

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 10221 - L2 Version 2
Chandra X-Ray Center

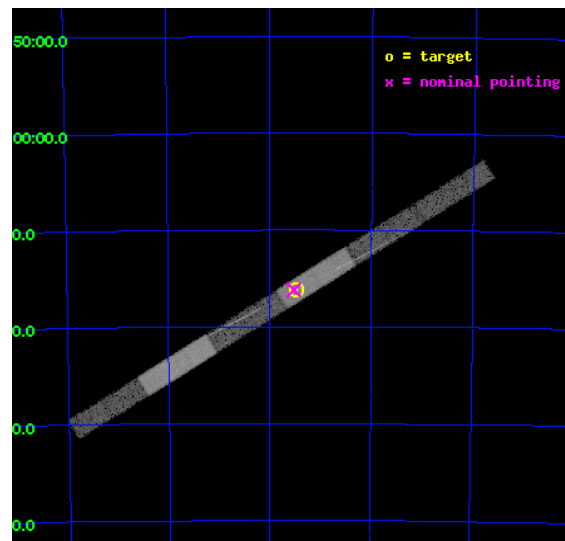
L2 Processing Date : May 29 2012

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

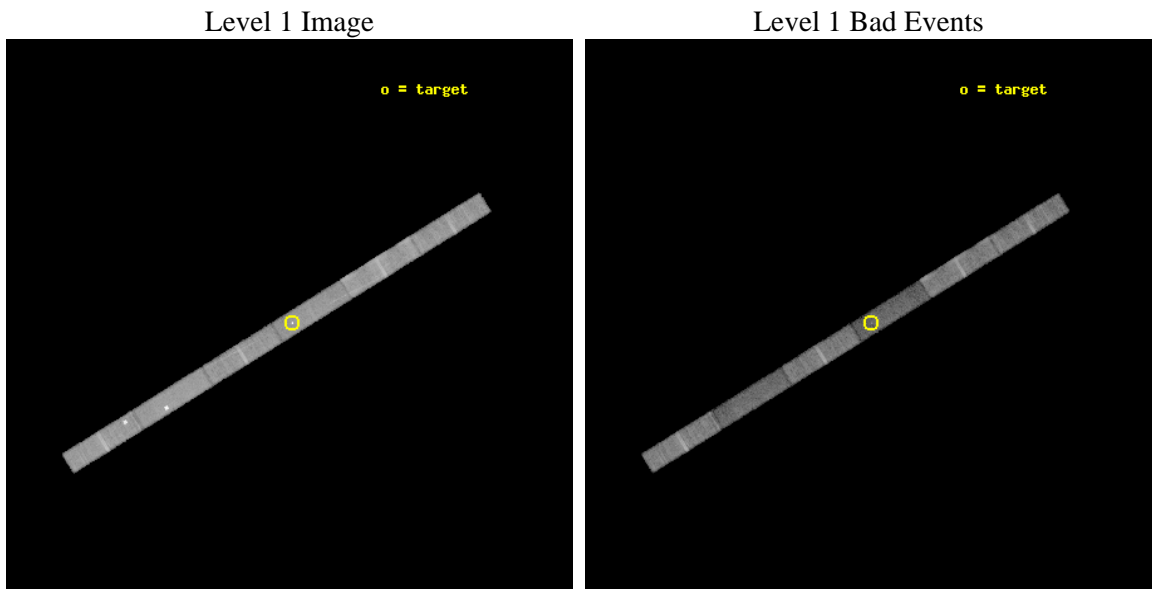
seq_num	501148	Sequence number
obs_id	10221	Observation id
title	Chandra Cycle 10 Spatial and Spectral Monitoring of SNR 1987A	Prop
observer	Prof. David Burrows	Principal investigator
object	SNR 1987A	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.866667	Observer's specified target RA [deg]
dec_targ	-69.26975	Observer's specified target Dec [deg]
ra_nom	83.880251882179	Nominal RA [deg]
dec_nom	-69.269758565918	Nominal Dec [deg]
roll_nom	328.1693307251	Nominal Roll [deg]
revision	2	Processing version of data
ontime	19428.200421095	Sum of GTIs [s]
livetime	18729.422687377	Livetime [s]
ontime4	19428.200421095	Sum of GTIs [s]
ontime5	19428.200421095	Sum of GTIs [s]
ontime6	19428.200421095	Sum of GTIs [s]
ontime7	19428.200421095	Sum of GTIs [s]
ontime8	19428.200421095	Sum of GTIs [s]
ontime9	19428.200421095	Sum of GTIs [s]
l2events	67591	Number of level 2 events



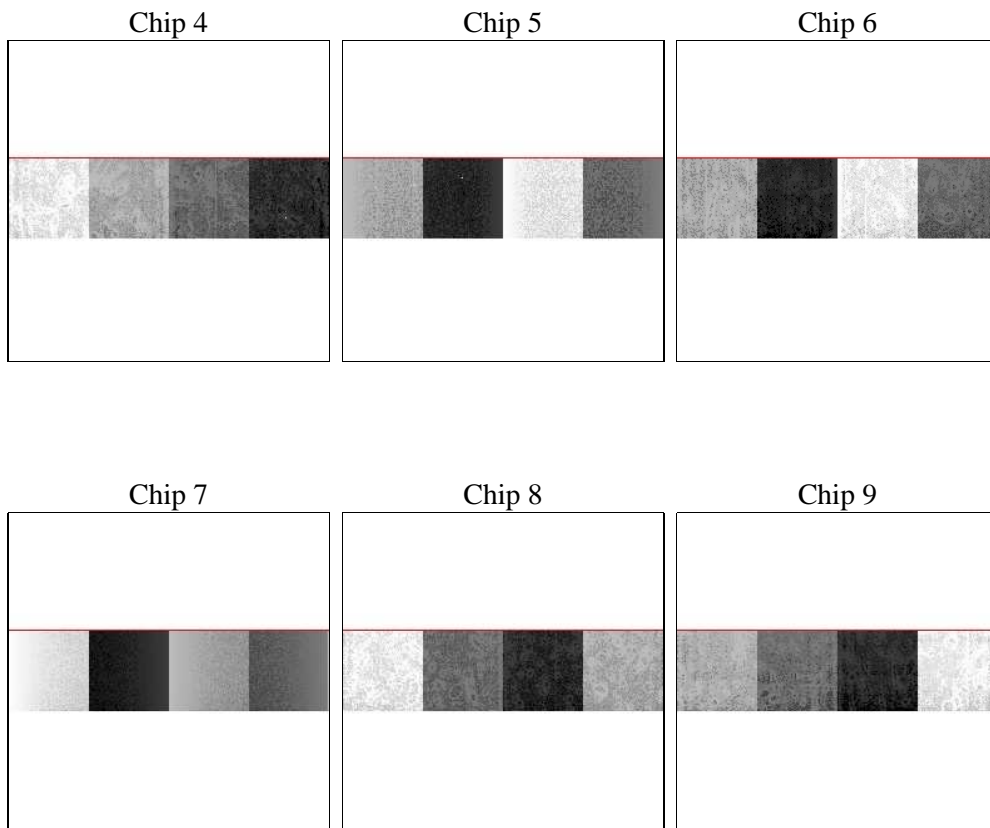
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	19250.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	19428.200421095	Sum of GTIs [s]
caldsver	4.4.9	 	ontime4	19428.200421095	Sum of GTIs [s]
date	2012-05-29T01:27:18	Date and time of file creation	ontime5	19428.200421095	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	19428.200421095	Sum of GTIs [s]
			ontime7	19428.200421095	Sum of GTIs [s]
			ontime8	19428.200421095	Sum of GTIs [s]
			ontime9	19428.200421095	Sum of GTIs [s]
			l1events	322513	Number of level 1 events

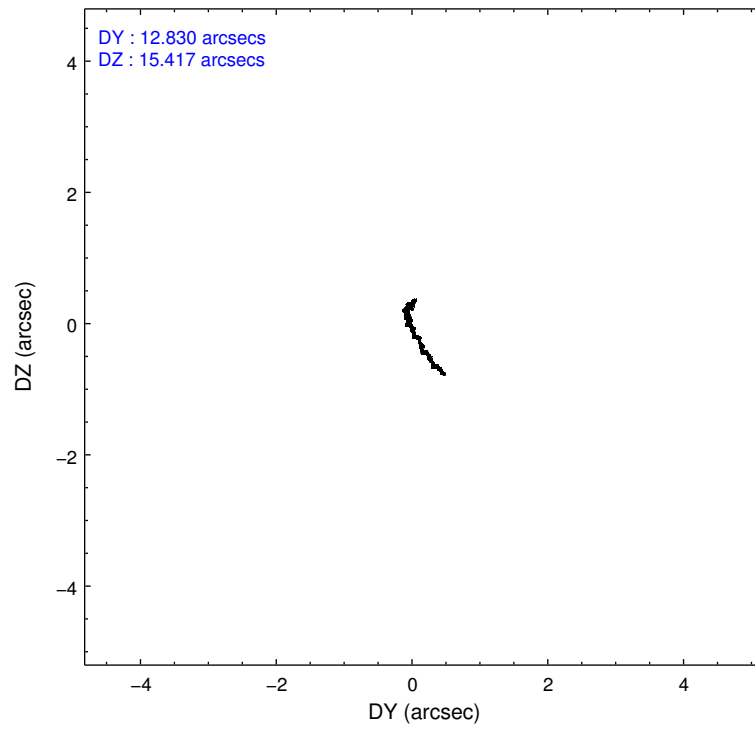
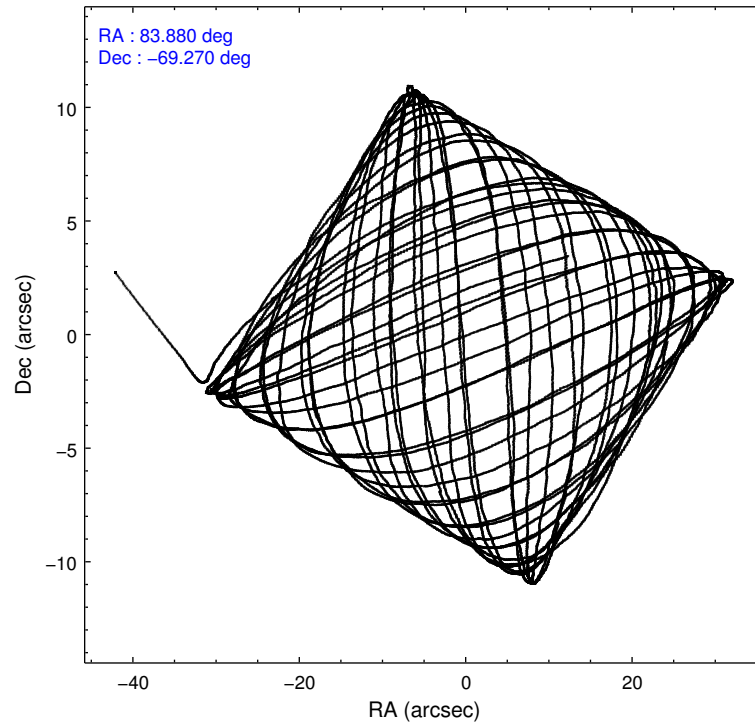
2.1.4 Events

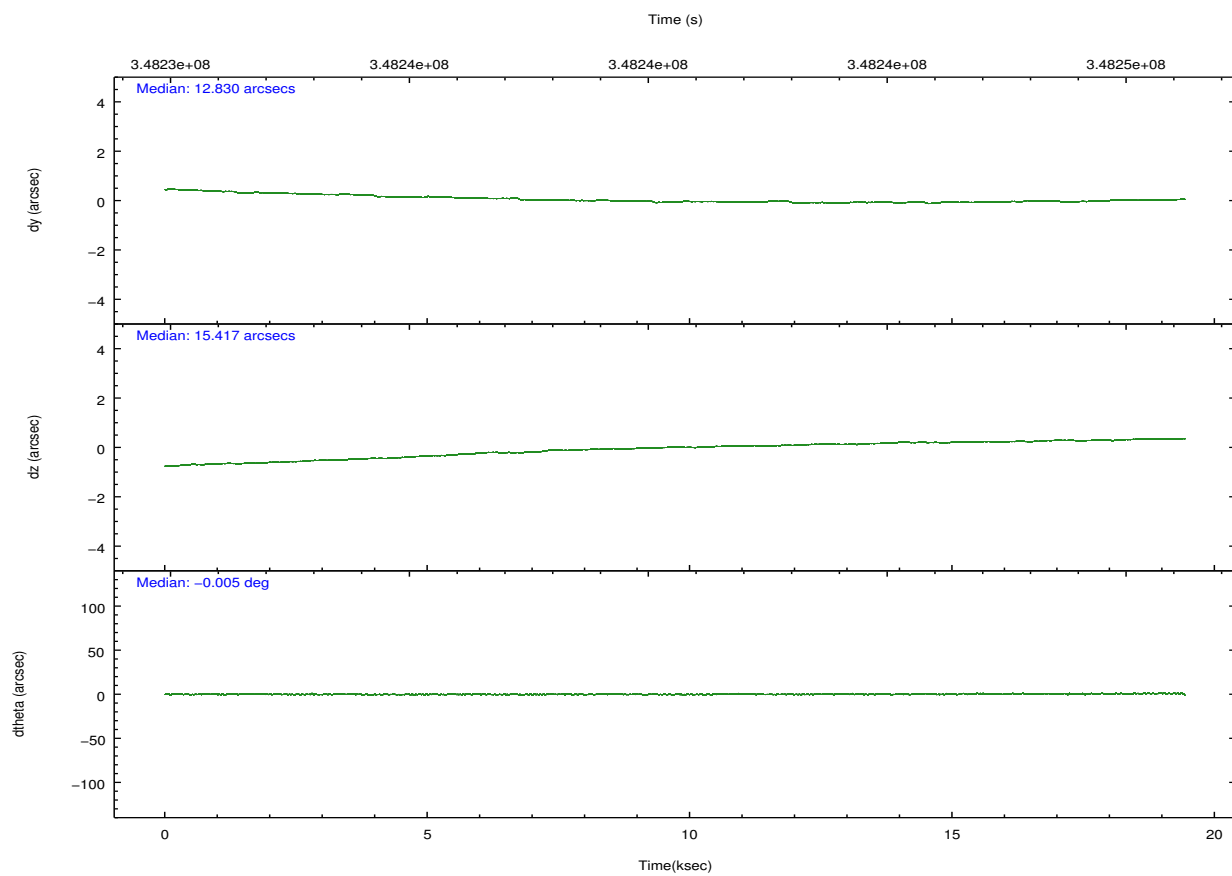
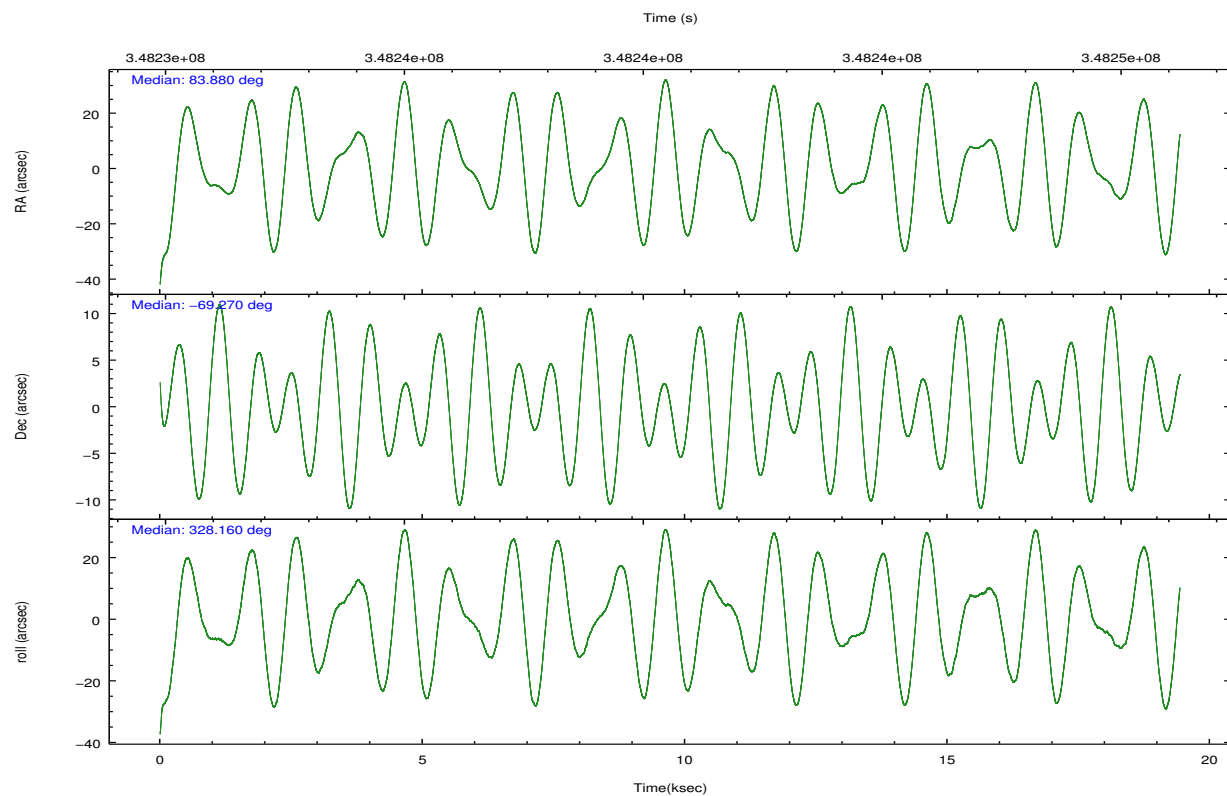
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	60208	61330	47800	45301	62001	45873	grade 0 events	7283	11271	2824	3201	4222	1489
rejected events	49382	25564	41516	21207	47669	41139		12%	18%	5%	7%	6%	3%
rejected %	82%	41%	86%	46%	76%	89%	grade 1 events	68	151	19	64	24	14
								0%	0%	0%	0%	0%	0%
							grade 2 events	1328	8459	1104	5489	3183	908
								2%	13%	2%	12%	5%	1%
							grade 3 events	779	1969	777	2779	1515	761
								1%	3%	1%	6%	2%	1%
							grade 4 events	753	1823	804	2796	1469	758
								1%	2%	1%	6%	2%	1%
							grade 5 events	1600	4968	1479	4541	2171	1579
								2%	8%	3%	10%	3%	3%
							grade 6 events	904	13128	906	10336	4177	903
								1%	21%	1%	22%	6%	1%
							grade 7 events	47493	19561	39887	16095	45240	39461
								78%	31%	83%	35%	72%	86%

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	83.803119	83.88025188217885	CCD I2 on	N	N
[deg] Pointing Dec	-69.269250	-69.26975856591839	CCD I3 on	N	N
[deg] Pointing Roll	327.940565	328.1693307250976	CCD S0 on	O1	Y
[s] Window start time (MET)	347155266.184000	347155266.184000	CCD S1 on	Y	Y
[s] Window stop time (MET)	349747266.184000	349747266.184000	CCD S2 on	Y	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S3 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S4 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S5 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	Number of optional ACIS chips dropped	0	0
[s] Observation start time (MET)	348231038.184000	348229987.32583	On-chip summing requested	N	N
Observation start date	2009-01-13T10:49:32	2009-01-13T10:33:07	Subarray requested	CUSTOM	1/4
[s] Observation end time (MET)	348250288.184000	348251268.37689	Subarray start row	393	393
Observation end date	2009-01-13T16:10:22	2009-01-13T16:27:48	Subarray row count	256	256
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	1.1

2.3 Aspect



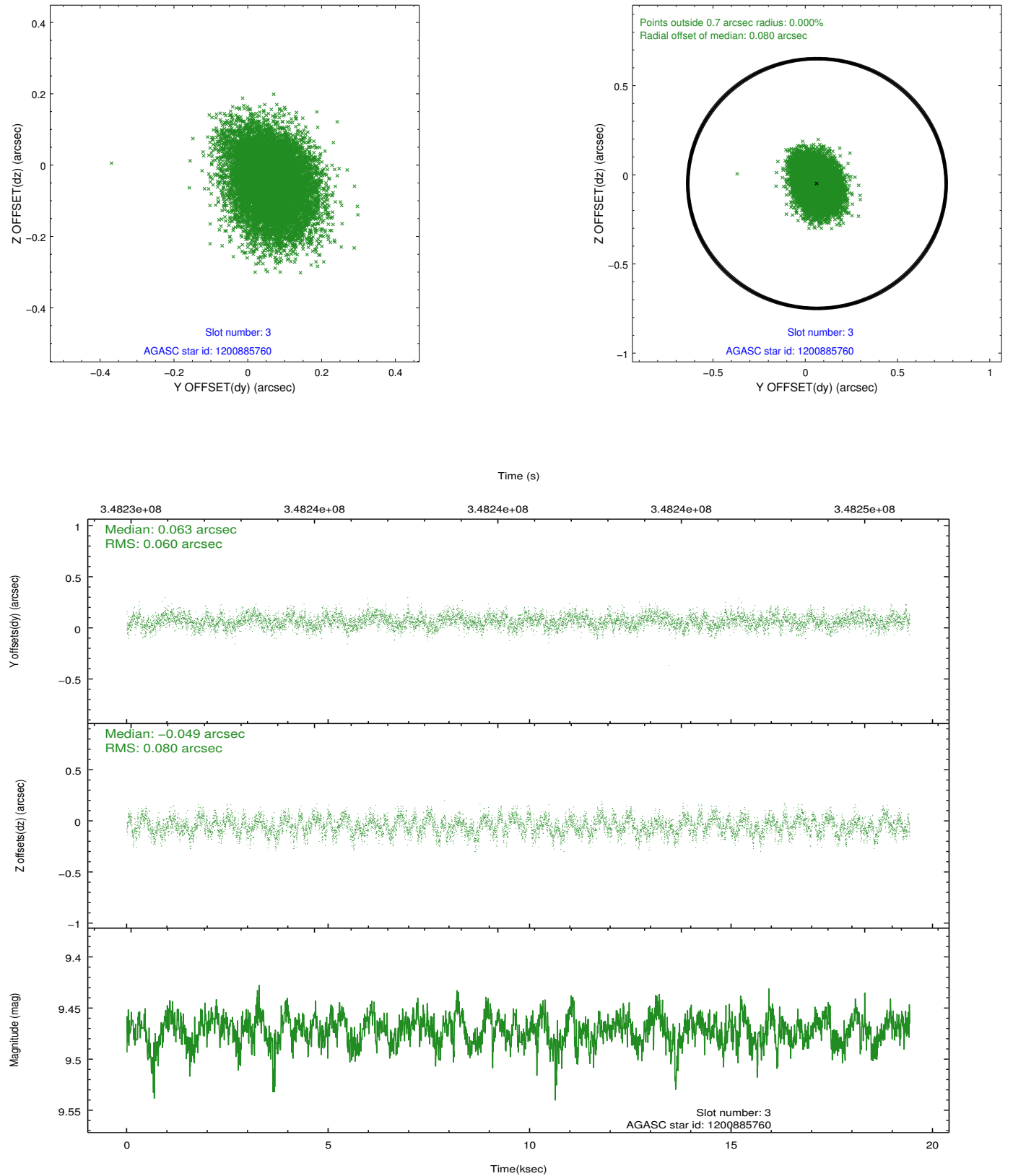


Slot Statistics

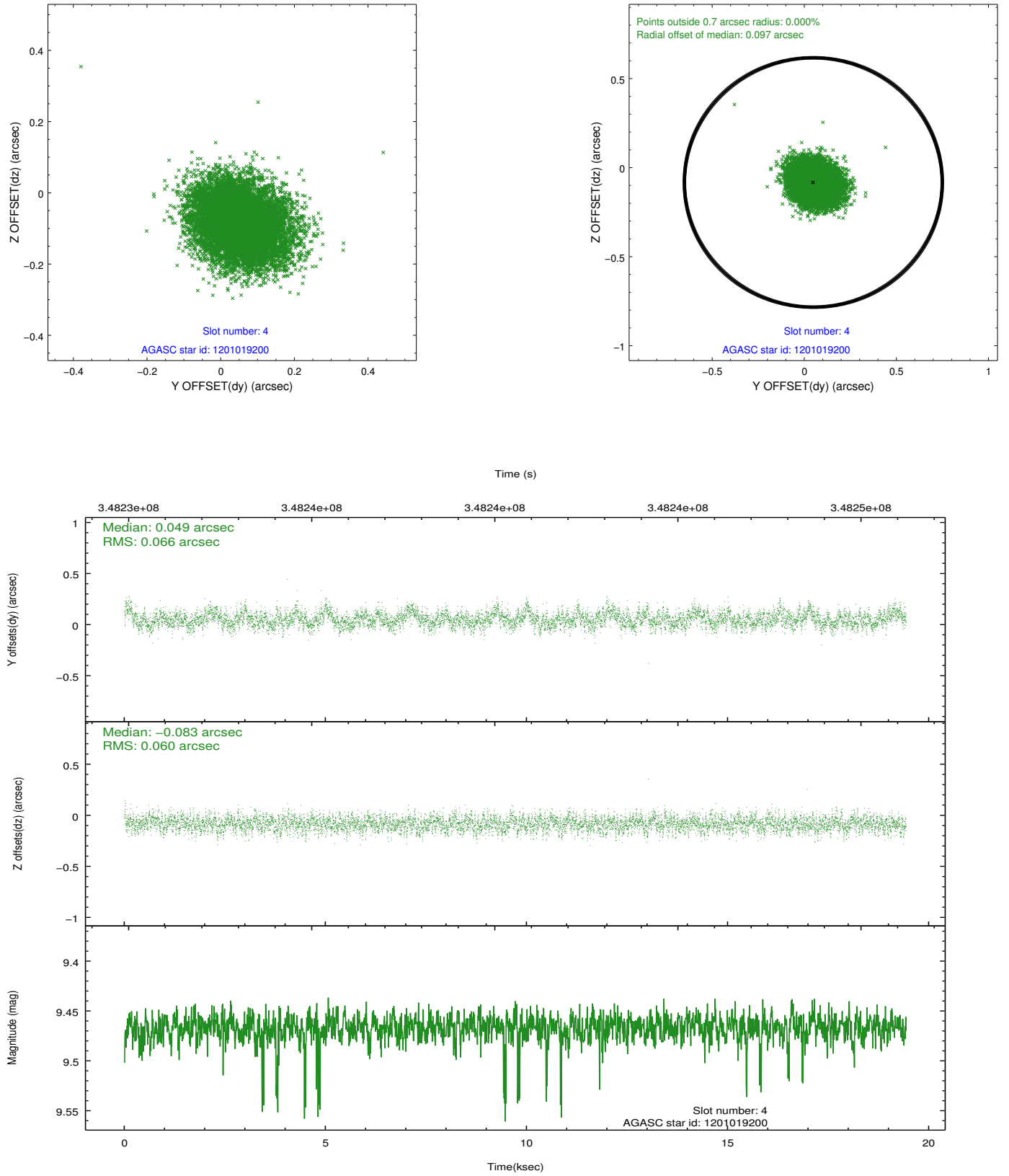
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.89	4739	-0.054	-0.020	0.008	0.016	0.000000	0.000000	-765.83	-1736.75
1	FID	ACIS-S-4	6.98	4740	0.174	0.031	0.010	0.022	0.000000	0.000000	2147.56	171.62
2	FID	ACIS-S-5	7.01	4739	-0.152	-0.002	0.009	0.018	0.000000	0.000000	-1818.54	165.43
3	GUIDE	1200885760	9.47	9462	0.063	-0.049	0.106	0.173	83.723637	-68.777667	-1026.85	1444.80
4	GUIDE	1201019200	9.47	9454	0.049	-0.083	0.095	0.154	84.213591	-68.777384	-485.66	1783.36
5	GUIDE	1201542672	8.20	9473	-0.071	0.040	0.080	0.133	84.492488	-69.957531	2038.68	-1650.22
6	GUIDE	1200884248	9.47	9466	-0.019	-0.209	0.124	0.193	83.880915	-68.565170	-1258.42	2202.43
7	GUIDE	1201410616	9.33	9467	-0.025	0.302	0.131	0.203	82.516808	-69.784406	-362.22	-2434.55

2.4 Star Slots

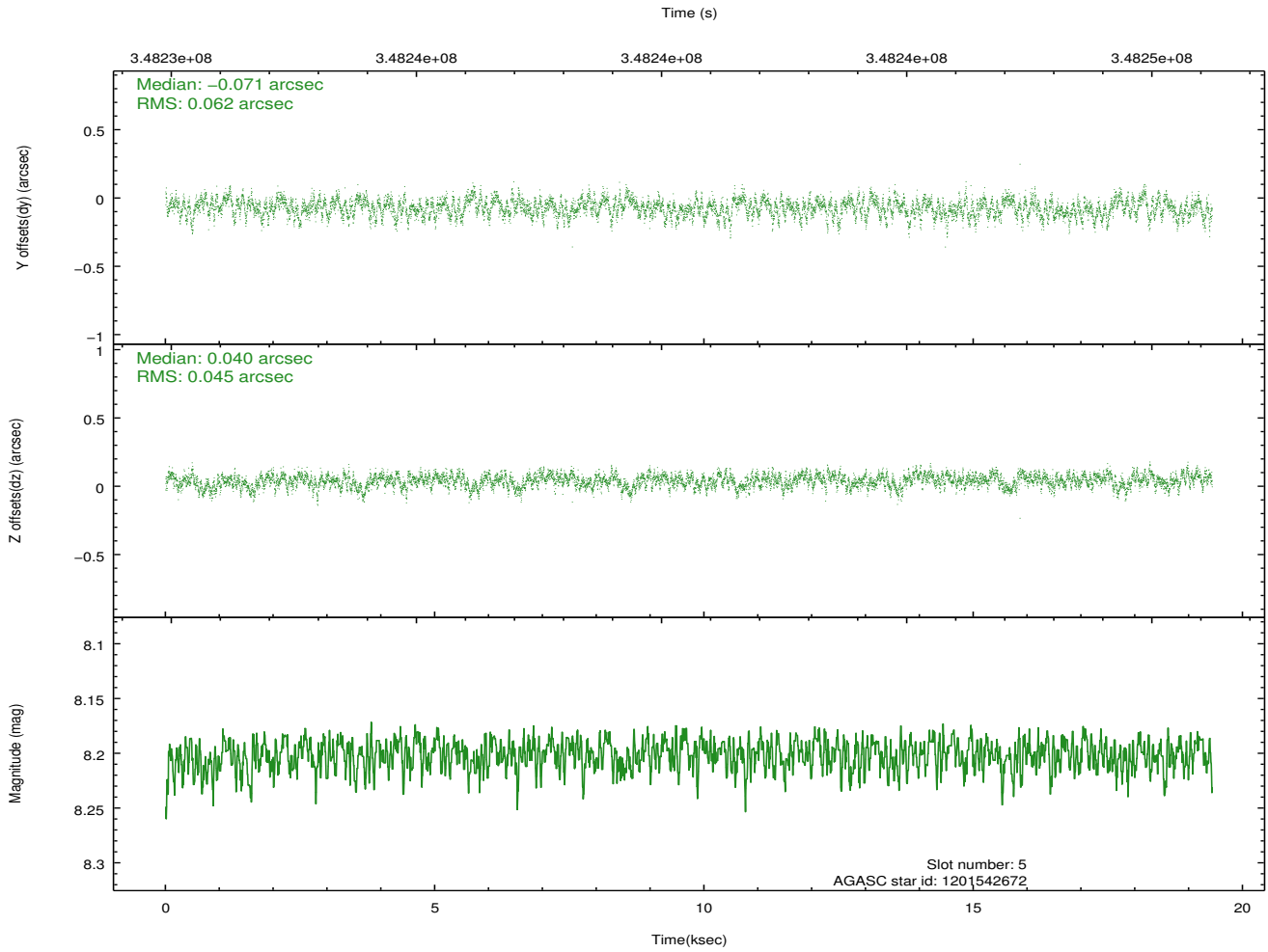
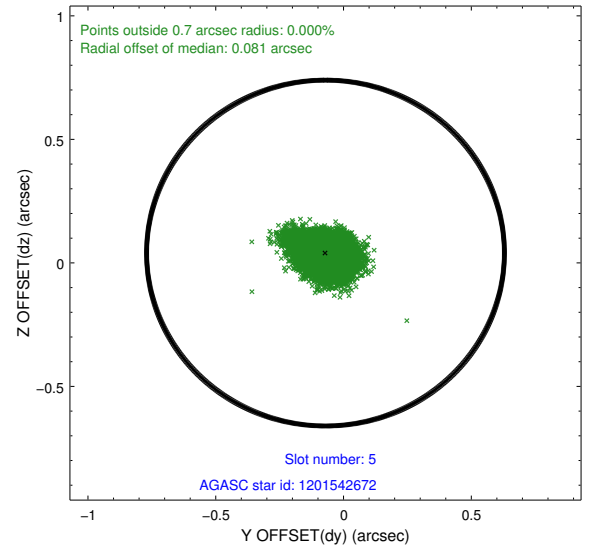
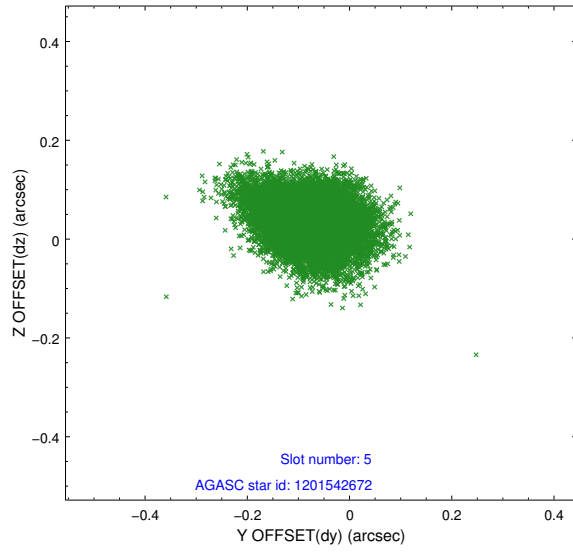
2.4.1 Slot 3



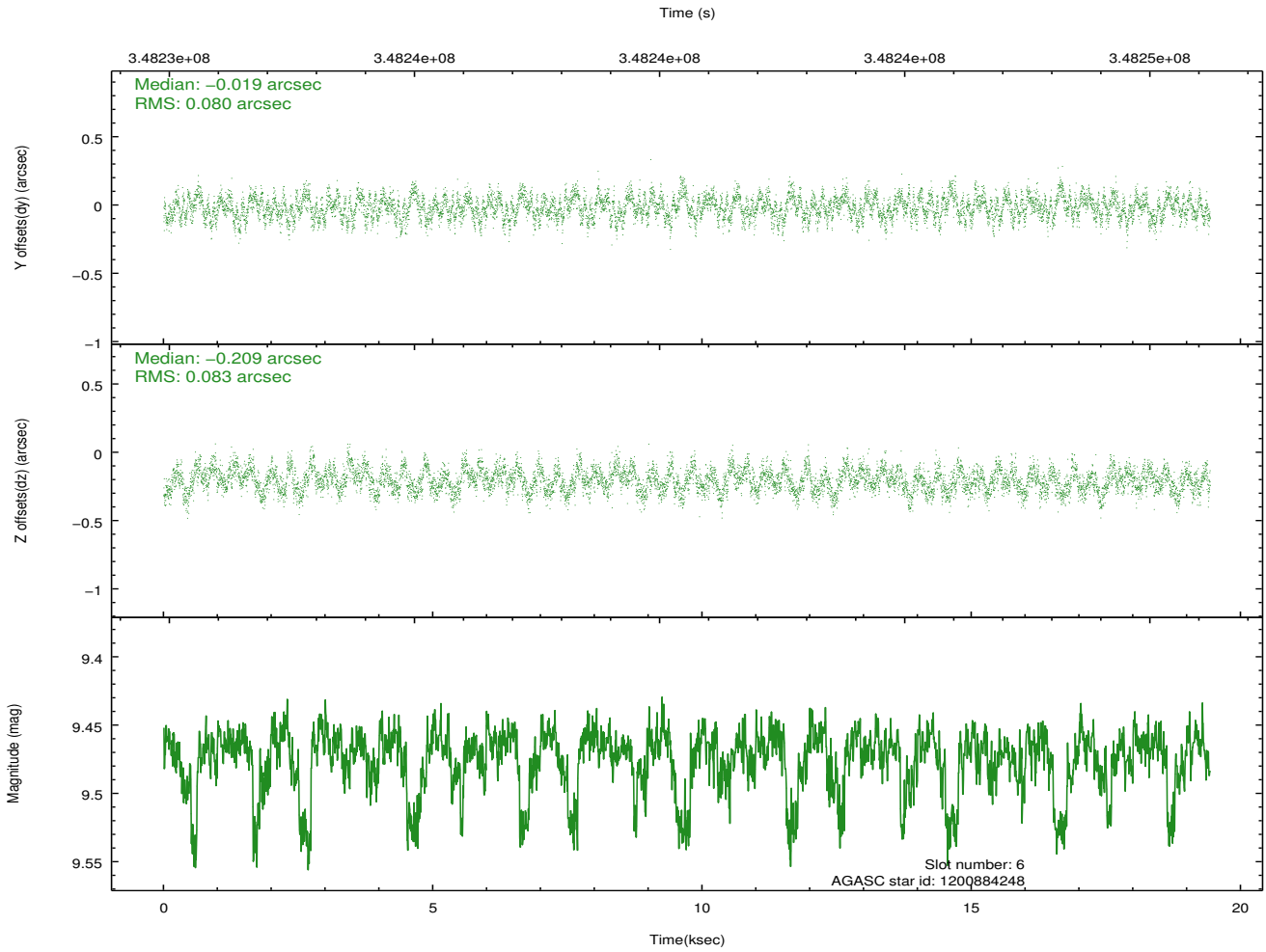
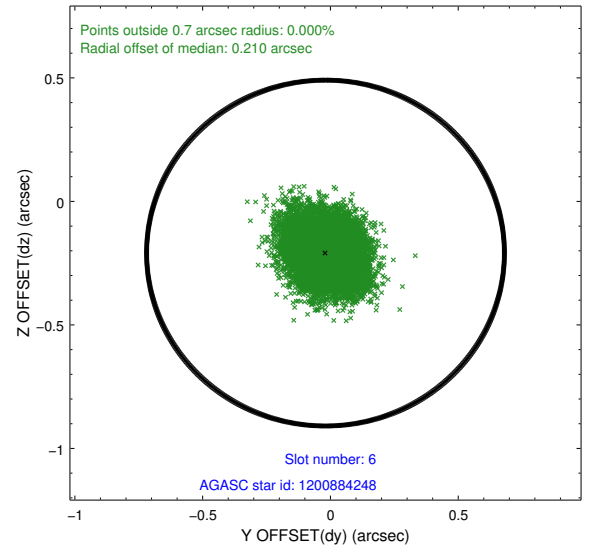
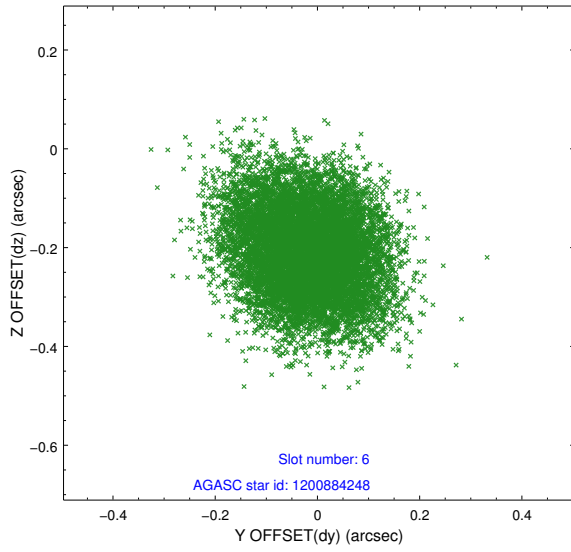
2.4.2 Slot 4



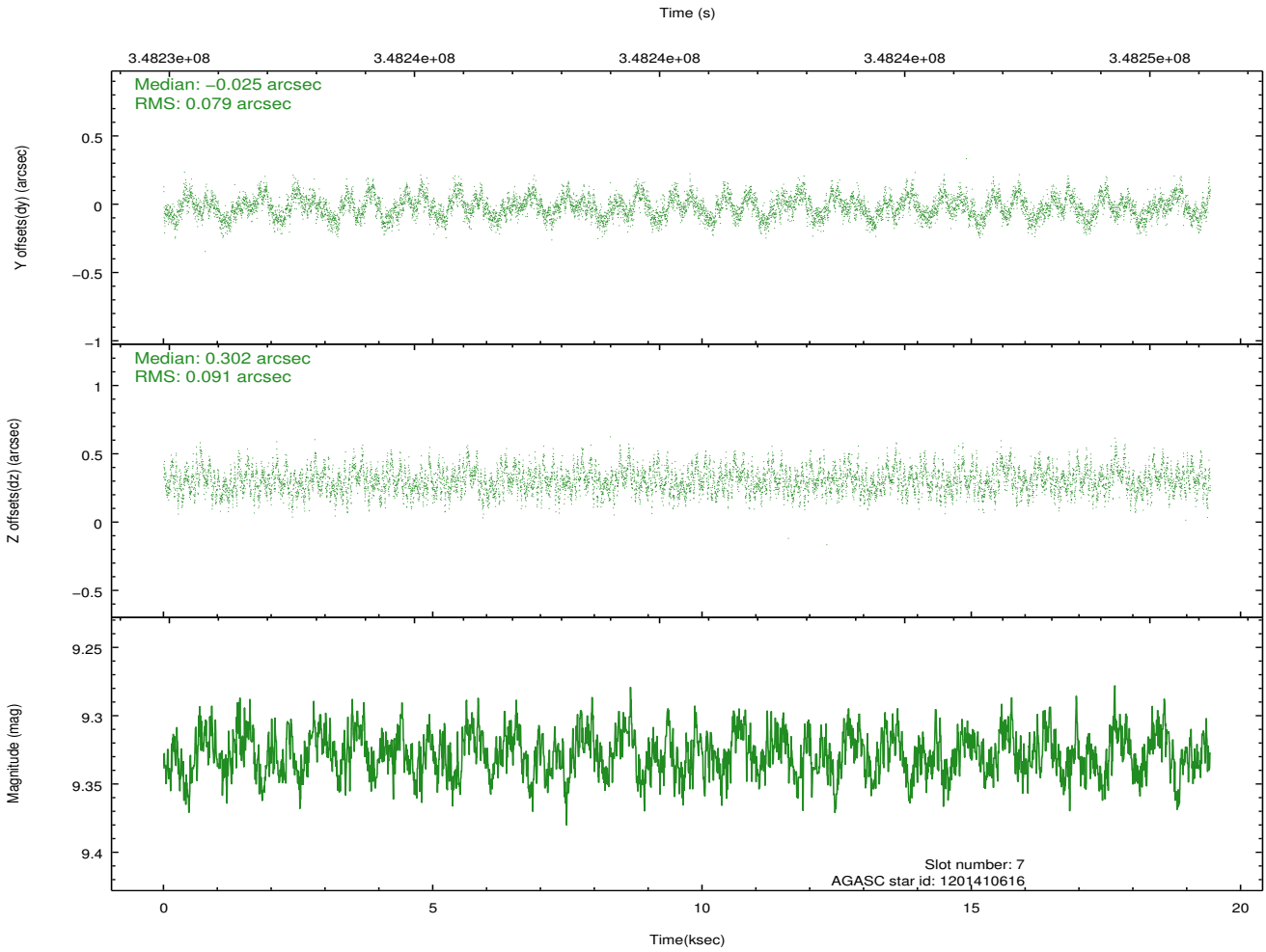
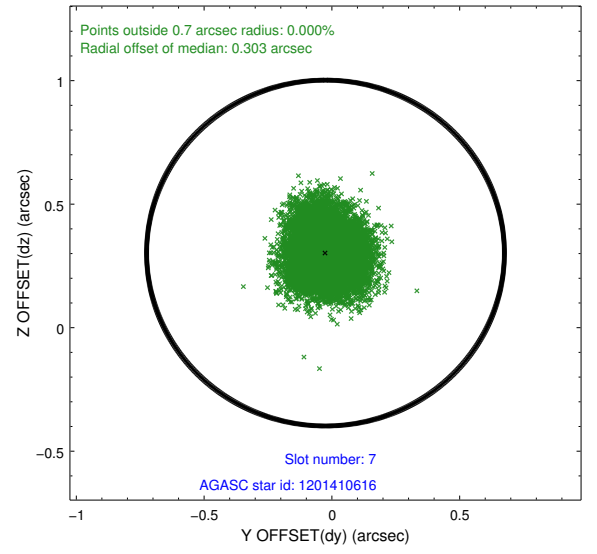
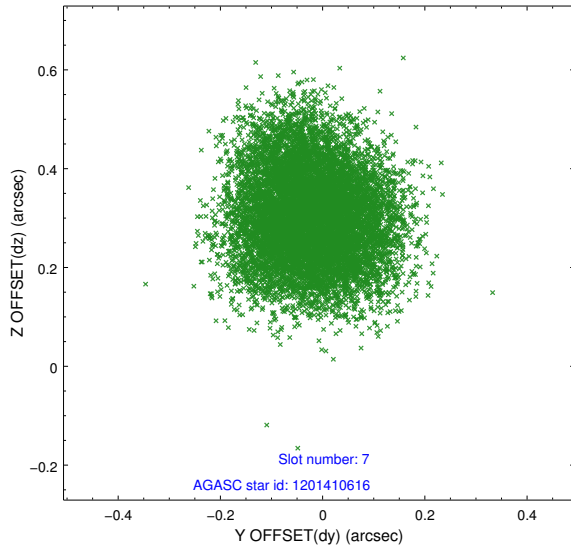
2.4.3 Slot 5



2.4.4 Slot 6

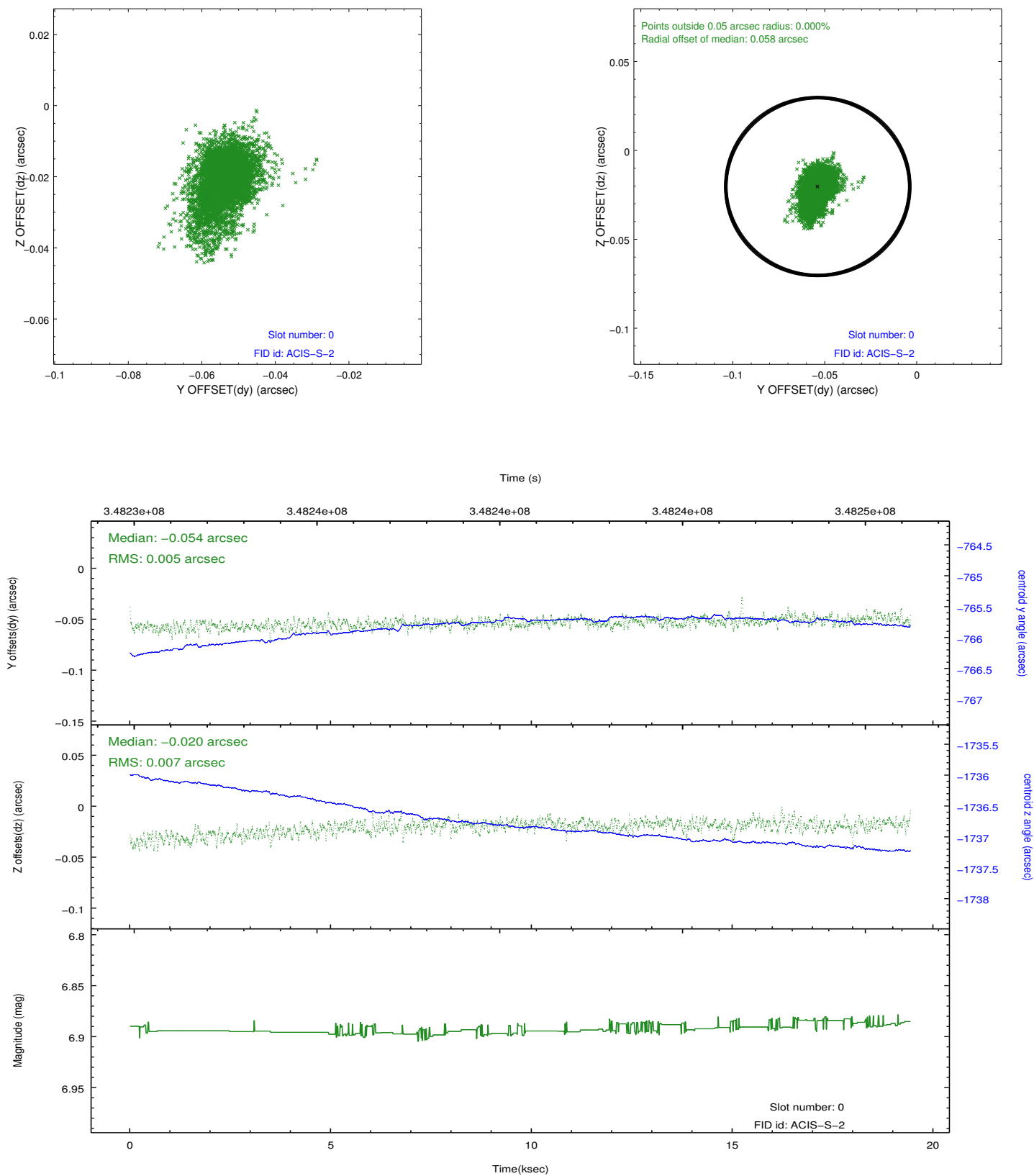


2.4.5 Slot 7

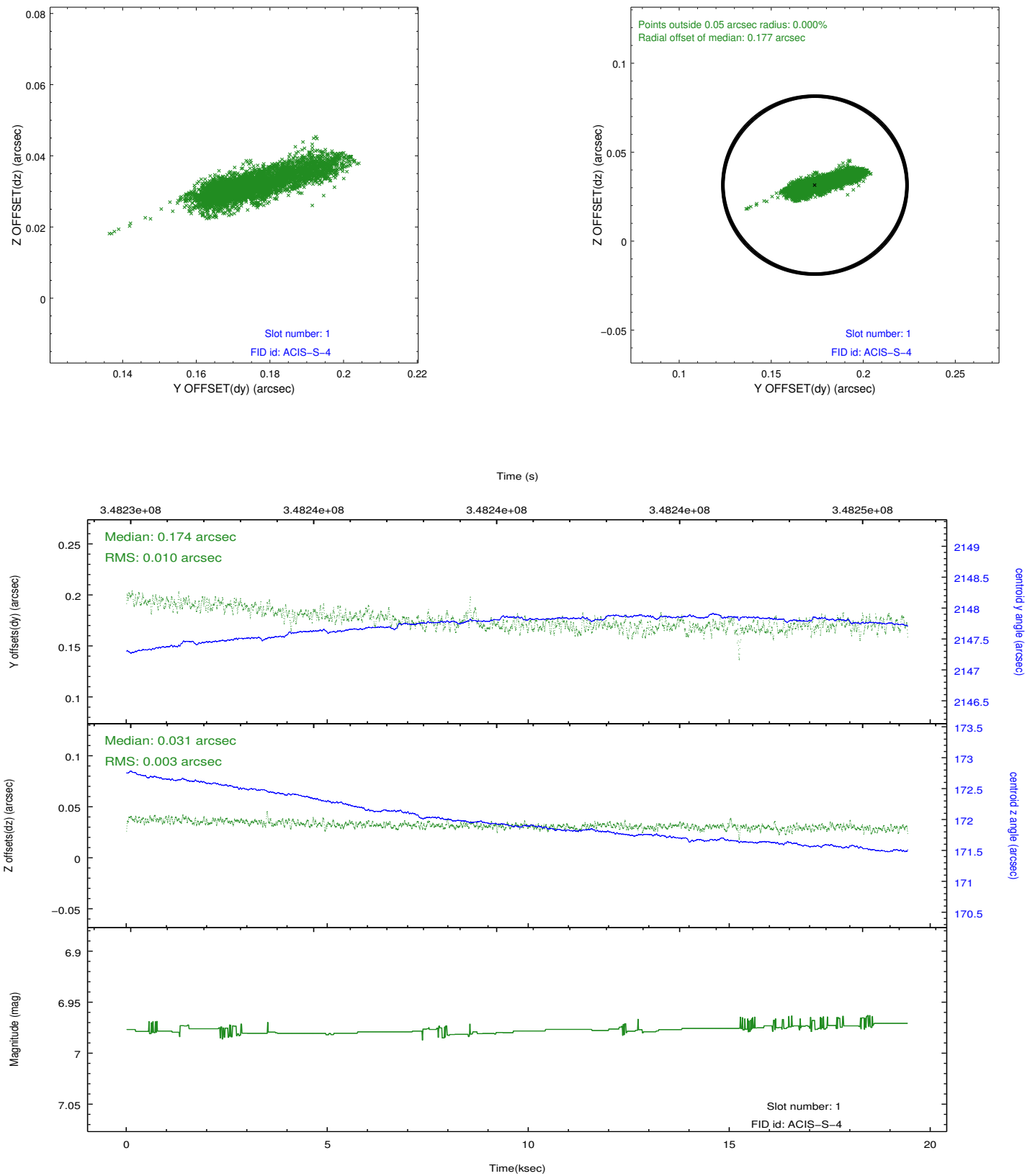


2.5 FID Slots

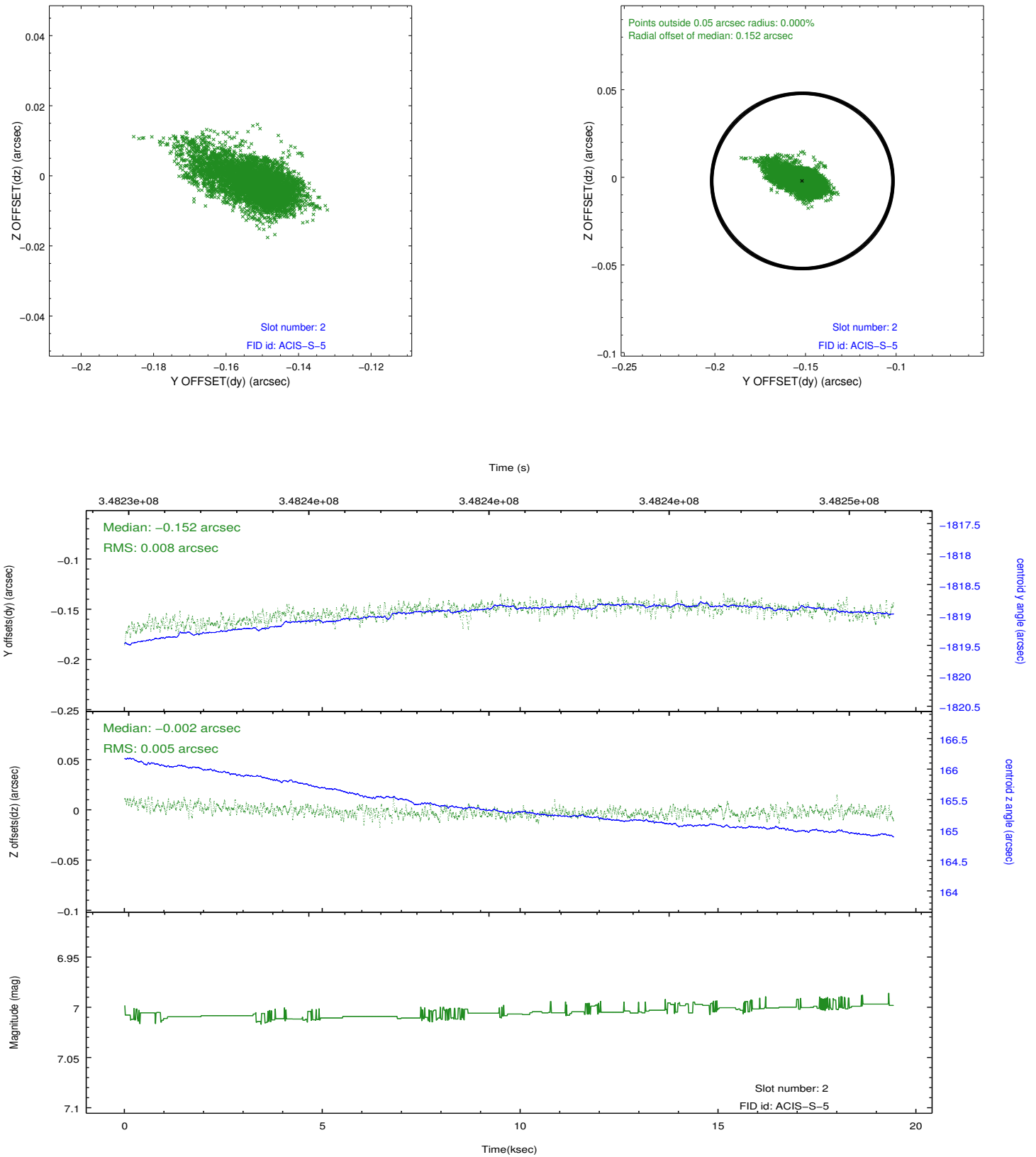
2.5.1 Slot 0



2.5.2 Slot 1

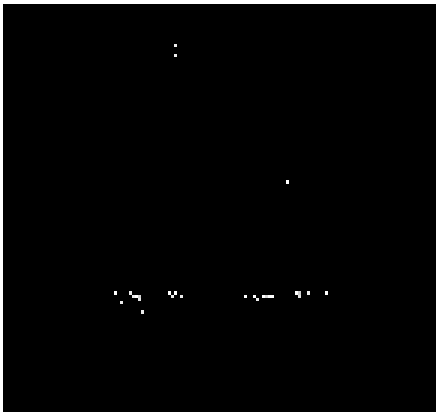


2.5.3 Slot 2

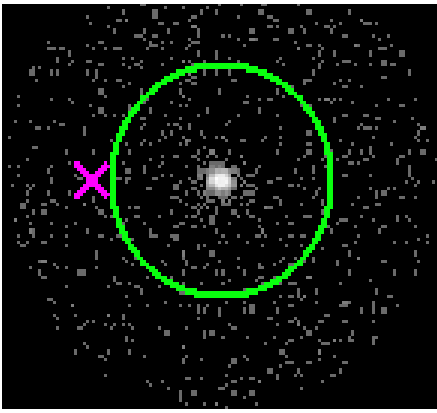


3 Gratings

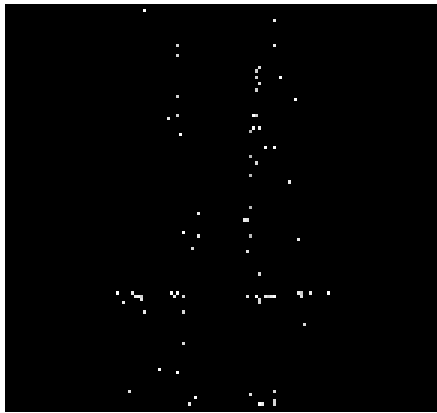
3.1 HEG Arm



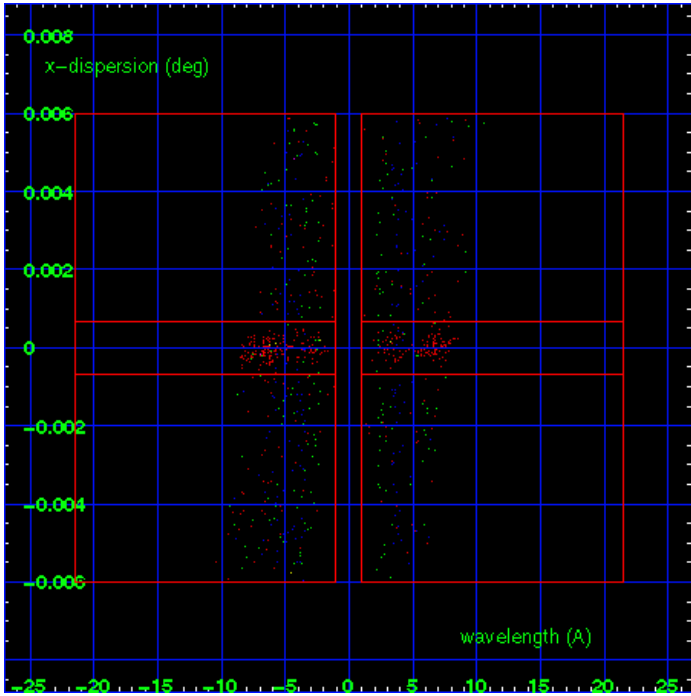
HEG Order Sort 123



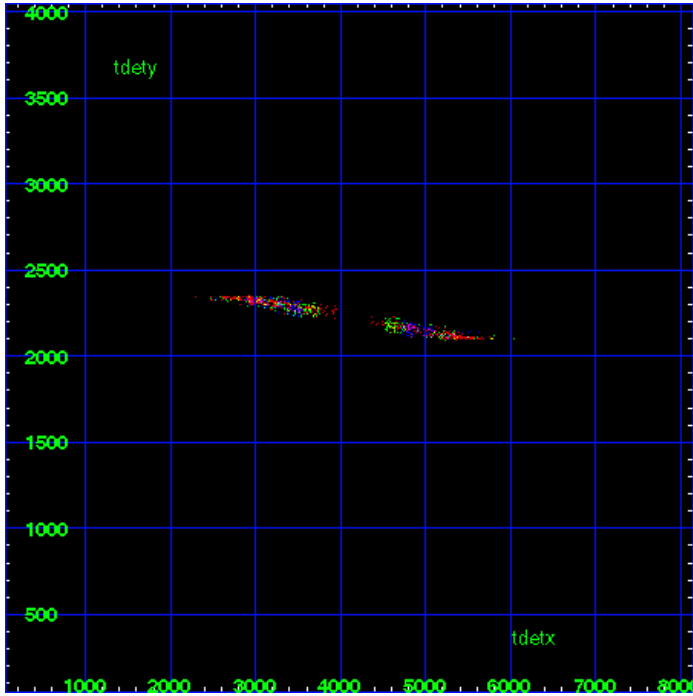
HEG Zero Order



HEG Order Sort ALL

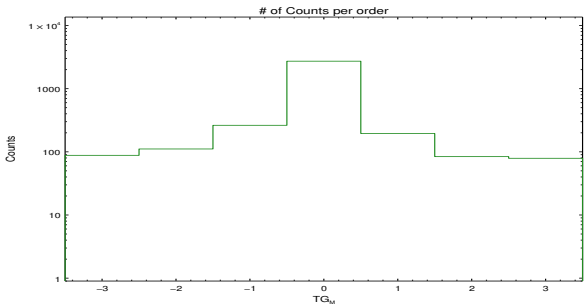


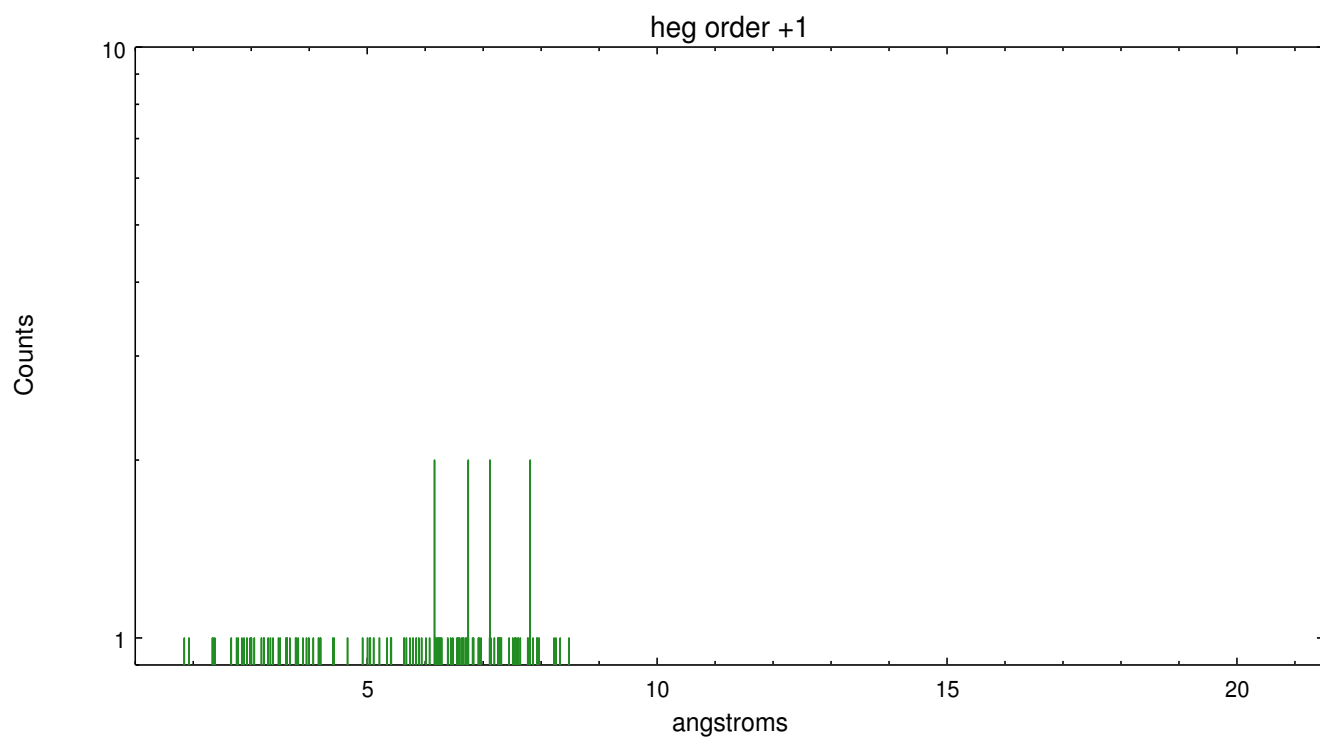
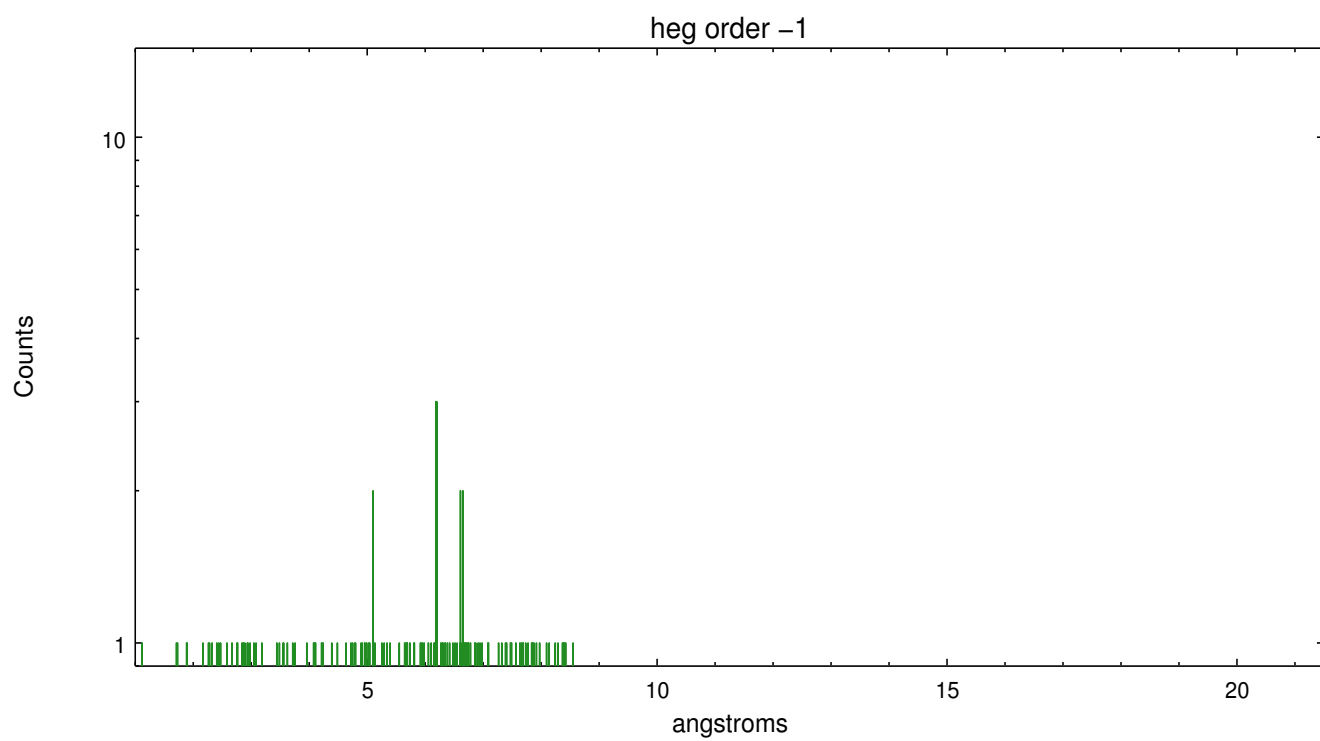
Spot Image HEG



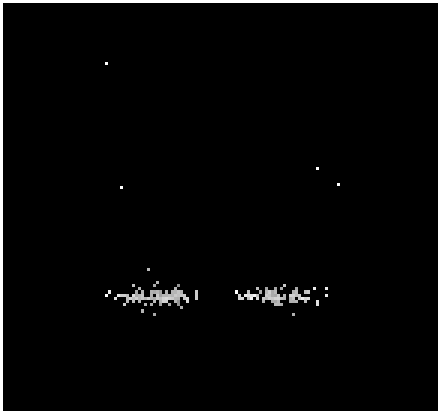
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	88	111	263	2723	195	84	79

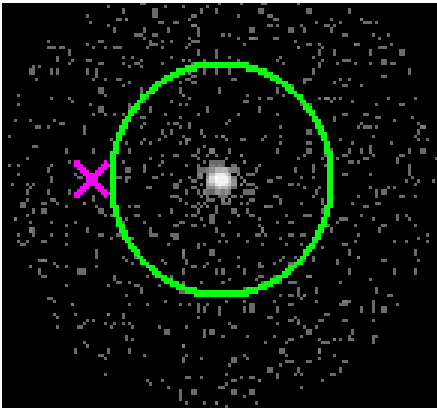




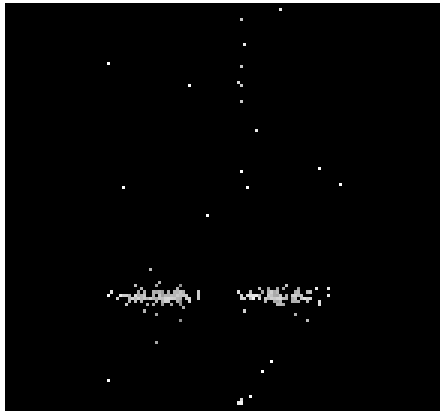
3.2 MEG Arm



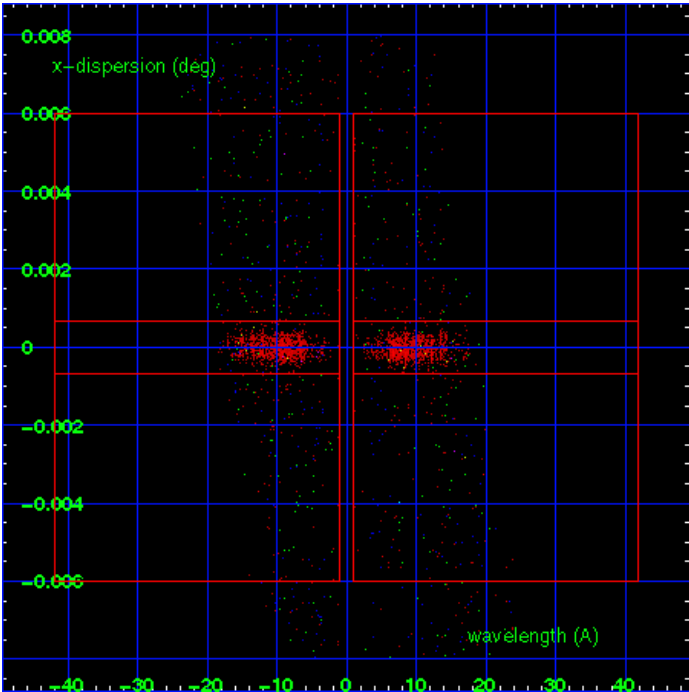
MEG Order Sort 123



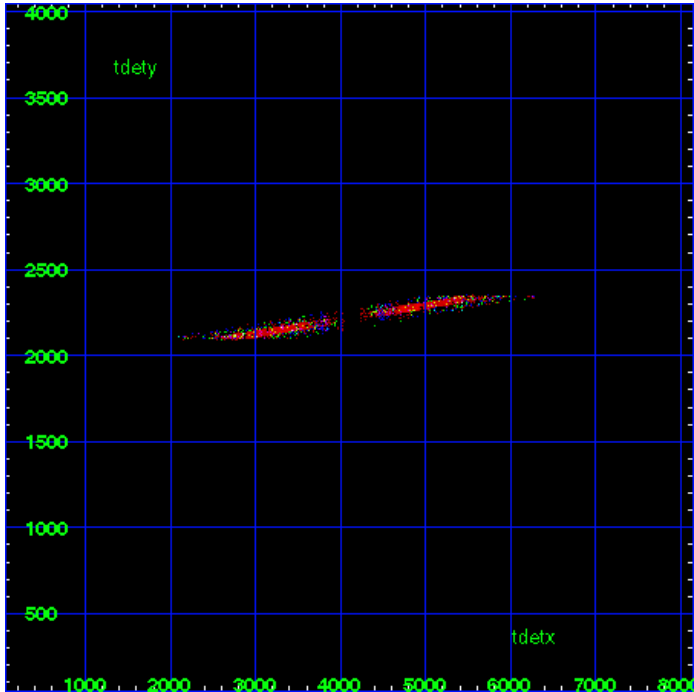
MEG Zero Order



MEG Order Sort ALL

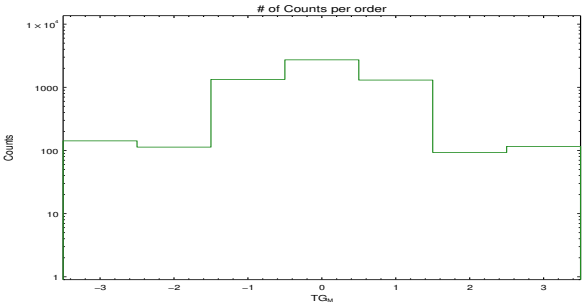


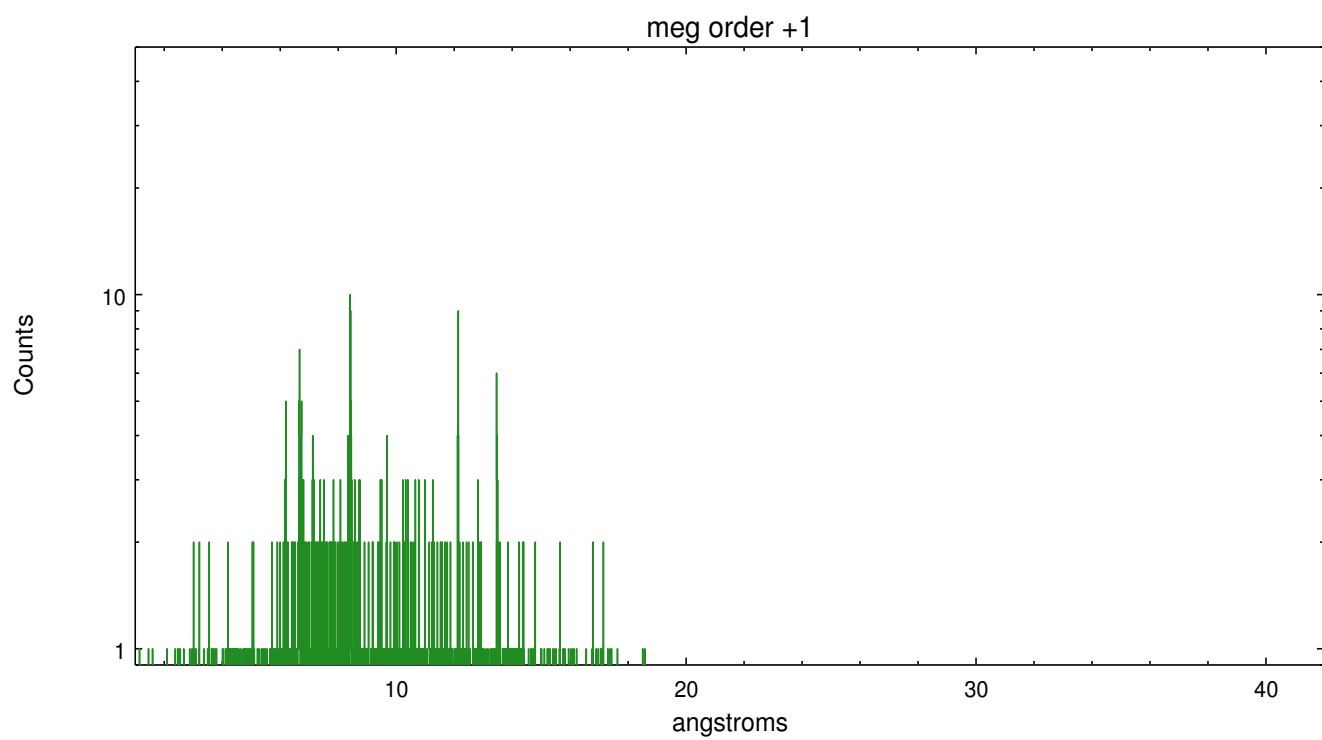
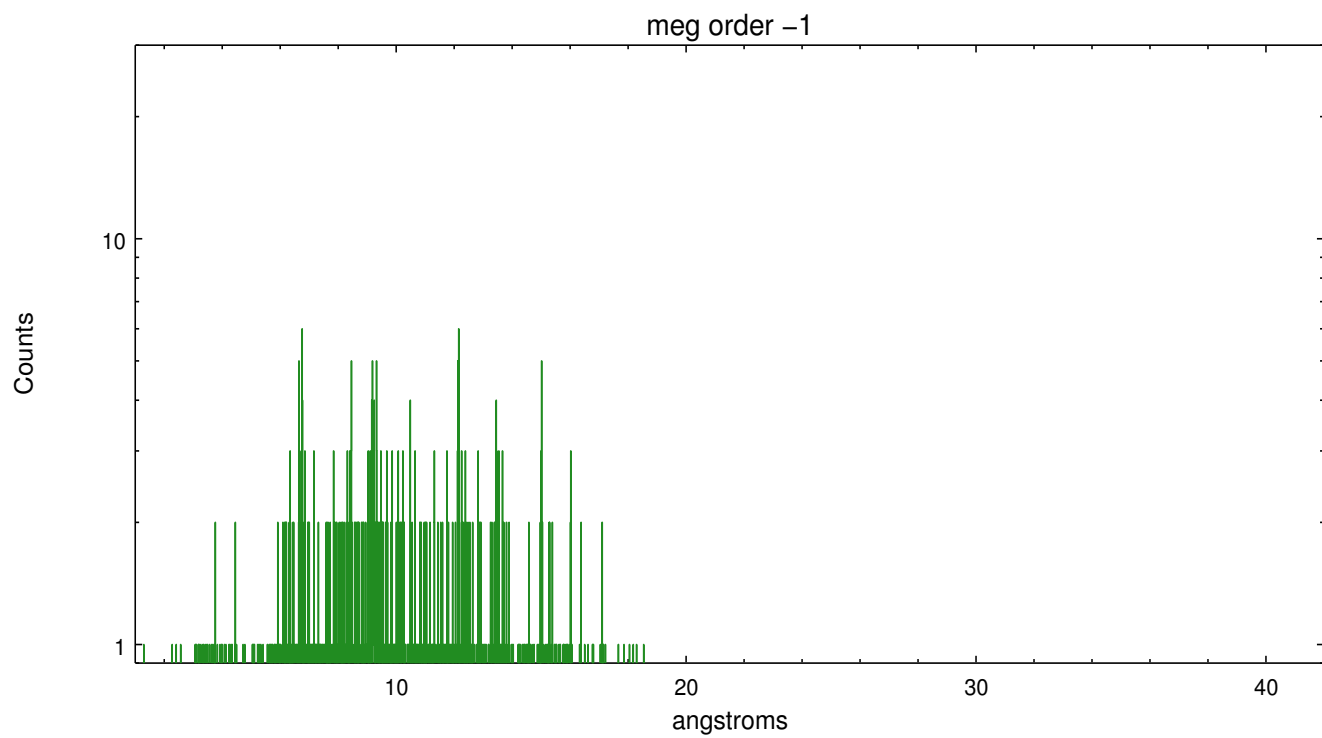
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	142	113	1334	2723	1302	93	116





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.05.29
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	19.4282004

A.2 Comments

Source is extended with structure. The zeroth order used for extracting the spectral data in this processing is located at the centroid of the SNR, but is not located at the position of the brightest X-ray emission in the supernova remnant. WARNING: there are no standard ciao tools for analysis of grating spectra from extended sources. The shape of an emission 'line' will be the shape of the zero order spatial structure convolved with the instrumental LSF. Grating extractions can be used, but need to be combined with custom spatial-spectral analysis, since wavelength is multi-valued at any particular diffraction angle.

===

The sub-array configuration chosen eliminates counts from the soft ends of

the spectral arms for both HEG (>9A) and MEG (>19A).

===Obsid 10130 used for cross-calibration purposes. ===