

V&V Reference Report

L2 ASCDS Version : 10.7.1

Observation 21214 - L2 Version 1
Chandra X-Ray Center

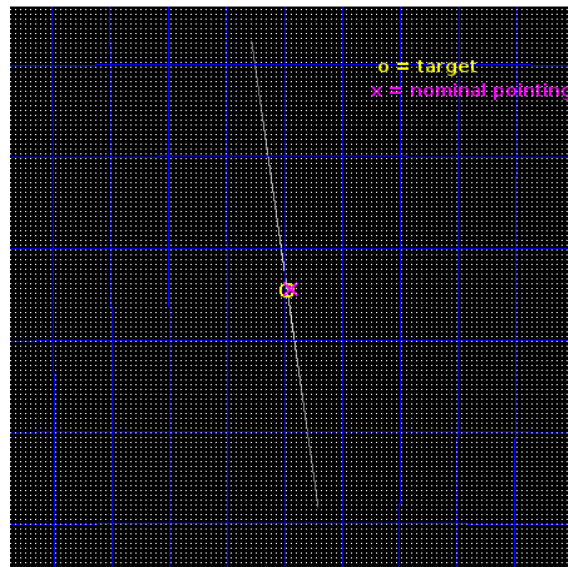
L2 Processing Date : Feb 27 2019

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

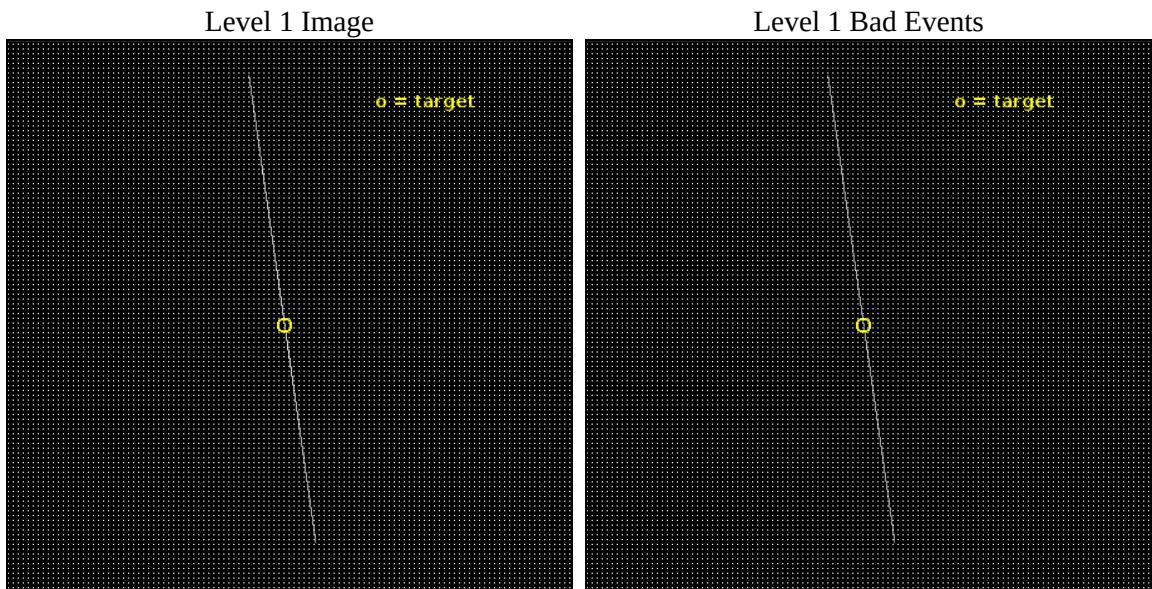
seq_num	402047	Sequence number
obs_id	21214	Observation id
title	Are Black Hole Inflow and Outflow Rates Coupled?	Proposal title
observer	Jon Miller	Principal investigator
object	Swift J1728.9-3613	Source name
ra_targ	262.244333	Observer's specified target RA [deg]
dec_targ	-36.243806	Observer's specified target Dec [deg]
ra_nom	262.23422479125	Nominal RA [deg]
dec_nom	-36.240898412647	Nominal Dec [deg]
roll_nom	82.150649086384	Nominal Roll [deg]
revision	1	Processing version of data
ontime	30605.29562676	Sum of GTIs [s]
livetime	30485.743690717	Livetime [s]
ontime4	25539.010598779	Sum of GTIs [s]
ontime5	31081.0	Sum of GTIs [s]
ontime6	22340.45275712	Sum of GTIs [s]
ontime7	30605.29562676	Sum of GTIs [s]
ontime8	25393.076640487	Sum of GTIs [s]
ontime9	26268.625573993	Sum of GTIs [s]
l2events	2564299	Number of level 2 events



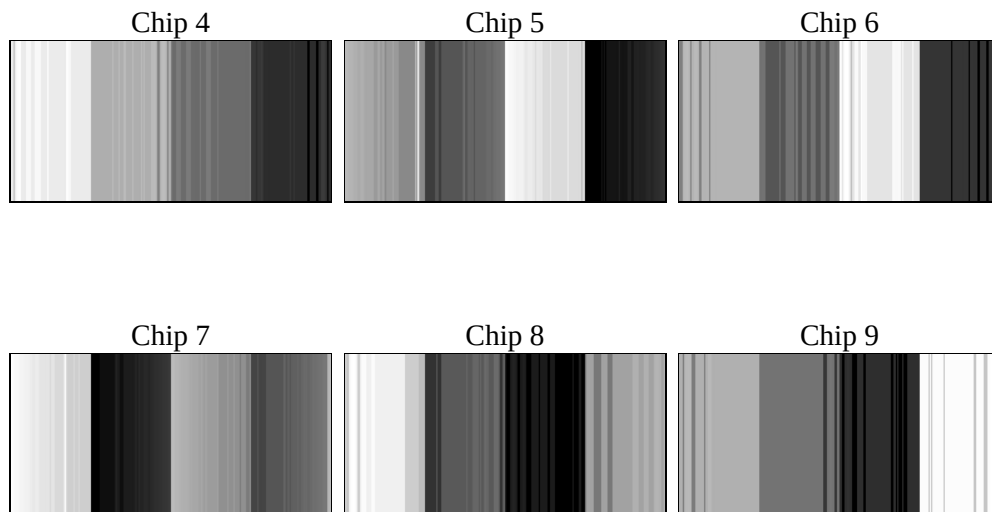
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	31012.236000	[s] Scheduled observation exposure time
ascdsver	10.7.1	Processing system revision	ontime	30605.29562676	Sum of GTIs [s]
caldsver	4.8.2	 	ontime4	25539.010598779	Sum of GTIs [s]
date	2019-02-27T09:56:19	Date and time of file creation	ontime5	31081.0	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	22340.45275712	Sum of GTIs [s]
			ontime7	30605.29562676	Sum of GTIs [s]
			ontime8	25393.076640487	Sum of GTIs [s]
			ontime9	26268.625573993	Sum of GTIs [s]
			l1events	5209910	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			src1a_pos	(4026.42, 4080.05)	src1a sky pixel position

2.1.4 Events

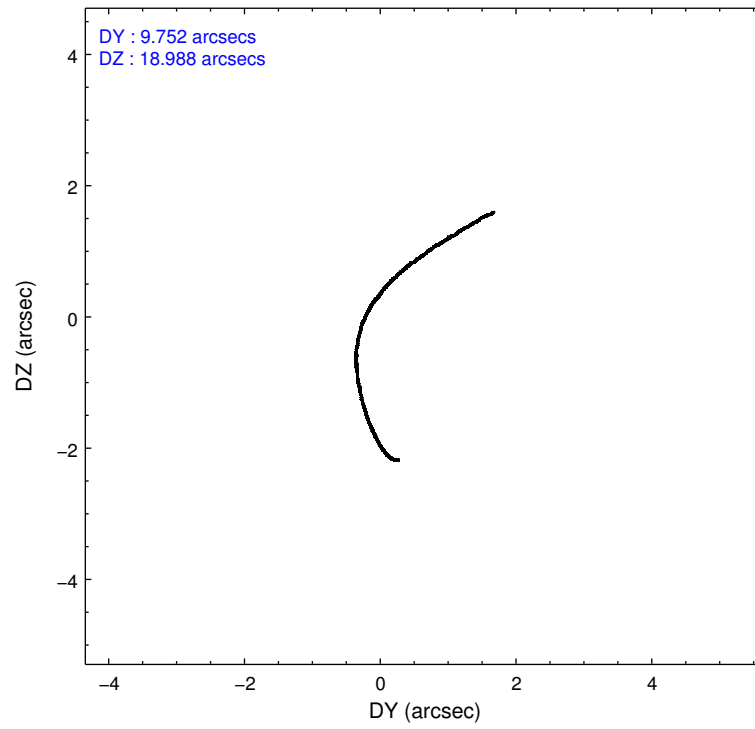
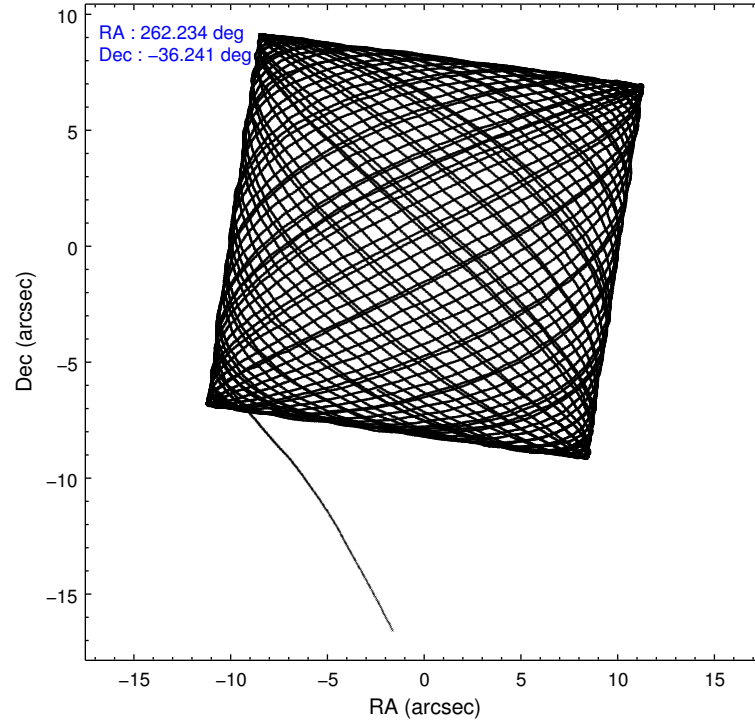
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	382772	817852	1046904	1792862	756350	413170	grade 0 events	5524	108513	13362	166317	33106	6319
rejected events	324099	359608	337218	449894	466566	338251		1%	13%	1%	9%	4%	1%
rejected %	84%	43%	32%	25%	61%	81%	grade 1 events	269	842	222	2516	456	235
								0%	0%	0%	0%	0%	0%
							grade 2 events	34147	179476	616873	468180	197580	47315
								8%	21%	58%	26%	26%	11%
							grade 3 events	4632	7945	4048	89632	10380	4106
								1%	0%	0%	4%	1%	0%
							grade 4 events	4650	7952	3855	88755	9860	4213
								1%	0%	0%	4%	1%	1%
							grade 5 events	10470	29882	12053	50105	16027	11691
								2%	3%	1%	2%	2%	2%
							grade 6 events	9722	154399	71693	530215	38896	12977
								2%	18%	6%	29%	5%	3%
							grade 7 events	313358	328843	324798	397142	450045	326314
								81%	40%	31%	22%	59%	78%

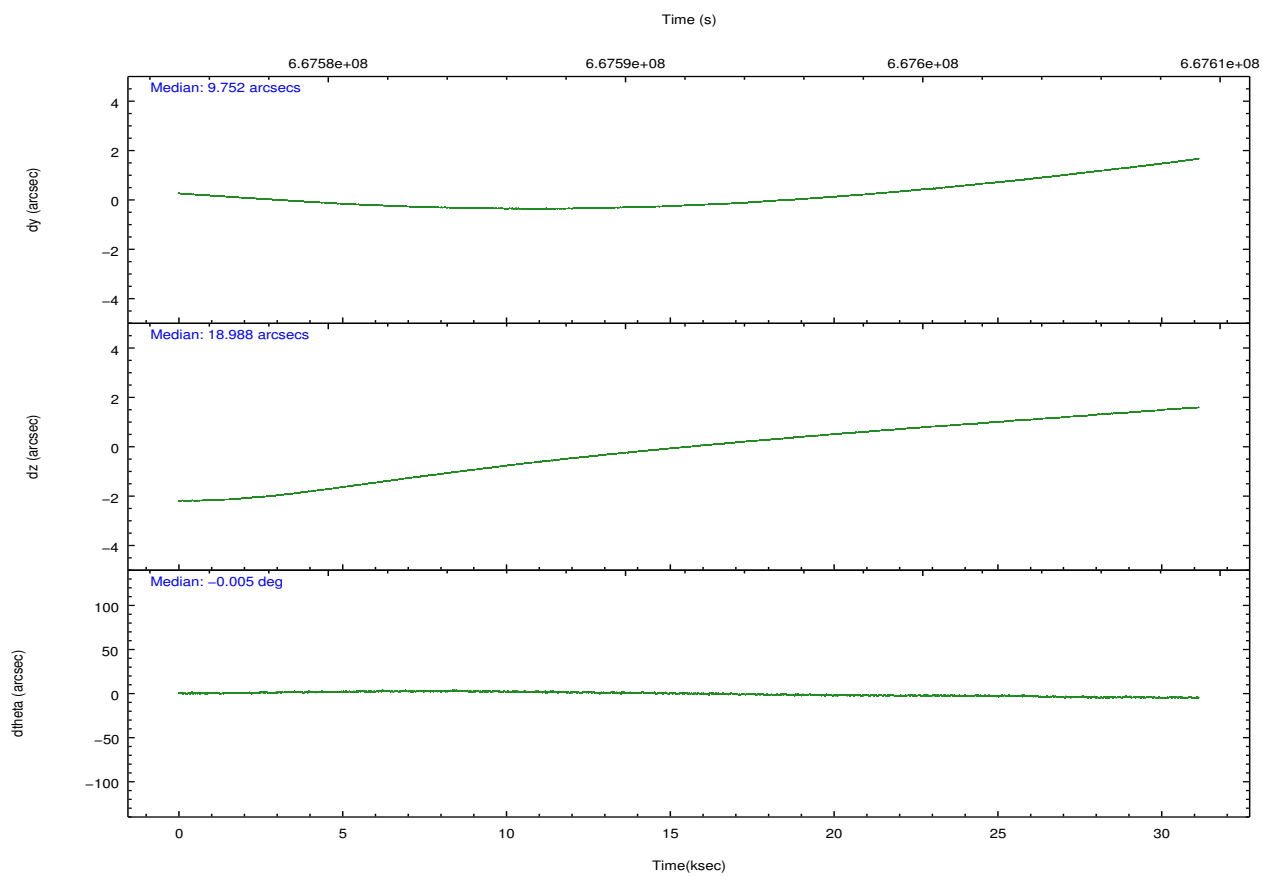
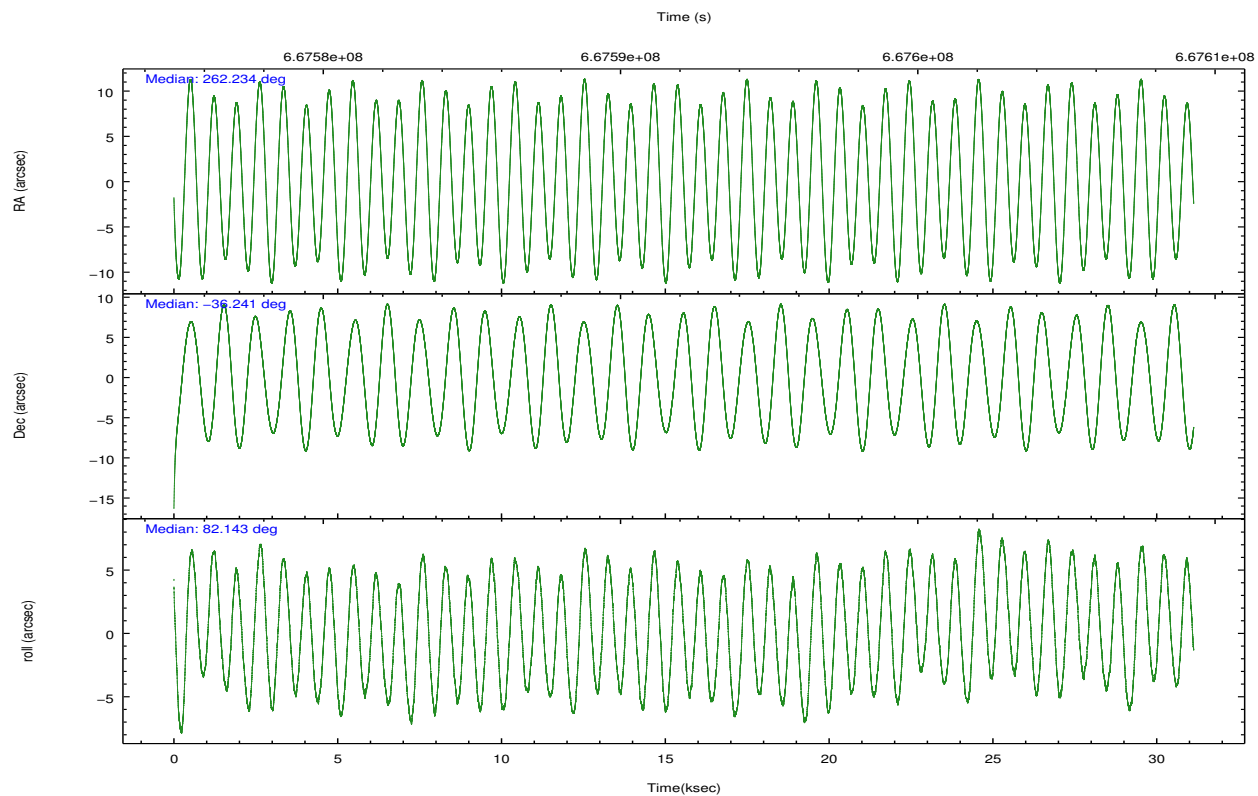
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-456789	ACIS-456789
Grating	HETG	HETG
Data mode	CC33_FAINT	CC33_FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	262.247479	262.2342247912467
[deg] Pointing Dec	-36.266168	-36.24089841264744
[deg] Pointing Roll	82.001866	82.15064908638431
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1425803651734
[mm] SIM translation stage offset	0	0.01005778216563158
[s] Observation start time (MET)	667576680.184000	667575478.0290999
Observation start date	2019-02-26T13:56:51	2019-02-26T13:37:58
[s] Observation end time (MET)	667607692.184000	667608649.08108
Observation end date	2019-02-26T22:33:43	2019-02-26T22:50:49
Read mode	CONTINUOUS	CONTINUOUS

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	N	N
CCD I3 on	N	N
CCD S0 on	O1	Y
CCD S1 on	Y	Y
CCD S2 on	Y	Y
CCD S3 on	Y	Y
CCD S4 on	Y	Y
CCD S5 on	O2	Y
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	0

2.3 Aspect



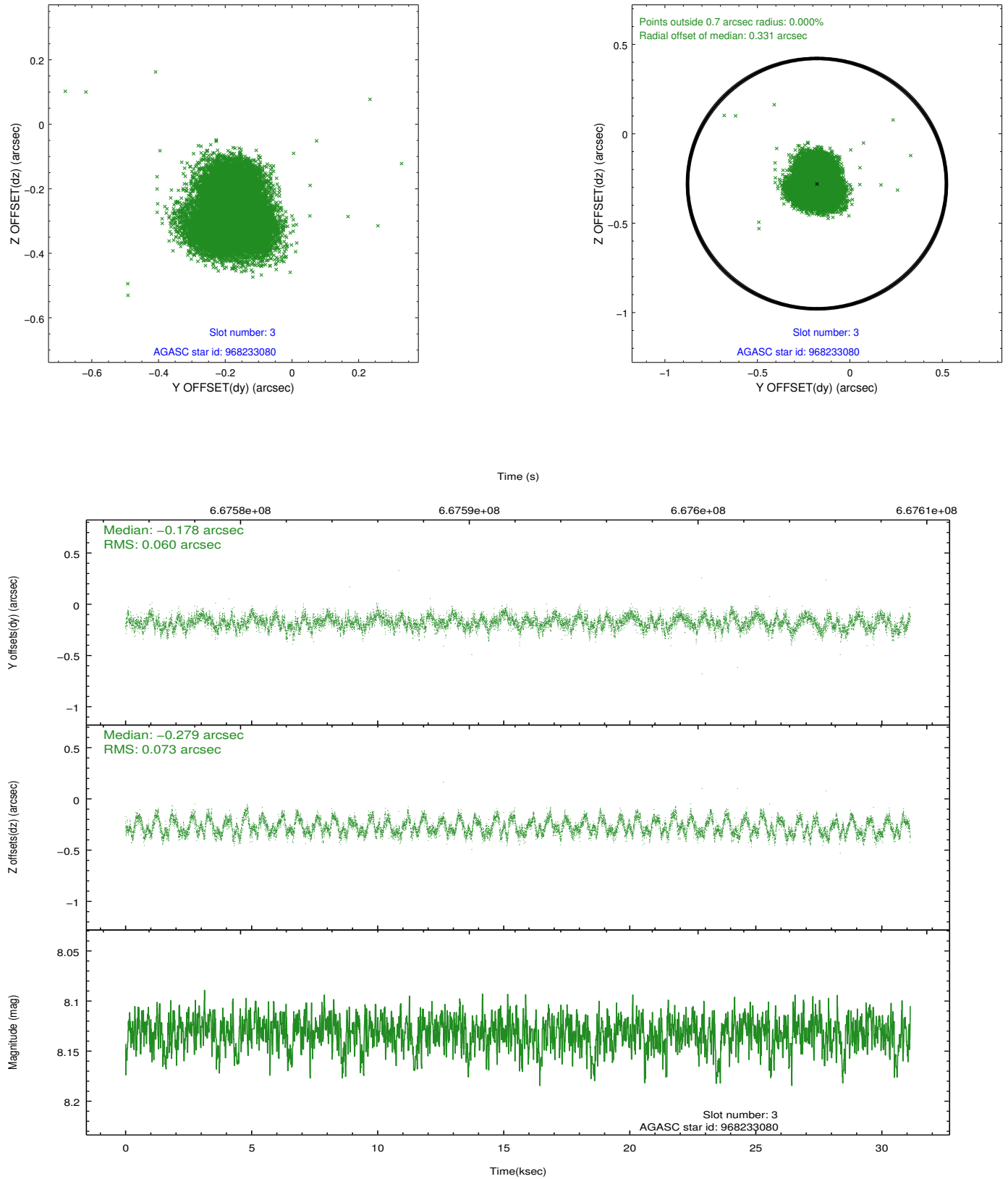


Slot Statistics

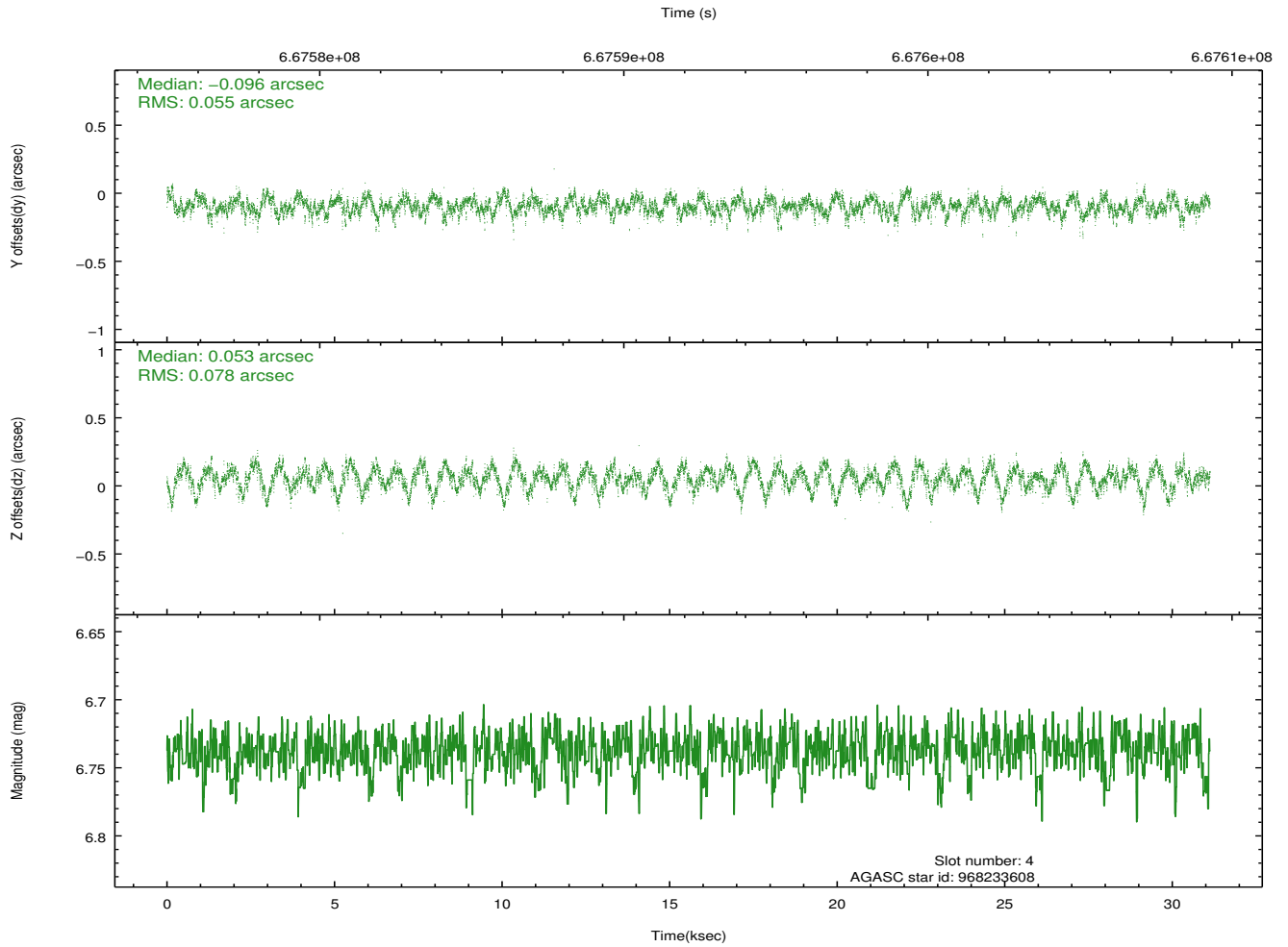
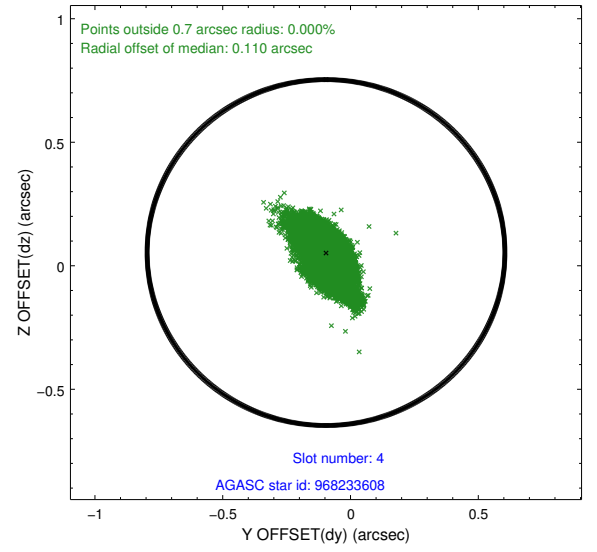
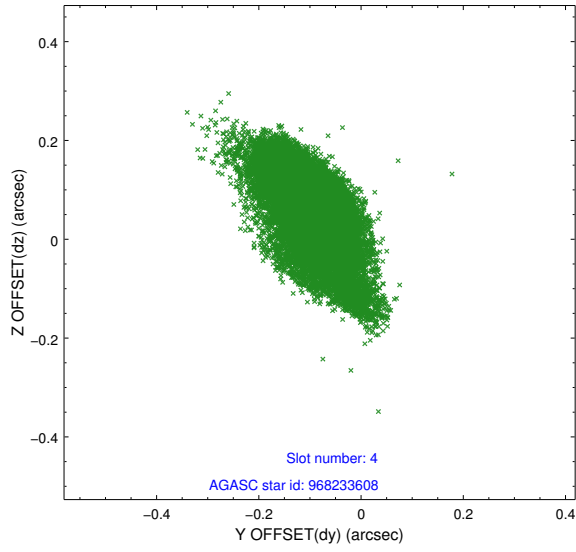
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.14	7593	1.000	-0.291	-0.165	0.047	0.067	0.000000	0.000000	-763.03	-1740
1	FID		ACIS-S-4	7.26	7593	1.000	0.687	0.184	0.008	0.014	0.000000	0.000000	2151.15	168
2	FID		ACIS-S-5	7.25	7592	1.000	-0.420	-0.011	0.047	0.061	0.000000	0.000000	-1815.97	161
3	GUIDE	used	968233080	8.13	15180	1.000	-0.178	-0.279	0.102	0.153	262.553982	-35.644375	2340.43	-576
4	GUIDE	used	968233608	6.74	15184	1.000	-0.096	0.053	0.097	0.177	262.776101	-35.900177	1515.58	-1343
5	GUIDE	used	968233880	8.07	15181	1.000	0.089	0.181	0.092	0.155	262.894591	-36.076957	931.06	-1770
6	GUIDE	used	968234400	7.44	15183	1.000	0.169	-0.198	0.092	0.157	261.948208	-36.525748	-1046.59	726
7	GUIDE	used	968235568	8.26	15180	1.000	0.019	0.242	0.137	0.237	263.154489	-35.959954	1448.00	-2464

2.4 Star Slots

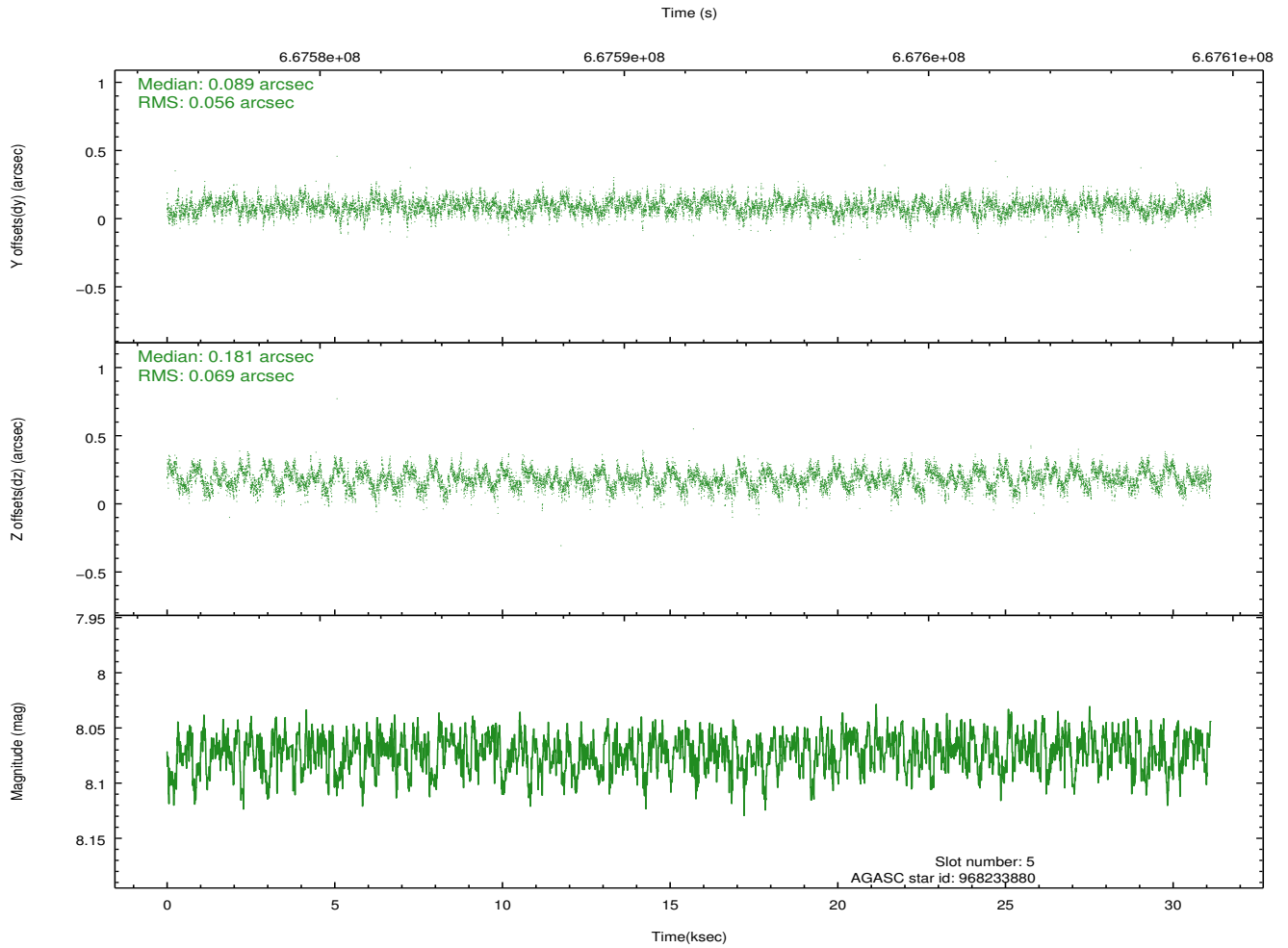
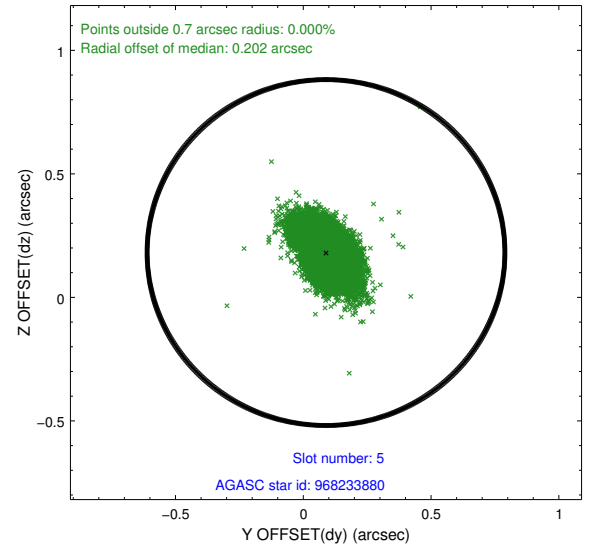
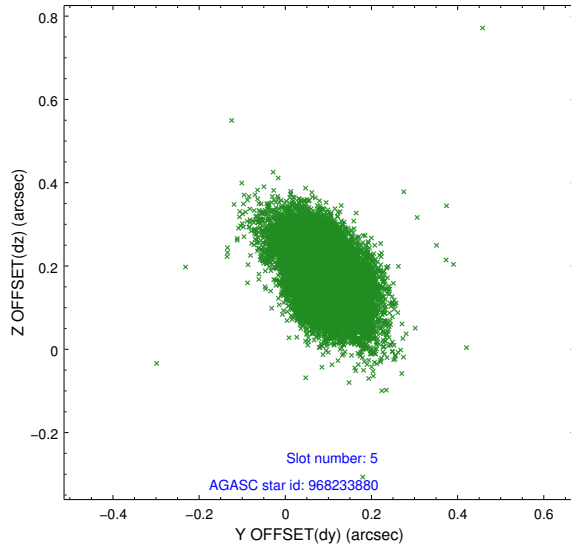
2.4.1 Slot 3



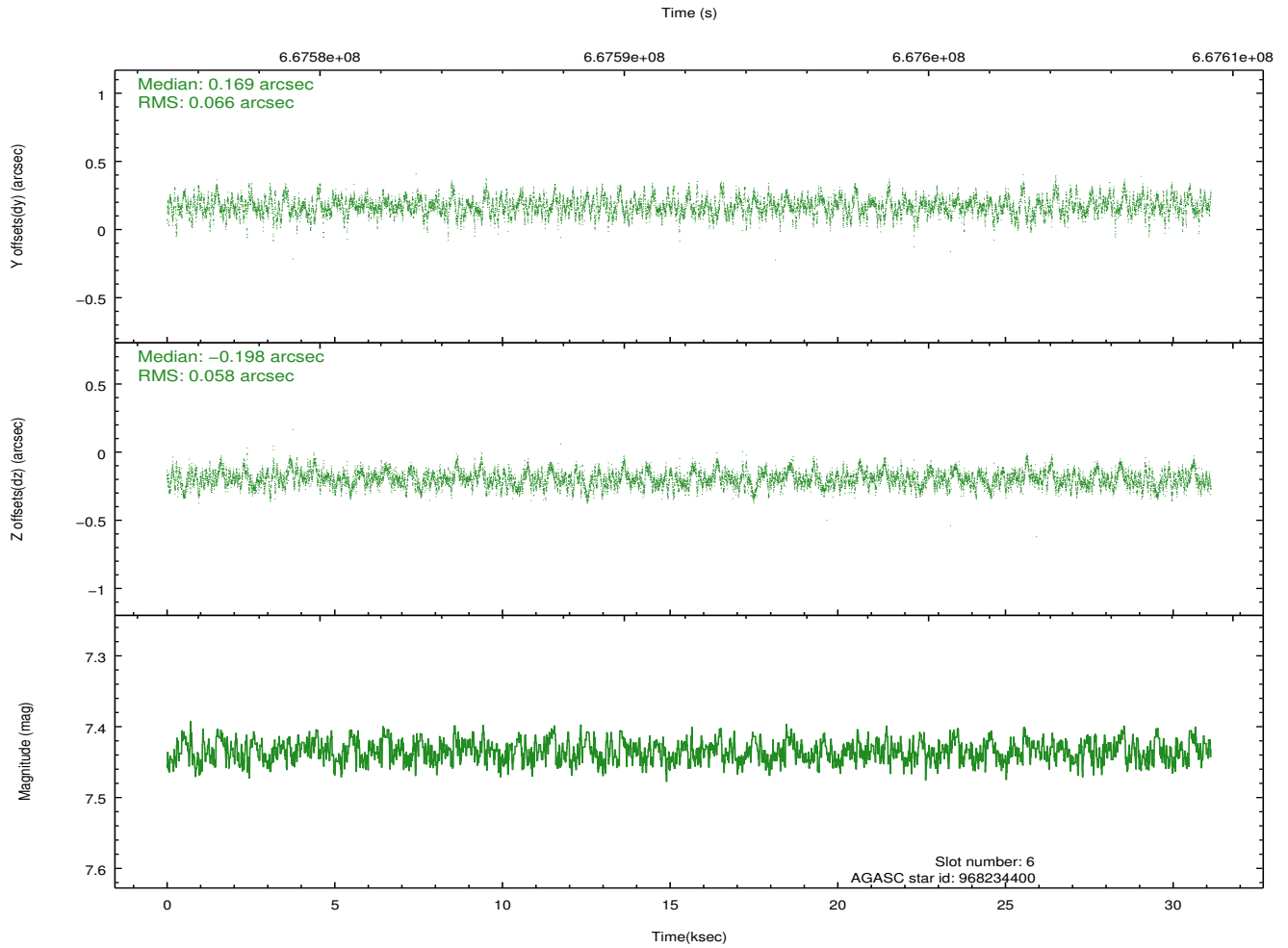
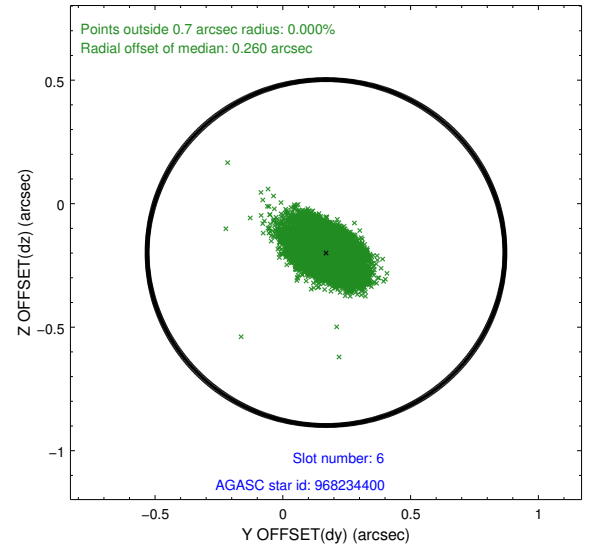
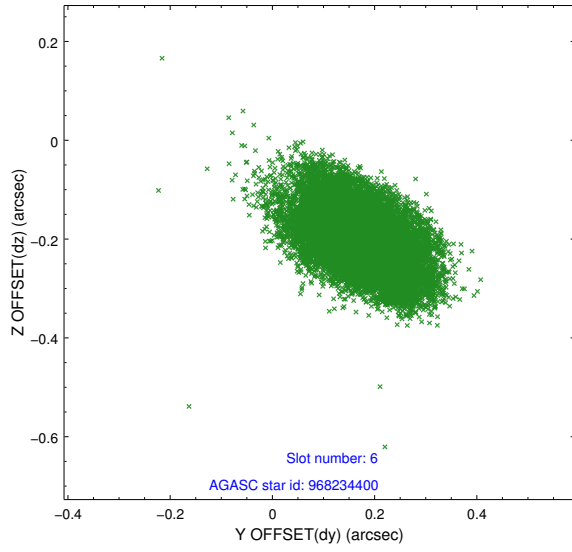
2.4.2 Slot 4



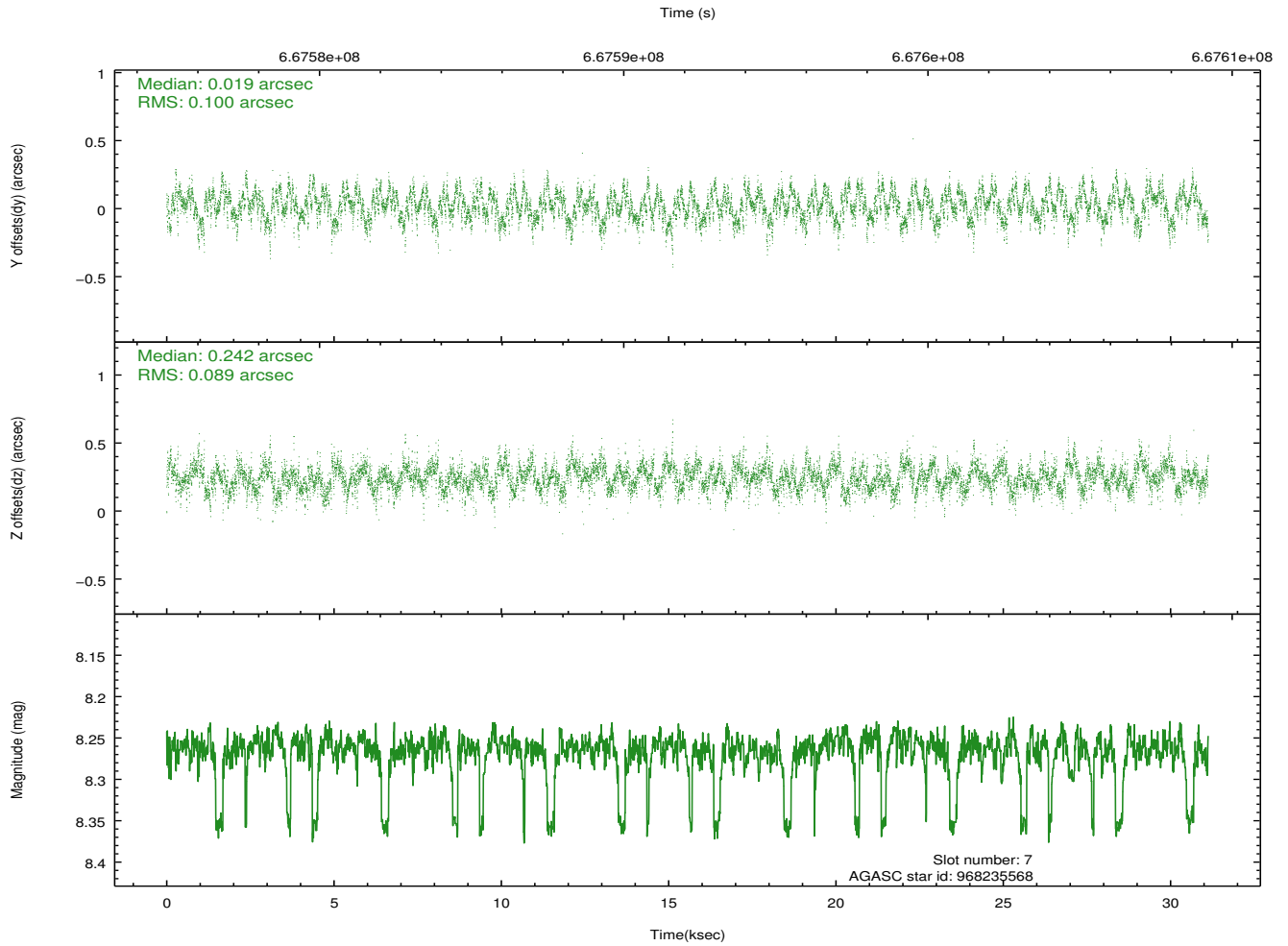
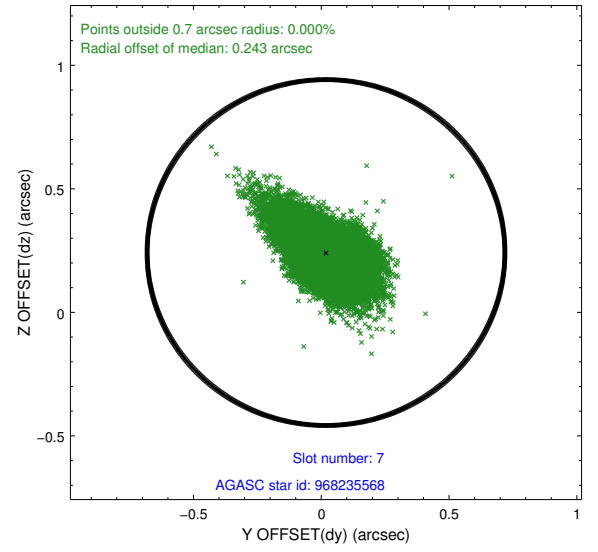
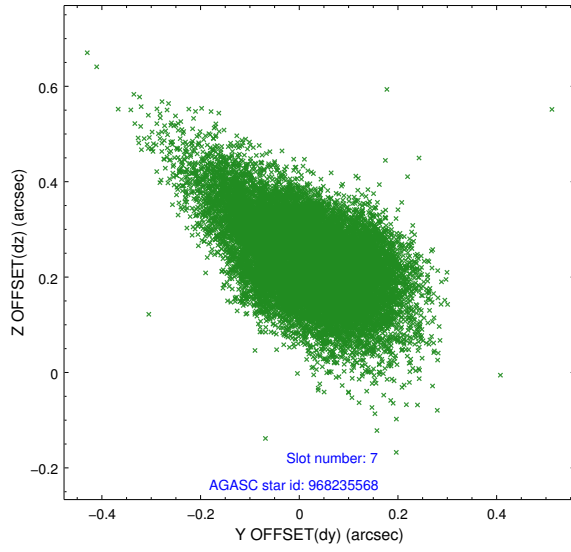
2.4.3 Slot 5



2.4.4 Slot 6

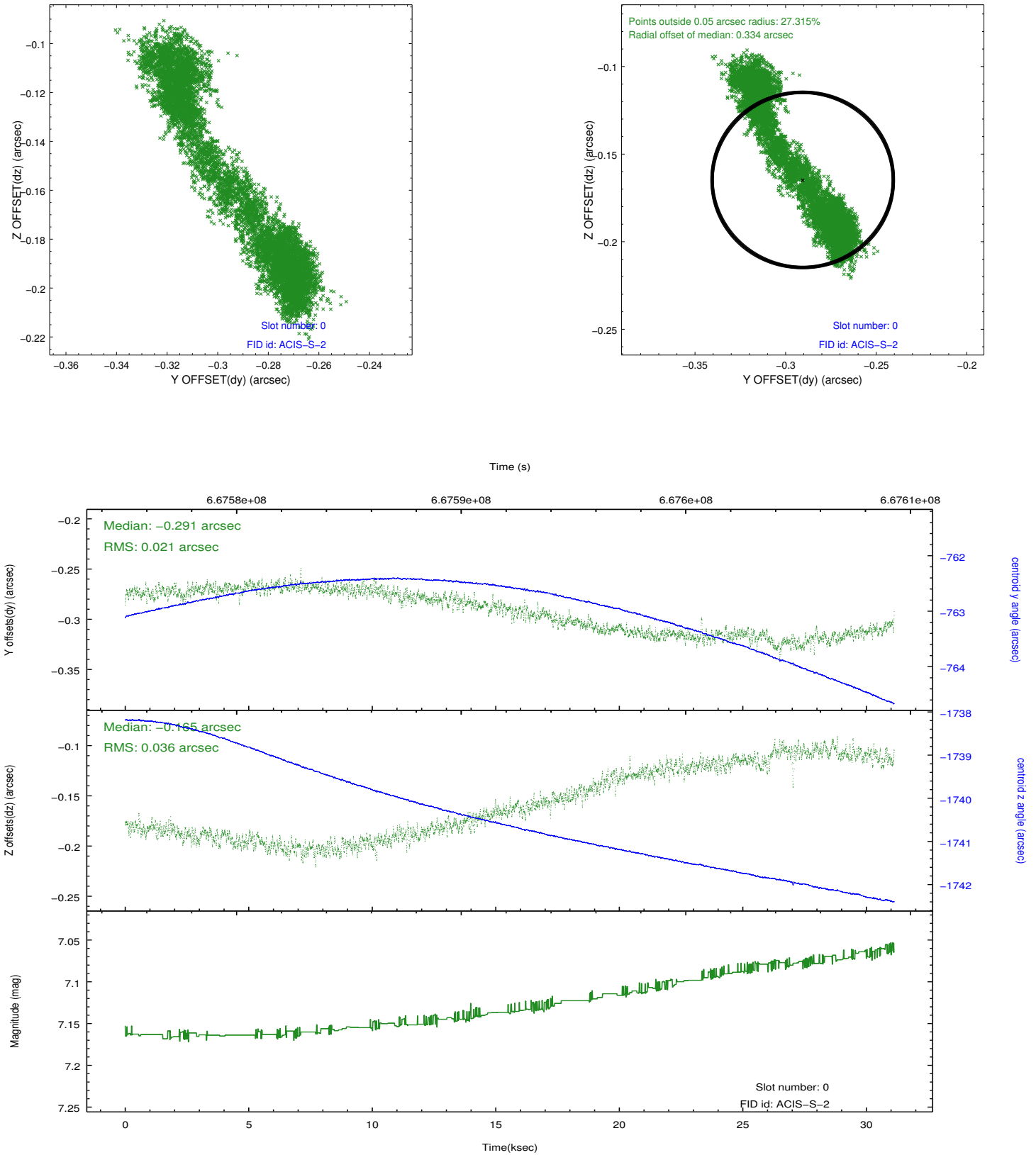


2.4.5 Slot 7

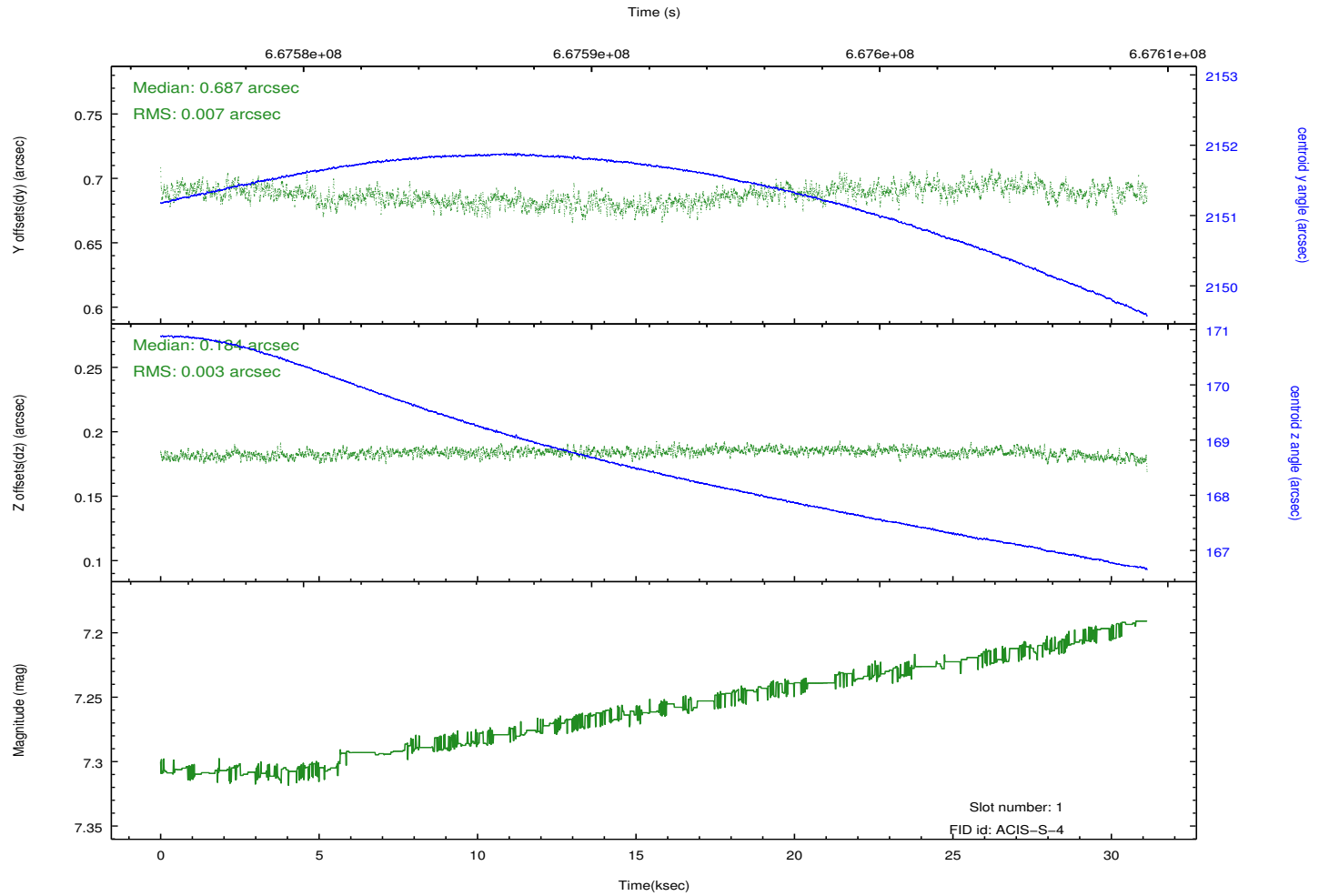
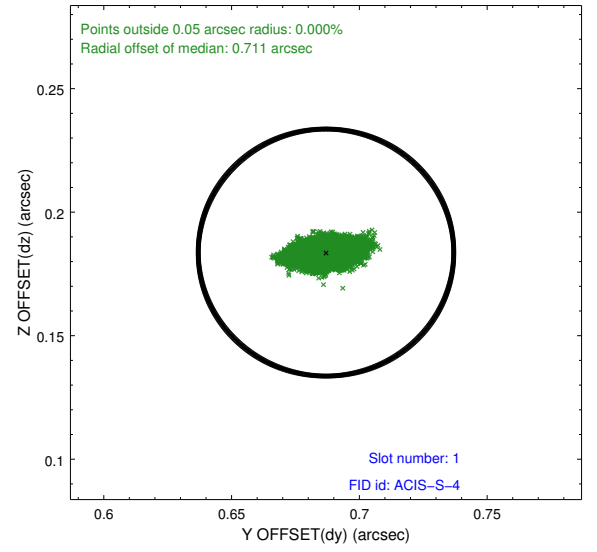
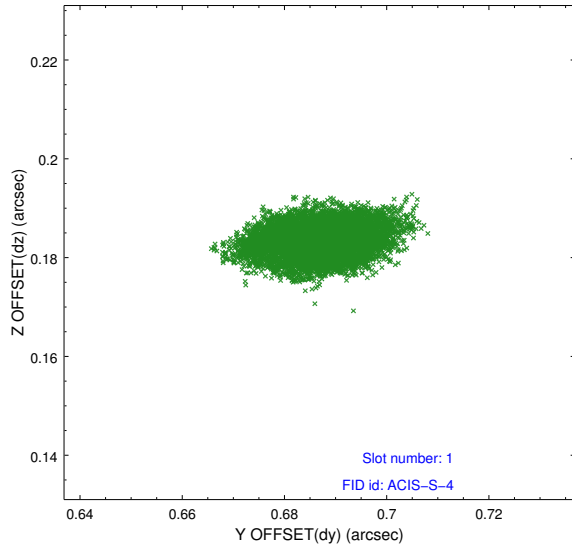


2.5 FID Slots

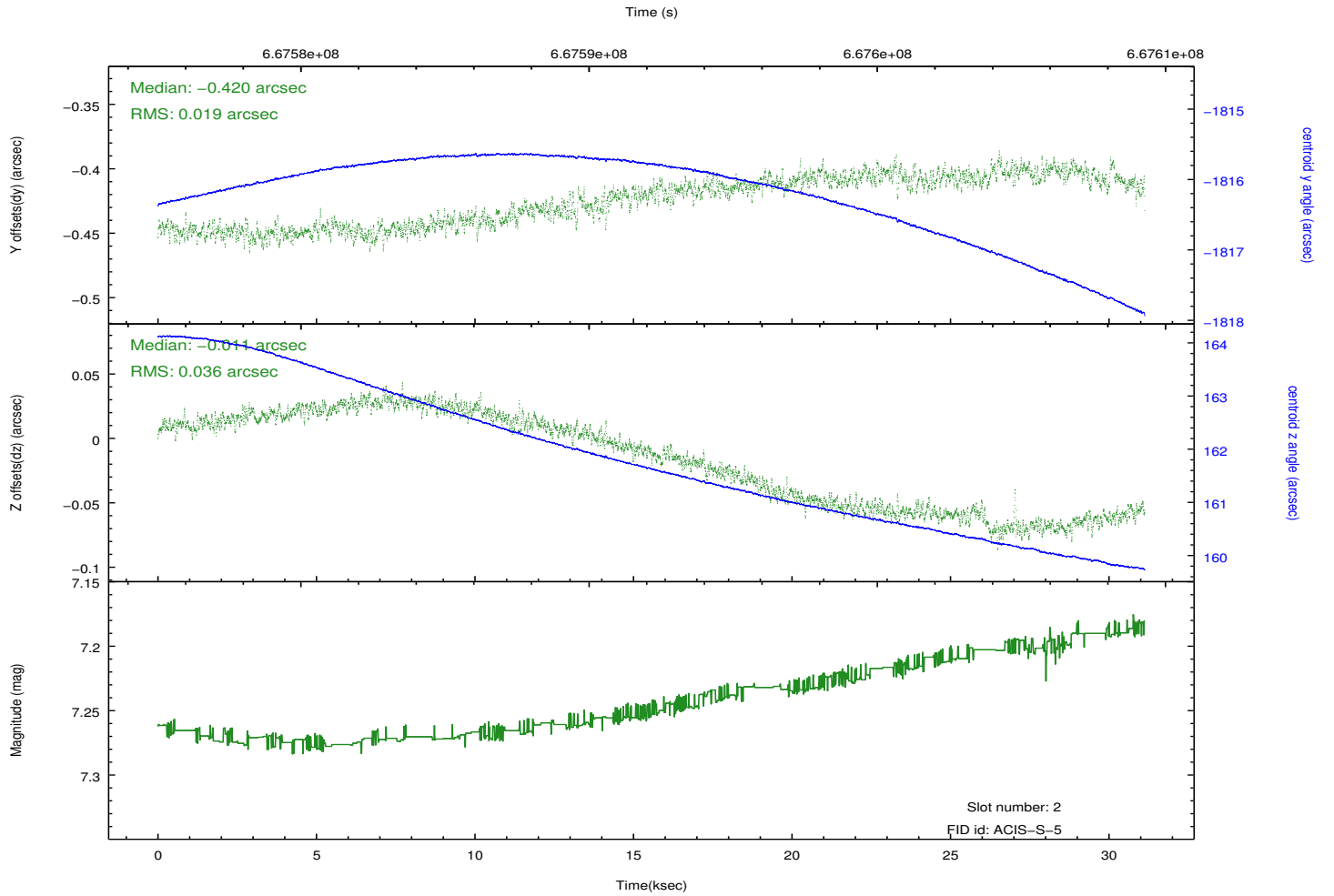
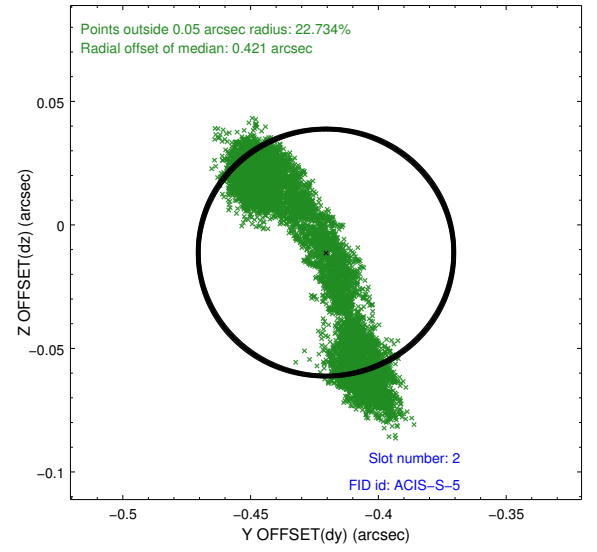
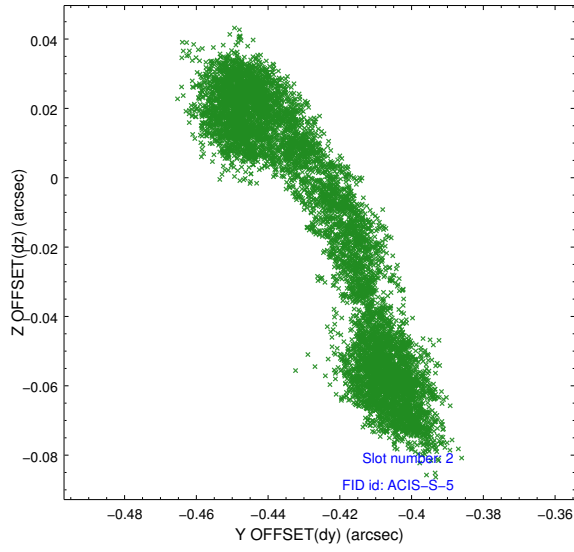
2.5.1 Slot 0



2.5.2 Slot 1

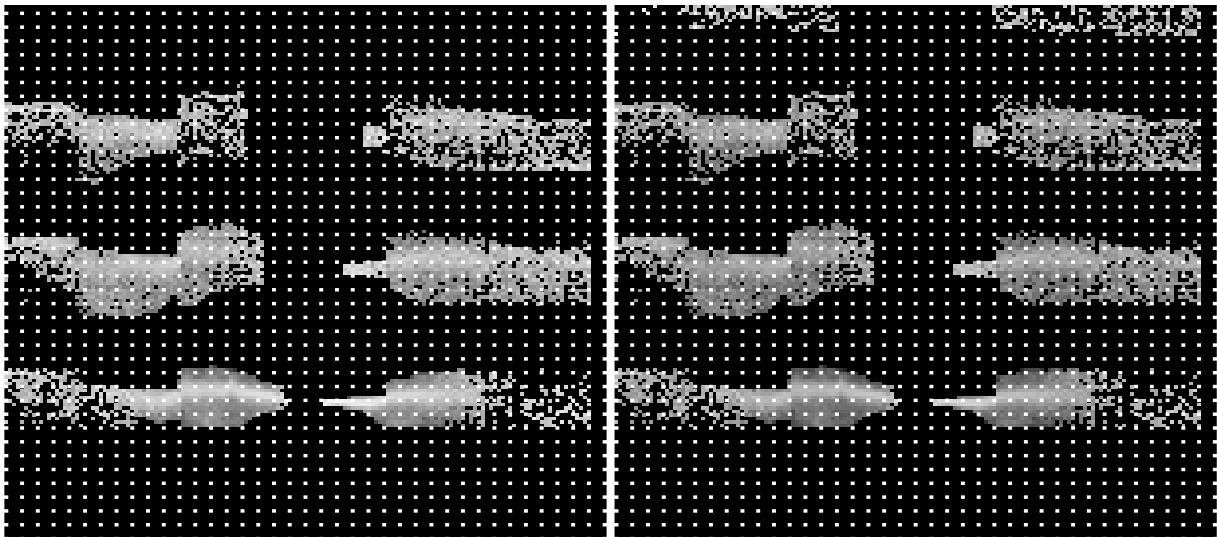


2.5.3 Slot 2



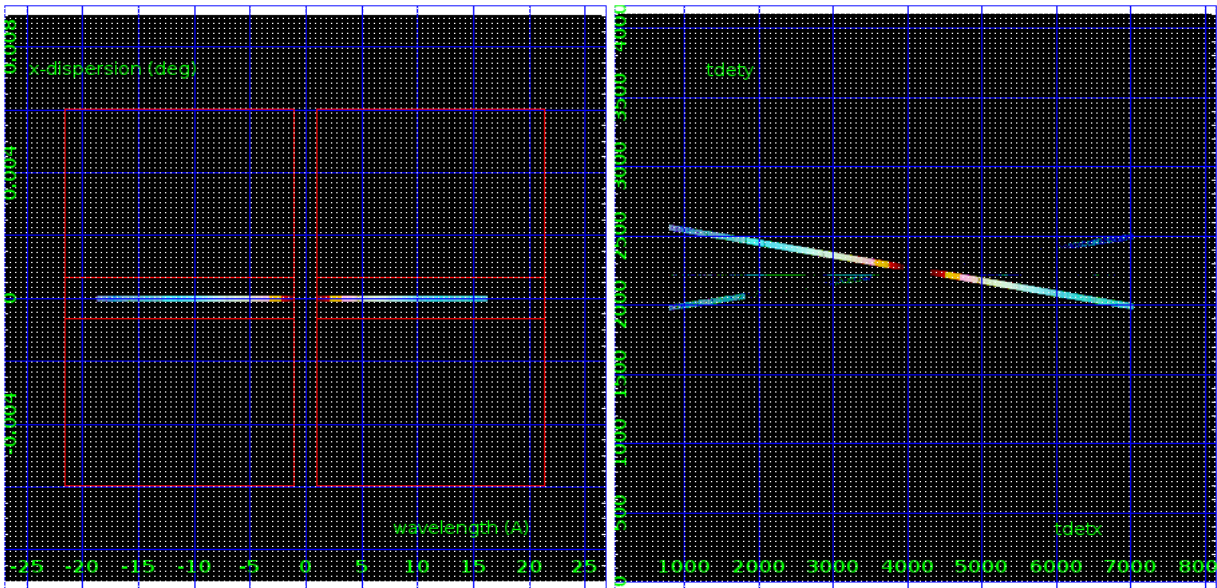
3 Gratings

3.1 HEG Arm



HEG Order Sort 123

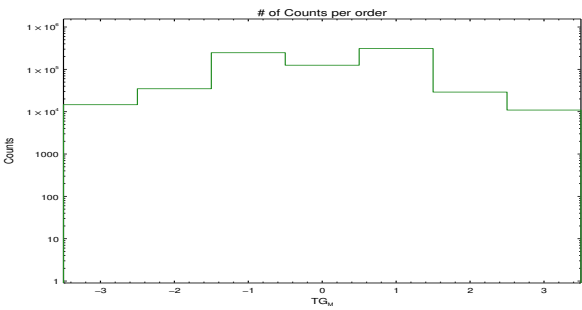
HEG Order Sort ALL

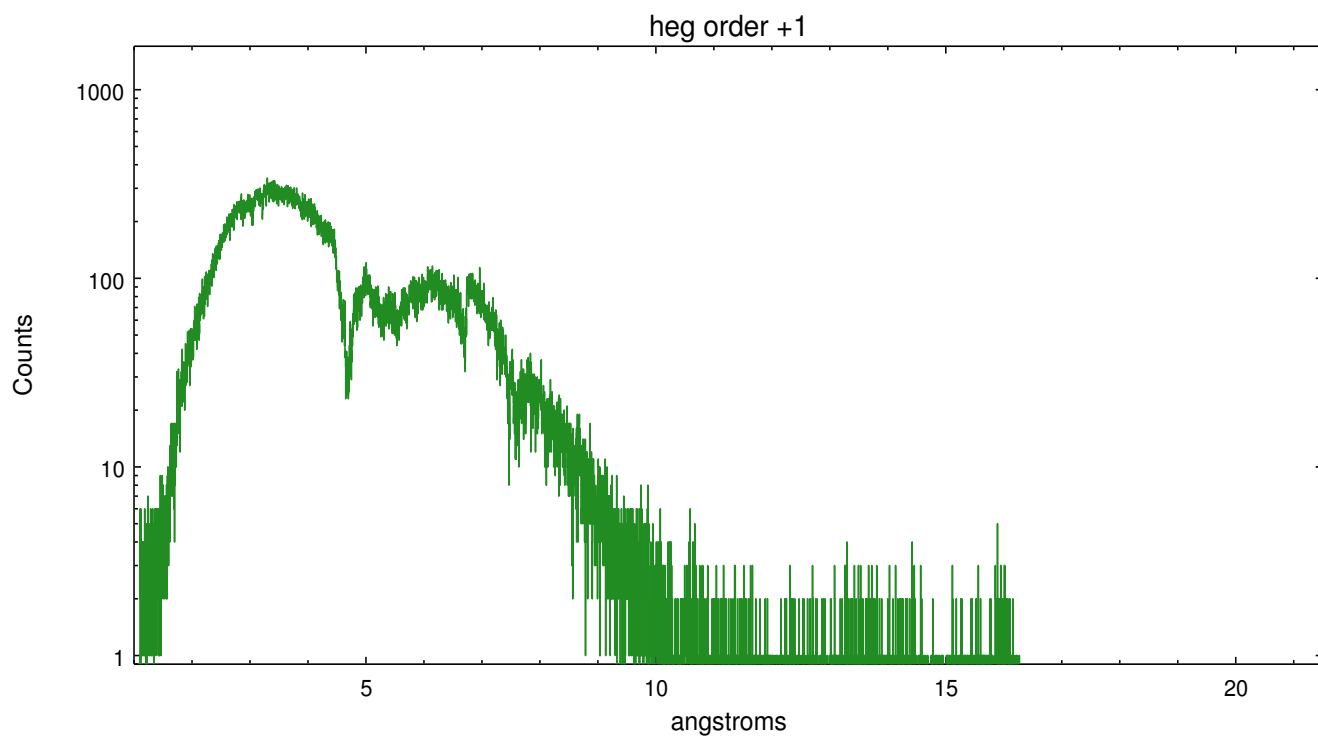
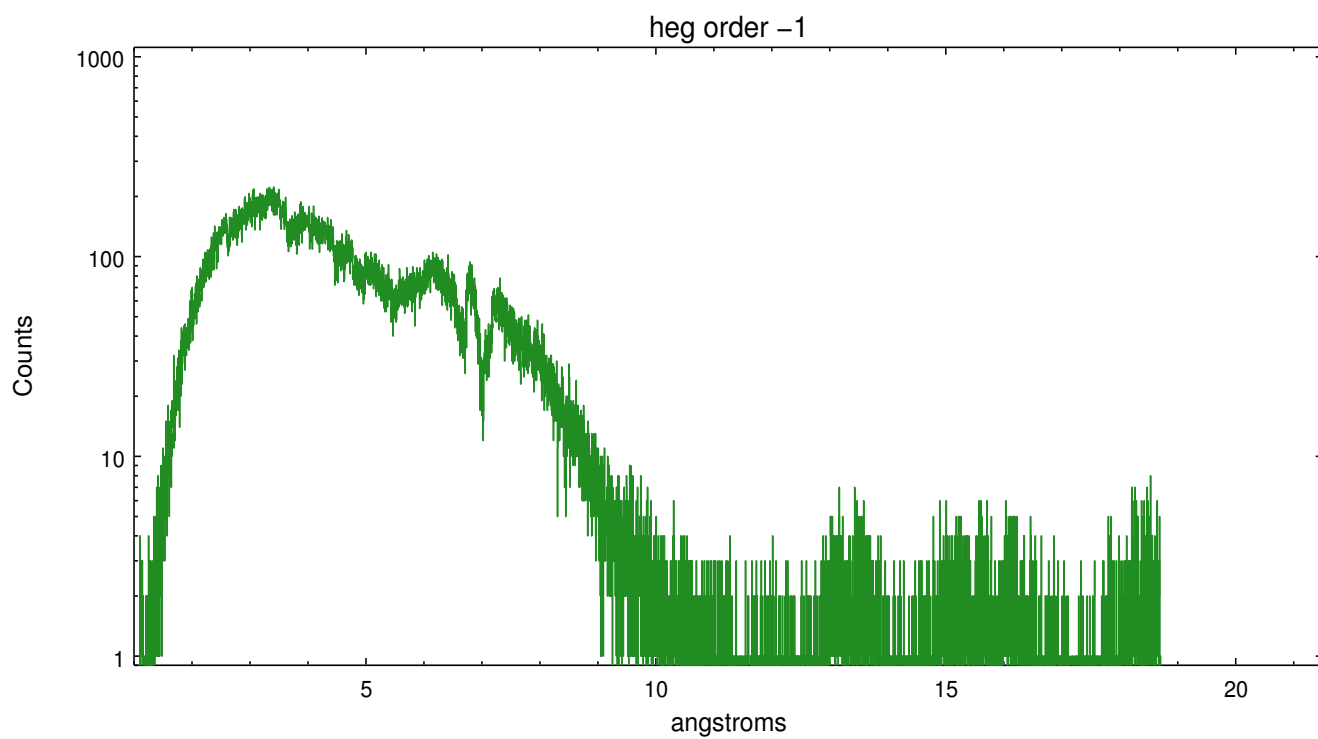


Spot Image HEG

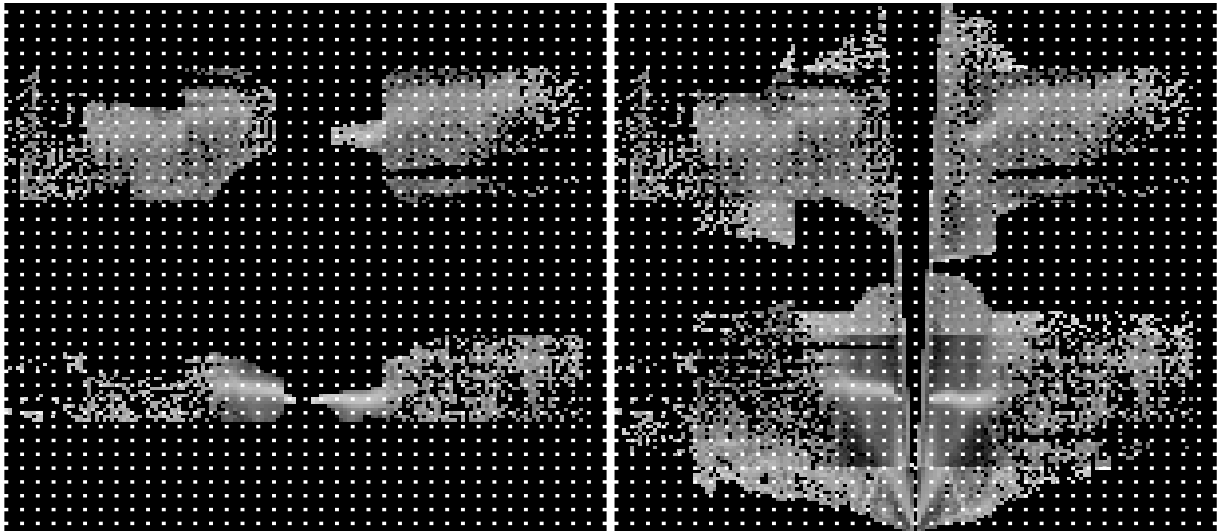
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	14631	34845	247132	125116	309360	29030	10924



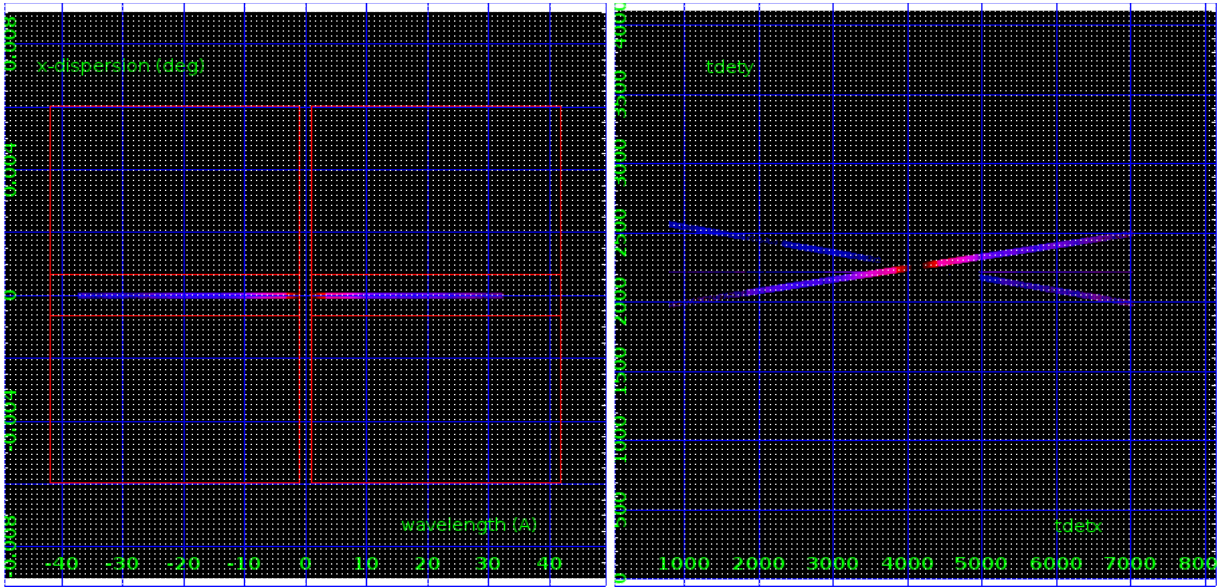


3.2 MEG Arm



MEG Order Sort 123

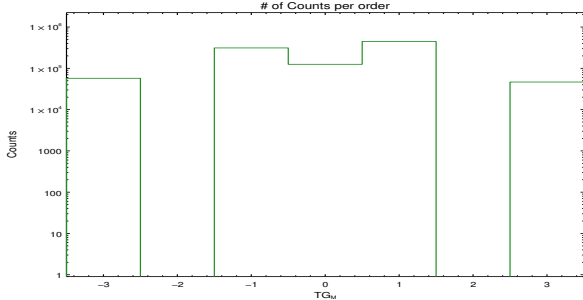
MEG Order Sort ALL

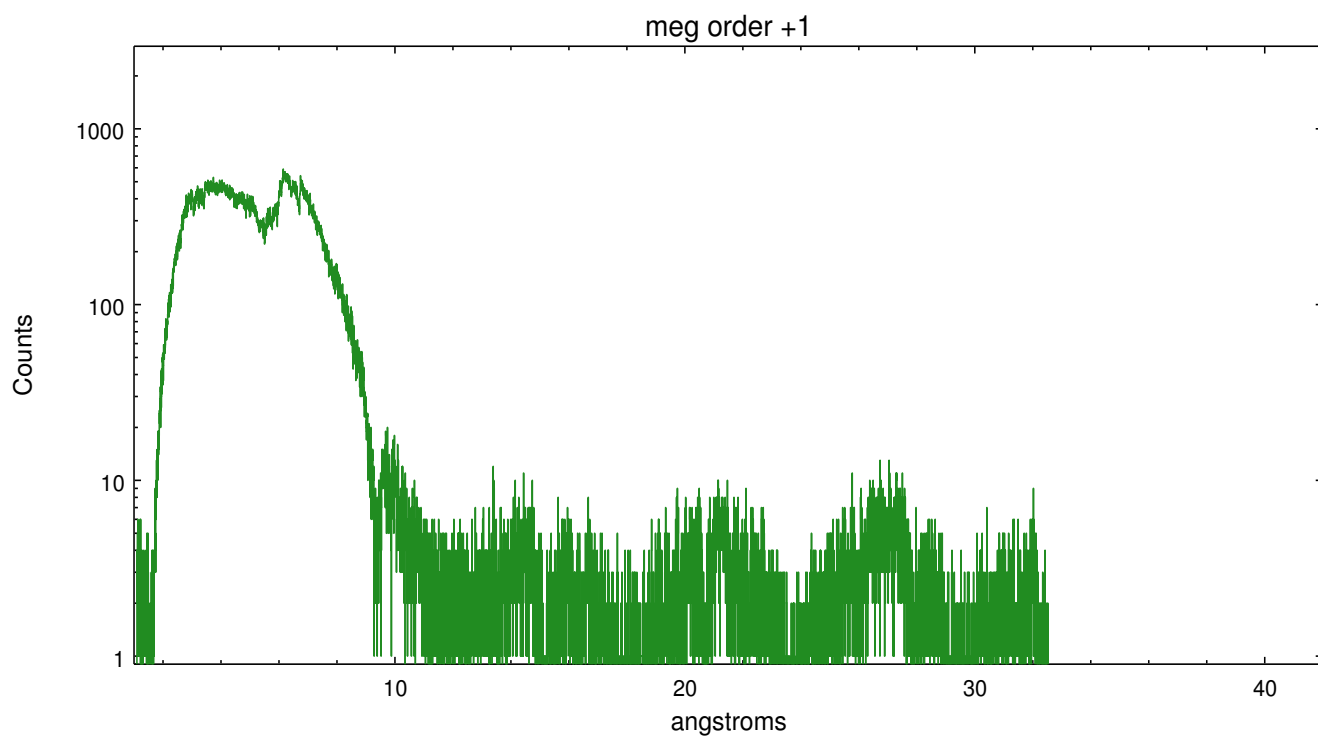
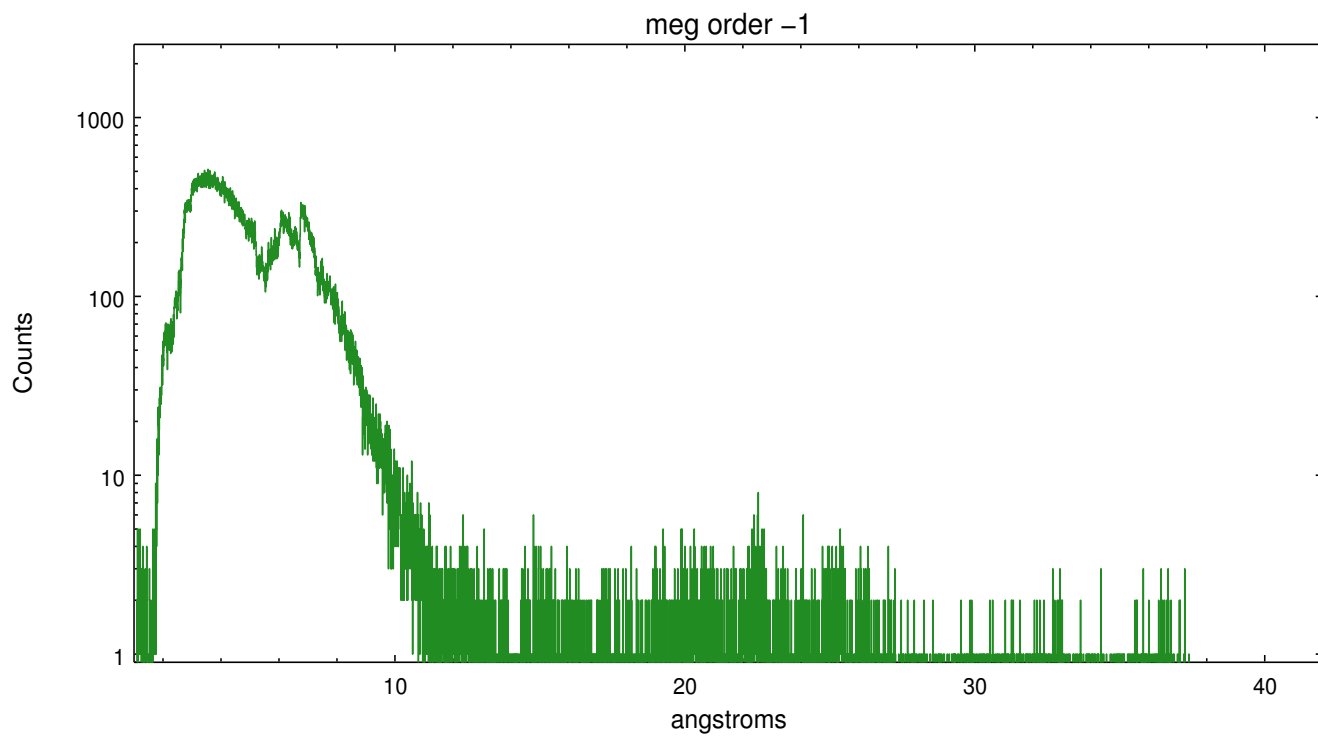


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	57303	0	312261	125116	447190	0	46585





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2019.02.27
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.60529562676

A.2 Comments

Comments for Obi 0

The ACIS focal plane temperature is warmer than -114.0 C degrees during the interval 667576604.90 - 667590097.90 (MET s) of this observation. This temperature is the upper limit of the verified ACIS calibration for the front-illuminated chips. The focal plane temperature is warmer than -112.0 C during the interval 667576604.90 - 667582856.90 (MET s) of this observation. This temperature is the upper limit of the verified ACIS calibration for the back-illuminated chips. The ACIS spectral response calibration is less accurate at these warmer temperatures than it is at -115.0 C. Users whose science objectives depend on the most accurate spectral response (e.g., fitting line-rich spectra) may notice an effect. Users whose science objectives do not depend on the most accurate spectral response should not notice an effect.