

V&V Reference Report

L2 ASCDS Version : 10.5

Observation 18085 - L2 Version 2
Chandra X-Ray Center

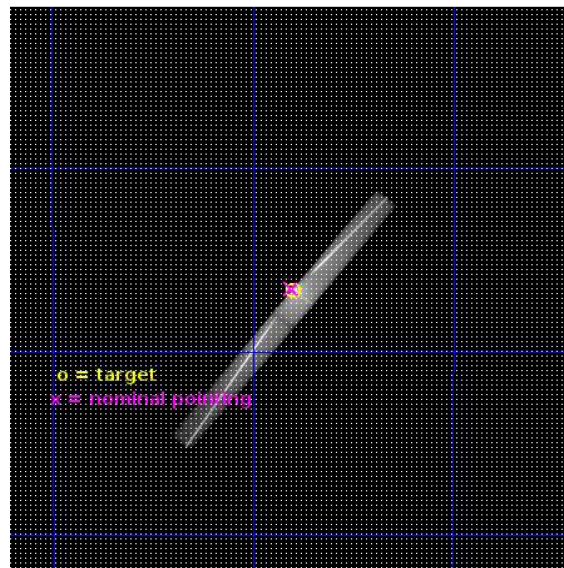
L2 Processing Date : Jun 30 2016

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

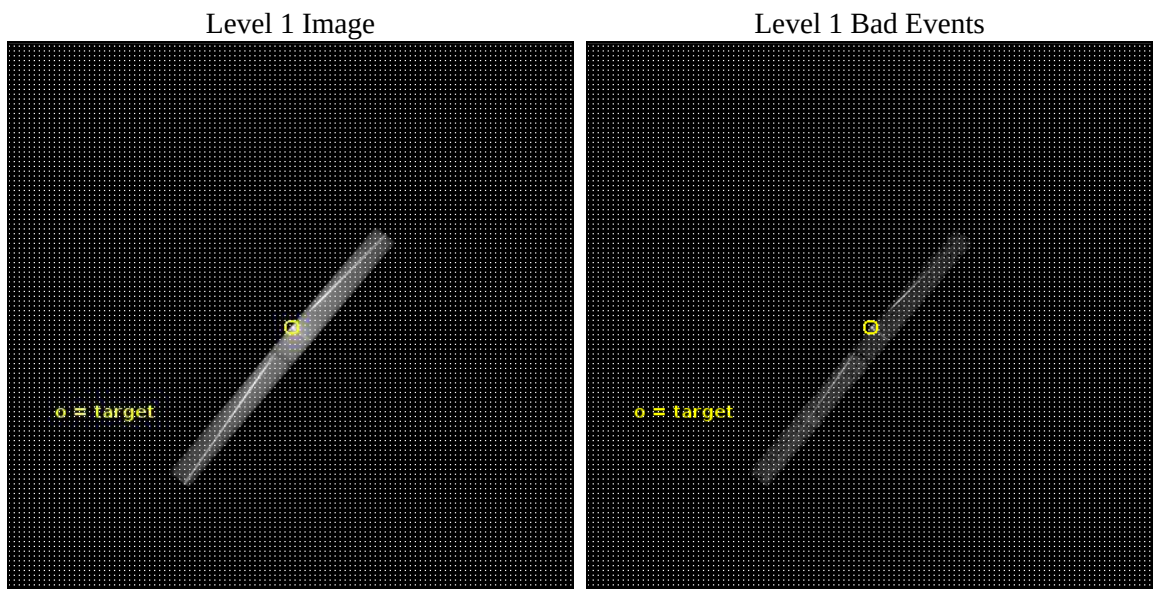
seq_num	901199	Sequence number
obs_id	18085	Observation id
title	Optical Depth of Si K in Bright Low-Mass X-Ray Binaries	Proposal t
observer	Norbert Schulz	Principal investigator
object	GX340+0	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	251.44875	Observer's specified target RA [deg]
dec_targ	-45.611111	Observer's specified target Dec [deg]
ra_nom	251.45185195906	Nominal RA [deg]
dec_nom	-45.609818488557	Nominal Dec [deg]
roll_nom	308.95223176367	Nominal Roll [deg]
revision	2	Processing version of data
ontime	26092.0	Sum of GTIs [s]
livetime	24112.819754547	Livetime [s]
ontime6	26092.0	Sum of GTIs [s]
ontime7	26092.0	Sum of GTIs [s]
l2events	1287647	Number of level 2 events



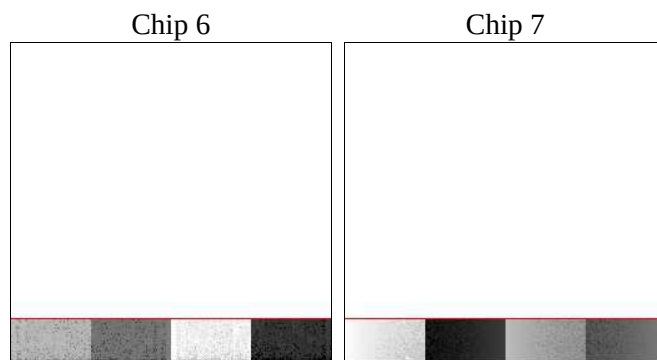
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	26000.000000	[s] Scheduled observation exposure time
ascdsver	10.5	Processing system revision	ontime	26092.0	Sum of GTIs [s]
caldsver	4.7.2	 	ontime6	26092.0	Sum of GTIs [s]
date	2016-06-28T10:55:55	Date and time of file creation	ontime7	26092.0	Sum of GTIs [s]
revision	1	Processing version of data	l1events	1409510	Number of level 1 events
			tgmethod	MANUAL	Method used to create src1a file
			zo_pos	(4113.74, 4086.15)	src1a sky pixel position
			zo_pos_tgd	(4113.53, 4086.38)	src1a sky pixel position via tgdetect

2.1.4 Events

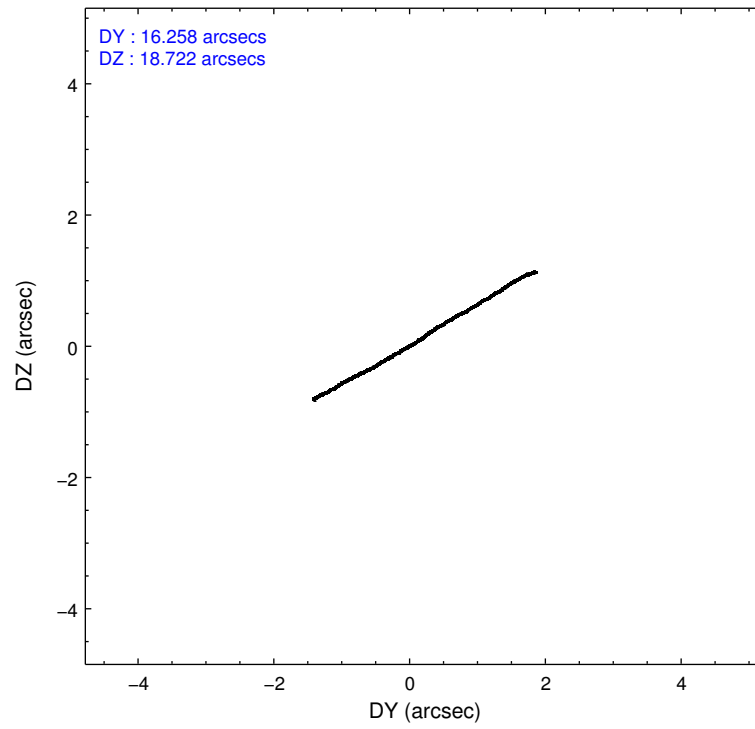
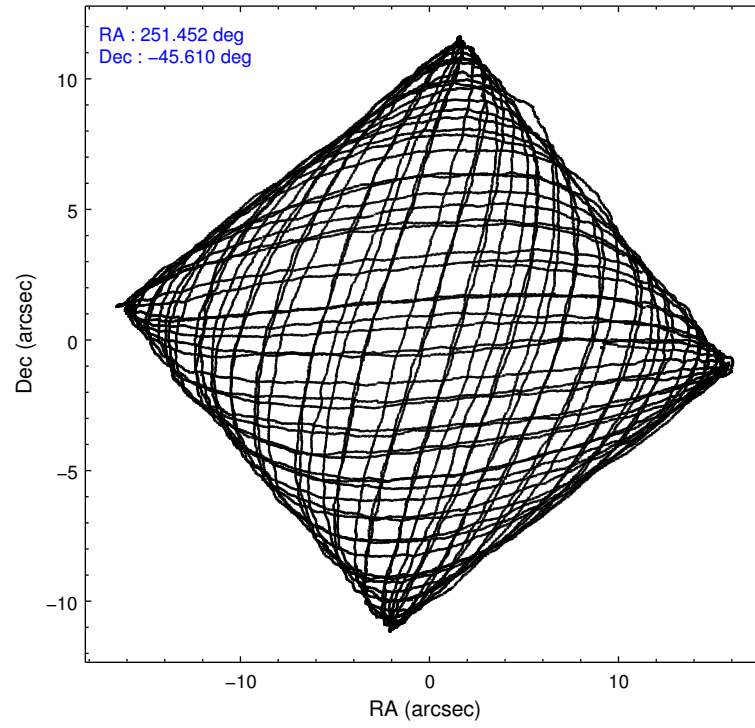
	ccd 6	ccd 7
level 1 events	563872	845638
rejected events	39564	46135
rejected %	7%	5%

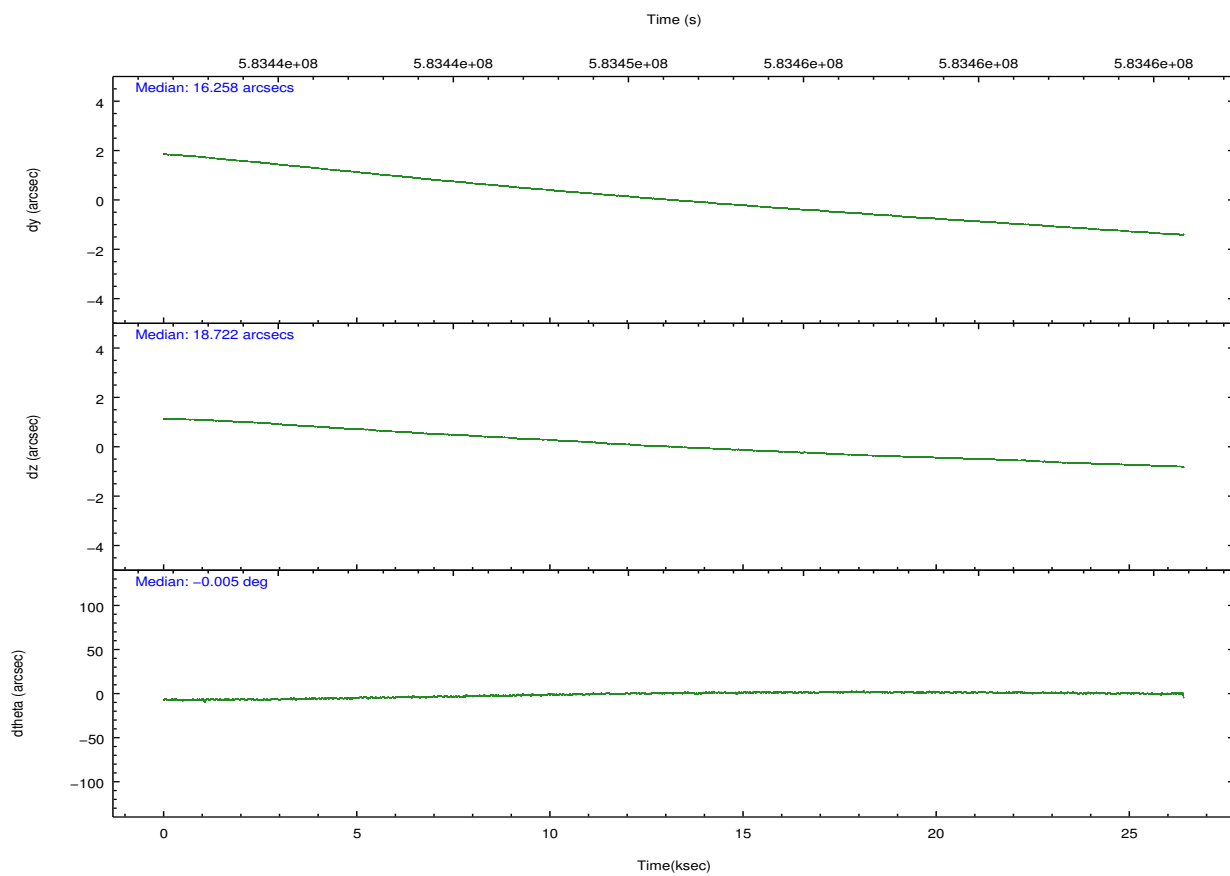
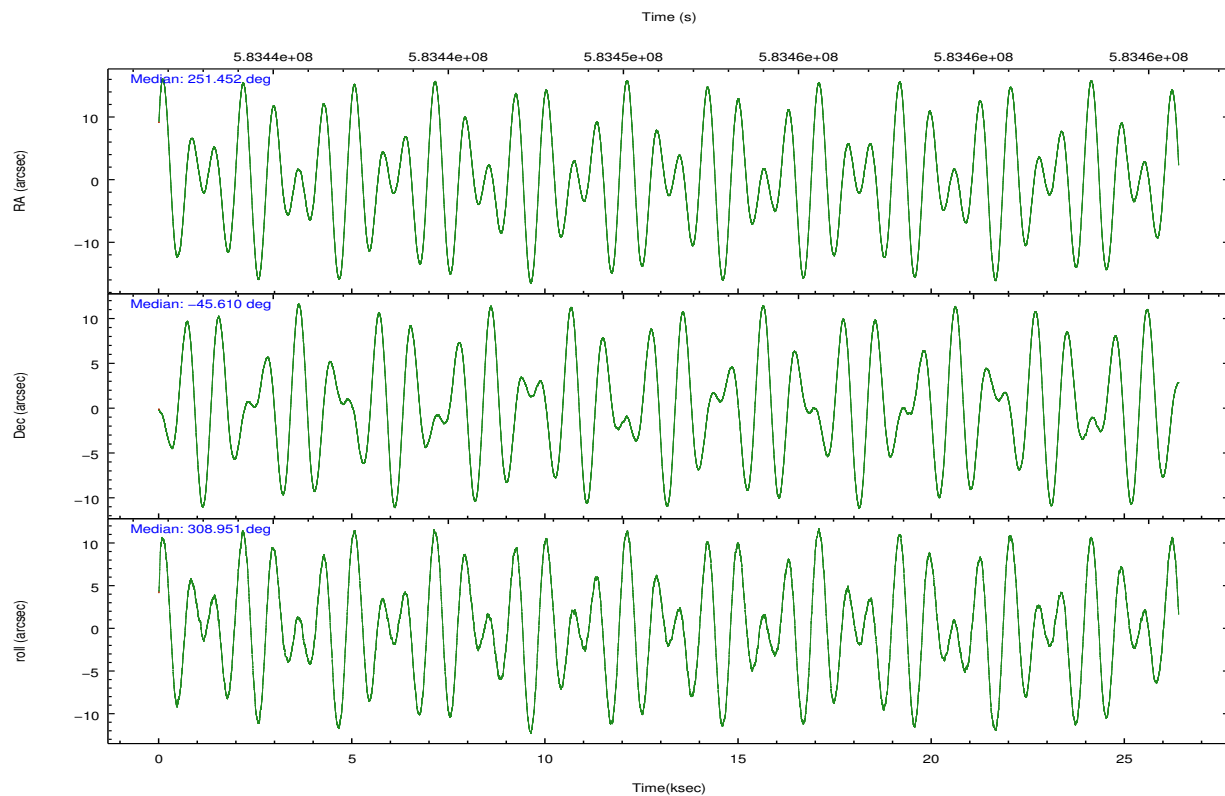
	ccd 6	ccd 7
grade 0 events	324765	133843
	57%	15%
grade 1 events	2764	2437
	0%	0%
grade 2 events	80652	186913
	14%	22%
grade 3 events	29892	82930
	5%	9%
grade 4 events	29428	82708
	5%	9%
grade 5 events	4584	14786
	0%	1%
grade 6 events	59593	313164
	10%	37%
grade 7 events	32194	28857
	5%	3%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-67	ACIS-67	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	251.415023	251.4518519590571	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-45.600291	-45.60981848855712	Subarray start row	10	10
[deg] Pointing Roll	308.769291	308.9522317636656	Subarray row count	134	134
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	N	N
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.000000	0.5
[mm] SIM translation stage pos	-178.032523	-178.0336378728605			
[mm] SIM translation stage offset	-12.1	-12.09888471014733			
[s] Observation start time (MET)	583438488.184000	583437630.51911			
Observation start date	2016-06-27T18:13:40	2016-06-27T18:00:30			
[s] Observation end time (MET)	583464488.184000	583465292.1957			
Observation end date	2016-06-28T01:27:00	2016-06-28T01:41:32			
Read mode	TIMED	TIMED			

2.3 Aspect



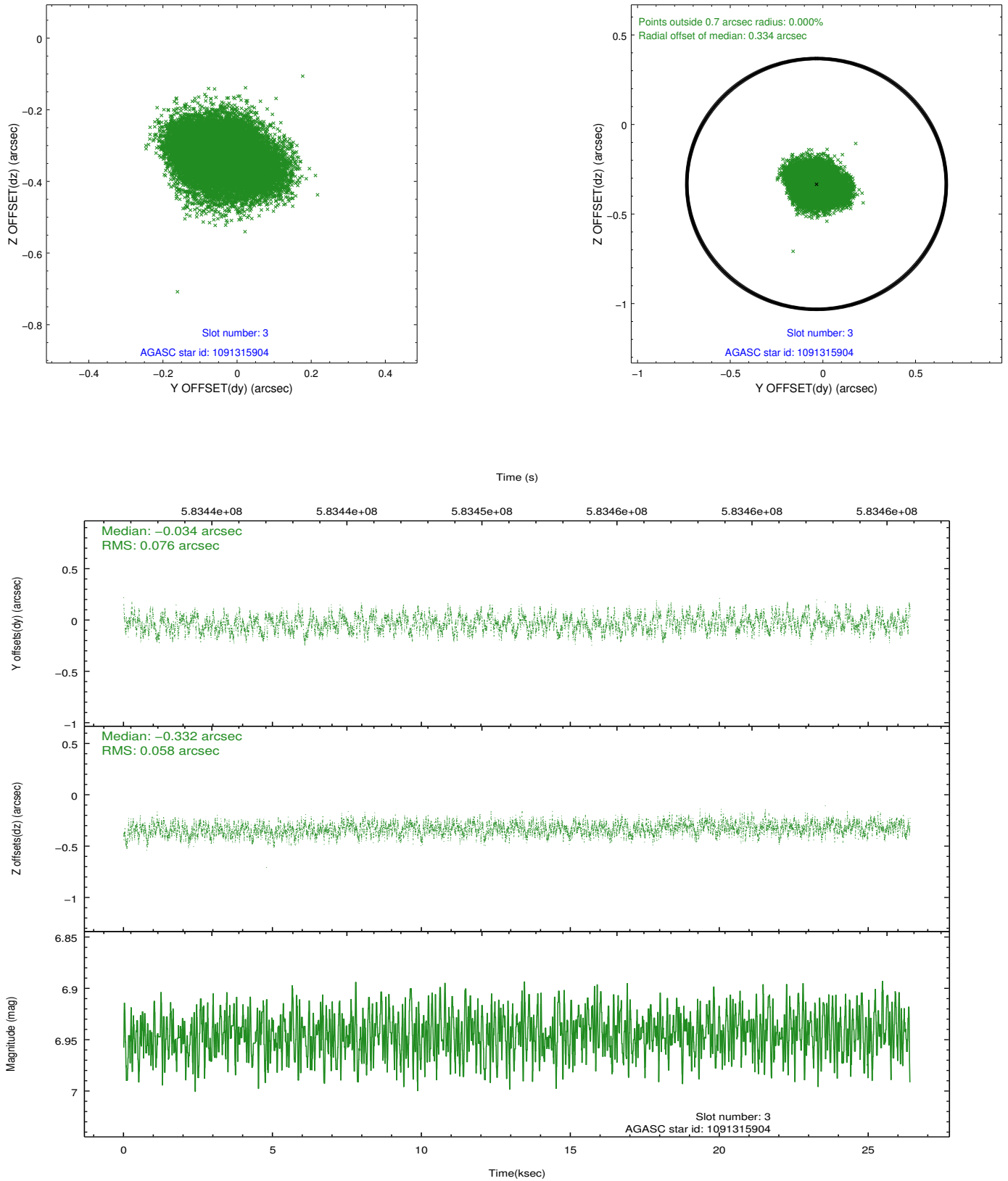


Slot Statistics

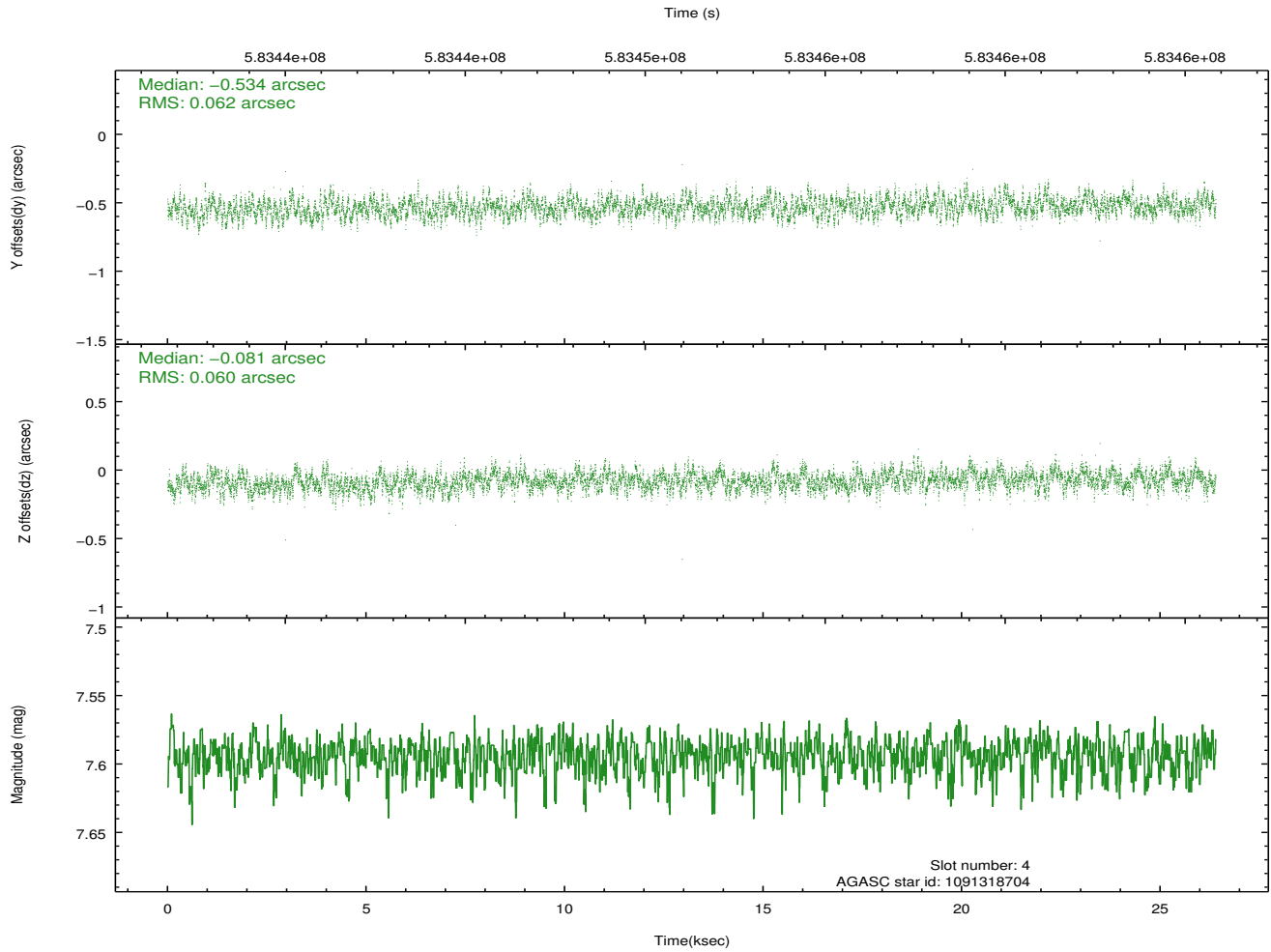
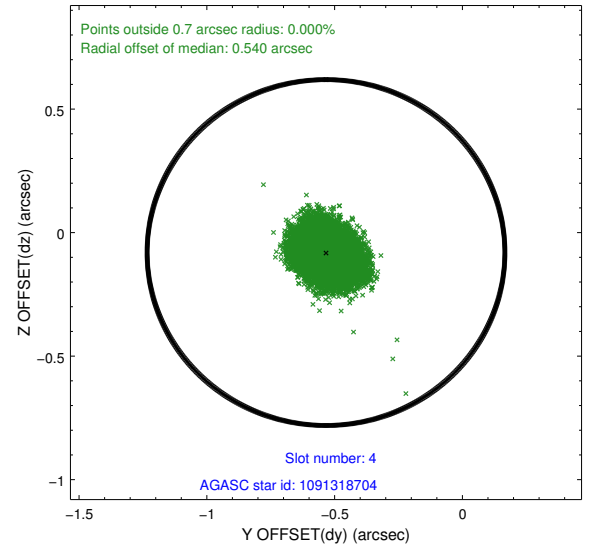
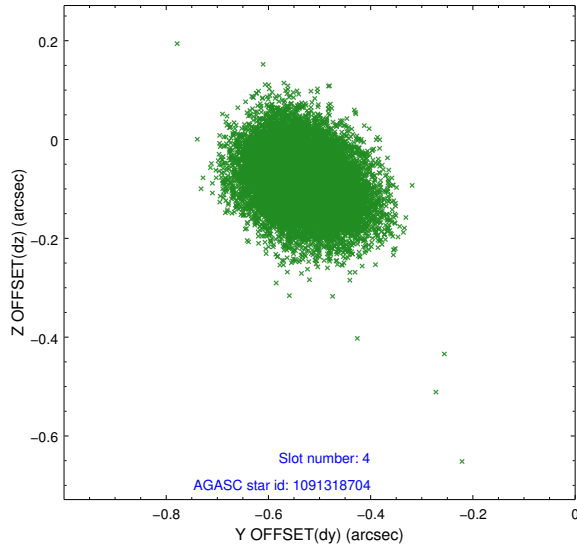
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.09	6440	-0.442	-0.262	0.011	0.022	0.000000	0.000000	-768.82	-1989.60
1	FID		ACIS-S-4	7.16	6440	0.377	0.322	0.016	0.034	0.000000	0.000000	2145.16	-80.62
2	FID		ACIS-S-6	7.45	6439	0.034	-0.054	0.023	0.041	0.000000	0.000000	393.69	556.48
3	GUIDE	used	1091315904	6.94	12876	-0.034	-0.332	0.103	0.159	252.023077	-45.944918	1925.32	405.93
4	GUIDE	used	1091318704	7.59	12872	-0.534	-0.081	0.092	0.147	251.955714	-45.390313	270.21	1536.19
5	GUIDE	used	1091322272	8.80	12871	0.113	0.381	0.114	0.175	250.346731	-45.544106	-1829.76	-1984.15
6	GUIDE	used	1091331456	7.11	12878	0.037	0.118	0.094	0.139	250.457488	-45.368726	-2152.95	-1375.43
7	GUIDE	used	1091341680	8.41	12871	0.408	-0.085	0.122	0.191	251.240217	-46.114317	1170.68	-1499.40

2.4 Star Slots

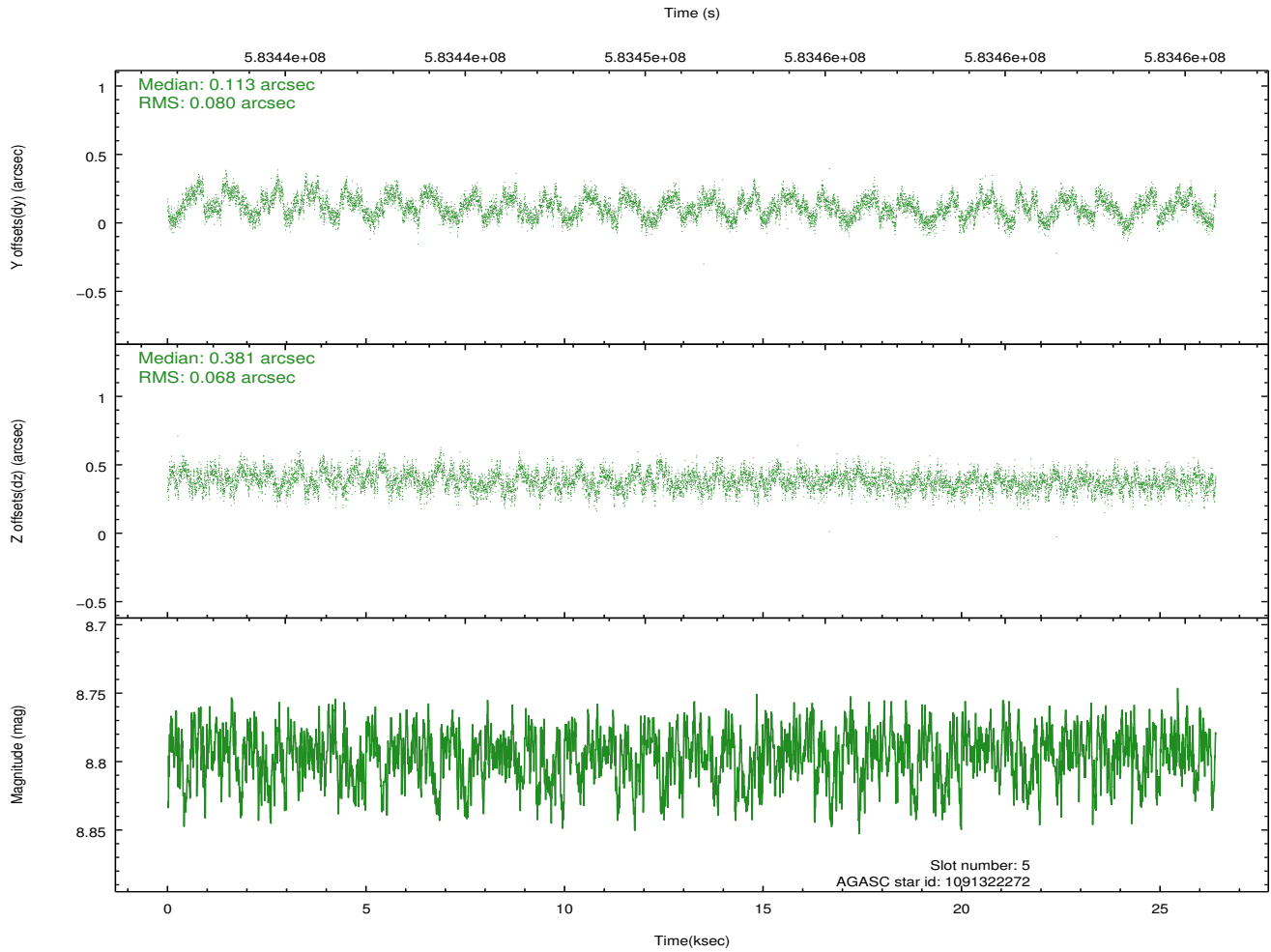
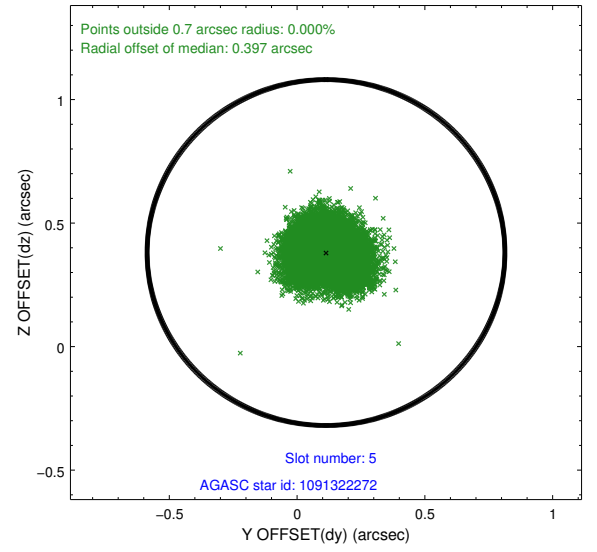
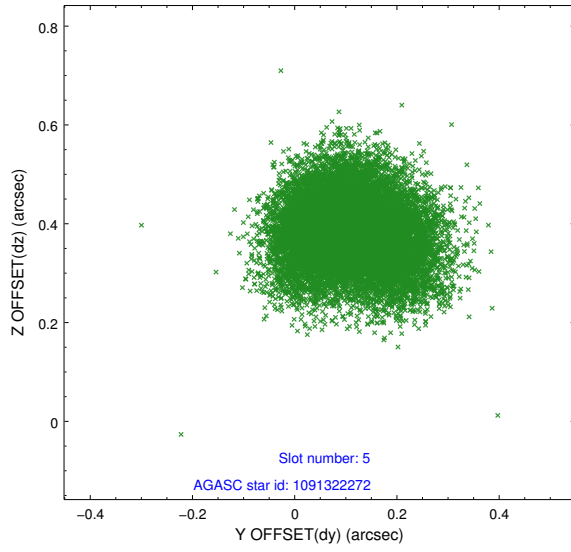
2.4.1 Slot 3



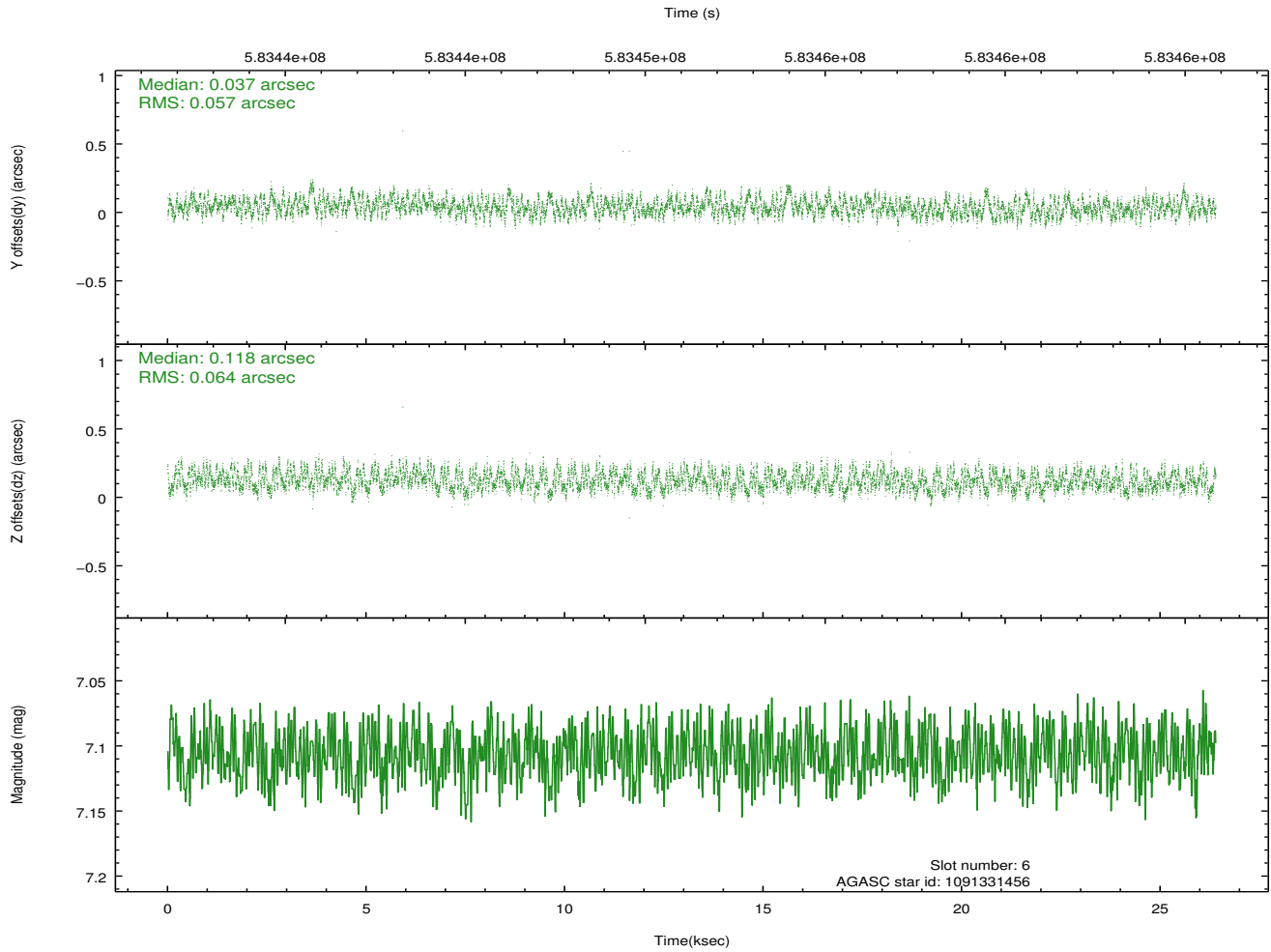
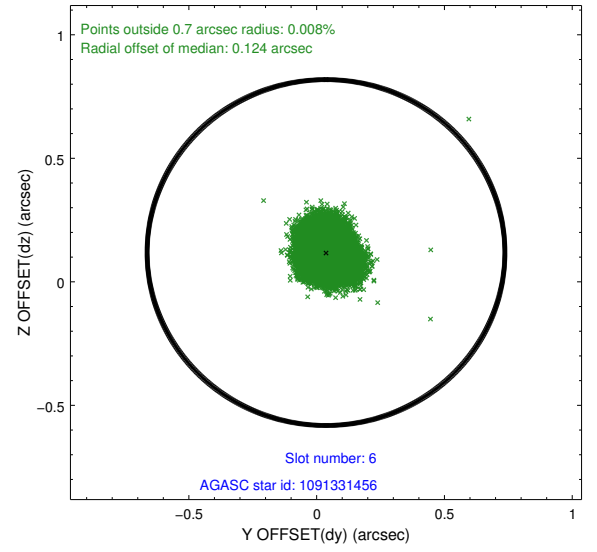
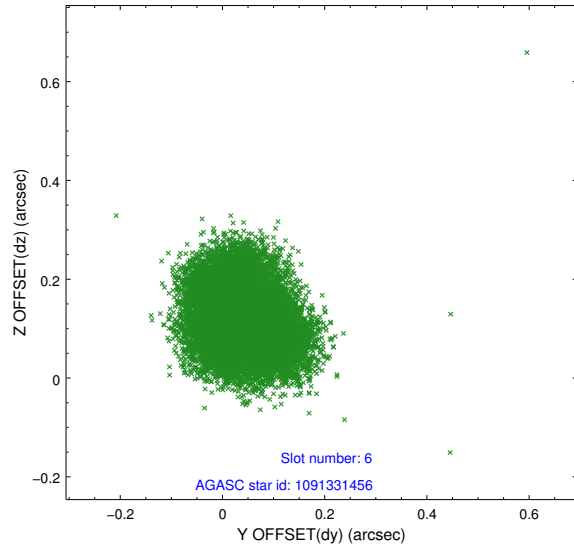
2.4.2 Slot 4



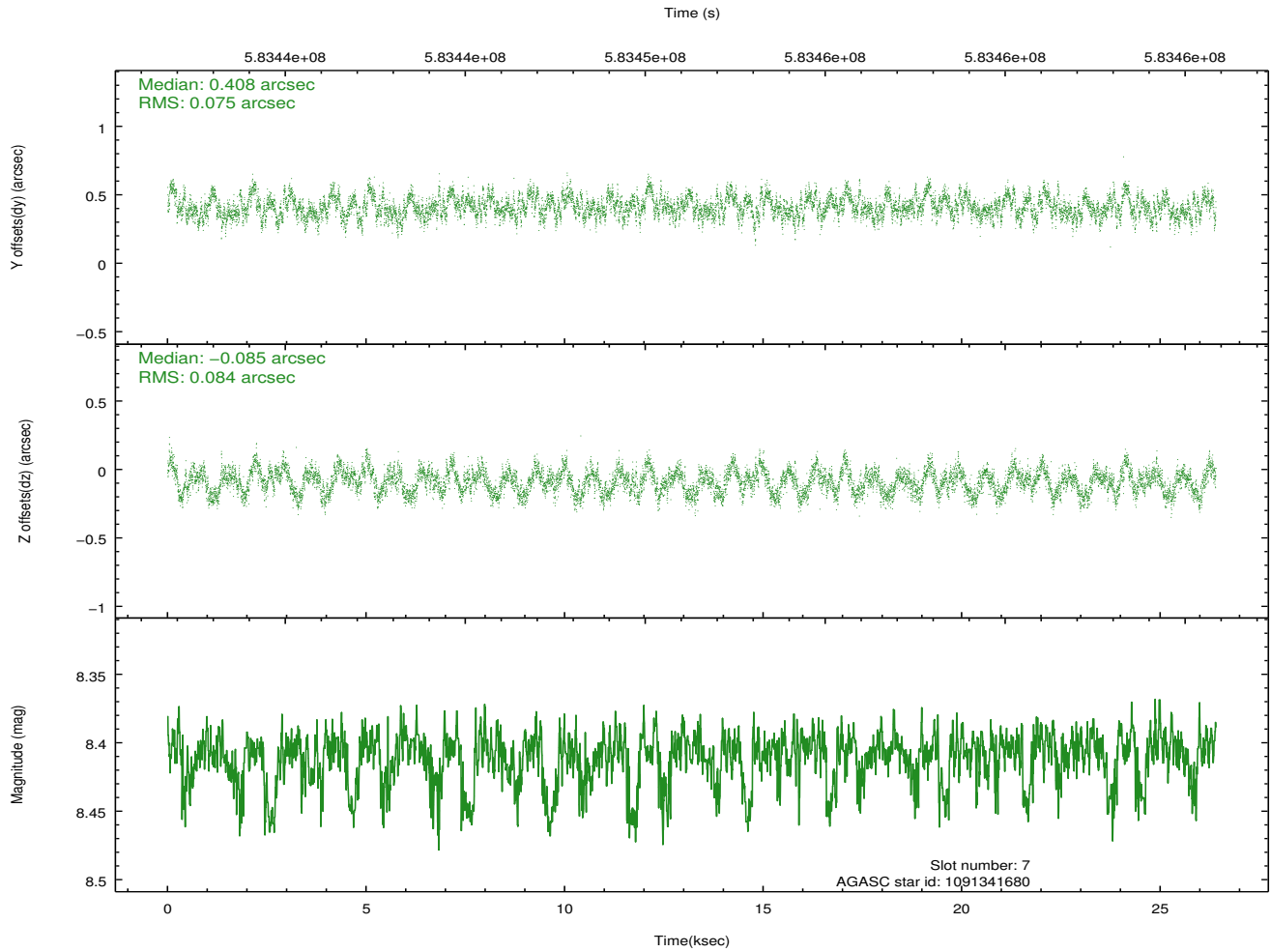
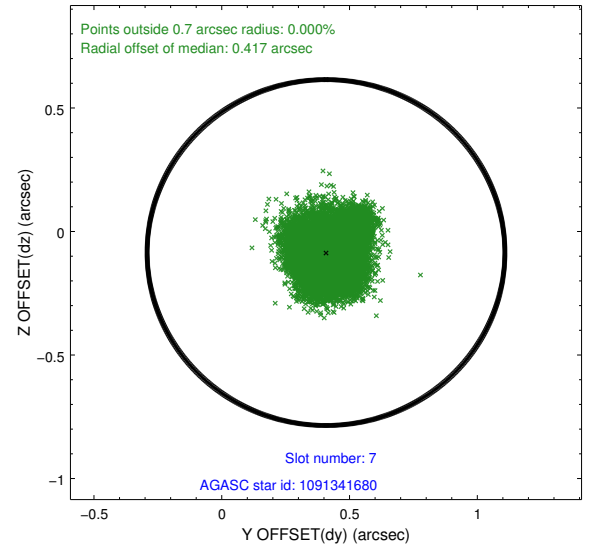
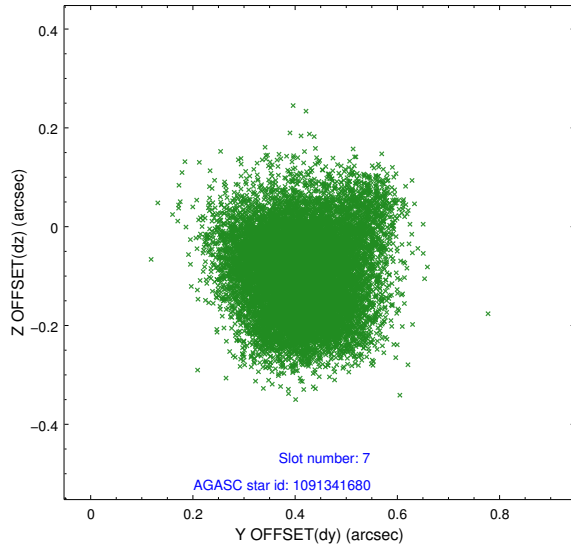
2.4.3 Slot 5



2.4.4 Slot 6

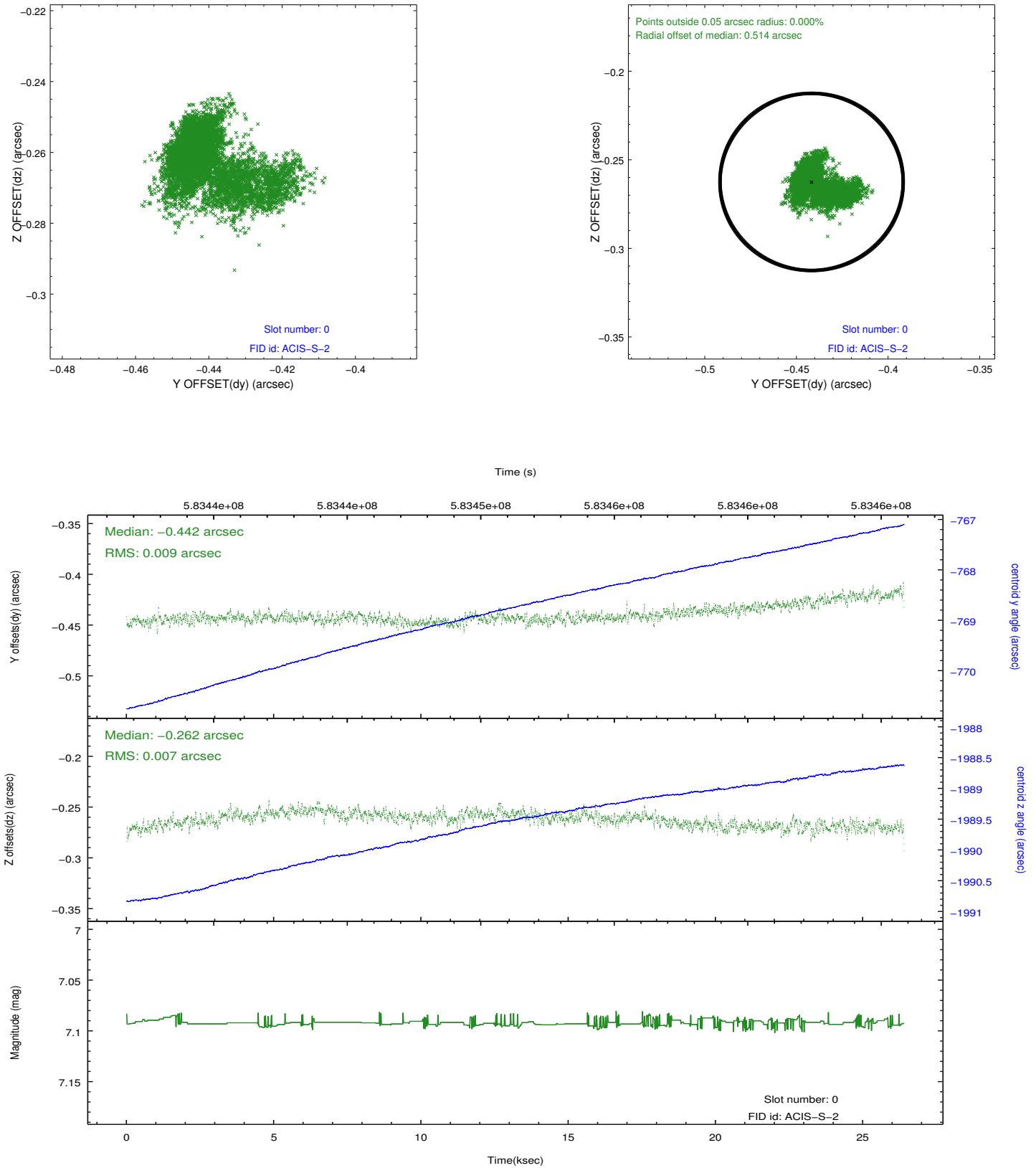


2.4.5 Slot 7

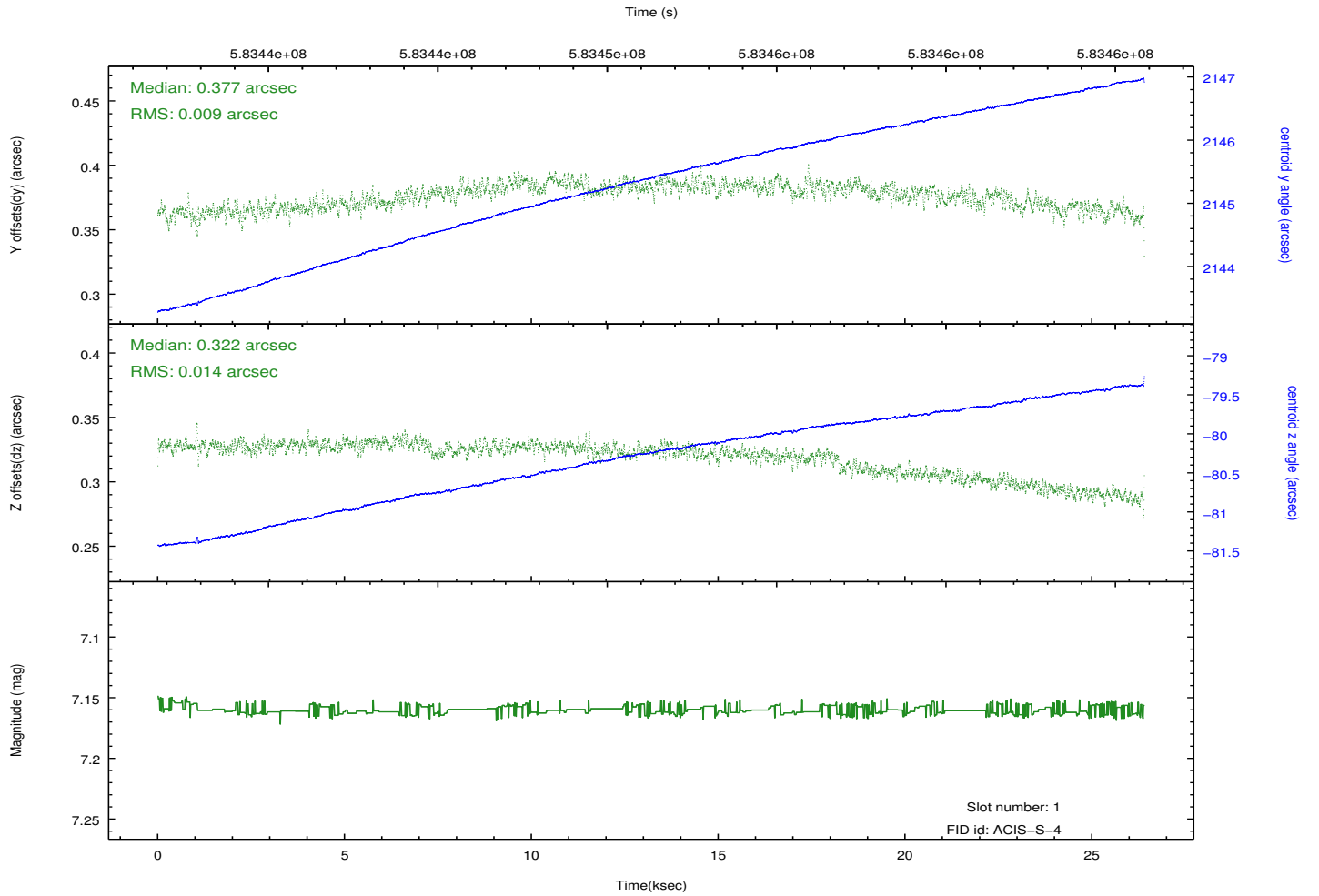
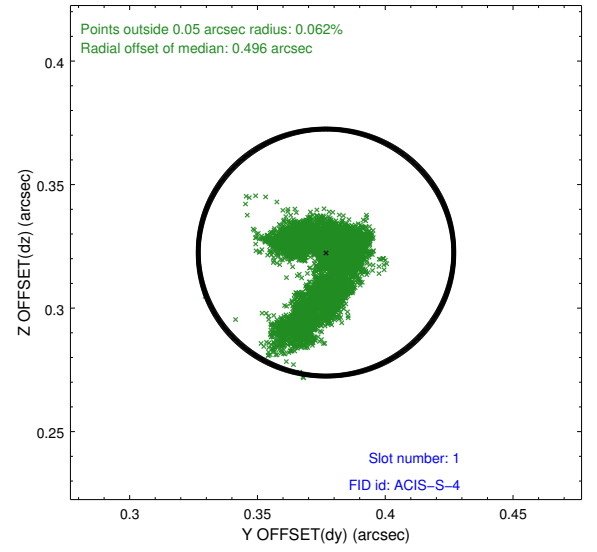
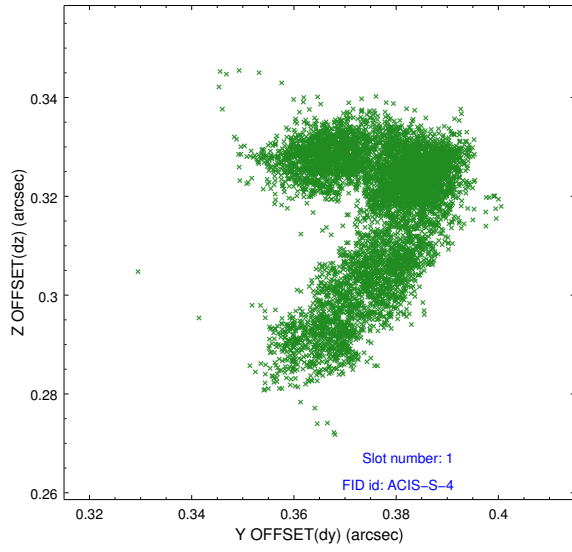


2.5 FID Slots

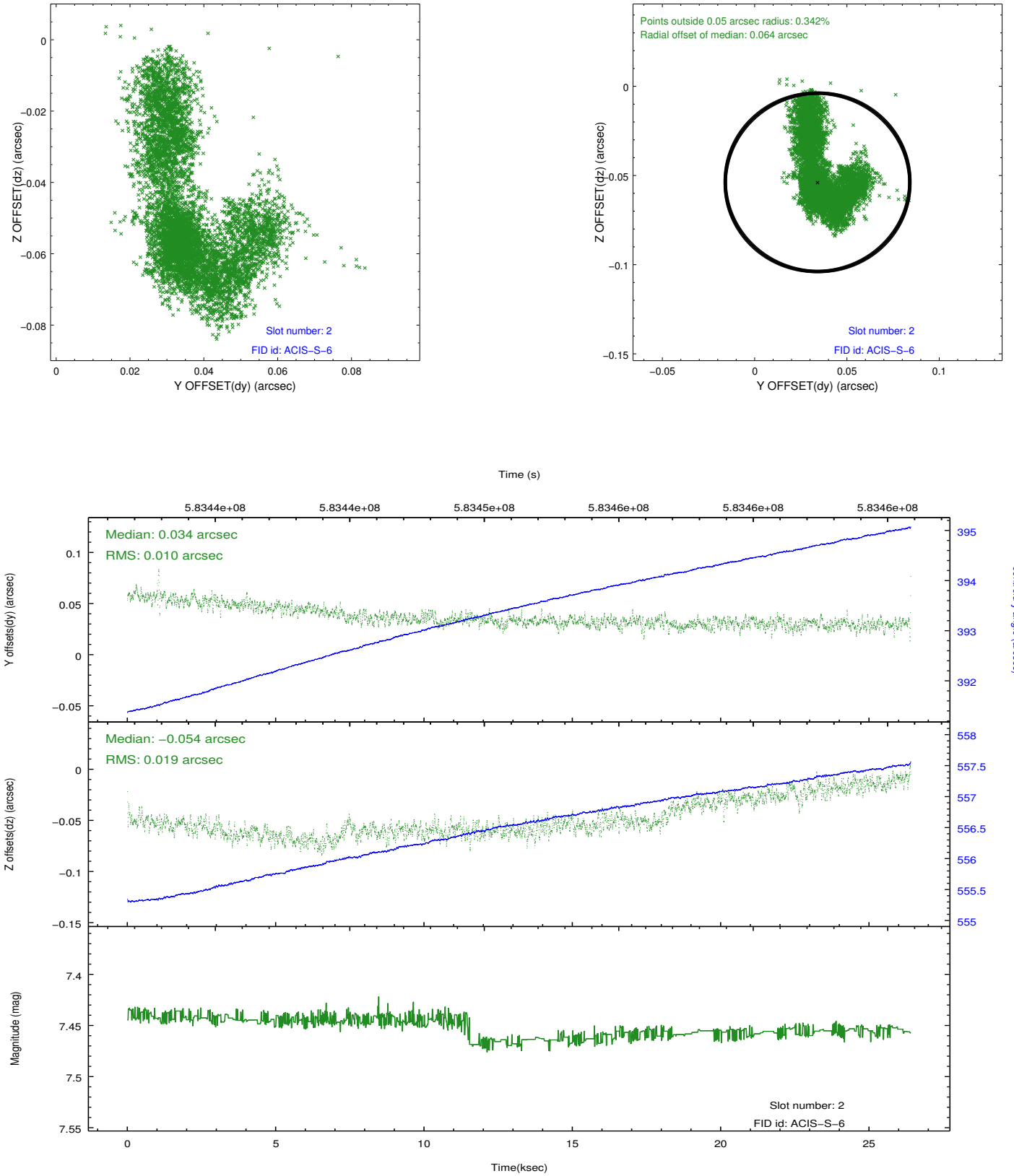
2.5.1 Slot 0



2.5.2 Slot 1

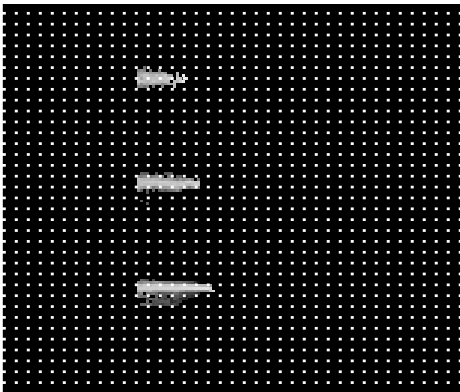


2.5.3 Slot 2

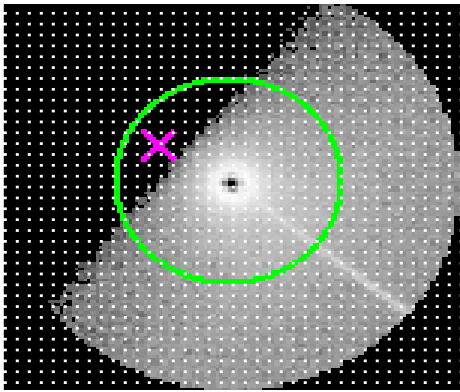


3 Gratings

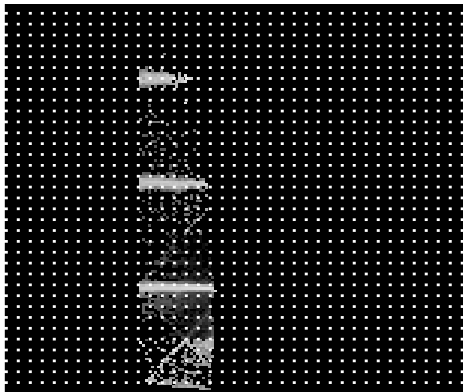
3.1 HEG Arm



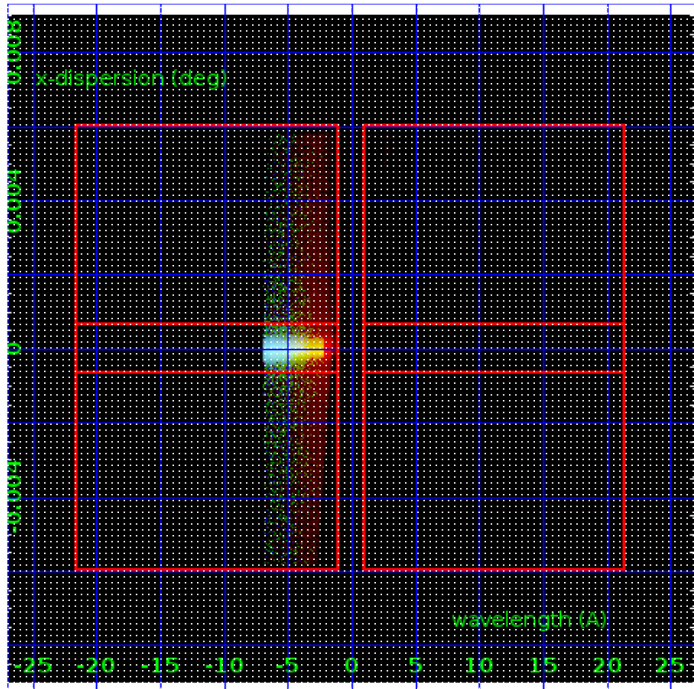
HEG Order Sort 123



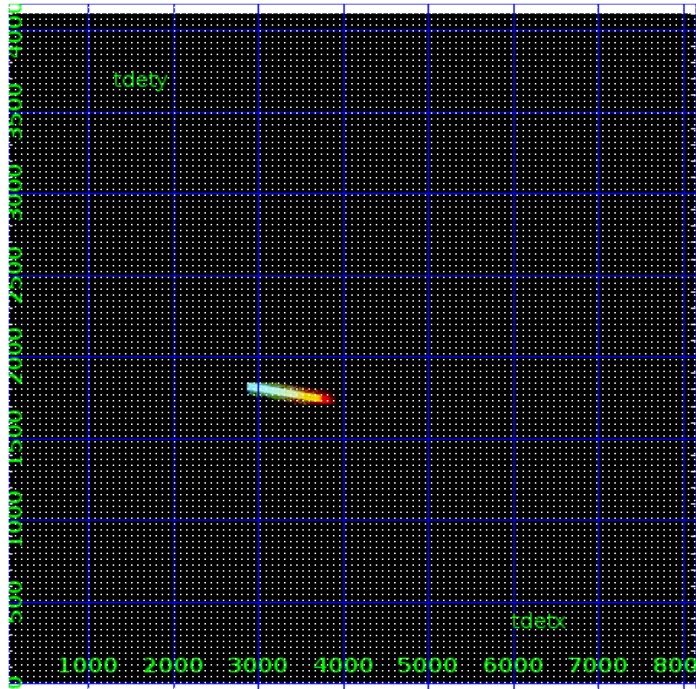
HEG Zero Order



HEG Order Sort ALL

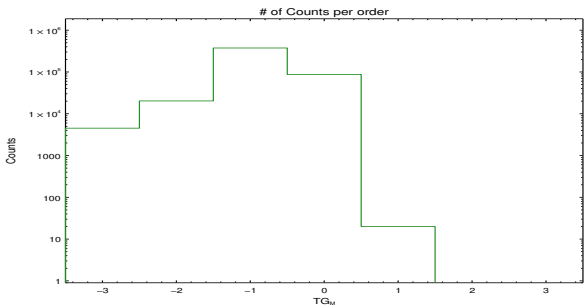


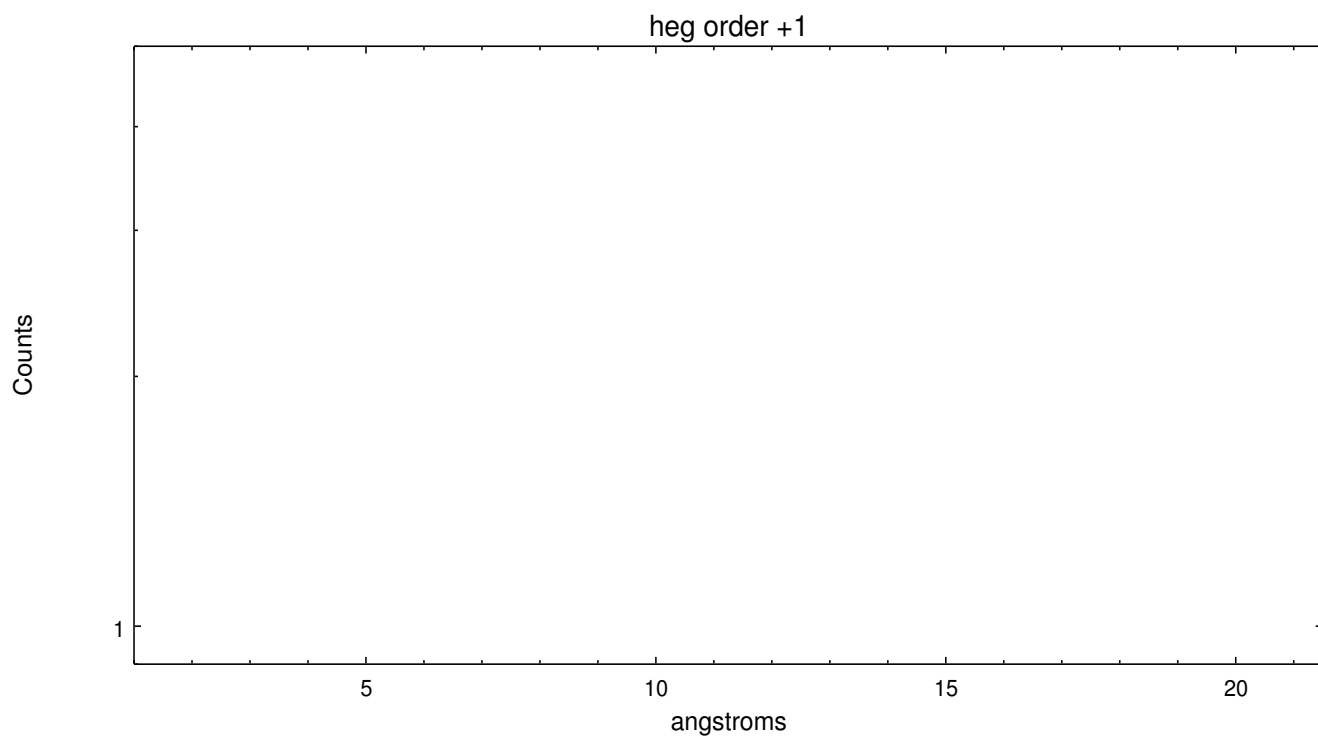
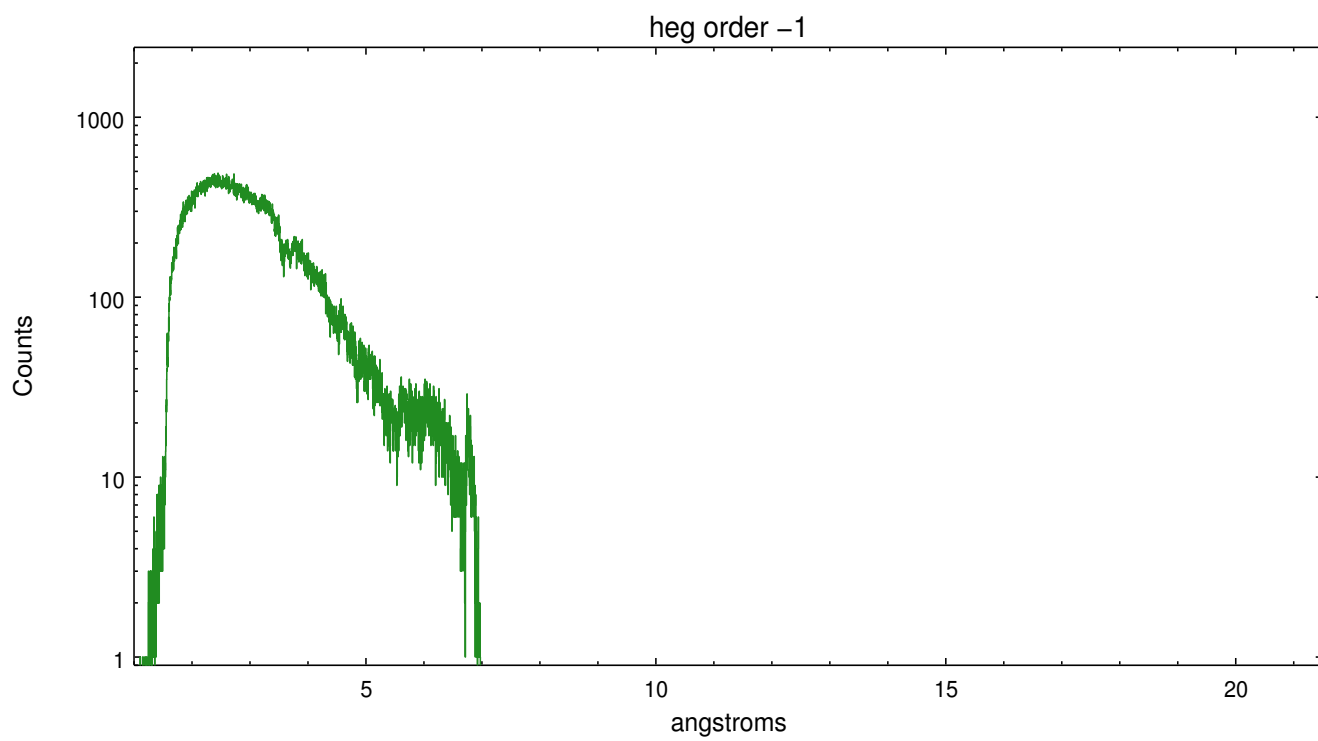
Spot Image HEG



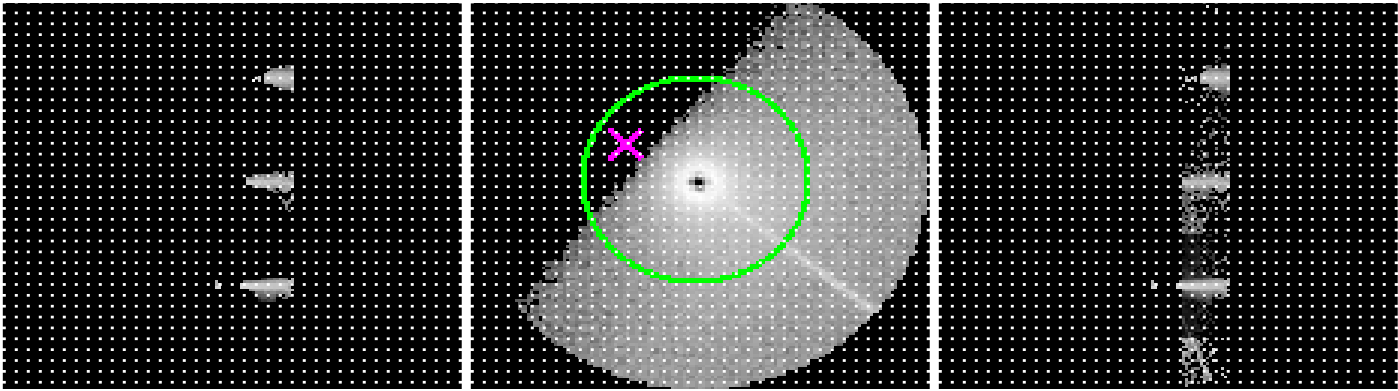
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	4514	20278	374959	87279	20	0	0





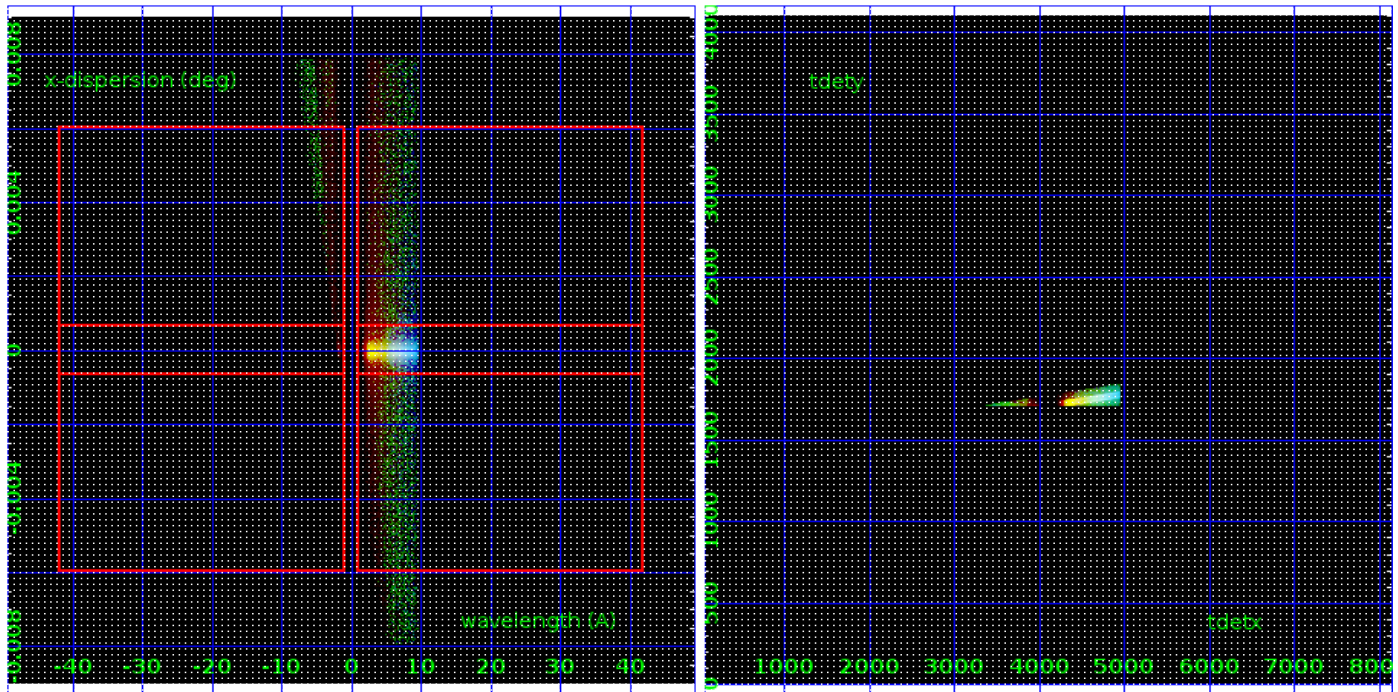
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

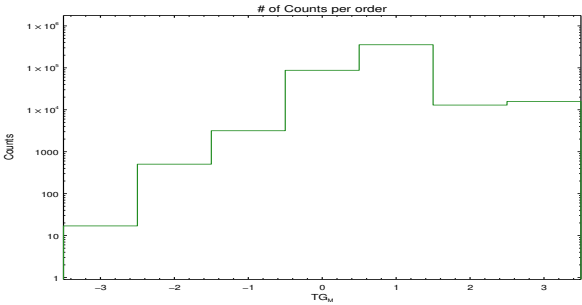
MEG Order Sort ALL

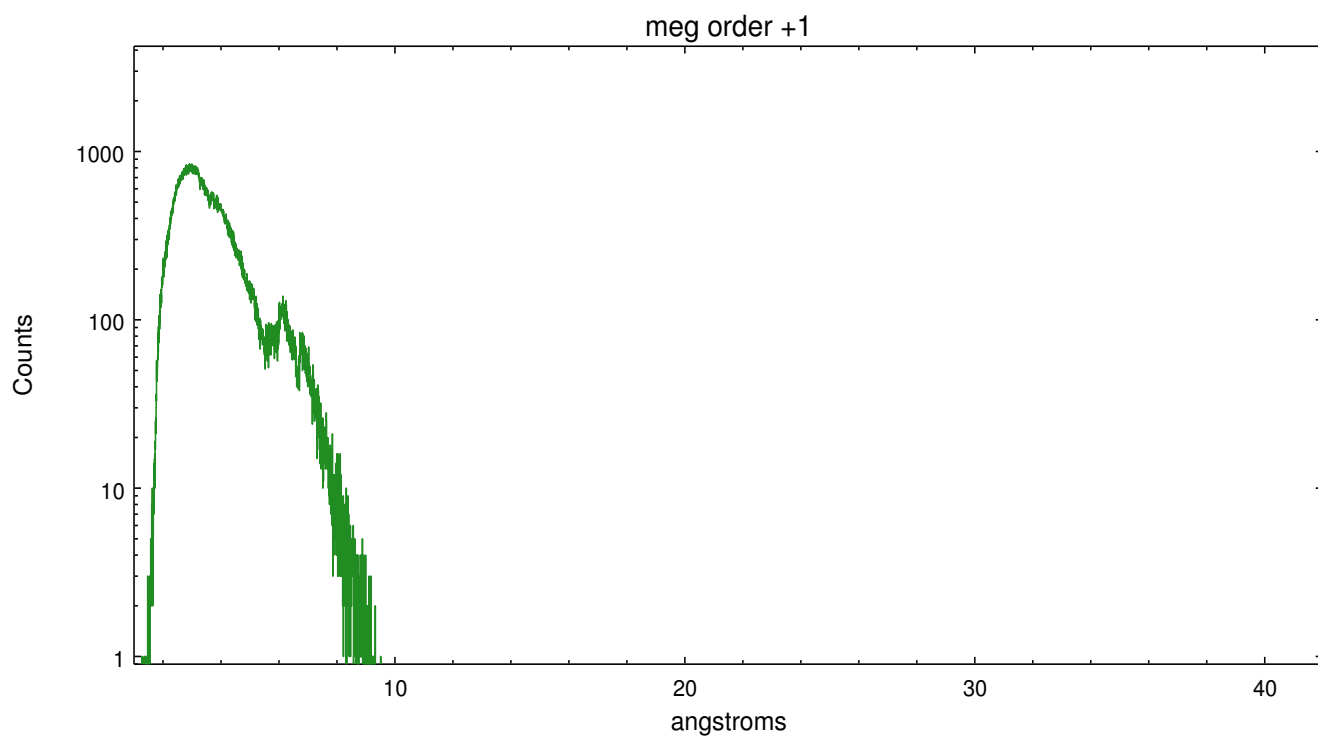
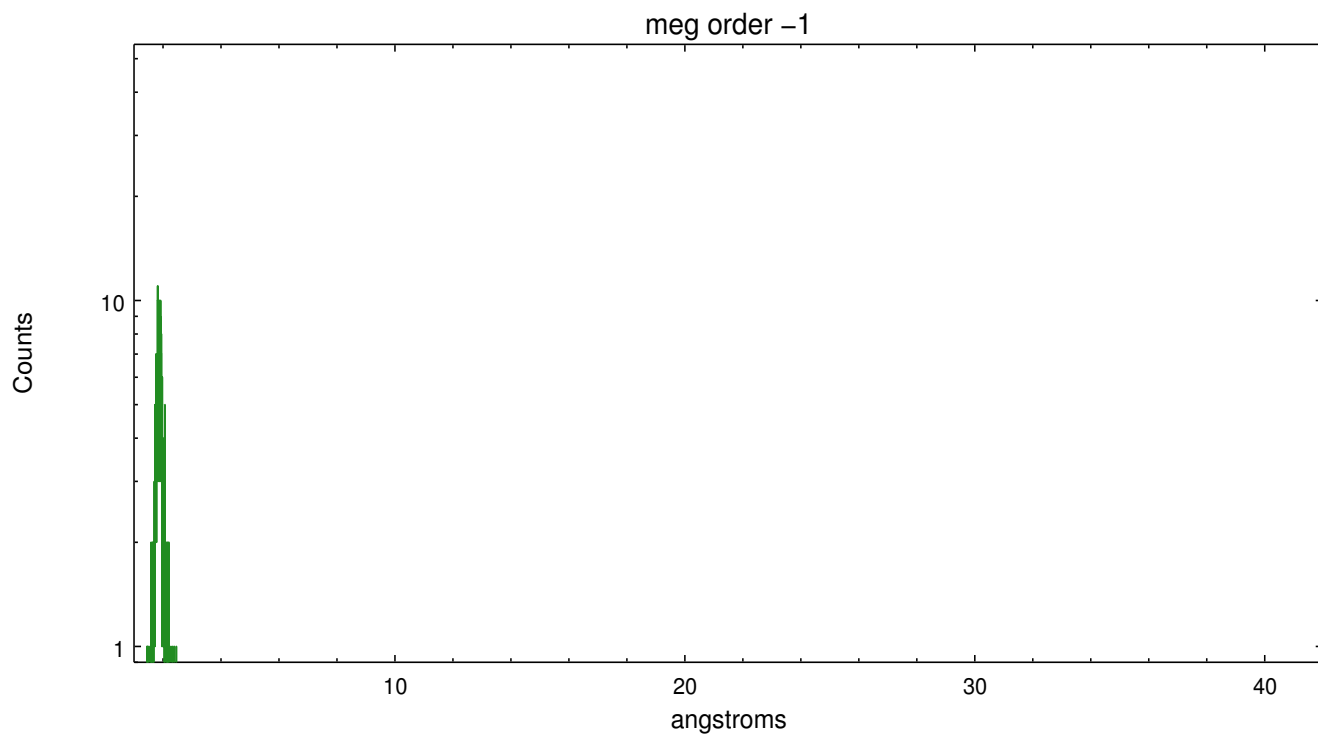


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	17	504	3164	87279	355300	12934	15763





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2016.07.01
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	26.092

A.2 Comments

Note: `tg_findzo` failed to find a good zeroth order position for this near-array-edge case.

We used a manually determined source position of $(ra, dec) = (251.44849, -45.611232)$ == $(4113.74, 4086.15)$ pix