

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 20826 - L2 Version 2
Chandra X-Ray Center

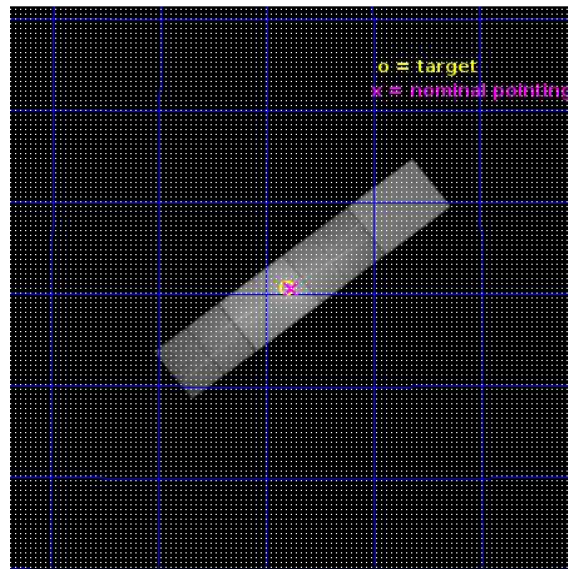
L2 Processing Date : Nov 2 2017

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 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
3	Gratings	17
3.1	HEG Arm	17
3.2	MEG Arm	19
A	Summary	21
A.1	Status	21
A.2	Comments	21

1 Front

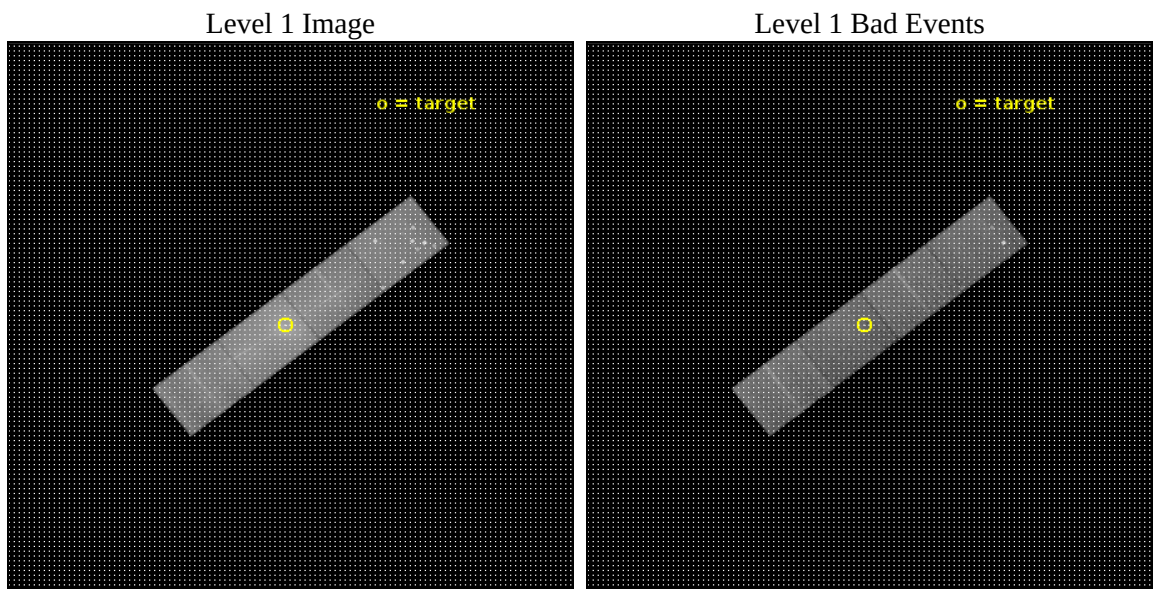
seq_num	703554	Sequence number
obs_id	20826	Observation id
title	Chandra/HETG Observations of NGC1275	Proposal title
observer	Christopher Reynolds	Principal investigator
object	NGC1275	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	49.950417	Observer's specified target RA [deg]
dec_targ	41.511667	Observer's specified target Dec [deg]
ra_nom	49.941360905108	Nominal RA [deg]
dec_nom	41.5108317635	Nominal Dec [deg]
roll_nom	142.16263523914	Nominal Roll [deg]
revision	2	Processing version of data
ontime	30088.799700975	Sum of GTIs [s]
livetime	29582.93157111	Livetime [s]
ontime5	30088.799700975	Sum of GTIs [s]
ontime6	30086.358640671	Sum of GTIs [s]
ontime7	30088.799700975	Sum of GTIs [s]
ontime8	30088.799700975	Sum of GTIs [s]
l2events	837076	Number of level 2 events



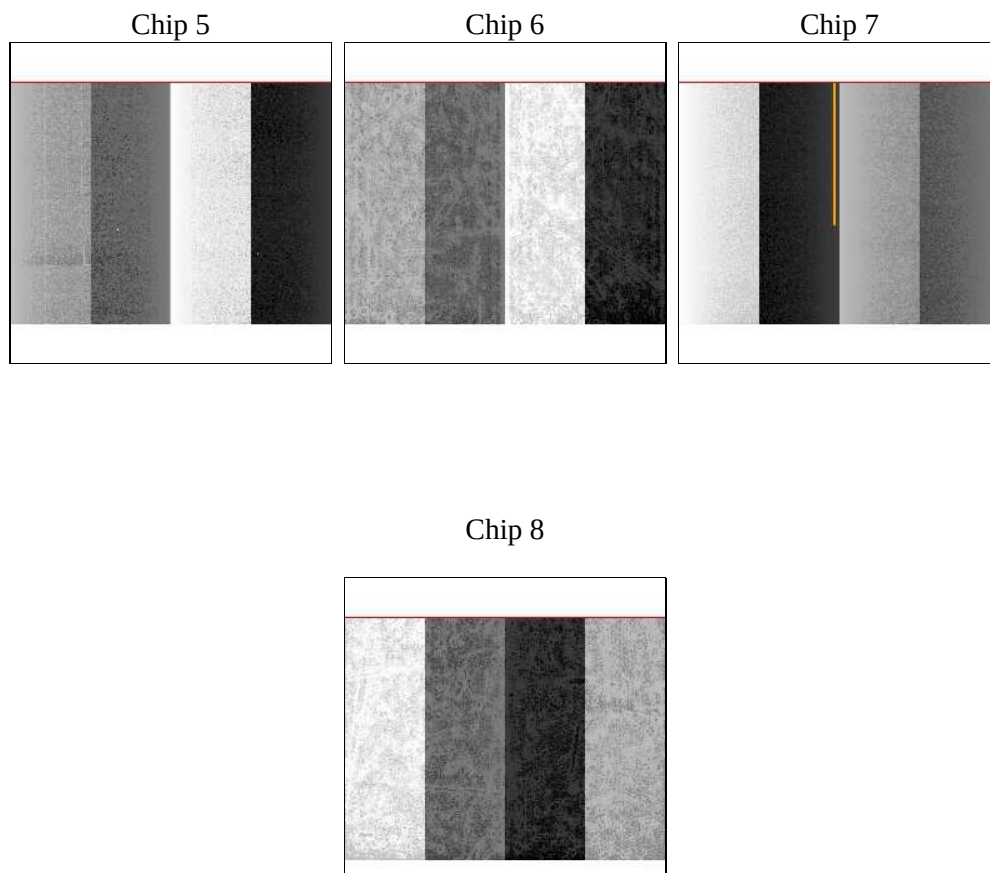
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	30088.799700975	Sum of GTIs [s]
caldsver	4.7.6	 	ontime5	30088.799700975	Sum of GTIs [s]
date	2017-10-30T13:21:52	Date and time of file creation	ontime6	30086.358640671	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	30088.799700975	Sum of GTIs [s]
			ontime8	30088.799700975	Sum of GTIs [s]
			l1events	1520864	Number of level 1 events
			tgmethod	MANUAL	Method used to create src1a file
			zo_pos	(4044.30, 4103.00)	src1a sky pixel position
			zo_pos_tgd	(4044.26, 4103.05)	src1a sky pixel position via radetect

2.1.4 Events

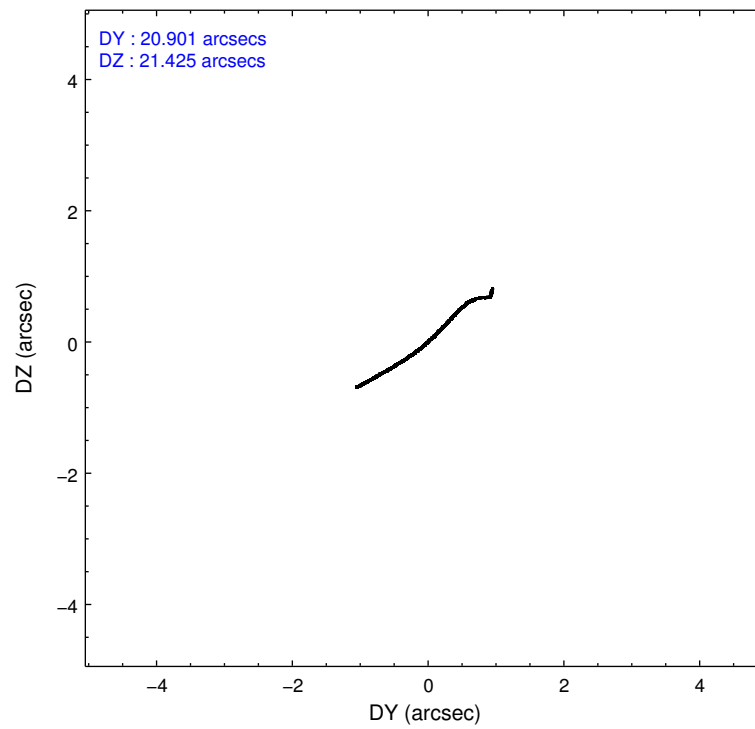
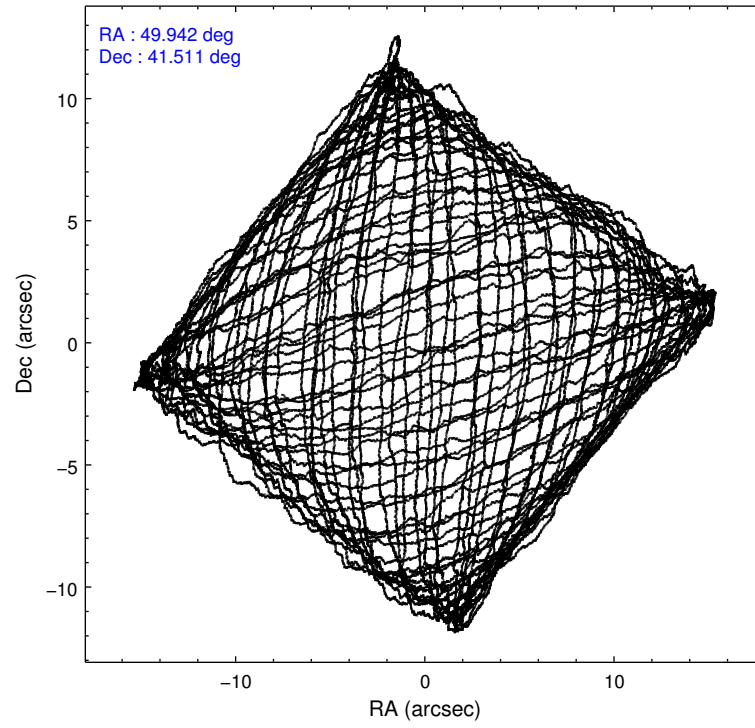
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	358767	336386	534201	291510
rejected events	143606	148236	121977	154429
rejected %	40%	44%	22%	52%

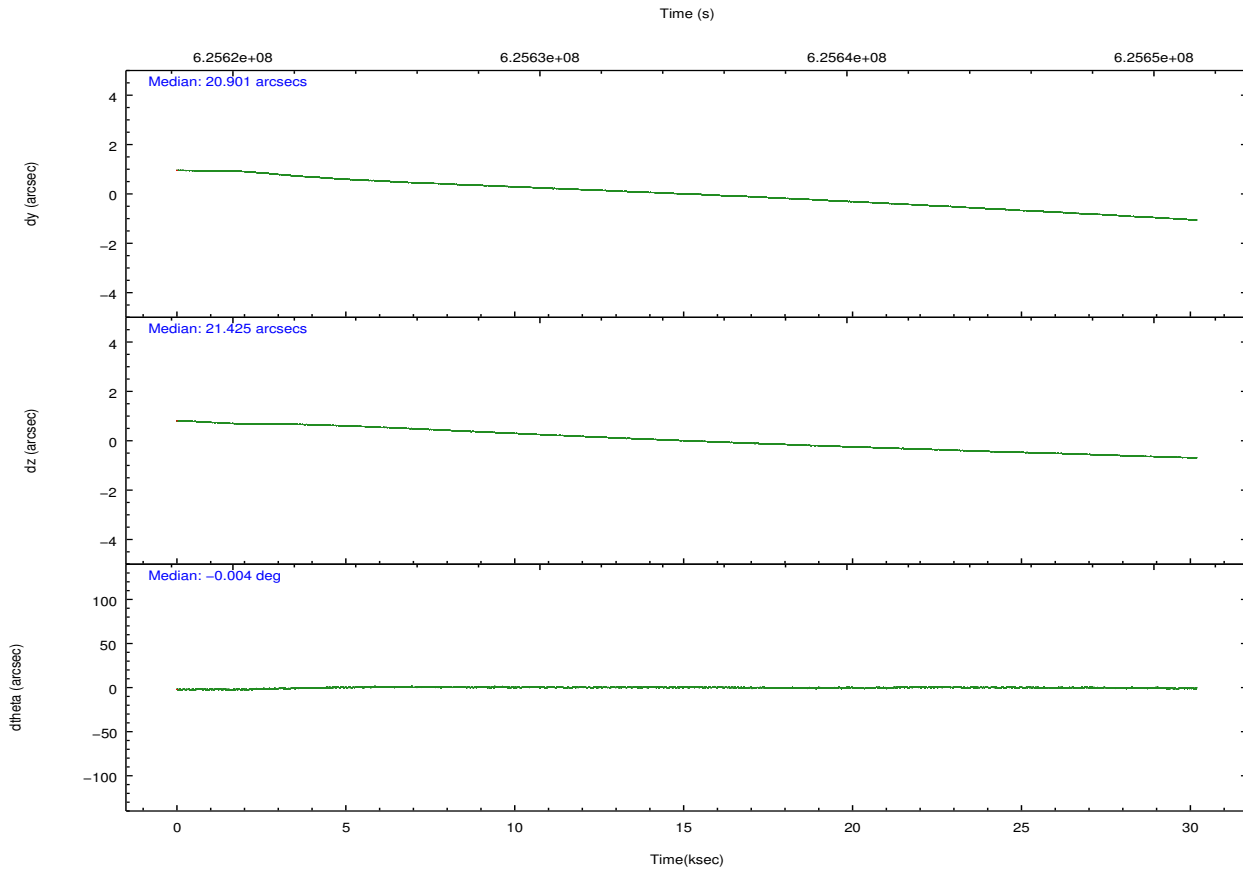
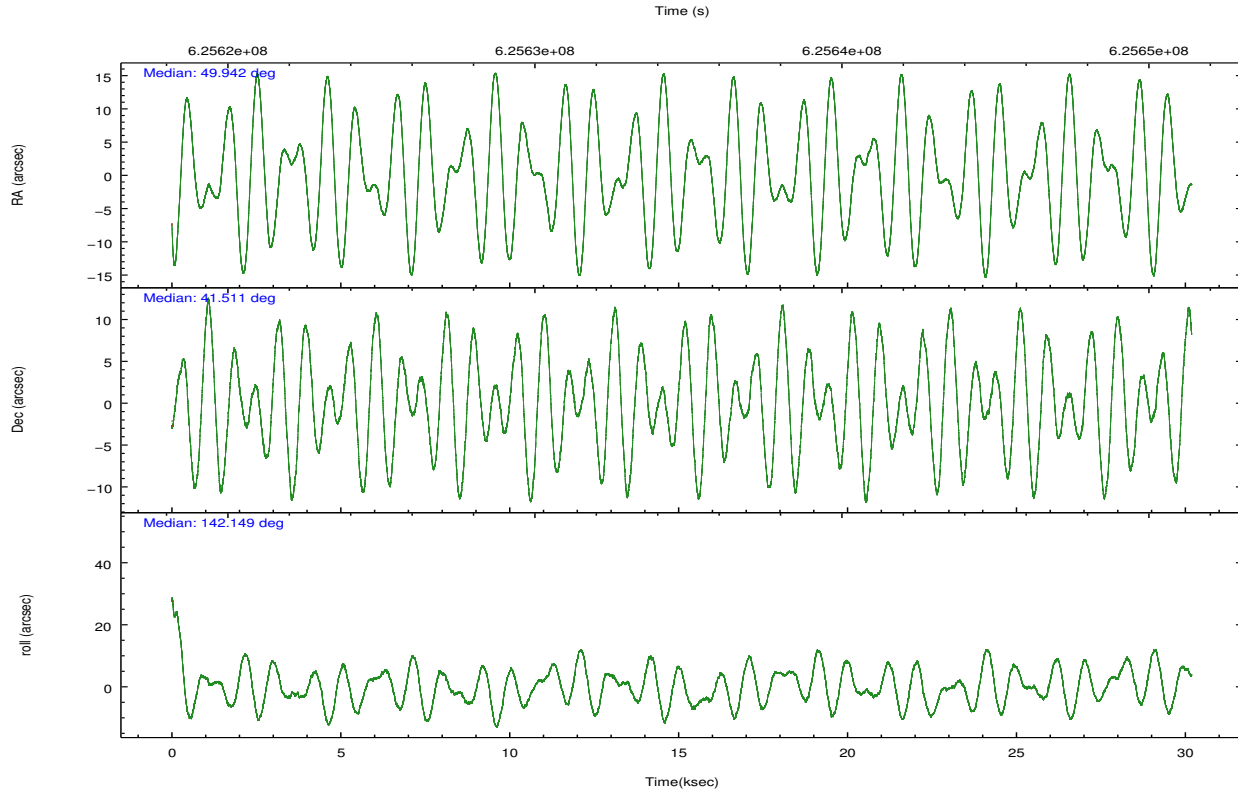
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	61331	135063	80932	80189
	17%	40%	15%	27%
grade 1 events	711	539	571	372
	0%	0%	0%	0%
grade 2 events	59979	25316	101253	22644
	16%	7%	18%	7%
grade 3 events	10052	8172	43433	8208
	2%	2%	8%	2%
grade 4 events	8905	7975	43155	8013
	2%	2%	8%	2%
grade 5 events	19749	8119	23966	11445
	5%	2%	4%	3%
grade 6 events	74925	11652	143529	18041
	20%	3%	26%	6%
grade 7 events	123115	139550	97362	142598
	34%	41%	18%	48%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-5678	ACIS-5678	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	49.977748	49.9413609051075	CCD I2 on	N	N
[deg] Pointing Dec	41.507437	41.51083176350039	CCD I3 on	N	N
[deg] Pointing Roll	141.981892	142.1626352391364	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	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	Y	Y
[s] Observation start time (MET)	625619856.184000	625618869.10218	CCD S5 on	O2	N
Observation start date	2017-10-28T23:16:27	2017-10-28T23:01:09	Number of optional ACIS chips dropped	2	2
[s] Observation end time (MET)	625649856.184000	625650530.32903	On-chip summing requested	N	N
Observation end date	2017-10-29T07:36:27	2017-10-29T07:48:50	Subarray requested	CUSTOM	CUSTOM
Read mode	TIMED	TIMED	Subarray start row	125	125
			Subarray row count	774	774
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	2.4

2.3 Aspect



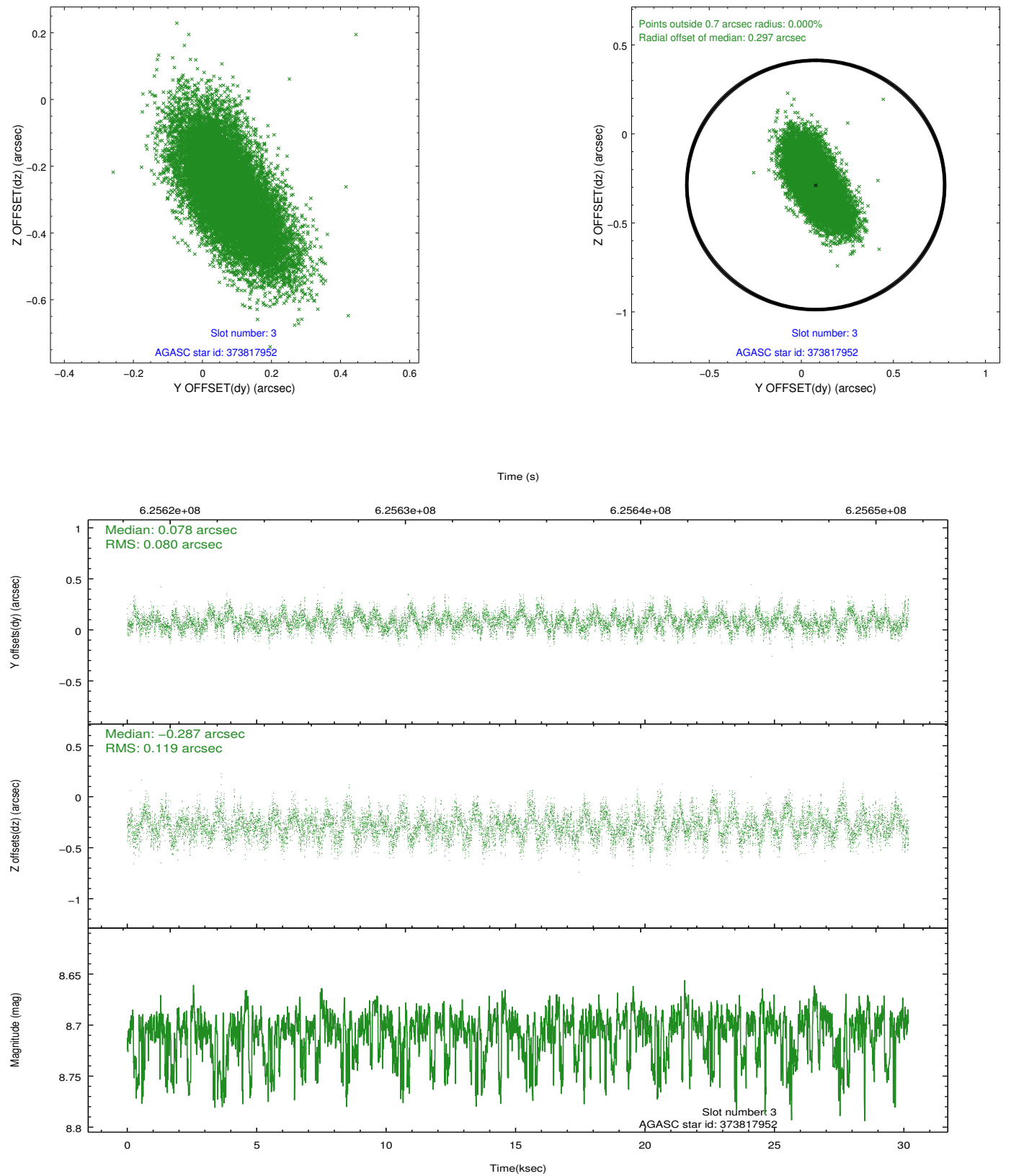


Slot Statistics

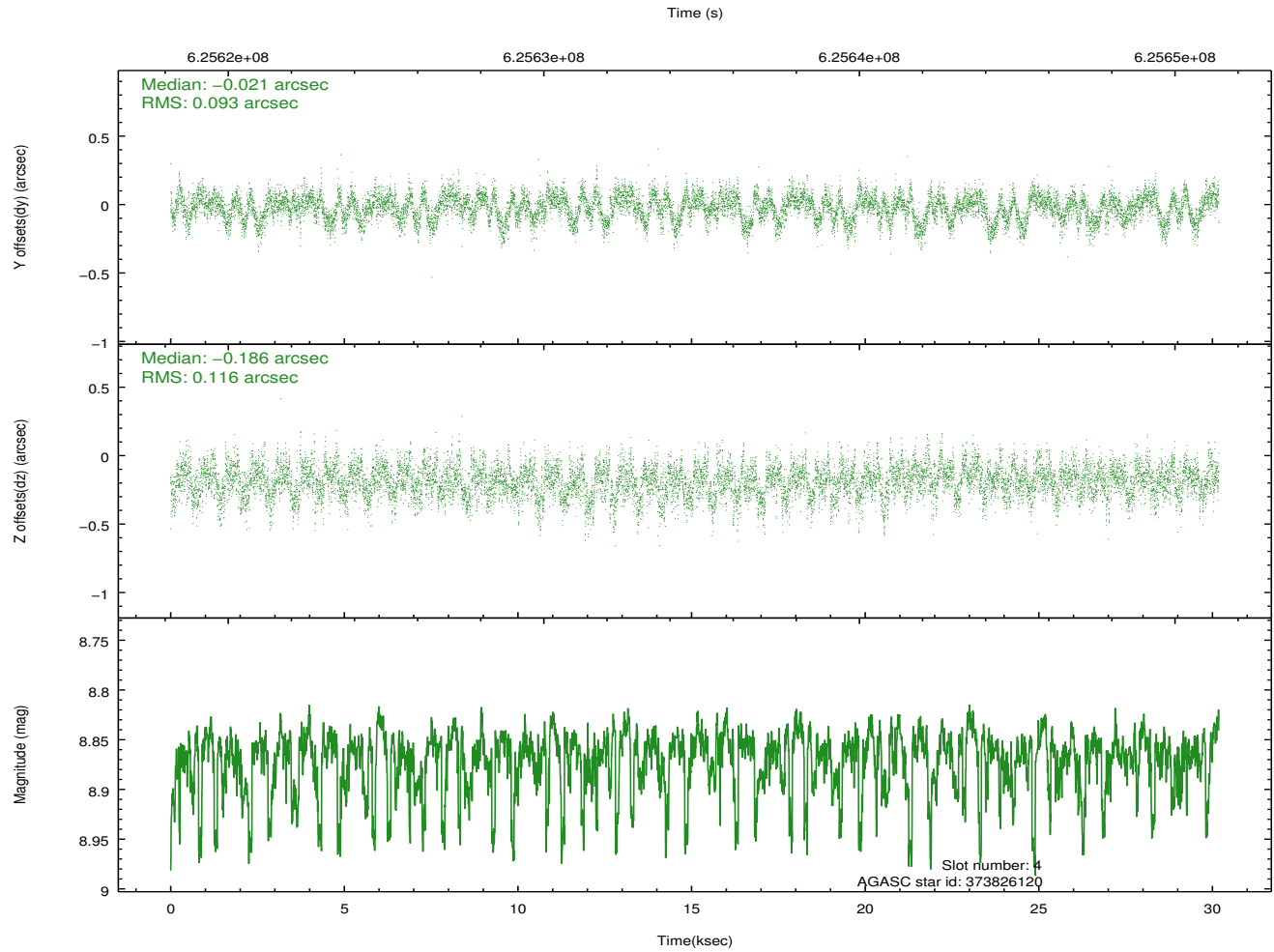
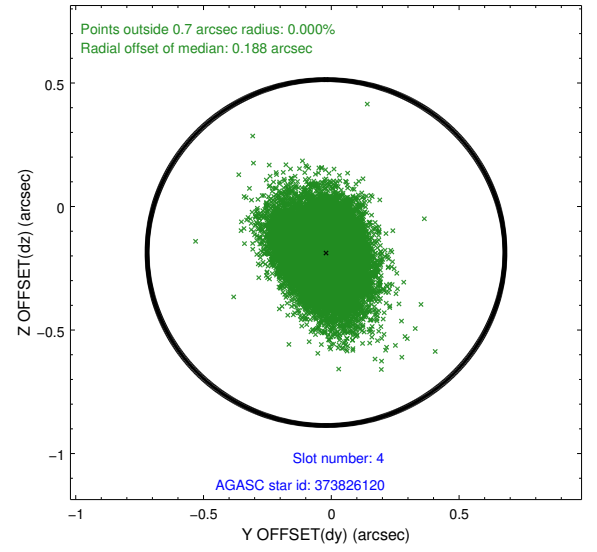
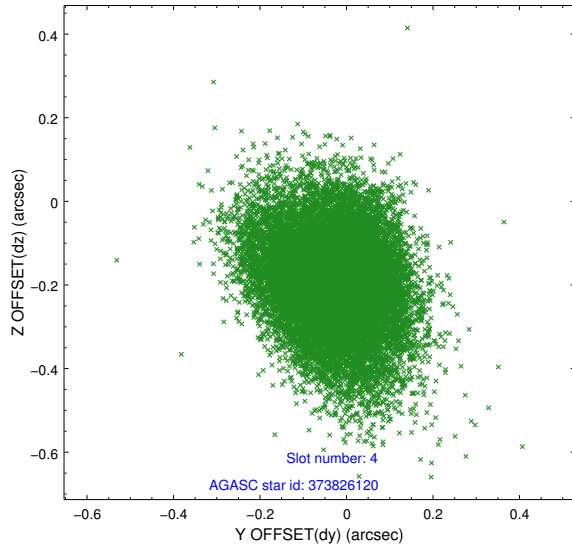
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.02	7362	-0.254	-0.143	0.021	0.029	0.000000	0.000000	-774.25	-1743.16
1	FID		ACIS-S-4	7.13	7360	0.532	0.161	0.013	0.026	0.000000	0.000000	2139.77	165.57
2	FID		ACIS-S-5	7.12	7363	-0.311	-0.008	0.017	0.028	0.000000	0.000000	-1827.07	159.12
3	GUIDE	used	373817952	8.70	14718	0.078	-0.287	0.148	0.264	49.913424	40.978510	-1035.22	1607.52
4	GUIDE	used	373826120	8.87	14710	-0.021	-0.186	0.157	0.255	49.738165	41.186341	-200.09	1309.84
5	GUIDE	used	374352808	8.74	14704	-0.096	-0.029	0.169	0.283	49.969955	42.208621	1571.60	-1975.19
6	GUIDE	used	376057824	8.33	14718	0.254	0.484	0.134	0.234	50.665569	41.926280	-517.71	-2327.65
7	GUIDE	used	374357808	8.65	14706	-0.219	0.024	0.152	0.268	49.921429	42.176083	1601.19	-1803.53

2.4 Star Slots

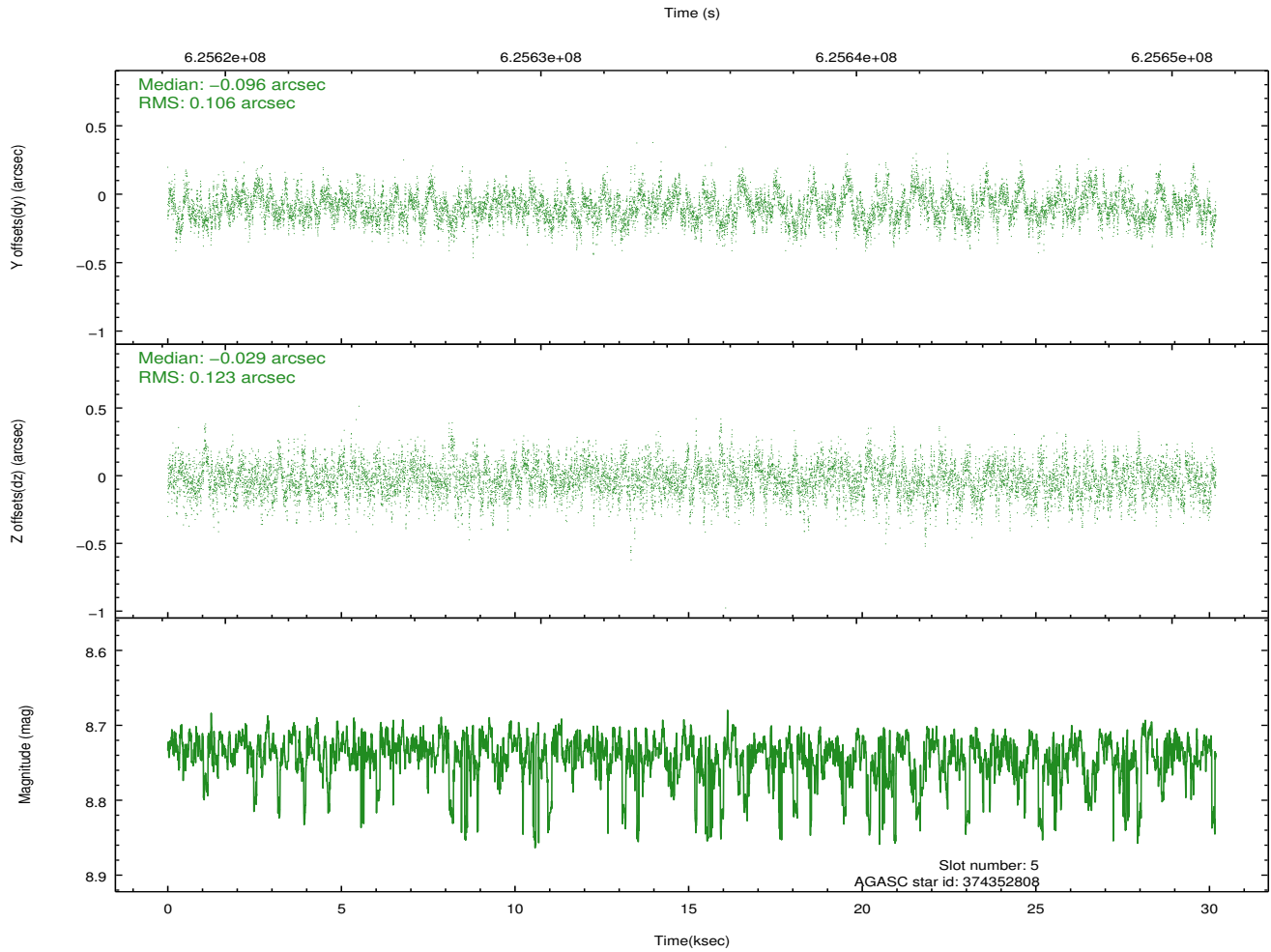
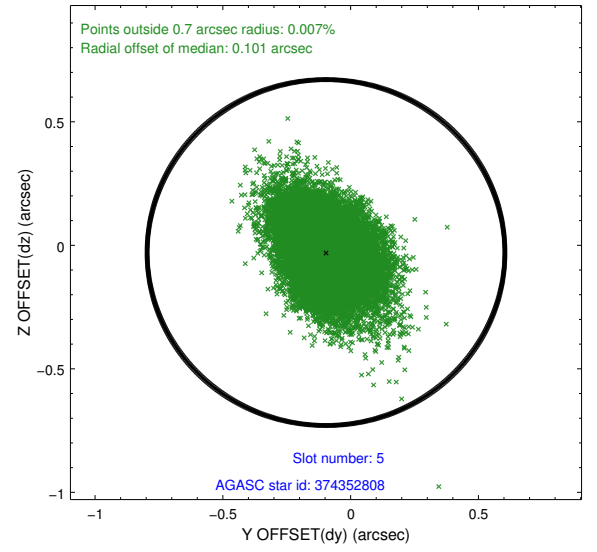
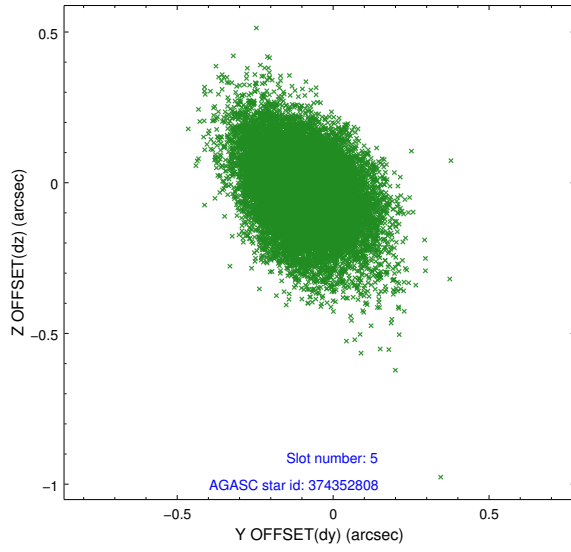
2.4.1 Slot 3



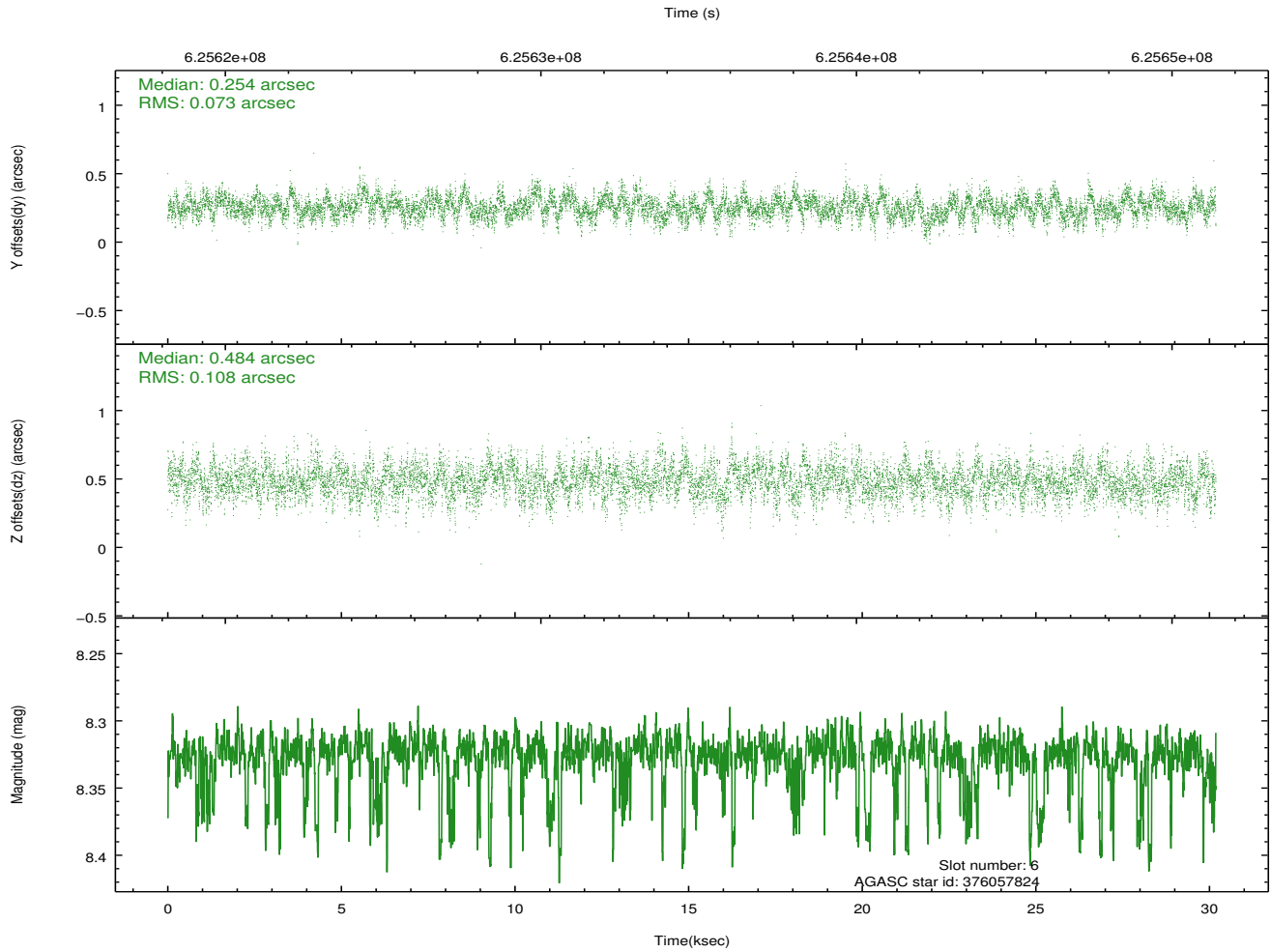
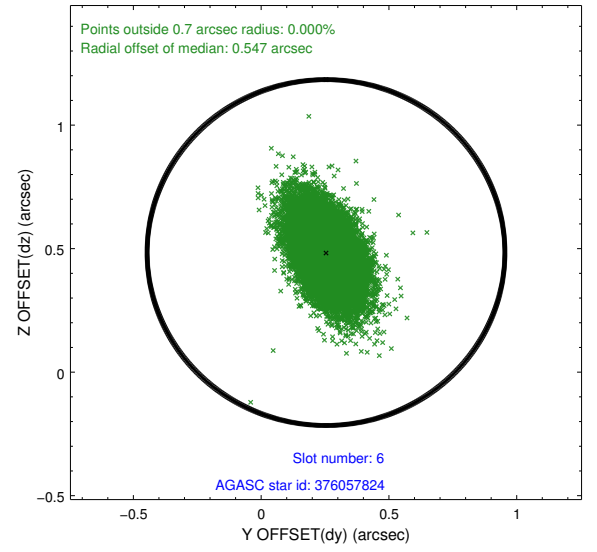
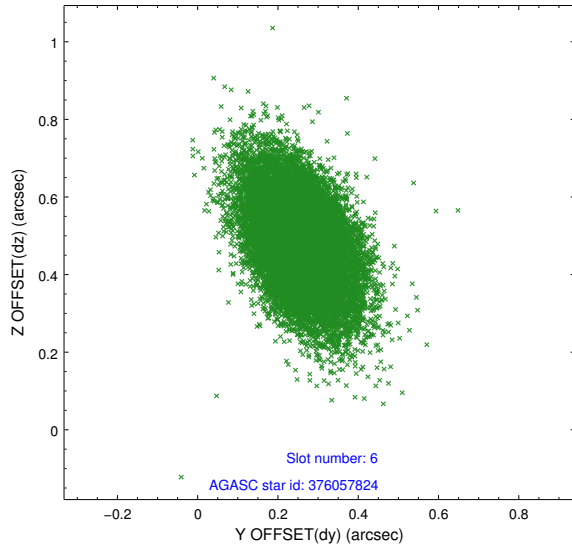
2.4.2 Slot 4



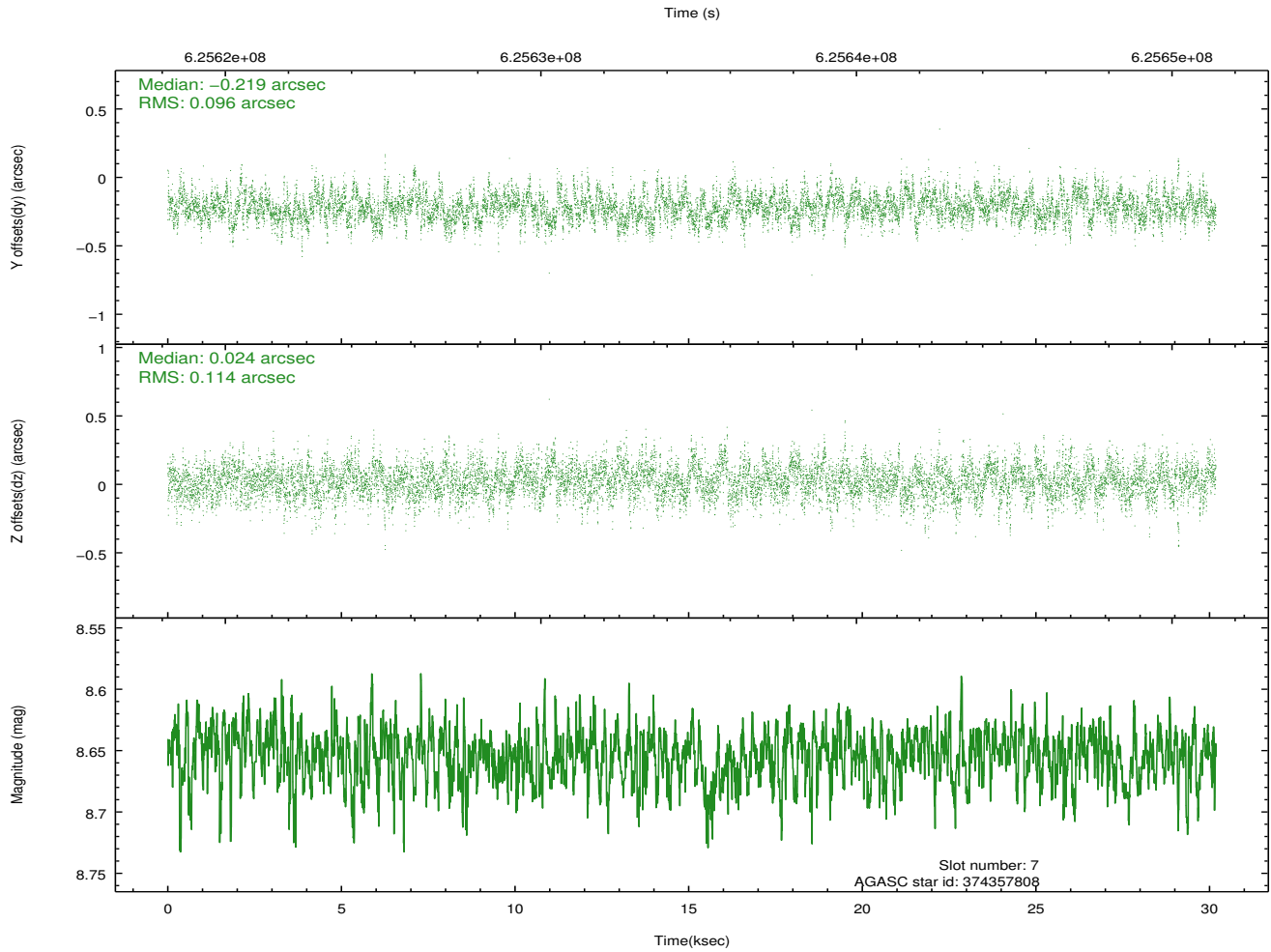
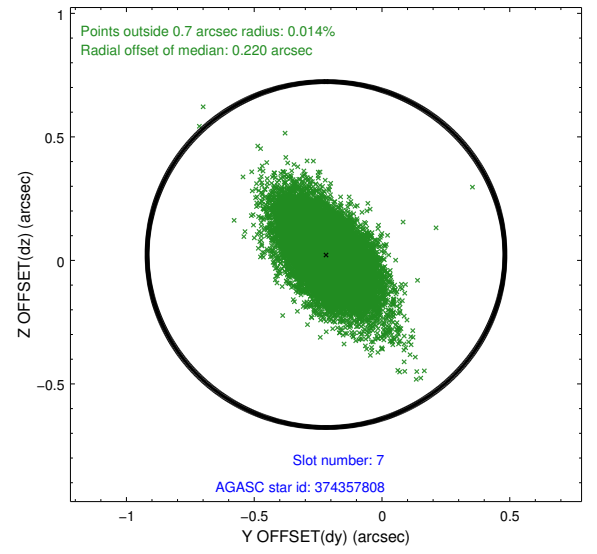
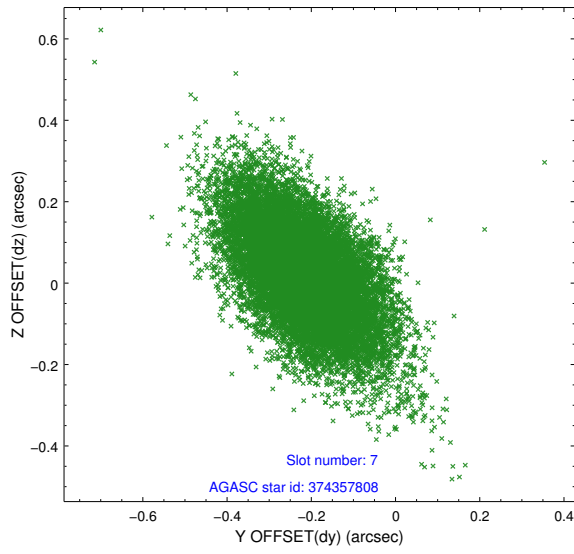
2.4.3 Slot 5



2.4.4 Slot 6

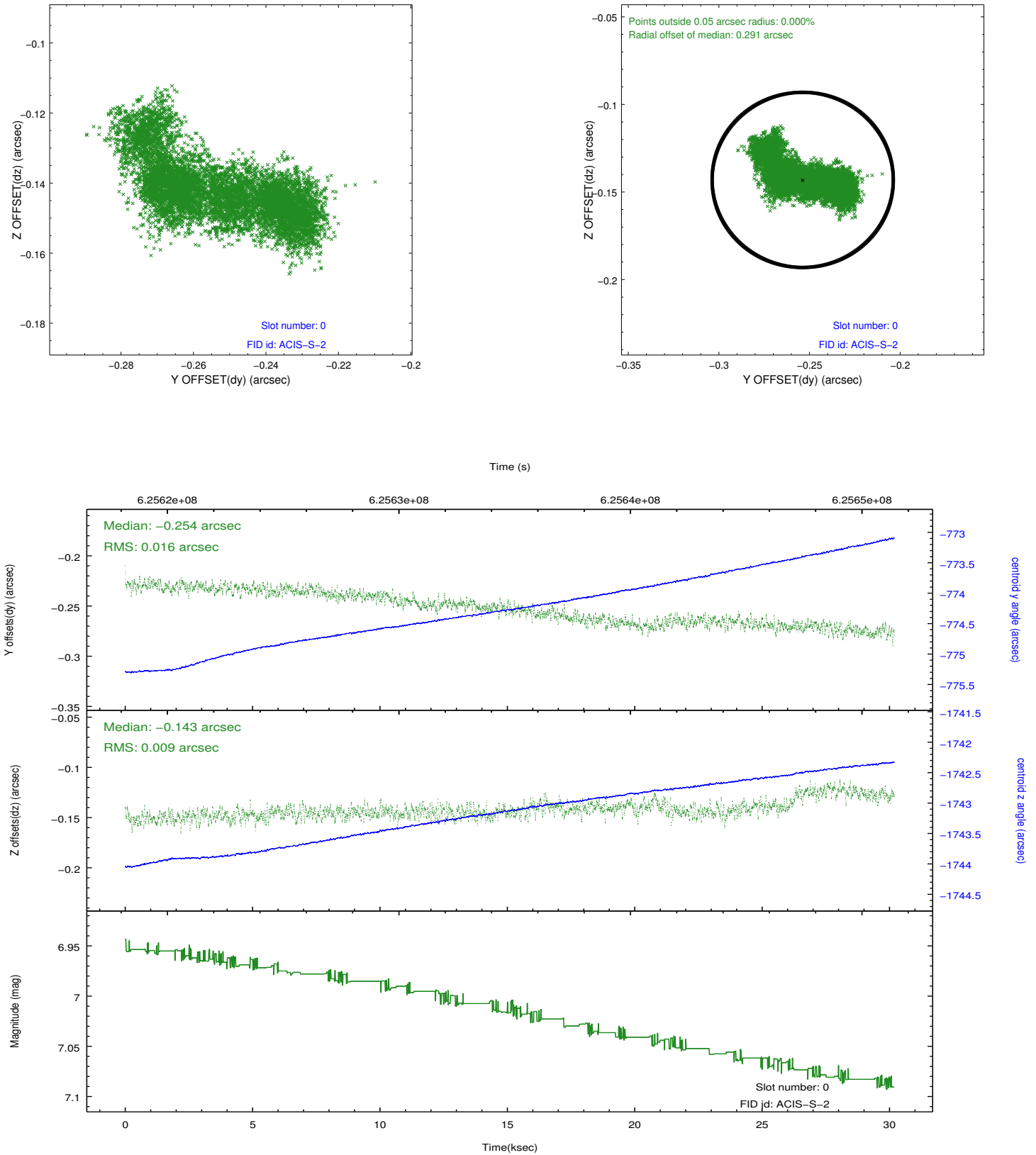


2.4.5 Slot 7

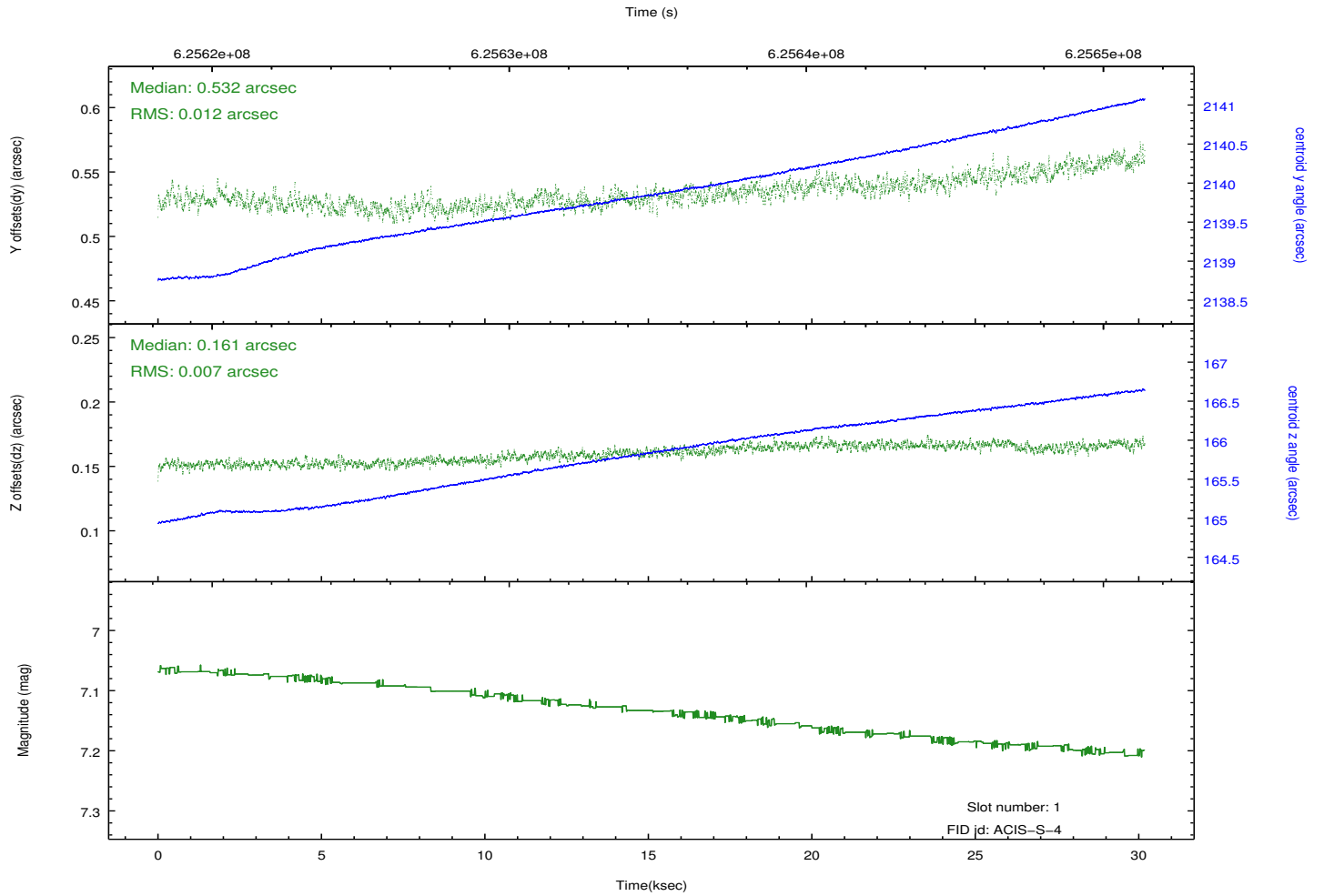
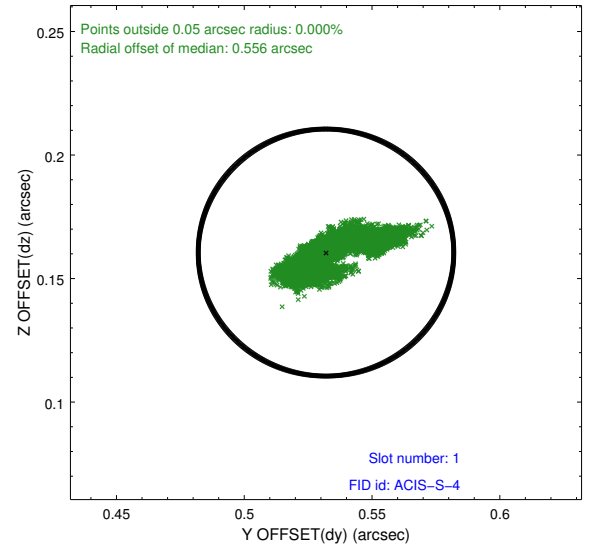
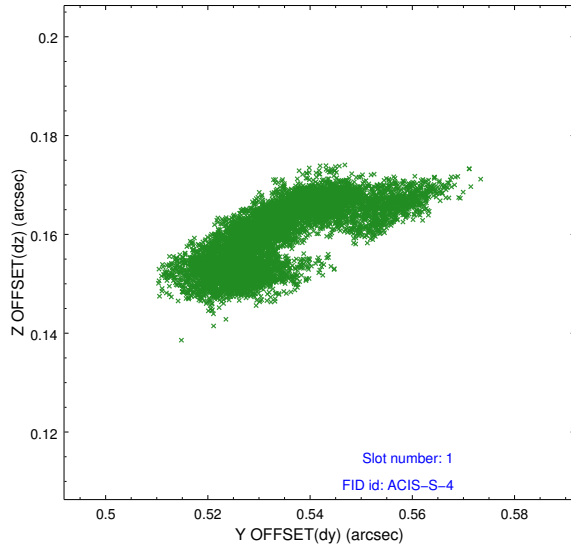


2.5 FID Slots

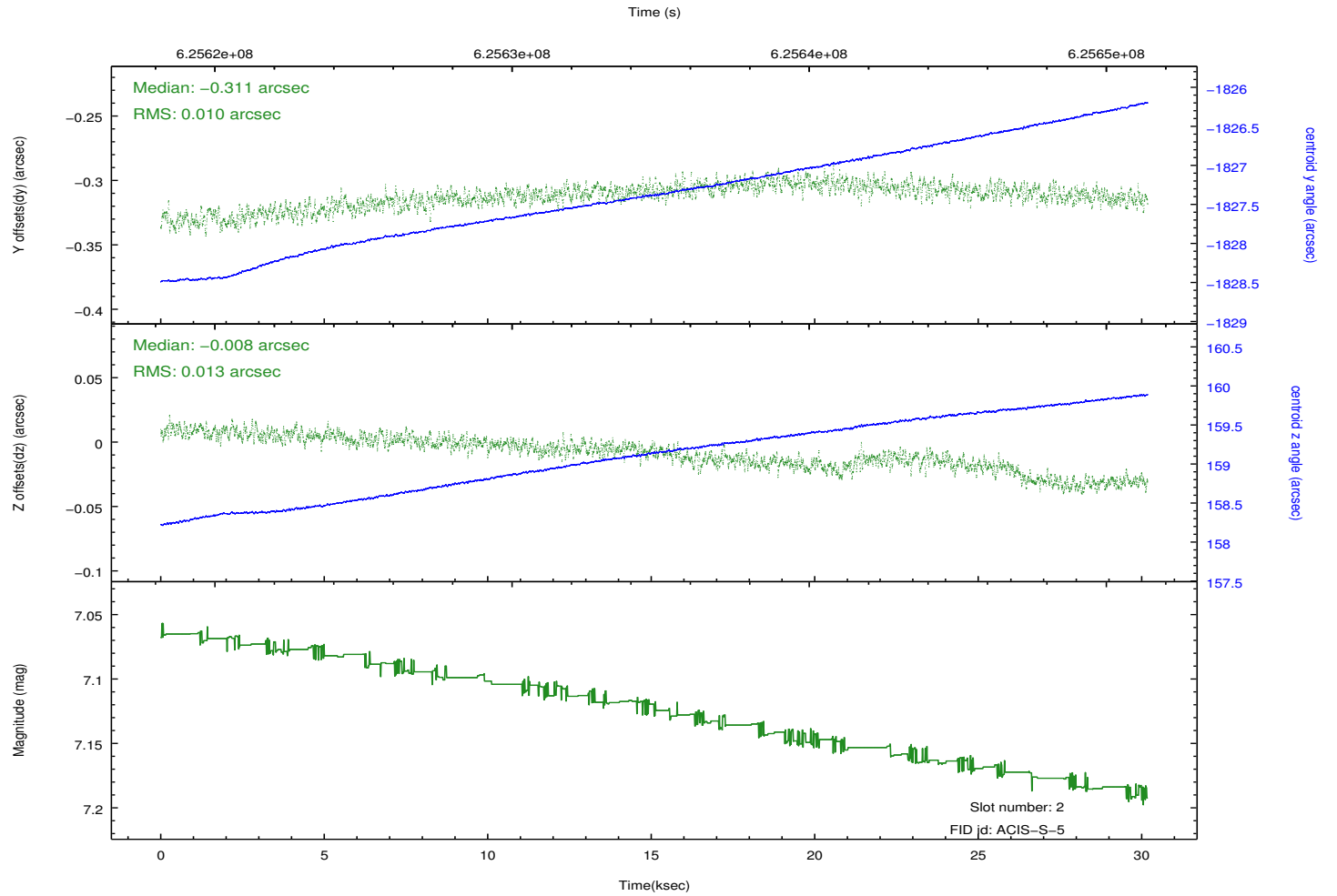
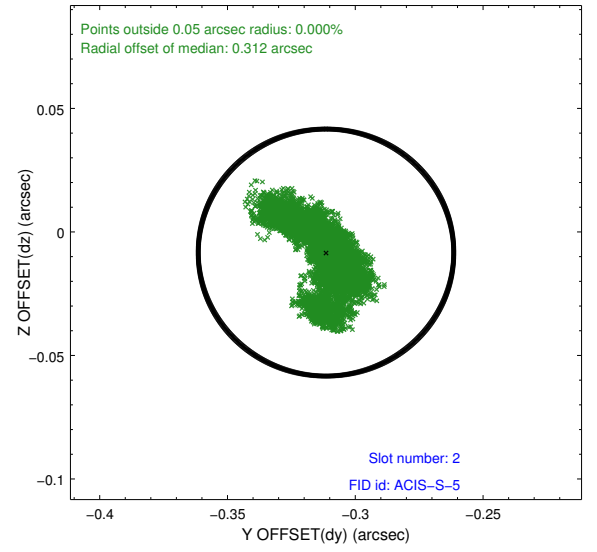
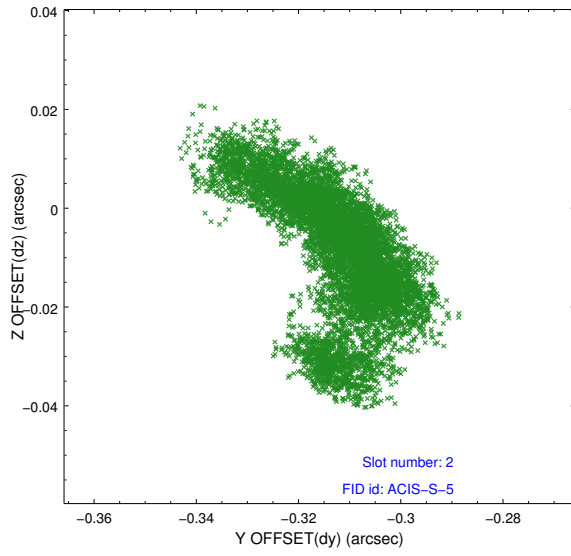
2.5.1 Slot 0



2.5.2 Slot 1

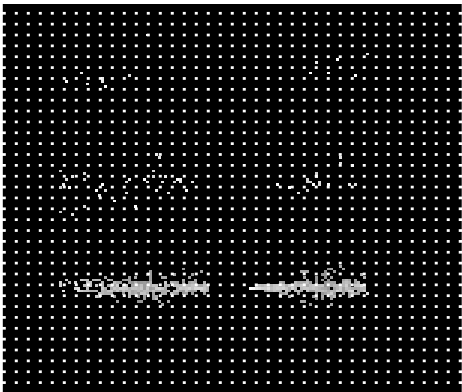


2.5.3 Slot 2

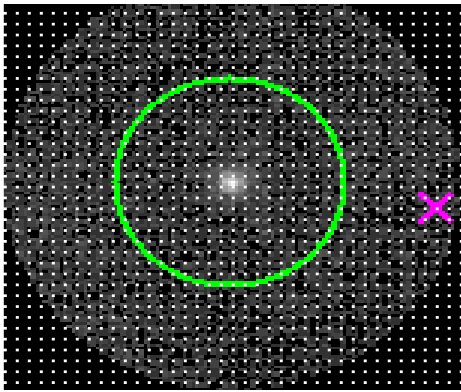


3 Gratings

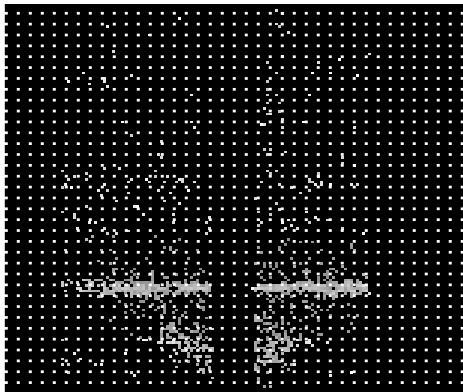
3.1 HEG Arm



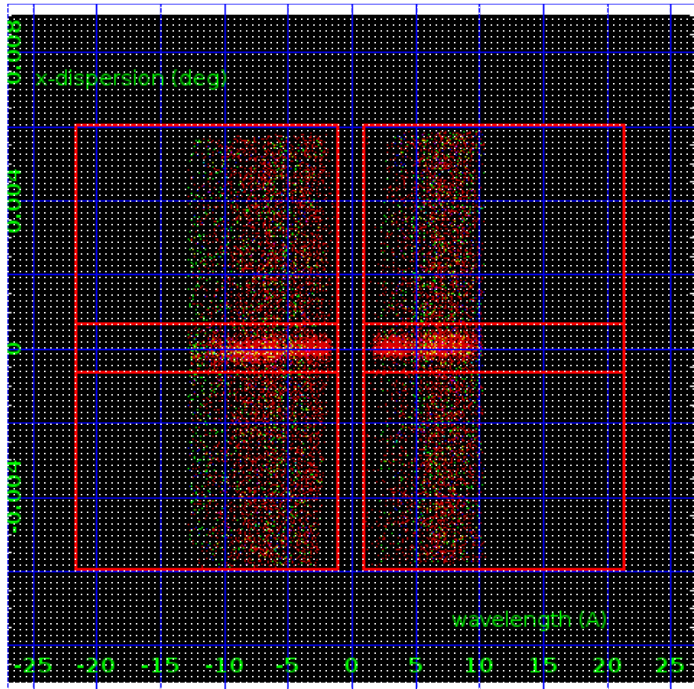
HEG Order Sort 123



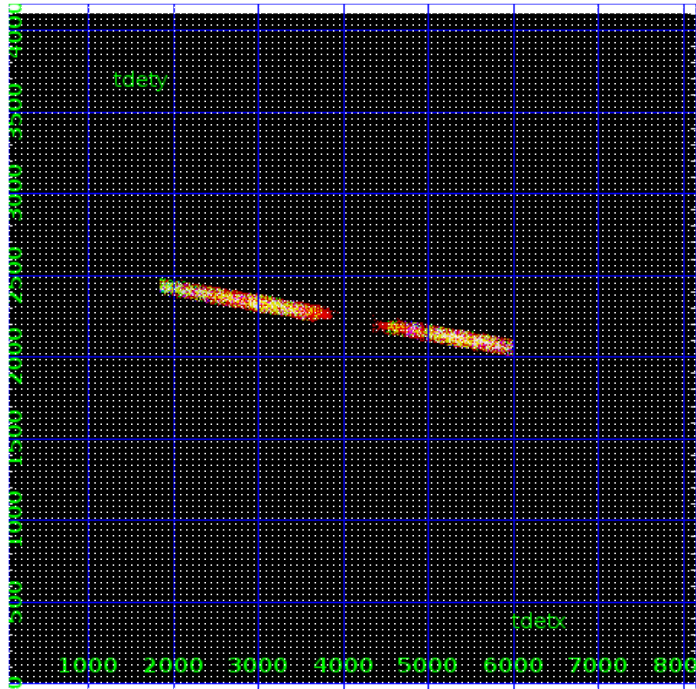
HEG Zero Order



HEG Order Sort ALL

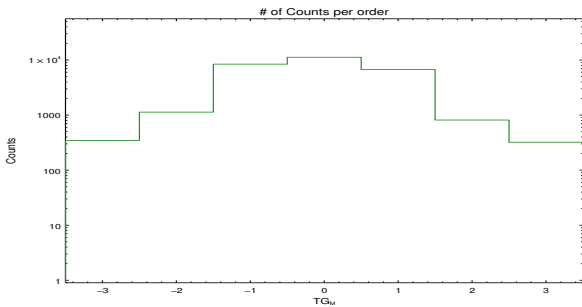


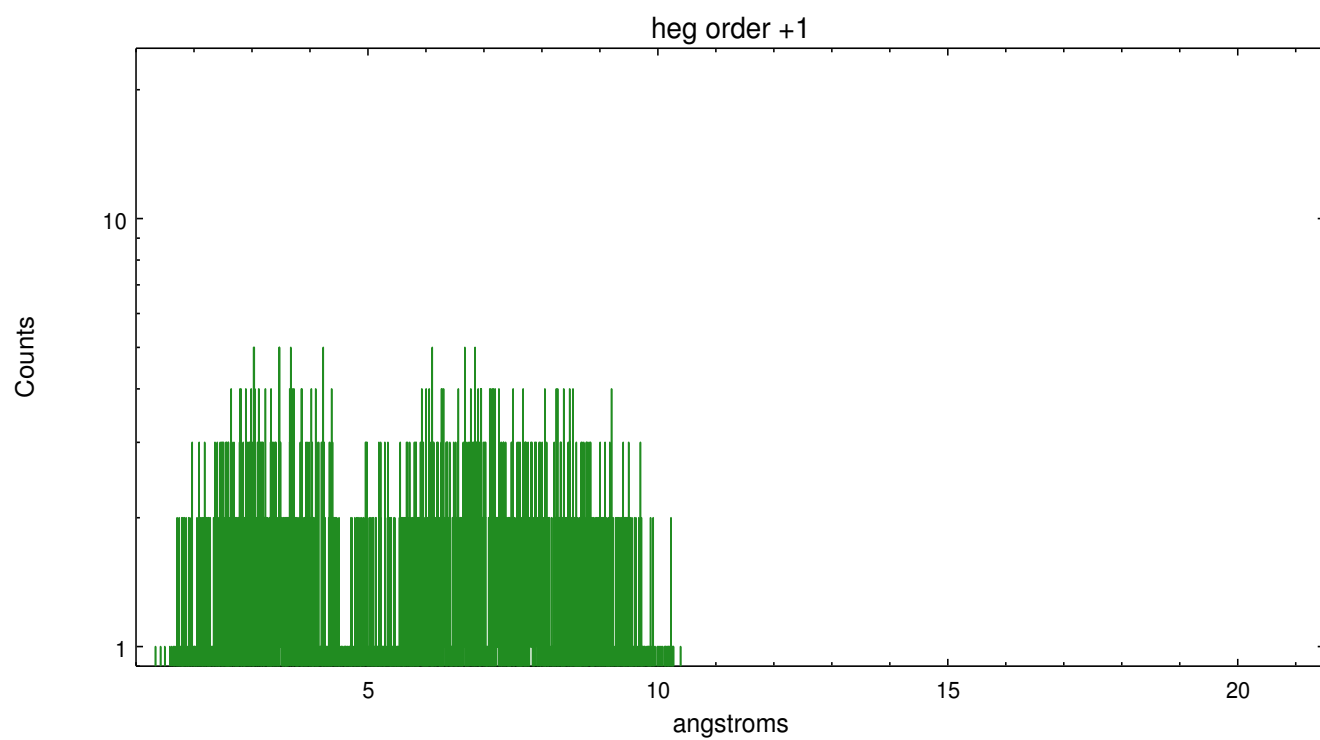
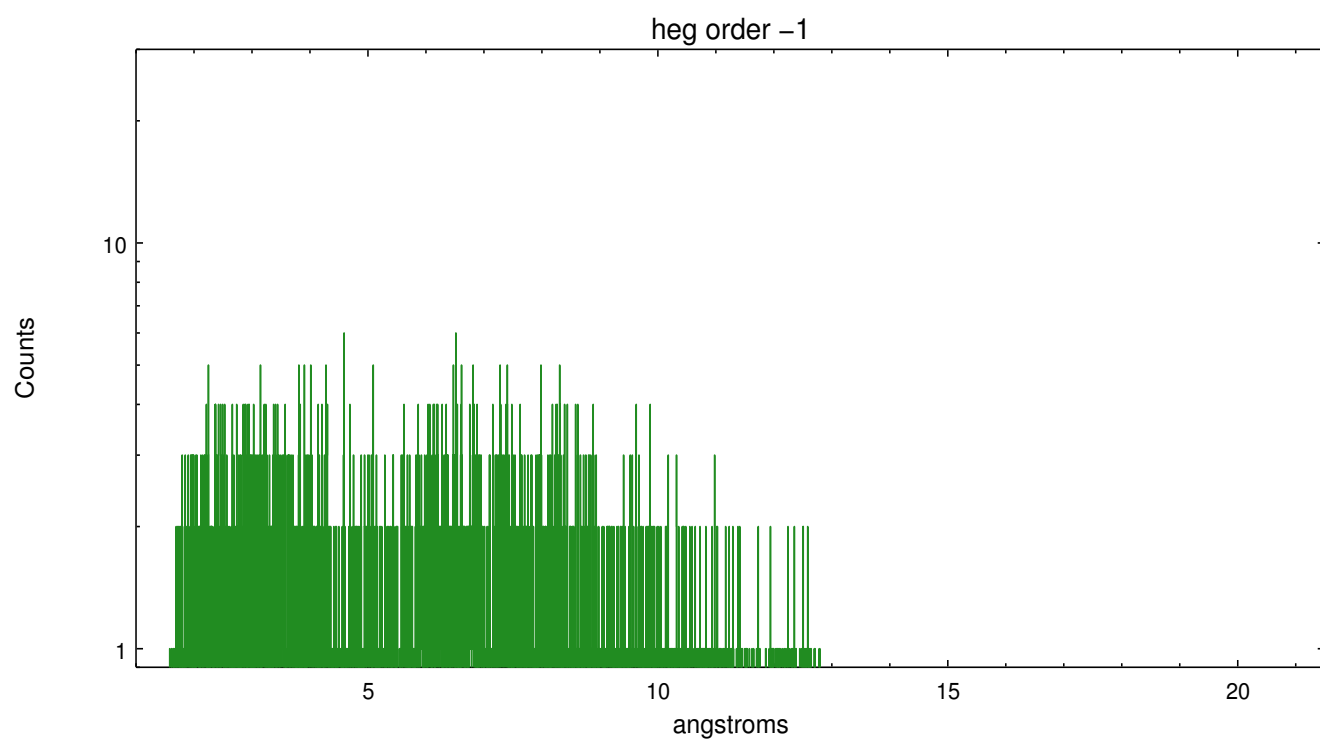
Spot Image HEG



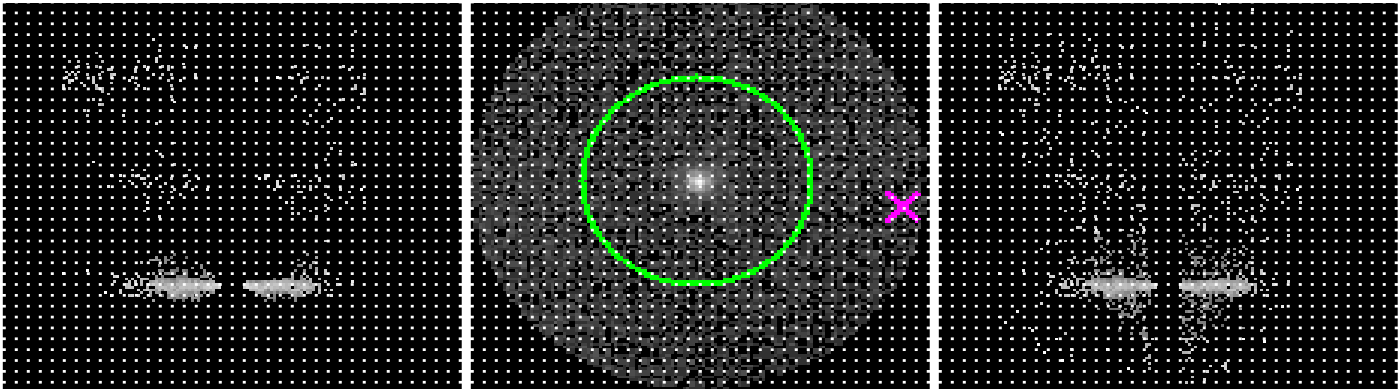
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	347	1131	8415	11218	6716	813	321





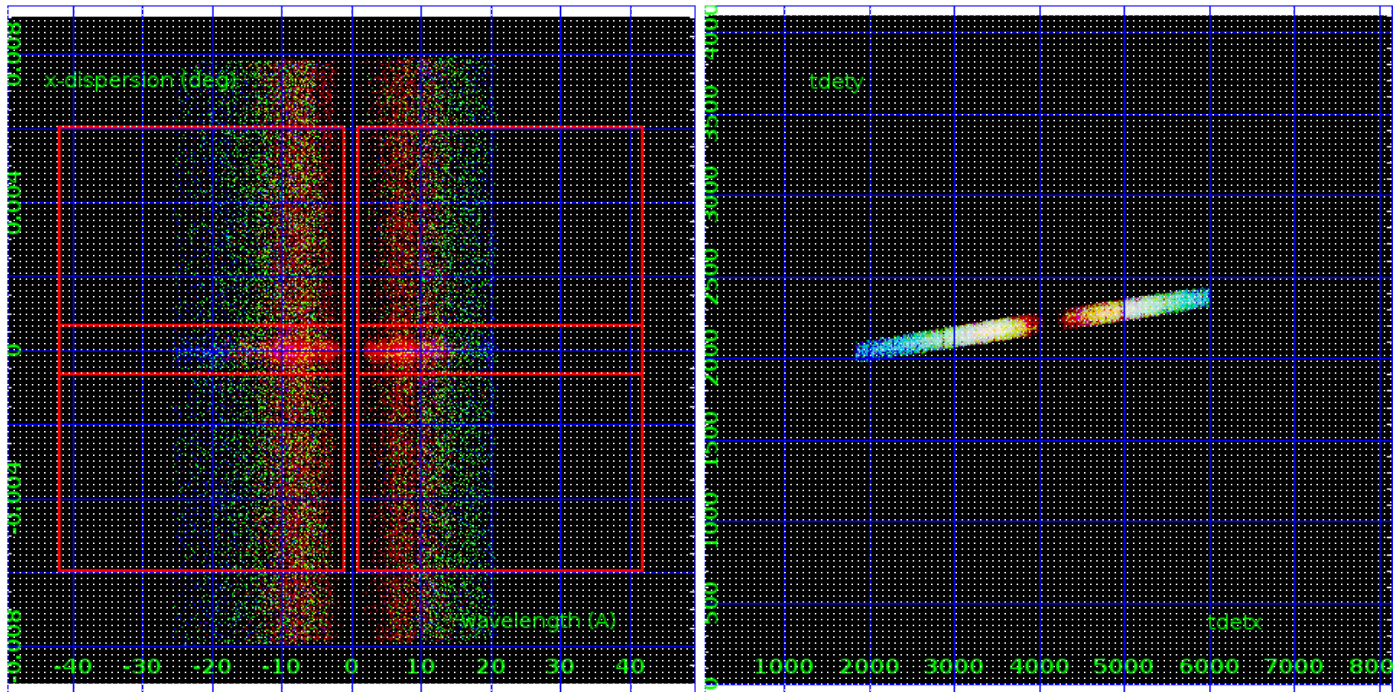
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

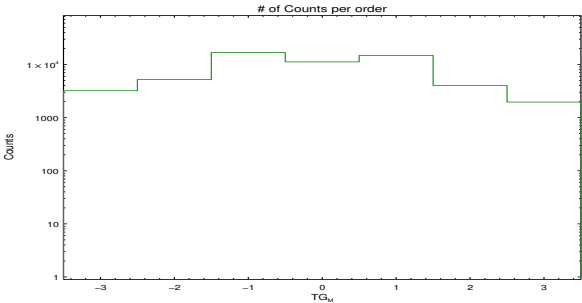
MEG Order Sort ALL

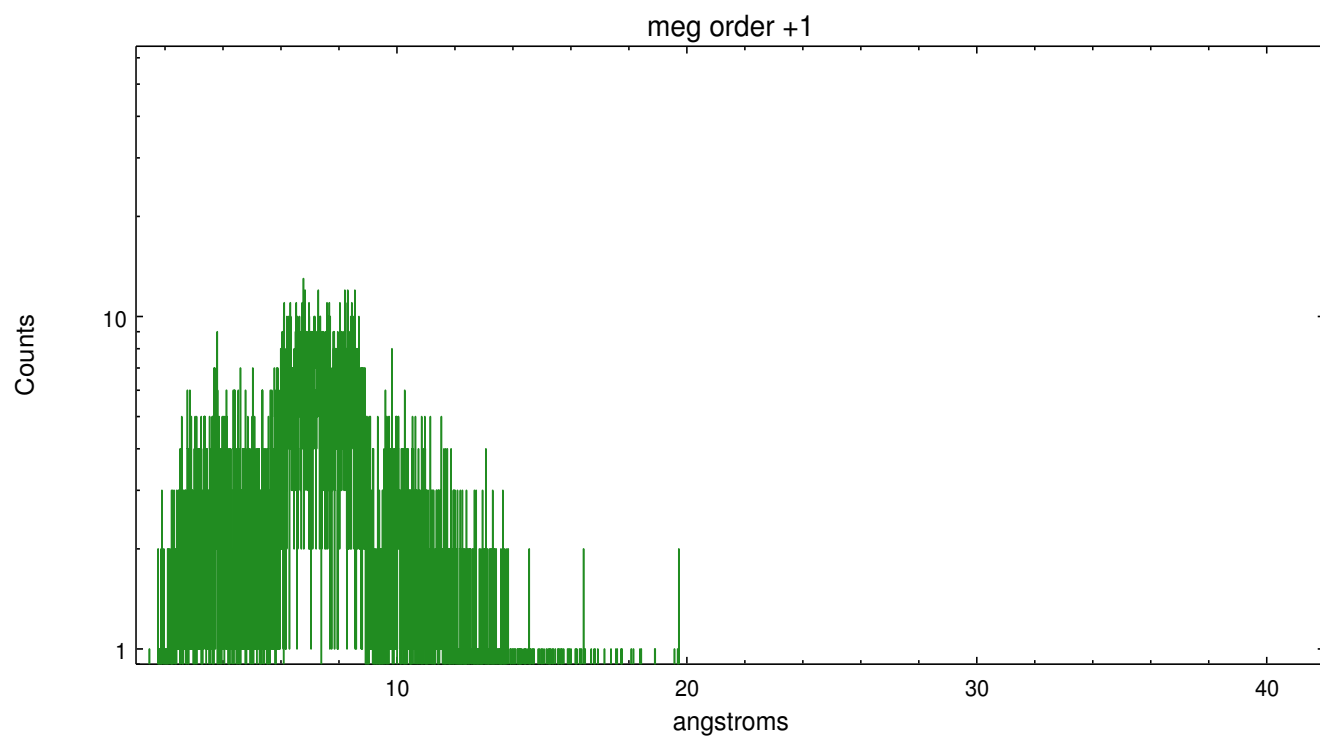
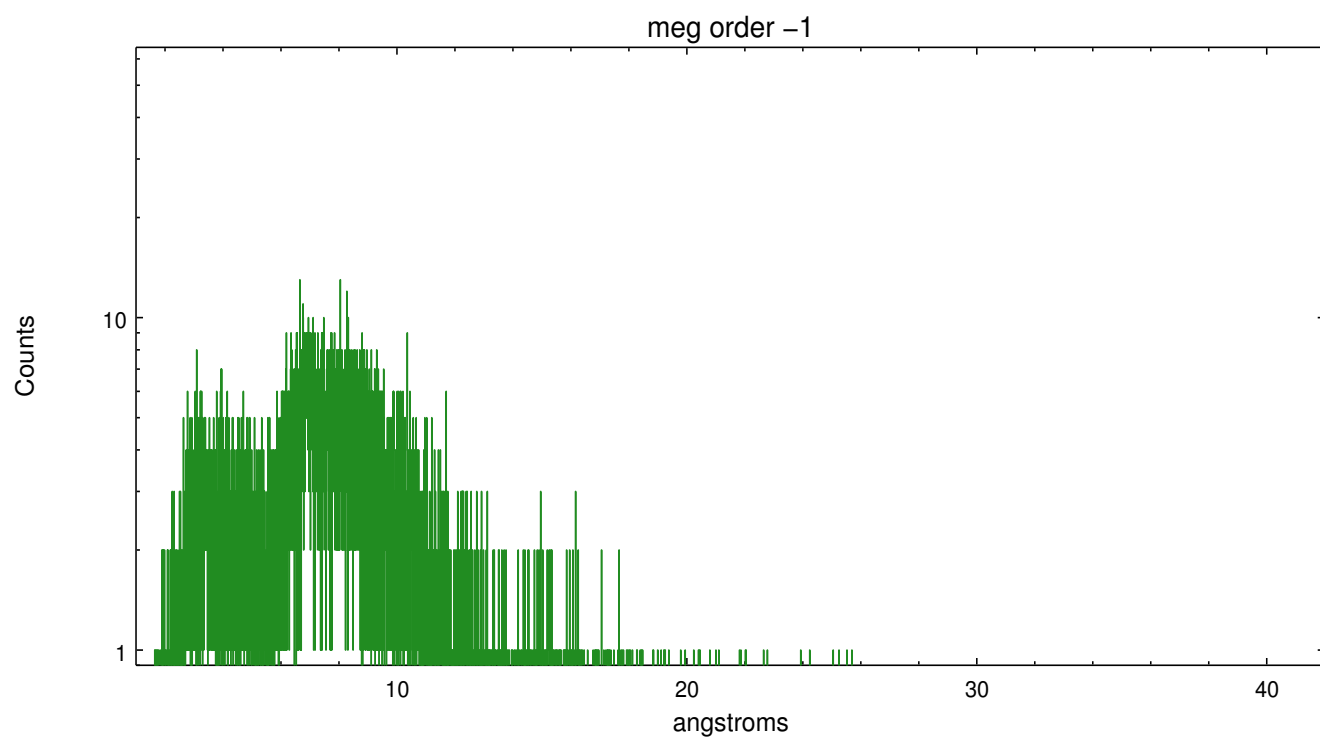


Spot Image MEG

Full Detector MEG

	order	order	order	order	order	order	order
	-3	-2	-1	0	1	2	3
Events	3210	5216	16782	11218	14807	4034	1963





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2017.11.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.088799700975

A.2 Comments

Note: used manually determined centroid since automatic detection(
tgdetect2) was about a pixel off, probably due to extended emission.

Comments for Obi 1

Fid in slot 1 radial offset > 0.550000 arcsec

Aspect review: acceptable