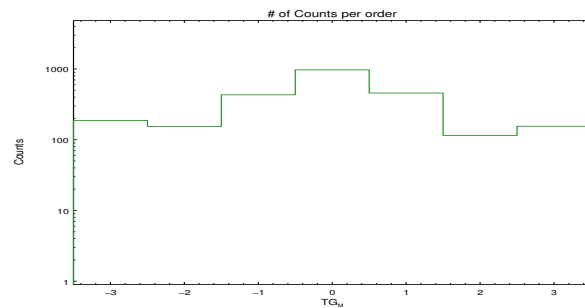


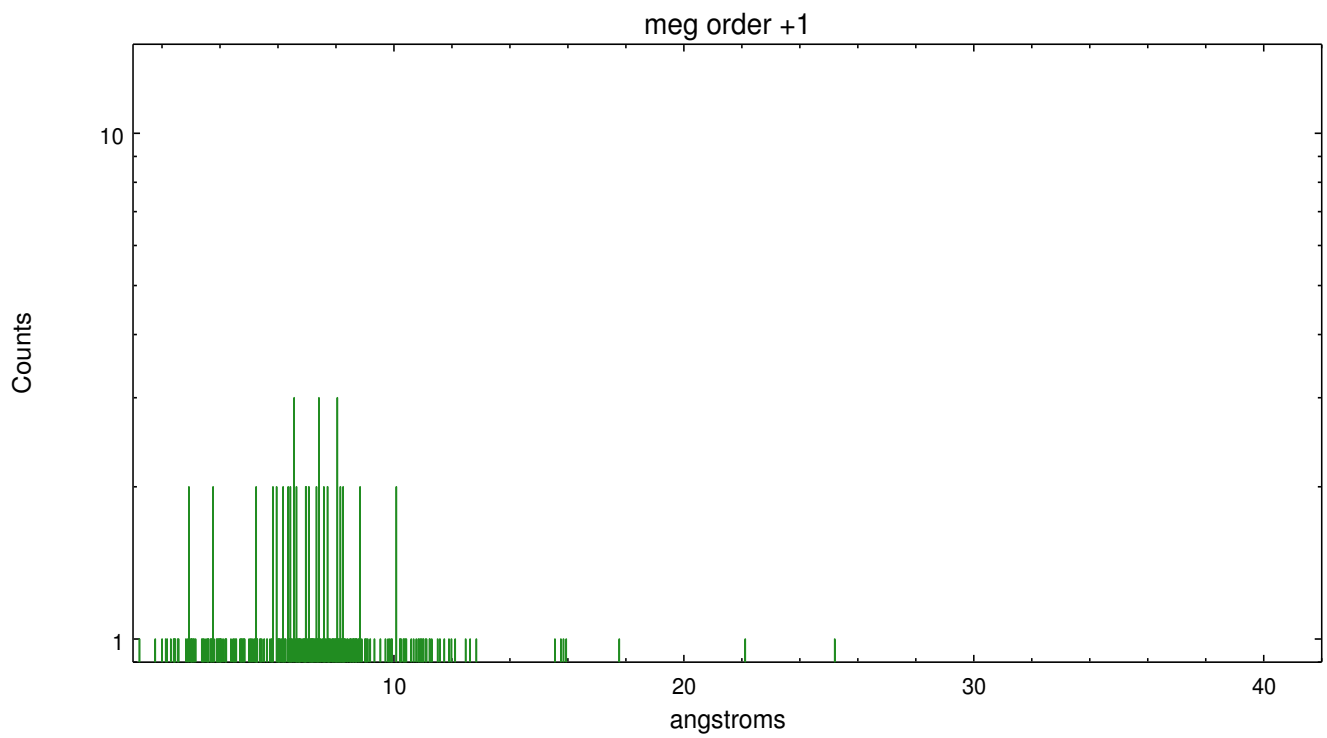
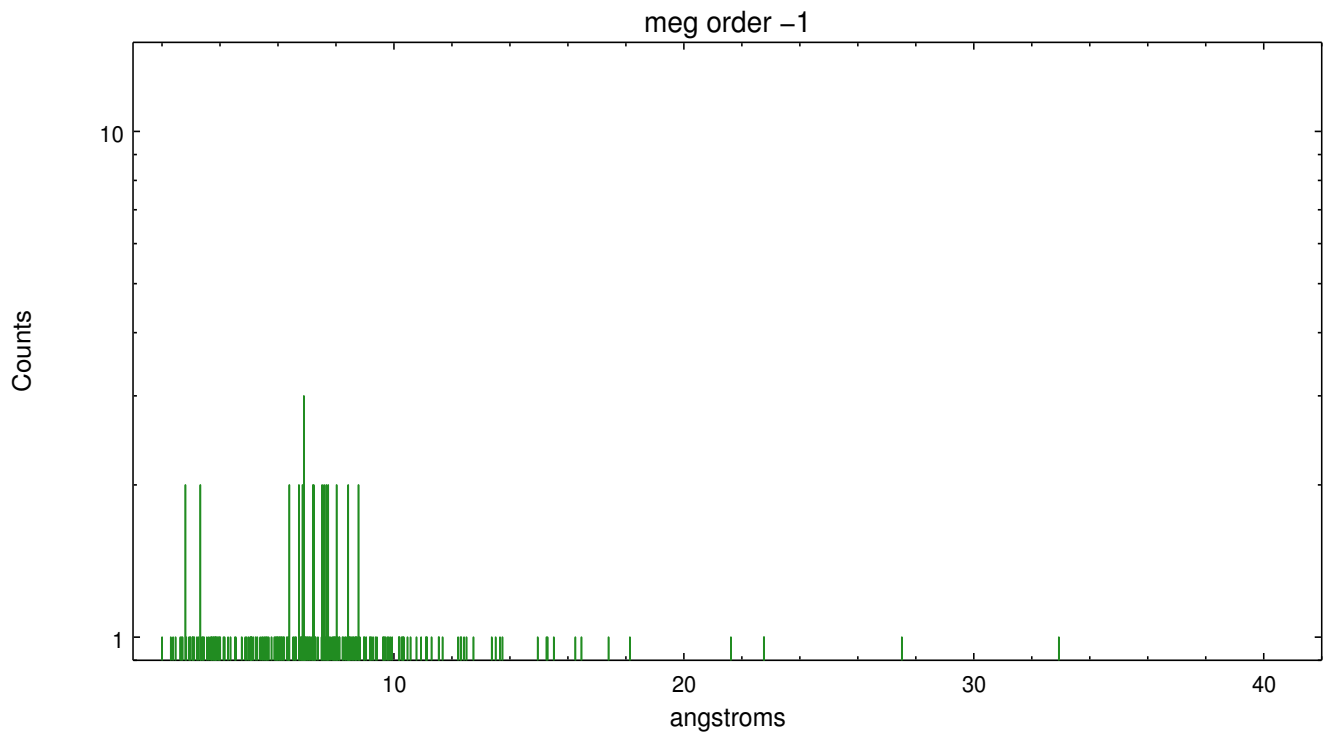
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	187	154	431	971	457	115	155





A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2017.07.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	17.94560026741

A.2 Comments

The guide star in slot 4 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.