

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 20885 - L2 Version 1
Chandra X-Ray Center

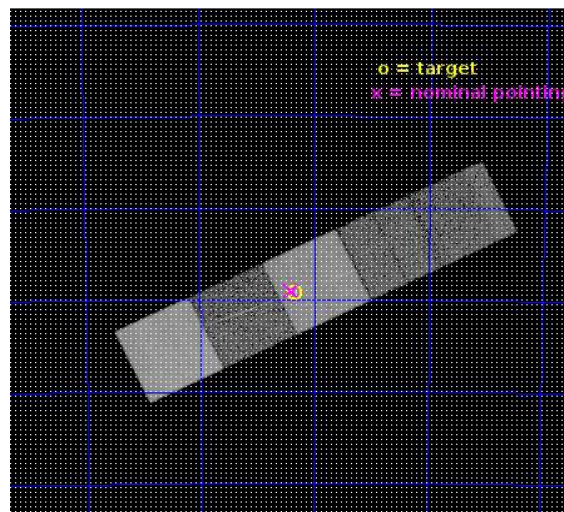
L2 Processing Date : Dec 14 2017

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1 Front

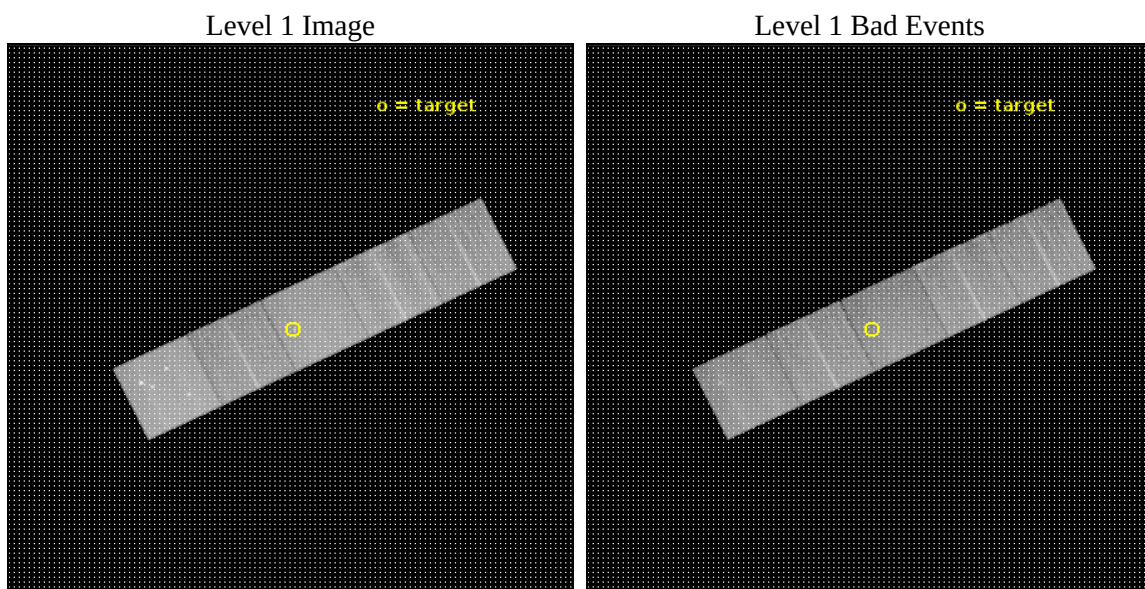
seq_num	401882	Sequence number
obs_id	20885	Observation id
title	HETG Spectroscopy of the Ultra-Luminous X-ray Source NGC 1313 X-1	
observer	Claude Canizares	Principal investigator
object	NGC 1313 X-1	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	49.583333	Observer's specified target RA [deg]
dec_targ	-66.486389	Observer's specified target Dec [deg]
ra_nom	49.599936305029	Nominal RA [deg]
dec_nom	-66.484149247429	Nominal Dec [deg]
roll_nom	334.17183689585	Nominal Roll [deg]
revision	1	Processing version of data
ontime	20047.700154305	Sum of GTIs [s]
livetime	19785.762192886	Livetime [s]
ontime5	20047.700154305	Sum of GTIs [s]
ontime6	20047.700154305	Sum of GTIs [s]
ontime7	20047.700154305	Sum of GTIs [s]
ontime8	20047.700154305	Sum of GTIs [s]
ontime9	20047.700154305	Sum of GTIs [s]
l2events	230389	Number of level 2 events



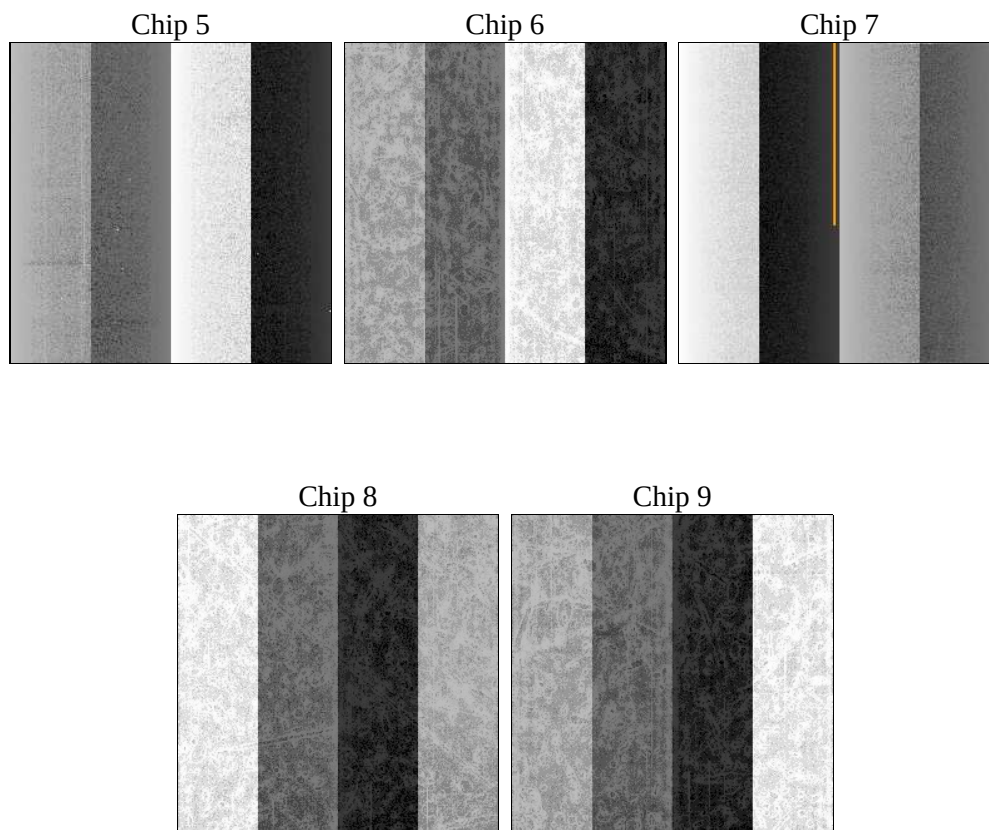
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	20047.700154305	Sum of GTIs [s]
caldsver	4.7.7	 	ontime5	20047.700154305	Sum of GTIs [s]
date	2017-12-14T23:15:07	Date and time of file creation	ontime6	20047.700154305	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	20047.700154305	Sum of GTIs [s]
			ontime8	20047.700154305	Sum of GTIs [s]
			ontime9	20047.700154305	Sum of GTIs [s]
			l1events	908226	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4146.09, 4079.79)	src1a sky pixel position

2.1.4 Events

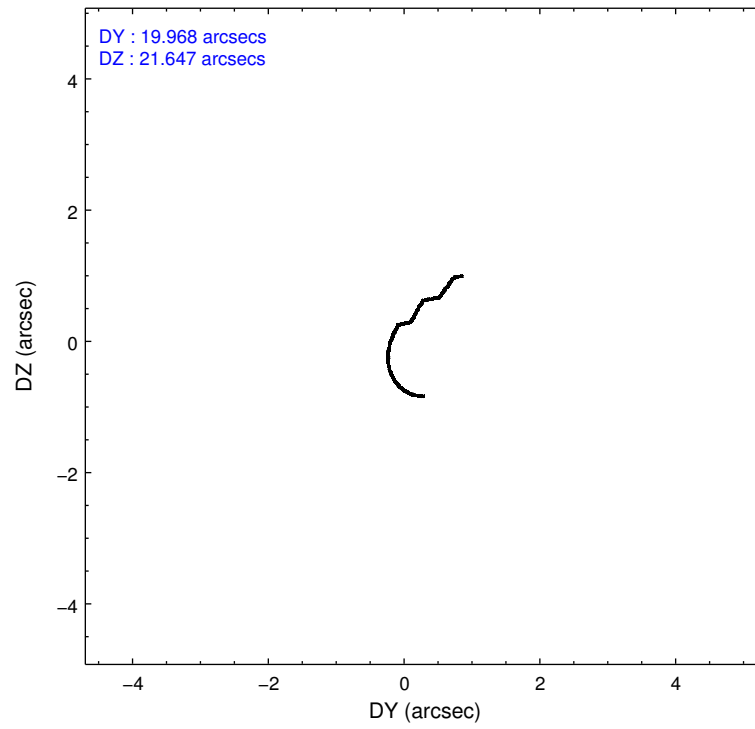
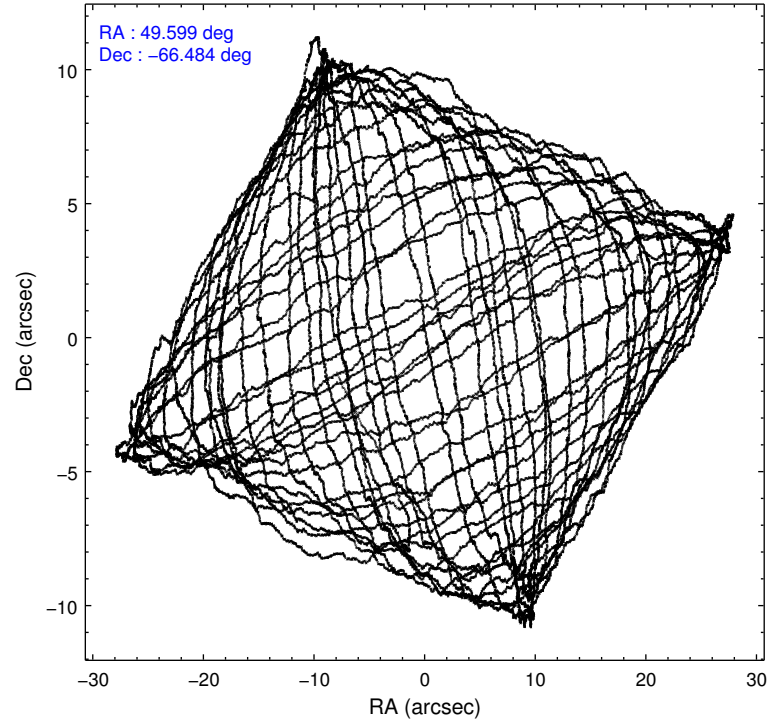
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	237877	148482	186224	187939	147704
rejected events	121543	131486	104887	139407	130139
rejected %	51%	88%	56%	74%	88%

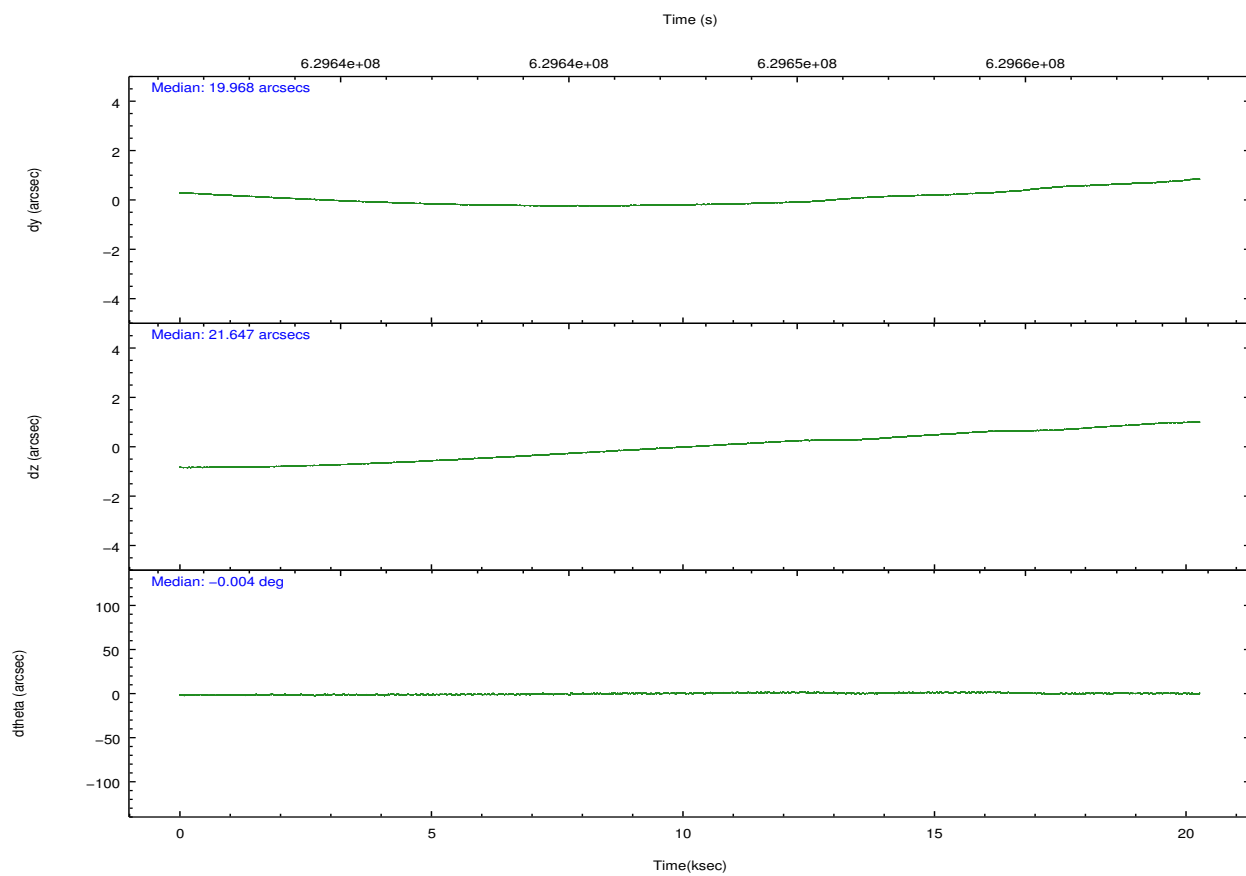
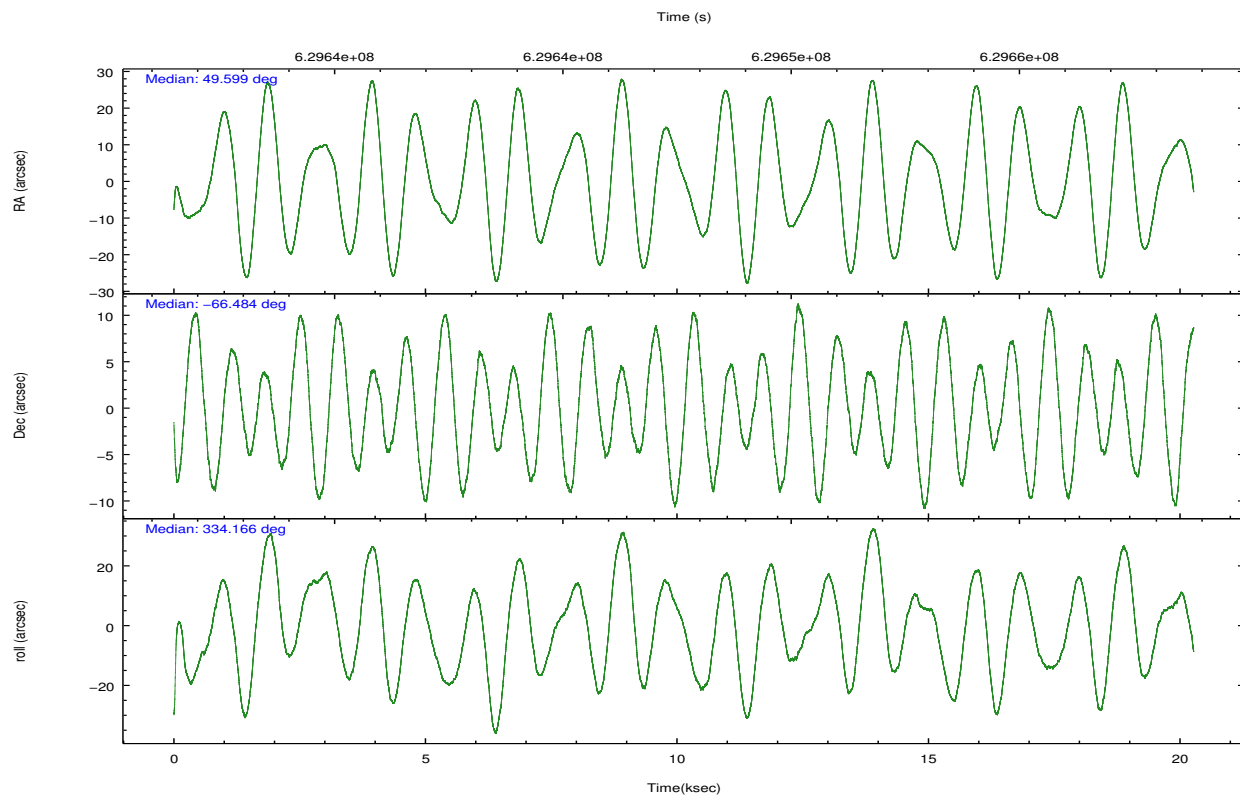
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	12789	5582	7084	13886	6013
	5%	3%	3%	7%	4%
grade 1 events	842	82	276	148	81
	0%	0%	0%	0%	0%
grade 2 events	35882	4167	17115	11740	4195
	15%	2%	9%	6%	2%
grade 3 events	3264	1595	6451	4912	1703
	1%	1%	3%	2%	1%
grade 4 events	3079	1572	6265	4602	1666
	1%	1%	3%	2%	1%
grade 5 events	15168	6346	18136	9903	7393
	6%	4%	9%	5%	5%
grade 6 events	61345	4082	44438	13401	3991
	25%	2%	23%	7%	2%
grade 7 events	105508	125056	86459	129347	122662
	44%	84%	46%	68%	83%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-56789	ACIS-56789	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	49.531398	49.5999363050289	CCD I2 on	N	N
[deg] Pointing Dec	-66.486491	-66.48414924742917	CCD I3 on	N	N
[deg] Pointing Roll	333.952384	334.1718368958465	CCD S0 on	O1	N
[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)	629637785.184000	629636643.32547	CCD S5 on	Y	Y
Observation start date	2017-12-14T11:21:56	2017-12-14T11:04:03	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	629657785.184000	629658571.15176	On-chip summing requested	N	N
Observation end date	2017-12-14T16:55:16	2017-12-14T17:09:31	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



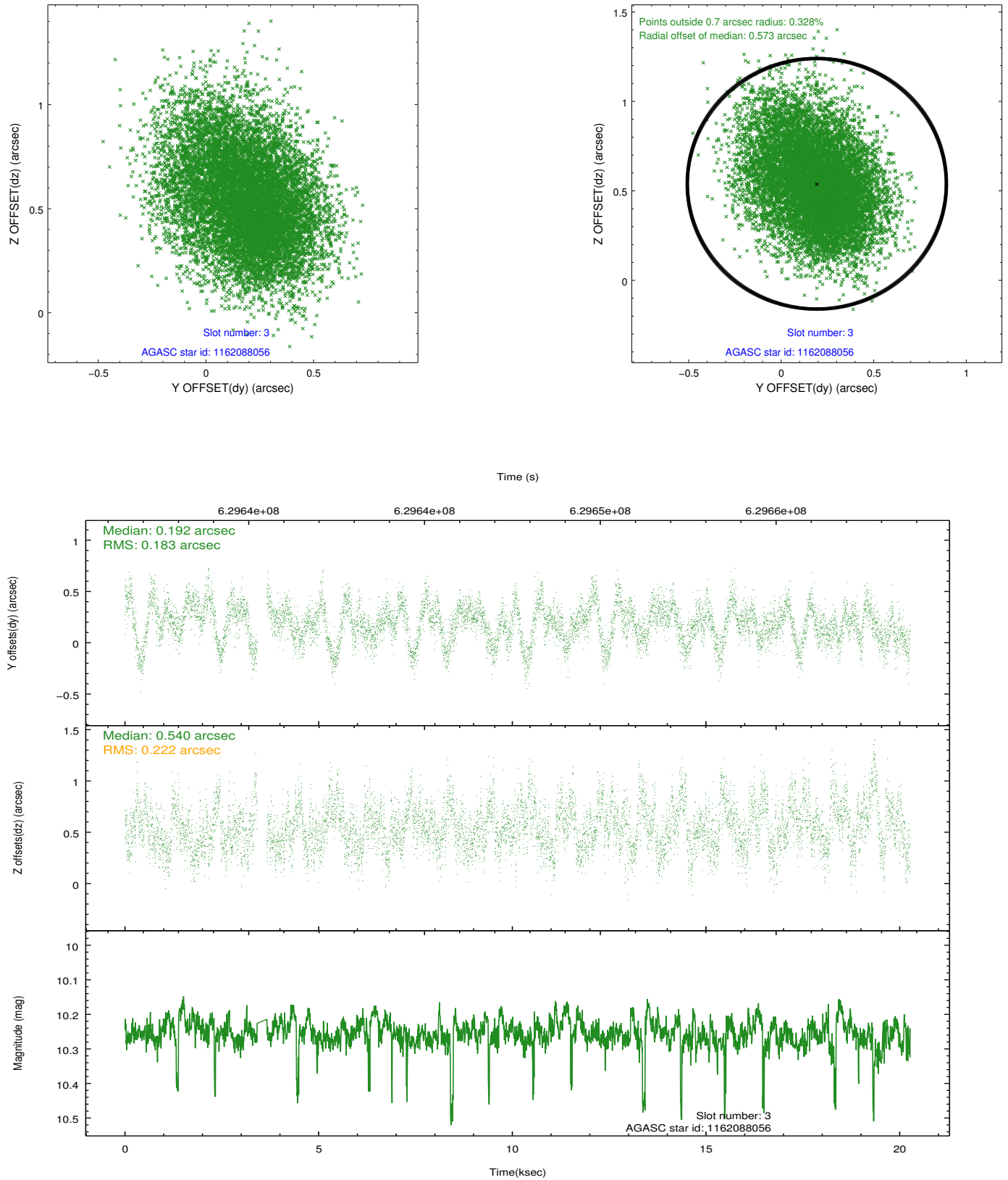


Slot Statistics

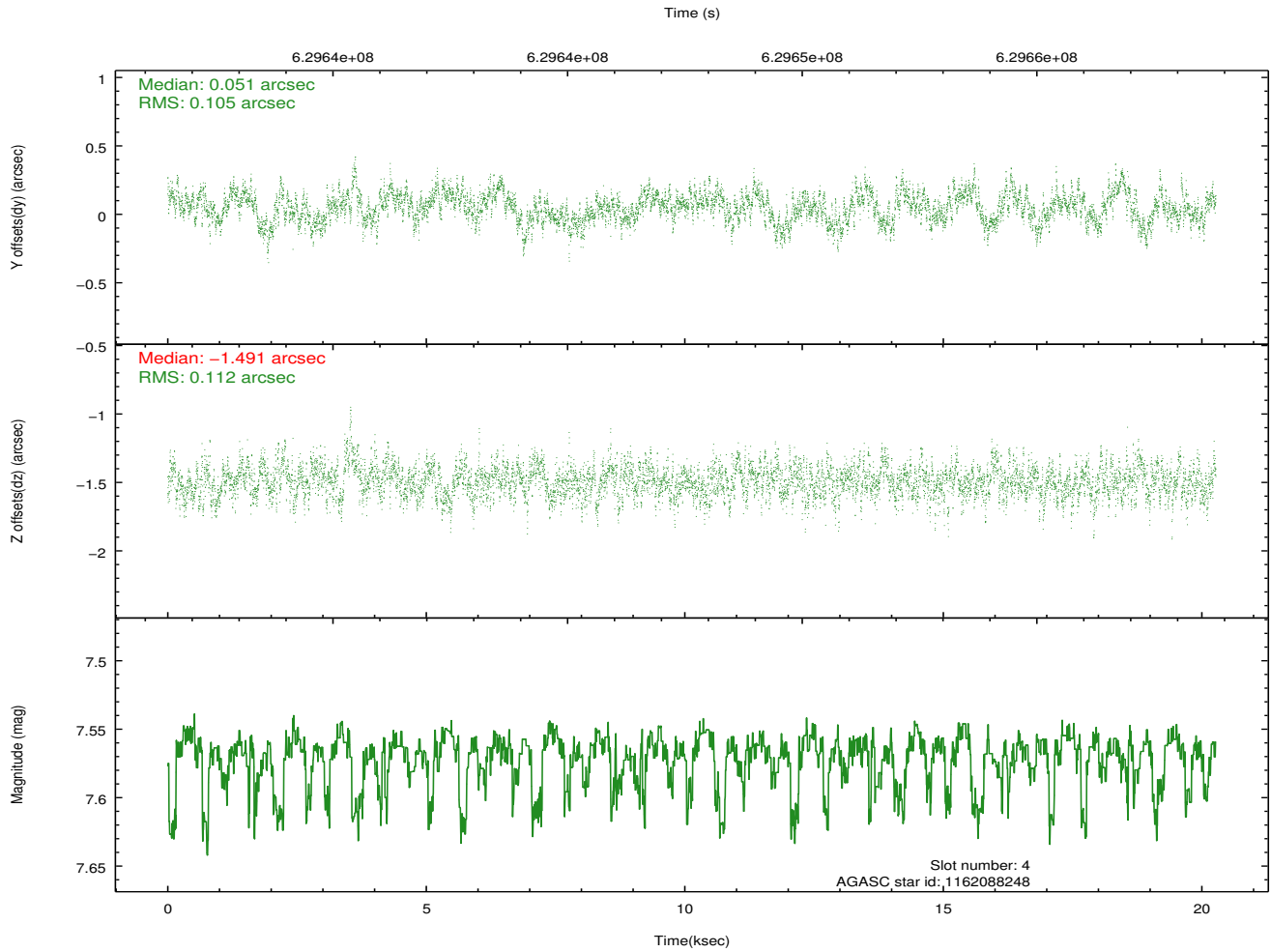
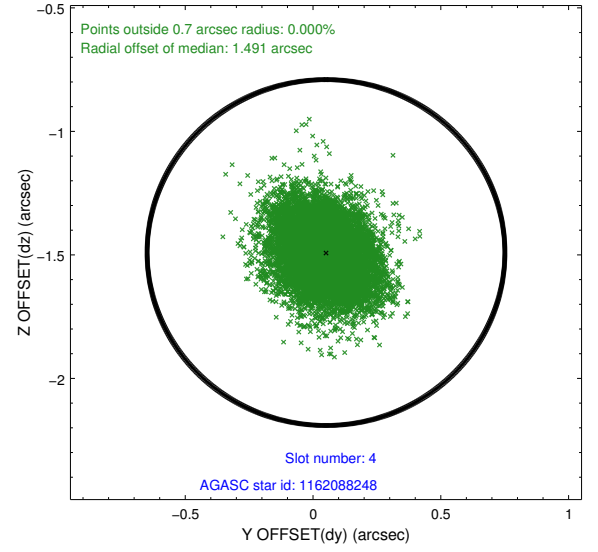
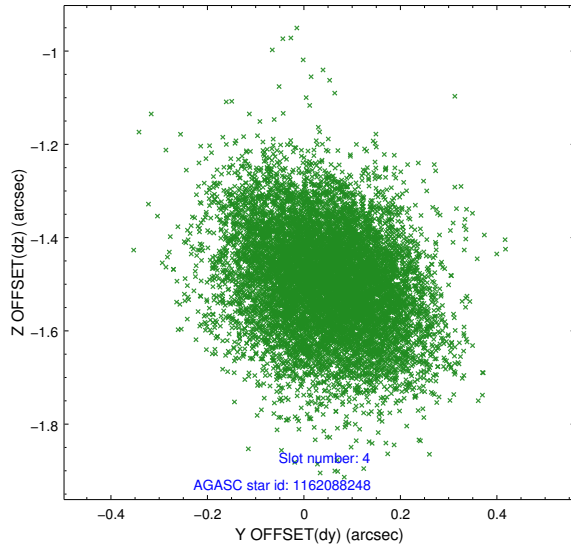
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.11	4945	-0.262	-0.168	0.021	0.028	0.000000	0.000000	-773.42	-1743.31
1	FID		ACIS-S-4	7.21	4945	0.555	0.169	0.016	0.032	0.000000	0.000000	2140.58	165.31
2	FID		ACIS-S-5	7.22	4944	-0.322	0.007	0.019	0.026	0.000000	0.000000	-1826.09	159.02
3	GUIDE	used	1162088056	10.25	9746	0.192	0.540	0.307	0.494	48.729349	-66.949806	-279.12	-2000.91
4	GUIDE	used	1162088248	7.57	9890	0.051	-1.491	0.163	0.268	49.751966	-65.888113	-653.80	2075.64
5	GUIDE	used	1162089104	9.52	9872	-0.347	0.348	0.198	0.336	48.422126	-66.410699	-1549.00	-468.80
6	GUIDE	used	1162090824	9.24	9881	0.034	0.358	0.175	0.313	48.677982	-66.885202	-448.98	-1826.22
7	GUIDE	used	1162095520	9.87	9508	0.104	0.261	0.340	0.541	47.993238	-66.636141	-1723.73	-1472.96

2.4 Star Slots

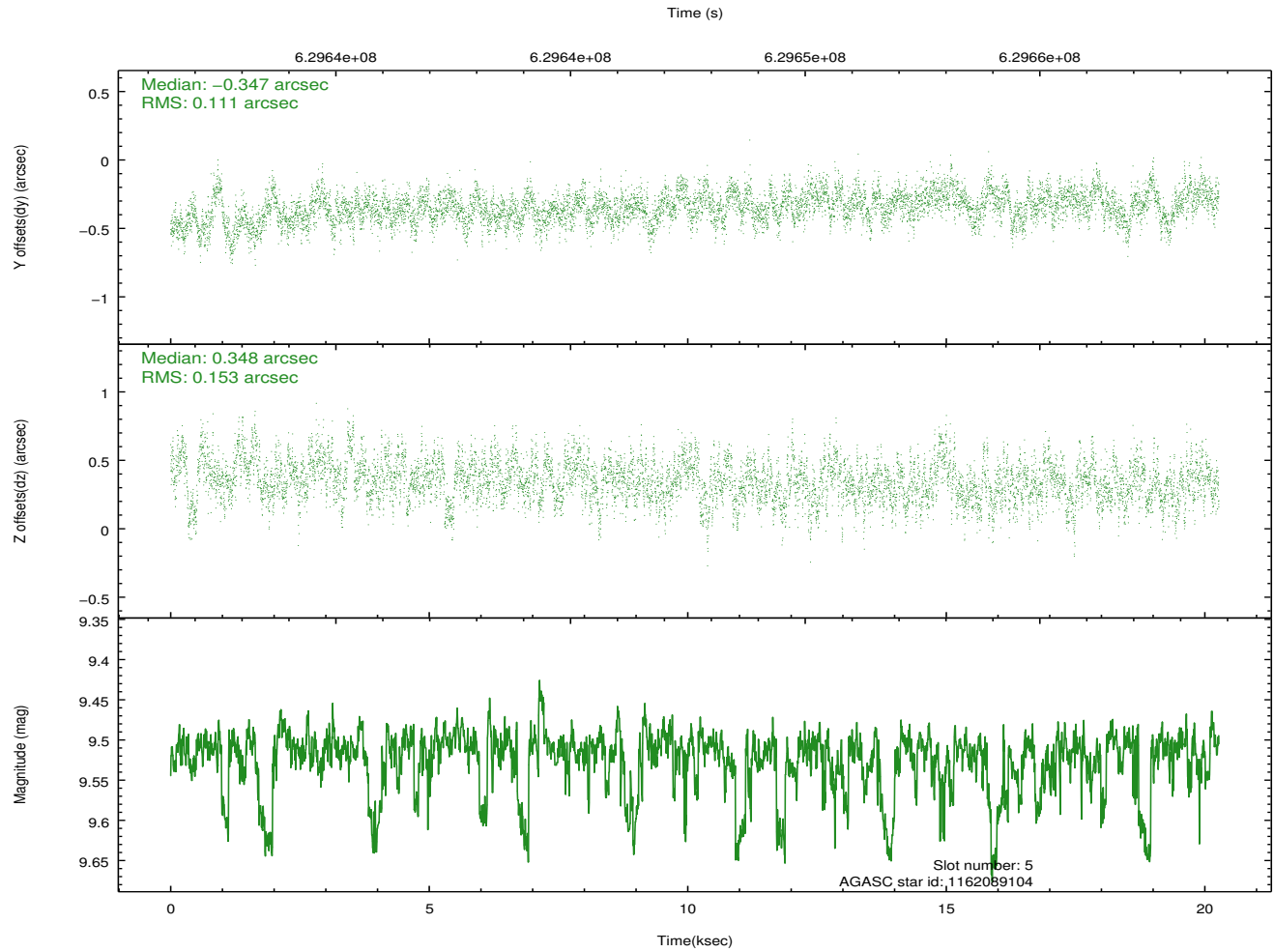
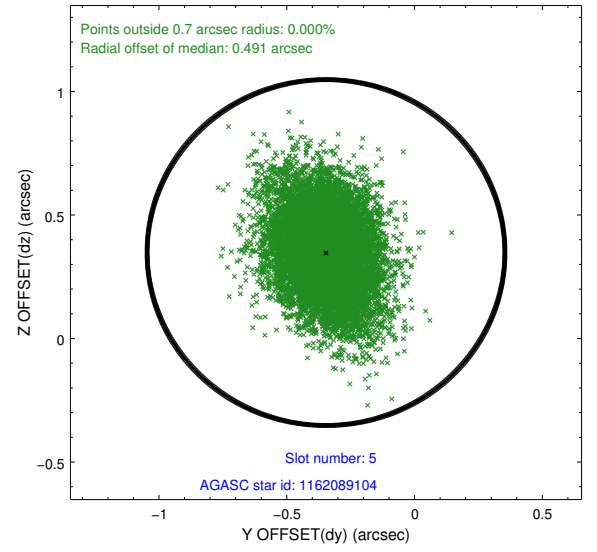
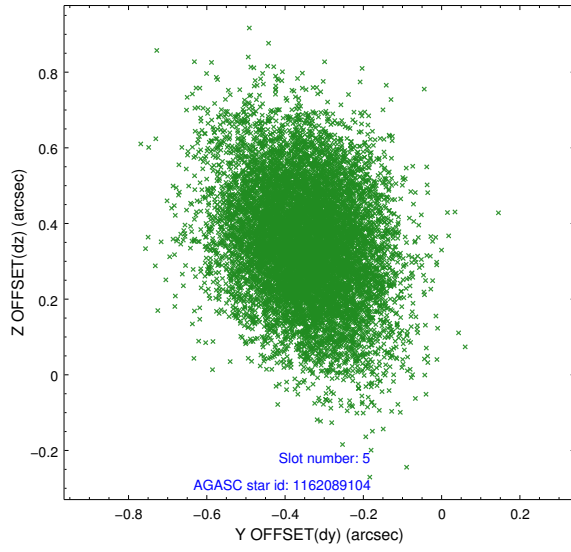
2.4.1 Slot 3



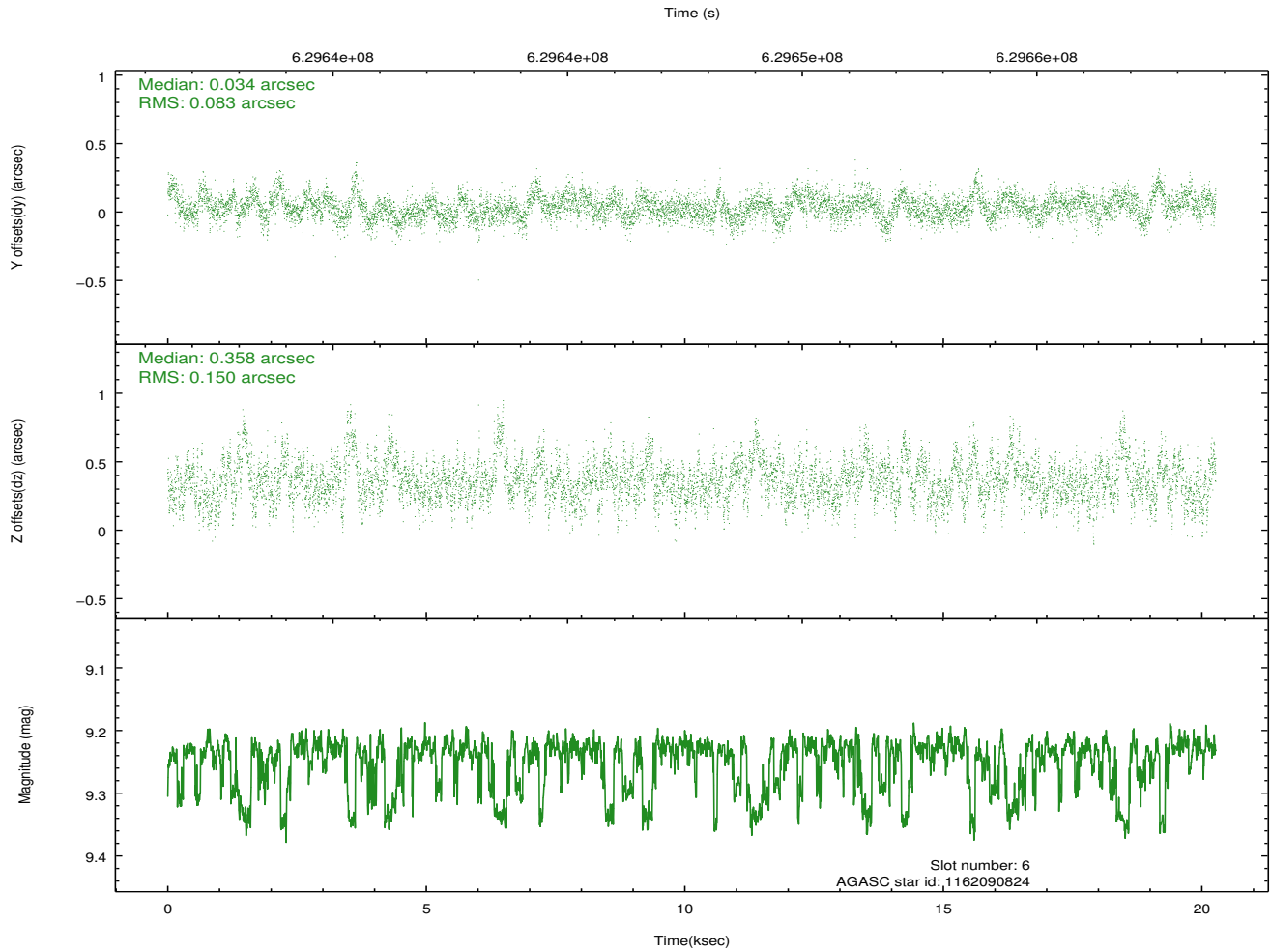
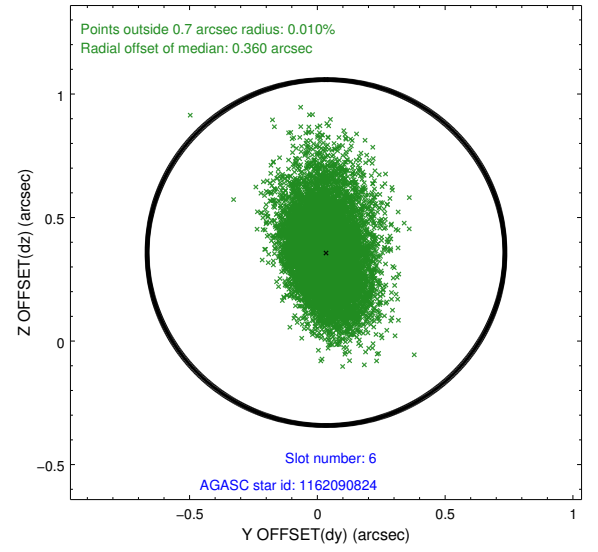
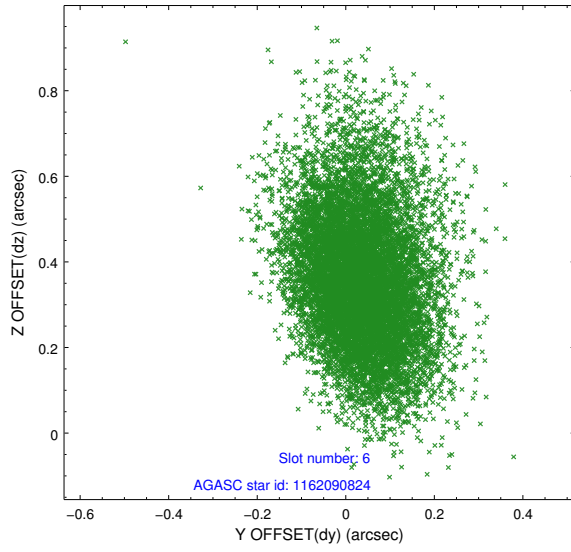
2.4.2 Slot 4



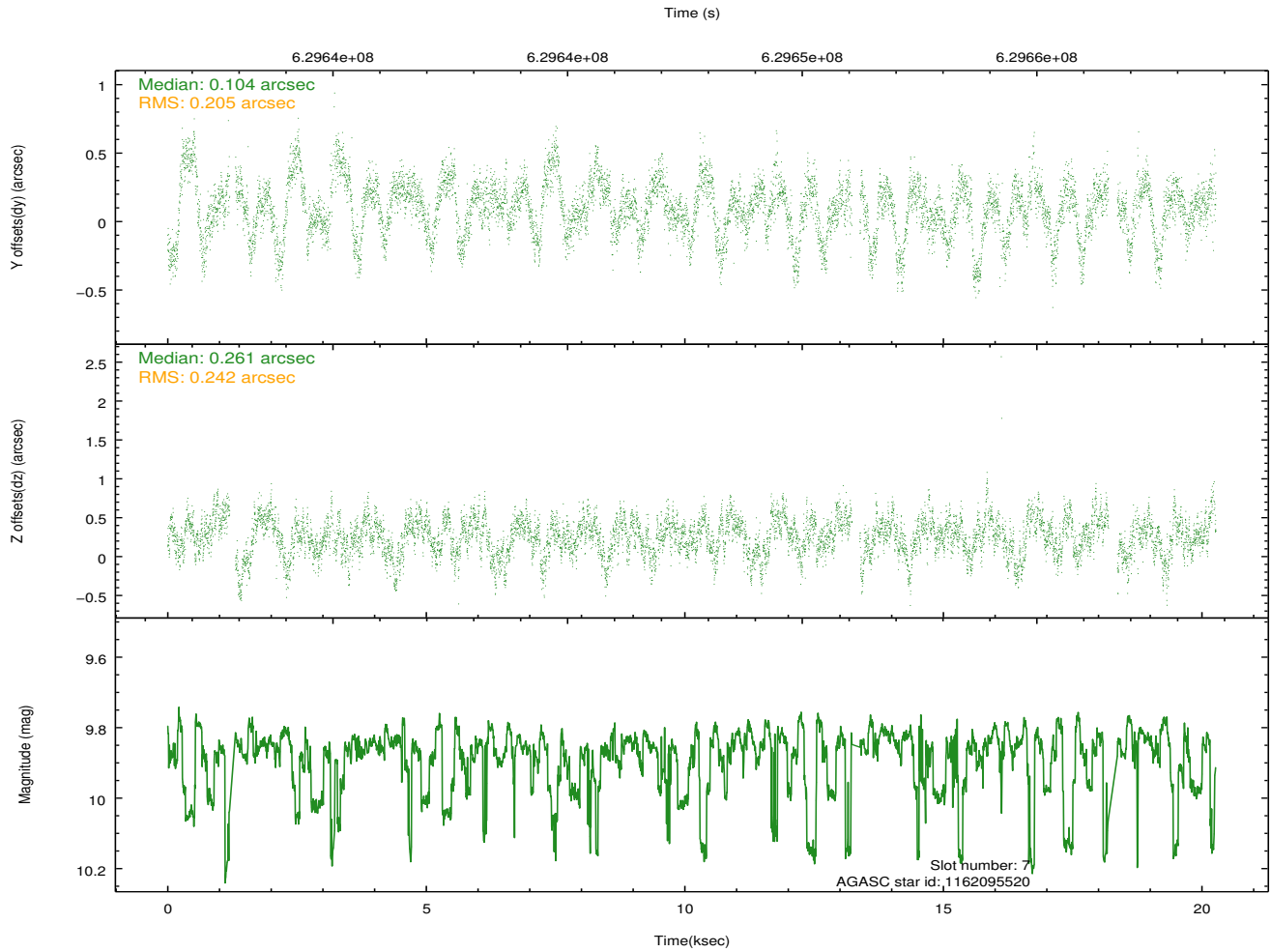
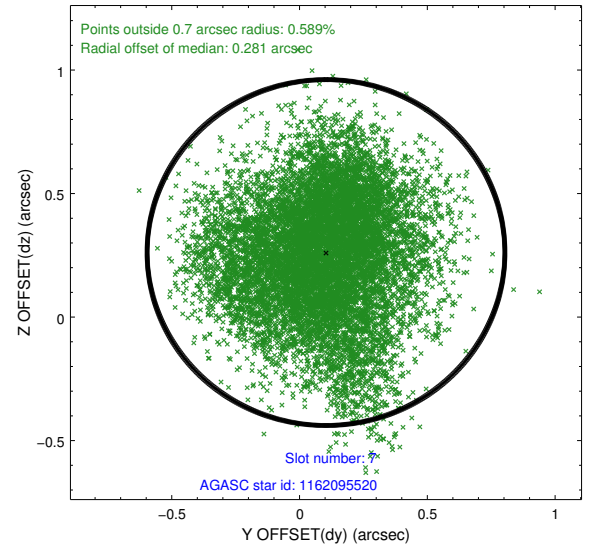
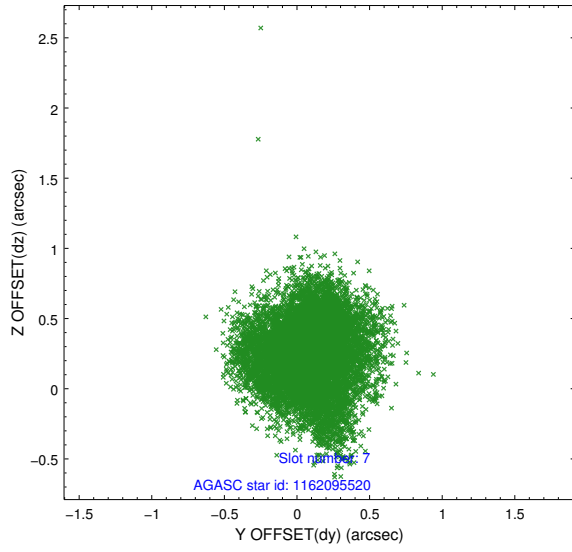
2.4.3 Slot 5



2.4.4 Slot 6

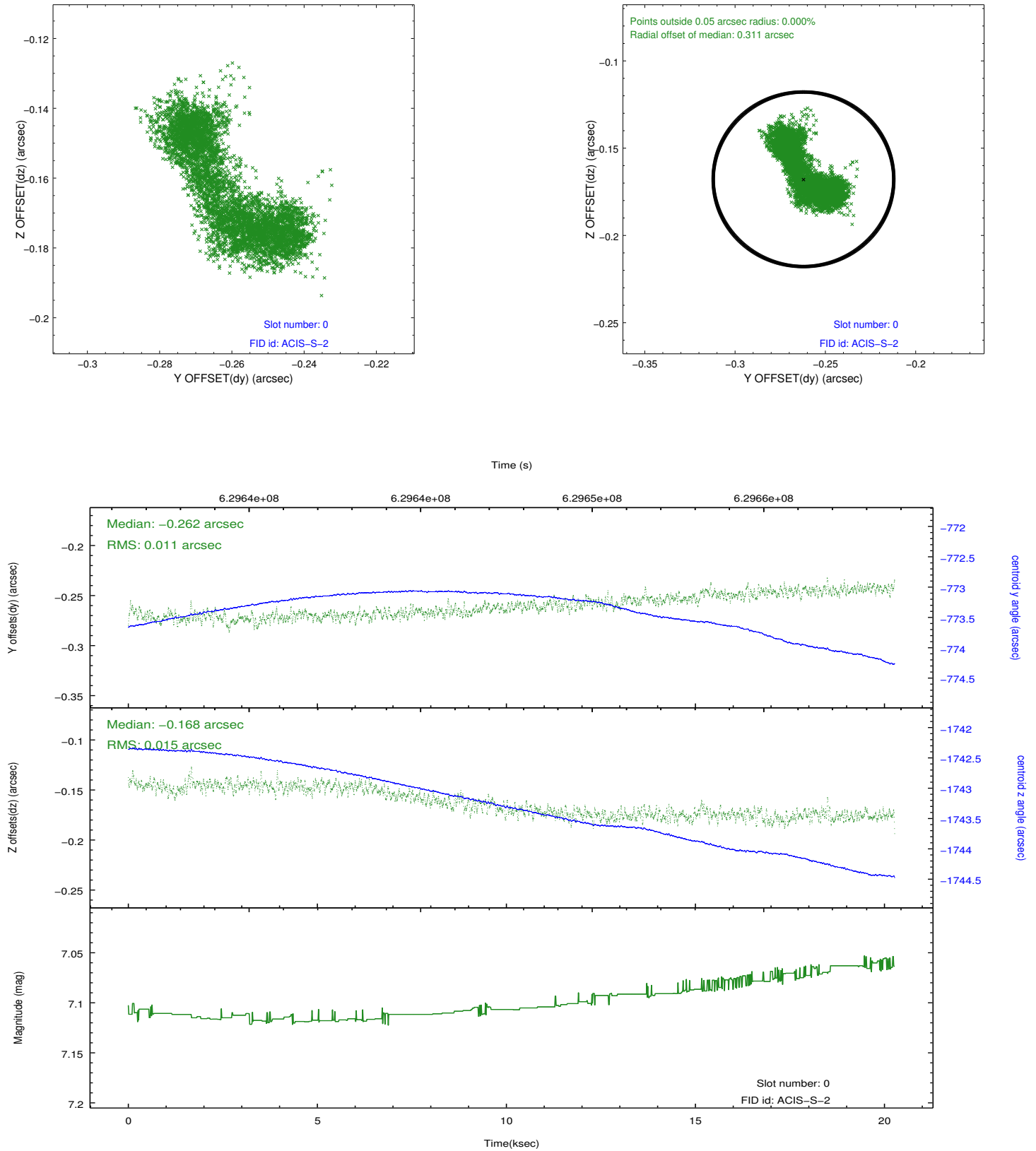


2.4.5 Slot 7

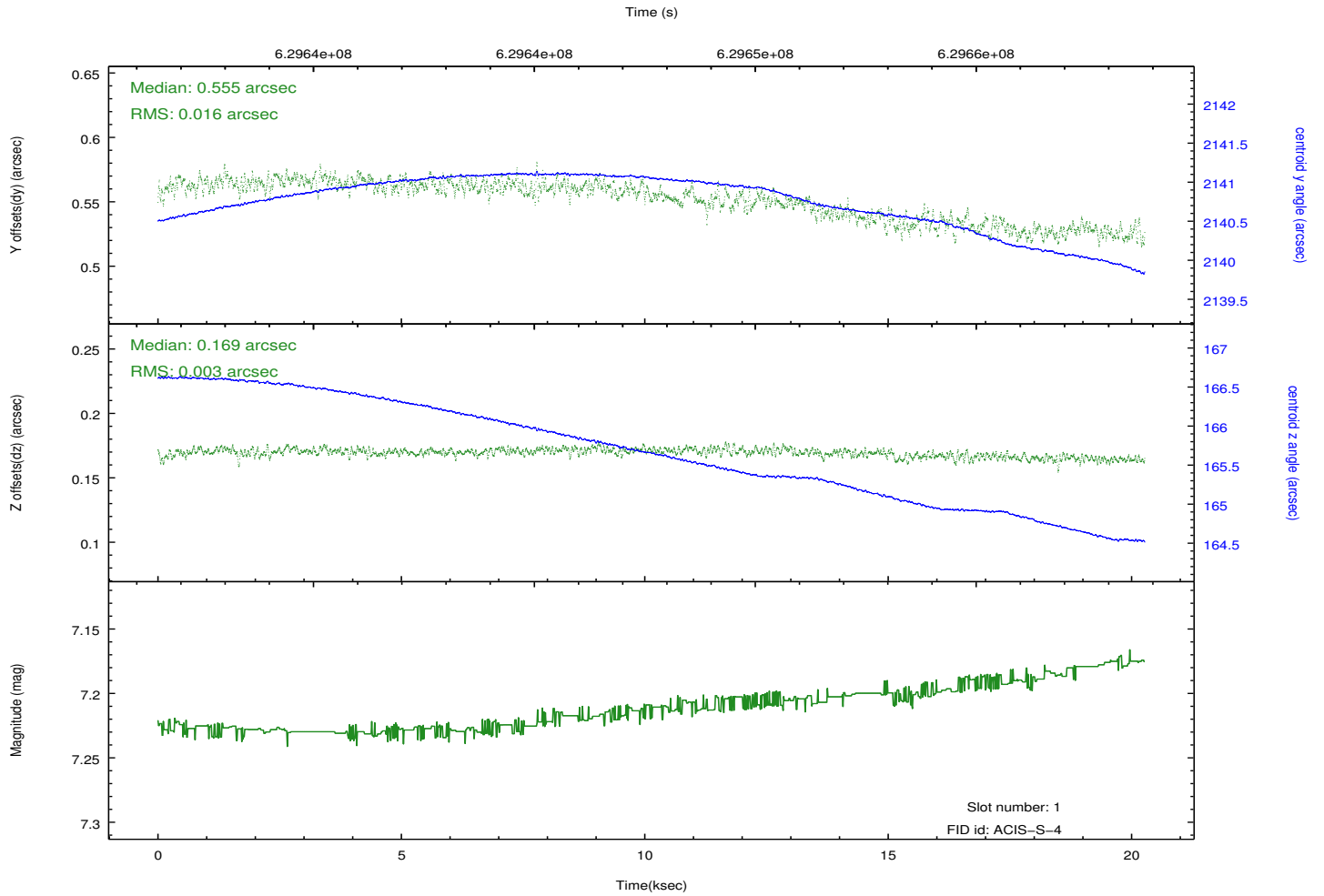
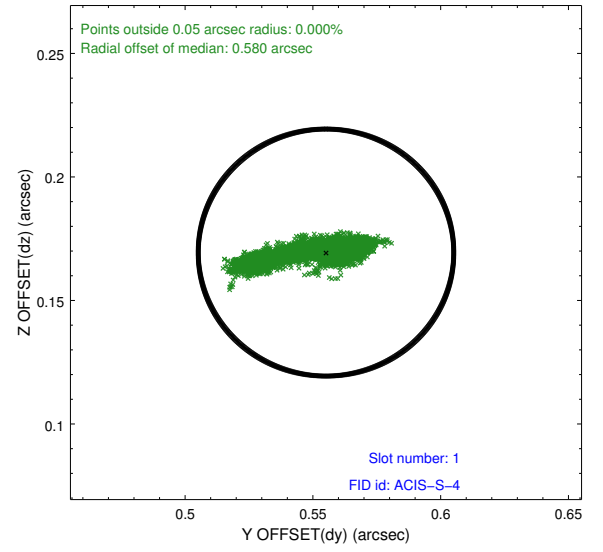
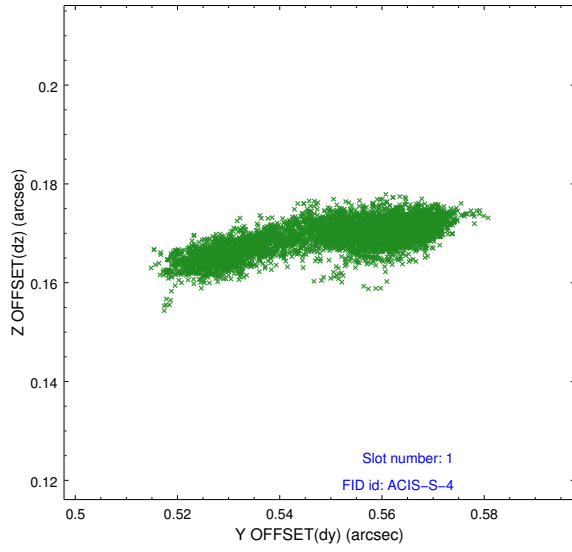


2.5 FID Slots

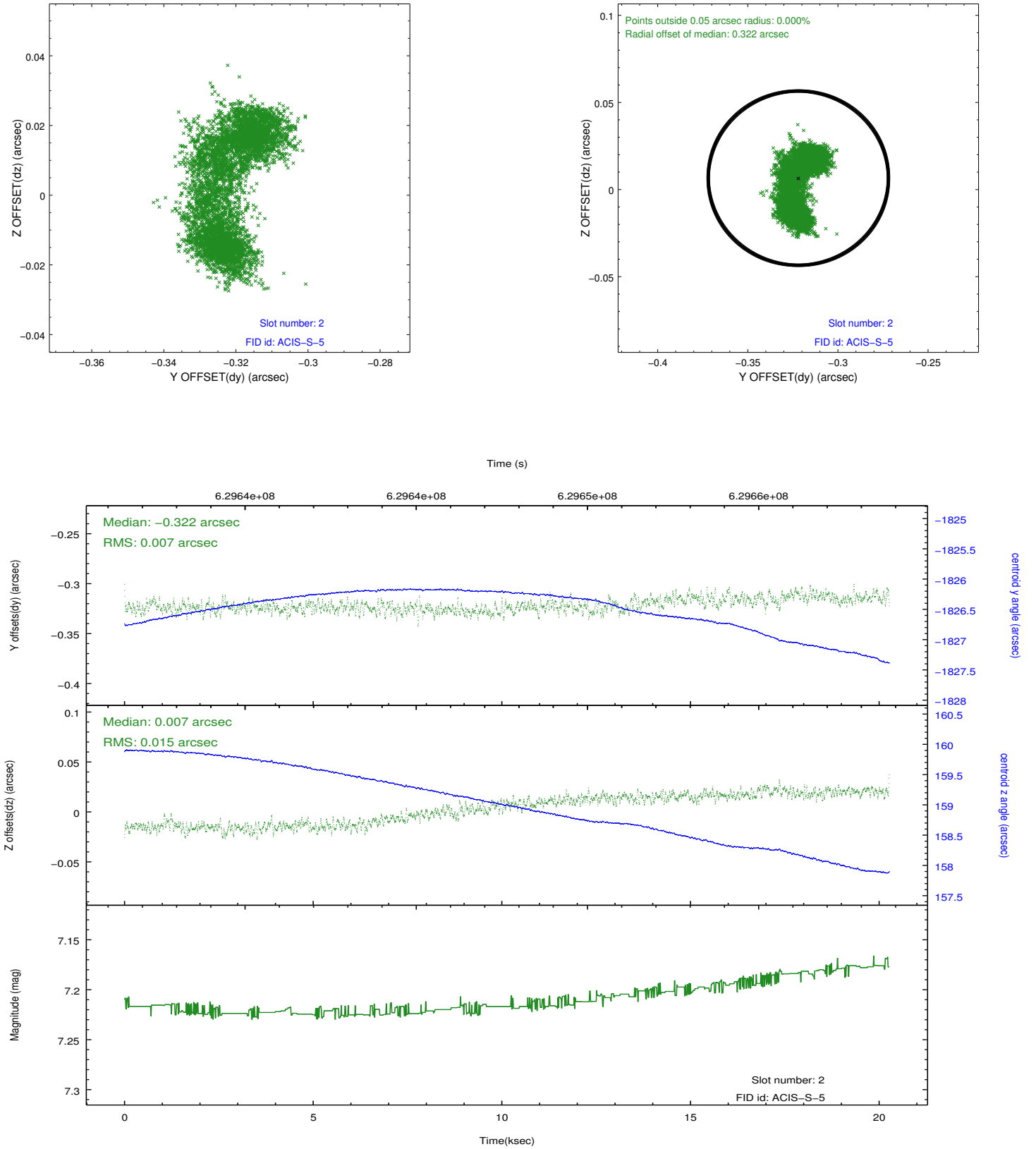
2.5.1 Slot 0



2.5.2 Slot 1

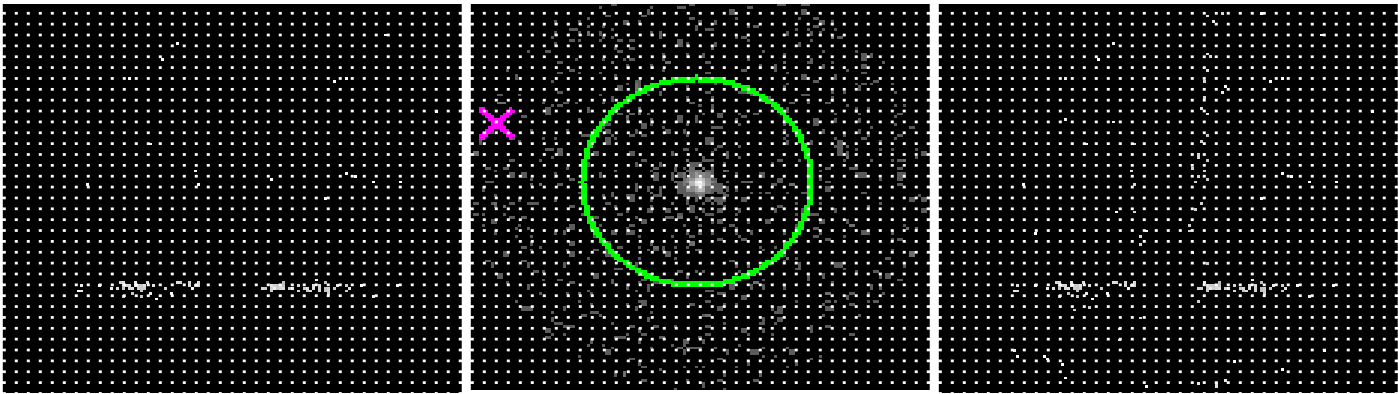


2.5.3 Slot 2



3 Gratings

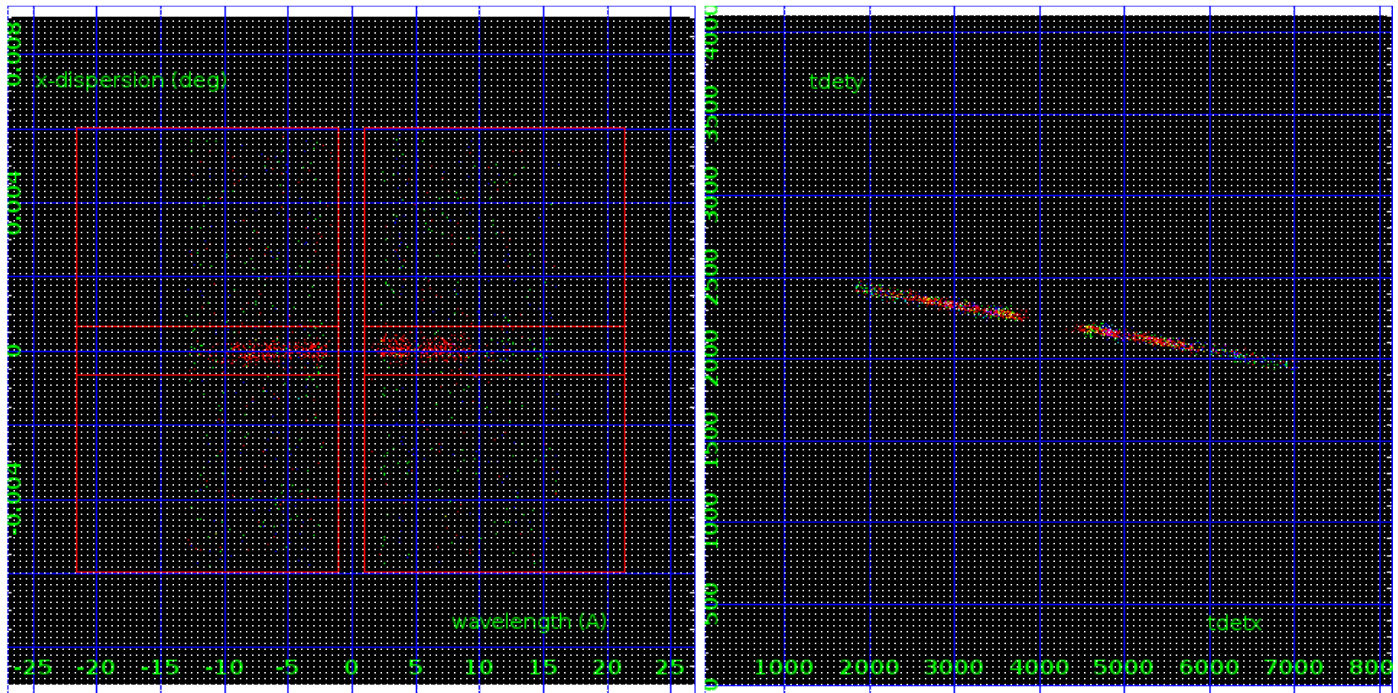
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

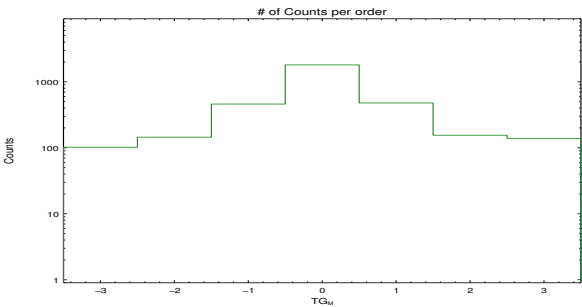
HEG Order Sort ALL

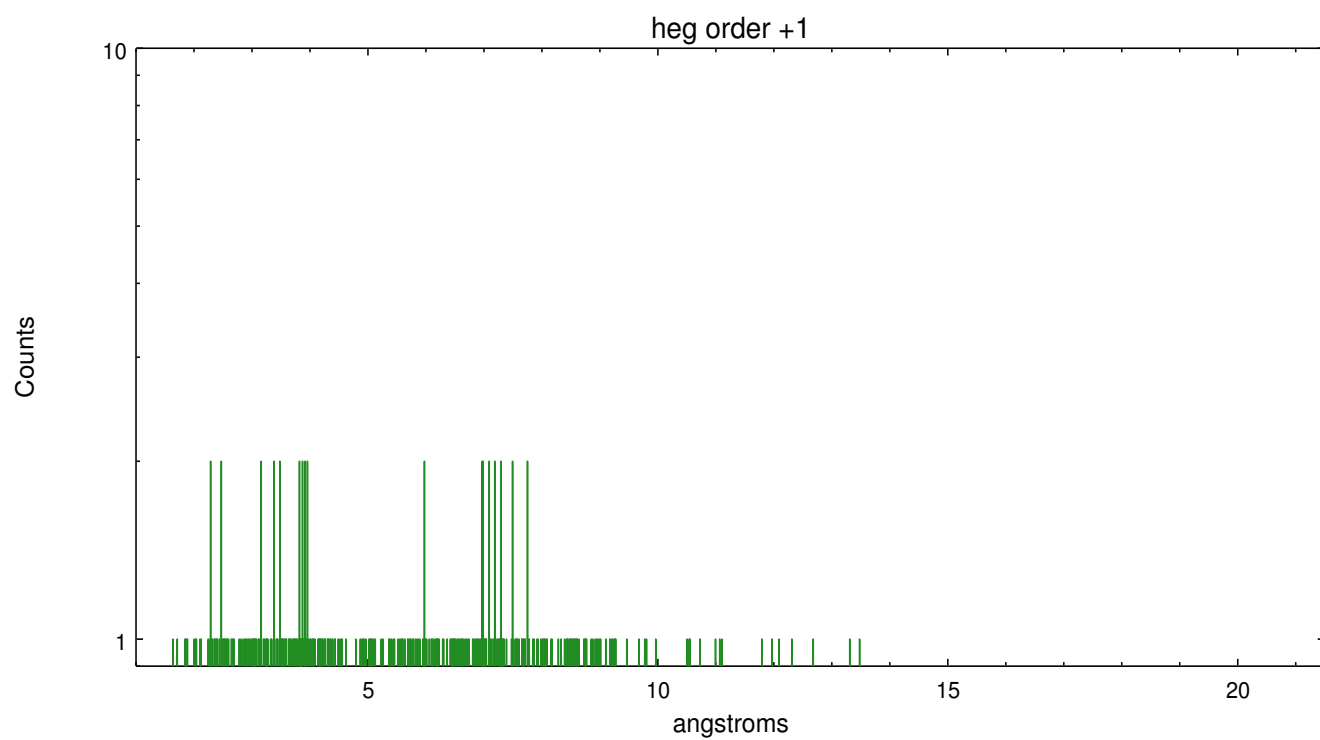
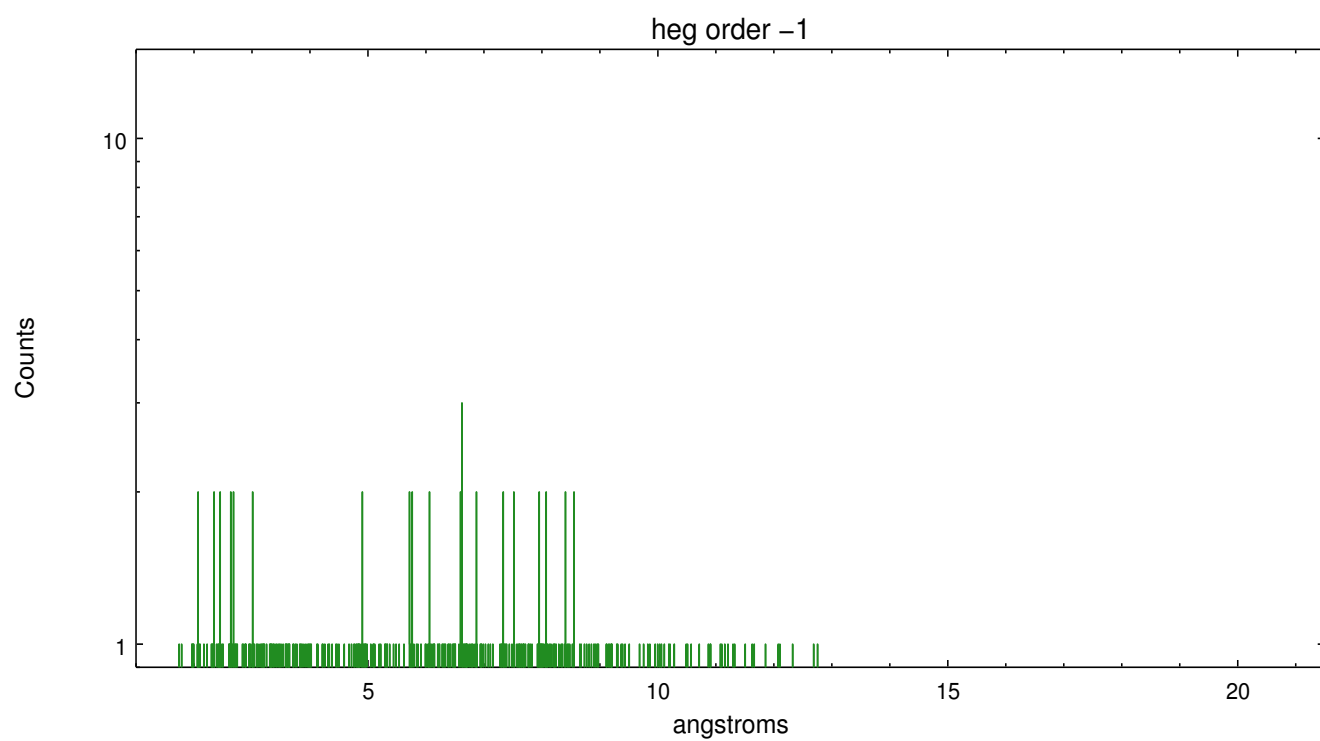


Spot Image HEG

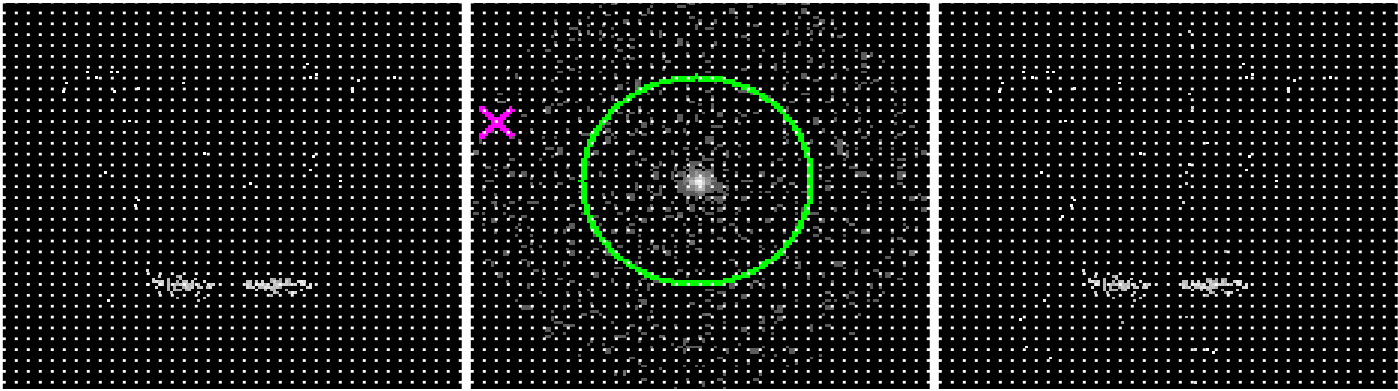
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	102	145	460	1804	478	155	139





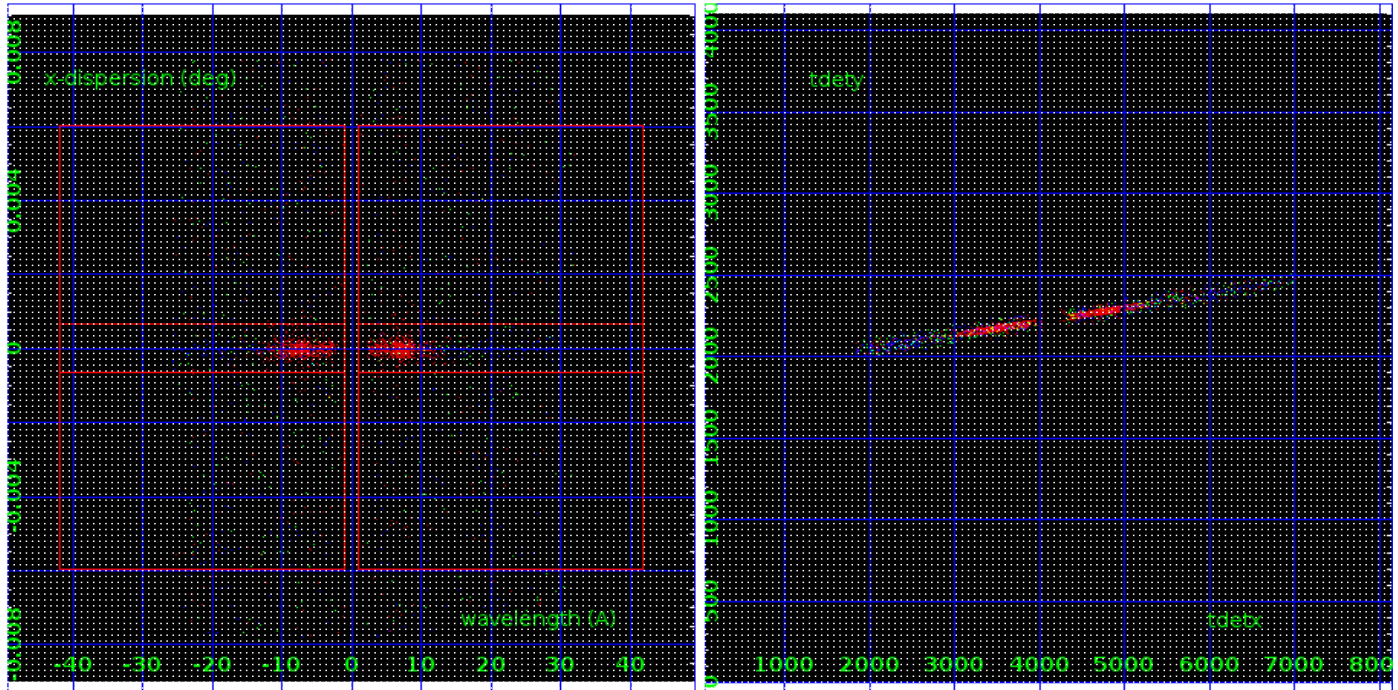
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

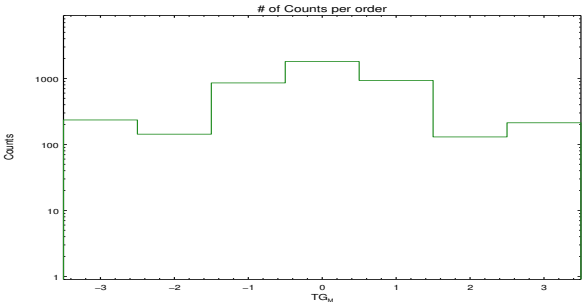
MEG Order Sort ALL

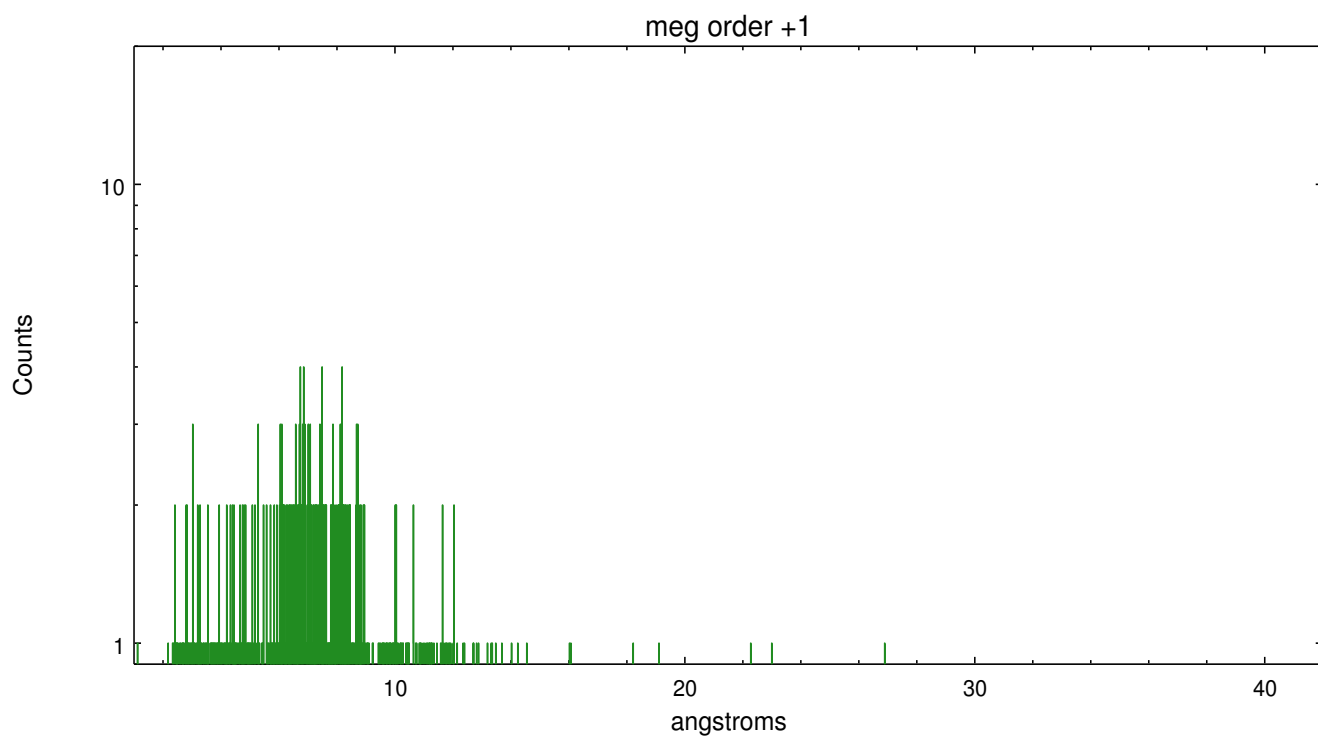
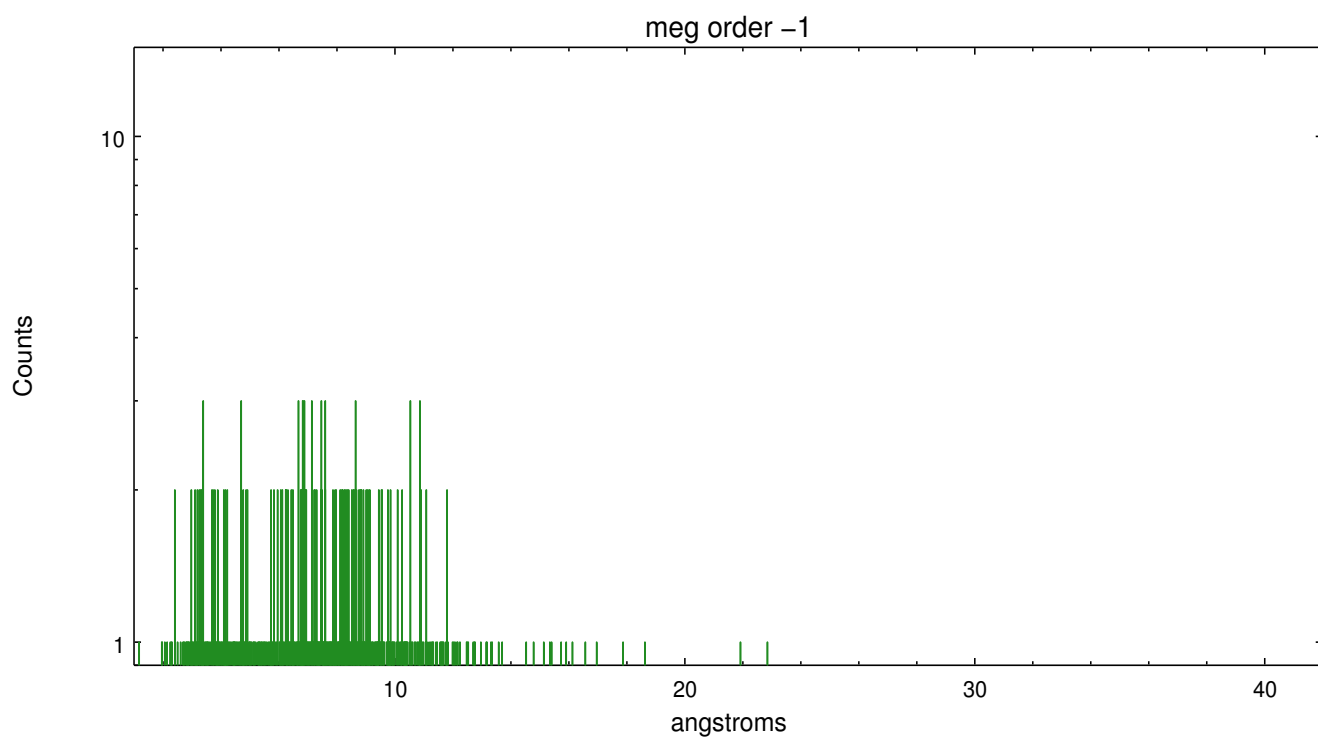


Spot Image MEG

Full Detector MEG

	order	order	order	order	order	order	order
	-3	-2	-1	0	1	2	3
Events	235	143	856	1804	933	130	213





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2017.12.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.047700154305

A.2 Comments

Comments for Obi 0

Star in slot 3 has an RMS deviation > 0.200000 arcsec

Star in slot 7 has an RMS deviation > 0.200000 arcsec

Fid in slot 1 radial offset > 0.550000 arcsec

Aspect review: all acceptable.