

V&V Reference Report

L2 ASCDS Version : 10.4.3.1

Observation 18145 - L2 Version 1
Chandra X-Ray Center

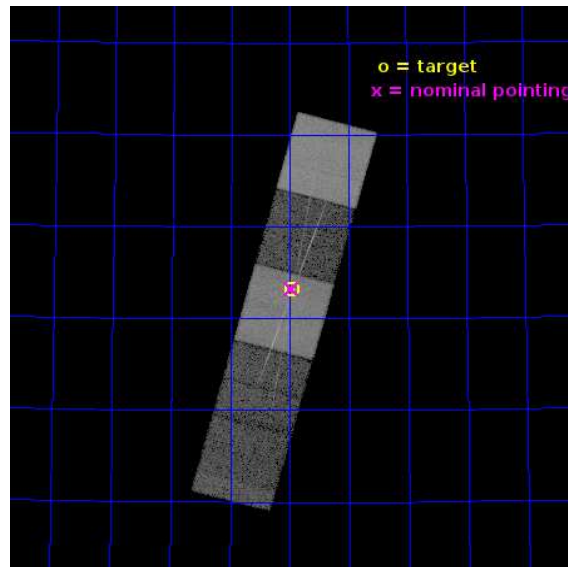
L2 Processing Date : Mar 20 2016

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1 Front

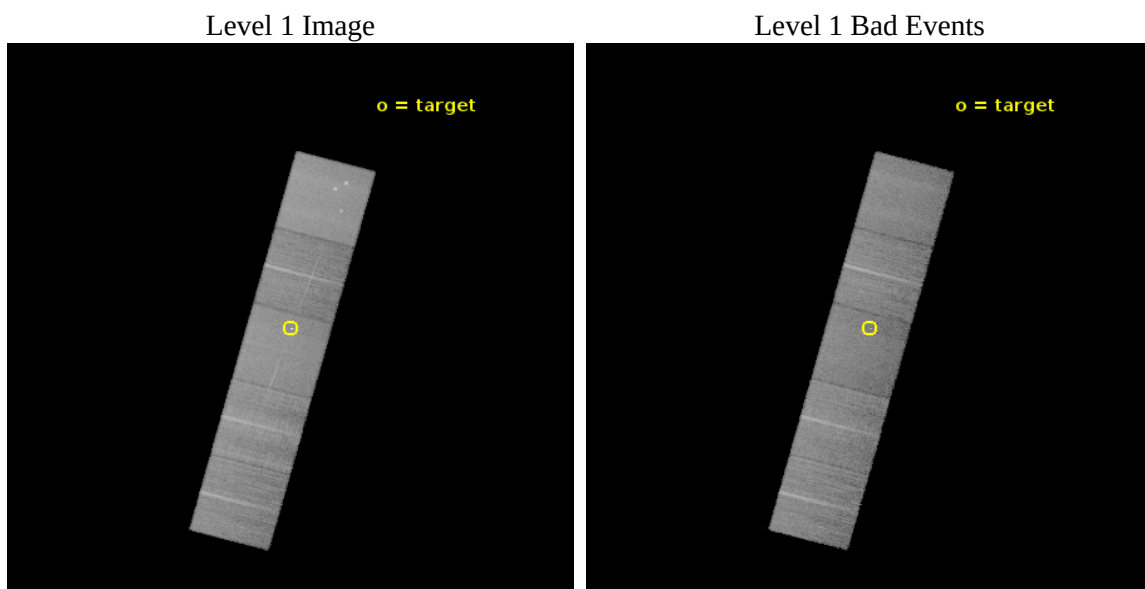
seq_num	703211	Sequence number
obs_id	18145	Observation id
title	Picturing Feedback in Action: from the innermost nuclear region to the Galaxy Scale	Proposal title
observer	Dr. Fabrizio Nicastro	Principal investigator
object	Mkn 876	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	243.488333	Observer's specified target RA [deg]
dec_targ	65.719444	Observer's specified target Dec [deg]
ra_nom	243.49348032629	Nominal RA [deg]
dec_nom	65.720862584361	Nominal Dec [deg]
roll_nom	105.15192575856	Nominal Roll [deg]
revision	1	Processing version of data
ontime	23100.430364728	Sum of GTIs [s]
livetime	22798.606235723	Livetime [s]
ontime5	23100.389324784	Sum of GTIs [s]
ontime6	23100.348284721	Sum of GTIs [s]
ontime7	23100.430364728	Sum of GTIs [s]
ontime8	23097.166234612	Sum of GTIs [s]
ontime9	23100.266204715	Sum of GTIs [s]
l2events	230292	Number of level 2 events



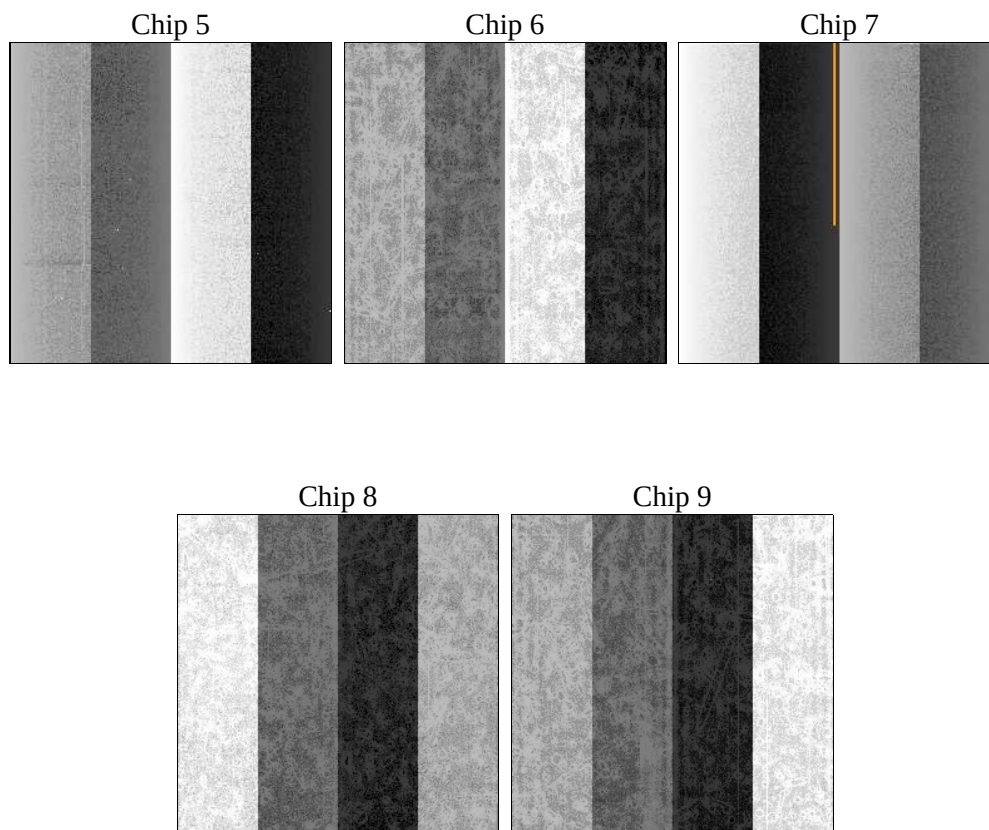
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	23082.183000	[s] Scheduled observation exposure time
ascdsver	10.4.3.1	Processing system revision	ontime	23100.430364728	Sum of GTIs [s]
caldsver	4.7.0	 	ontime5	23100.389324784	Sum of GTIs [s]
date	2016-03-20T14:23:58	Date and time of file creation	ontime6	23100.348284721	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	23100.430364728	Sum of GTIs [s]
			ontime8	23097.166234612	Sum of GTIs [s]
			ontime9	23100.266204715	Sum of GTIs [s]
			l1events	905541	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4112.86, 4086.40)	src1a sky pixel position

2.1.4 Events

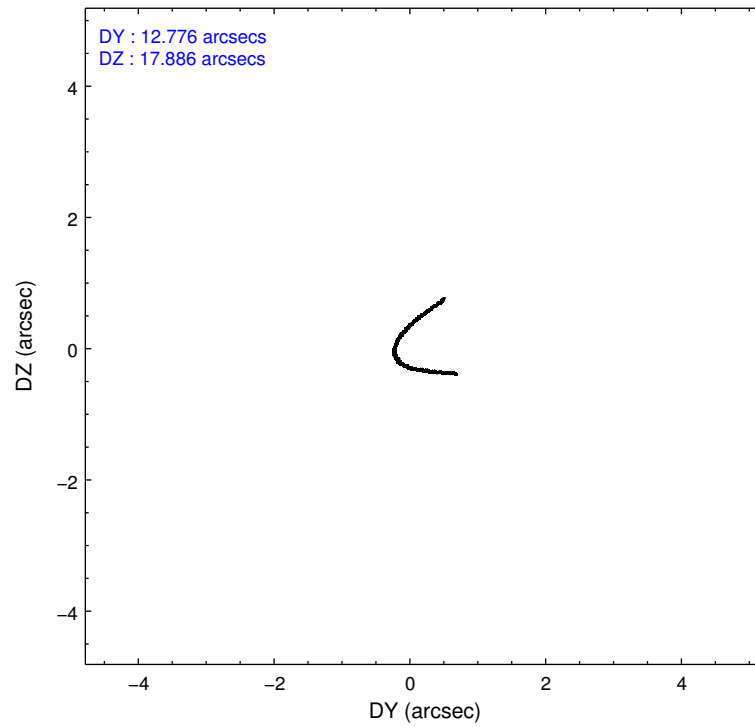
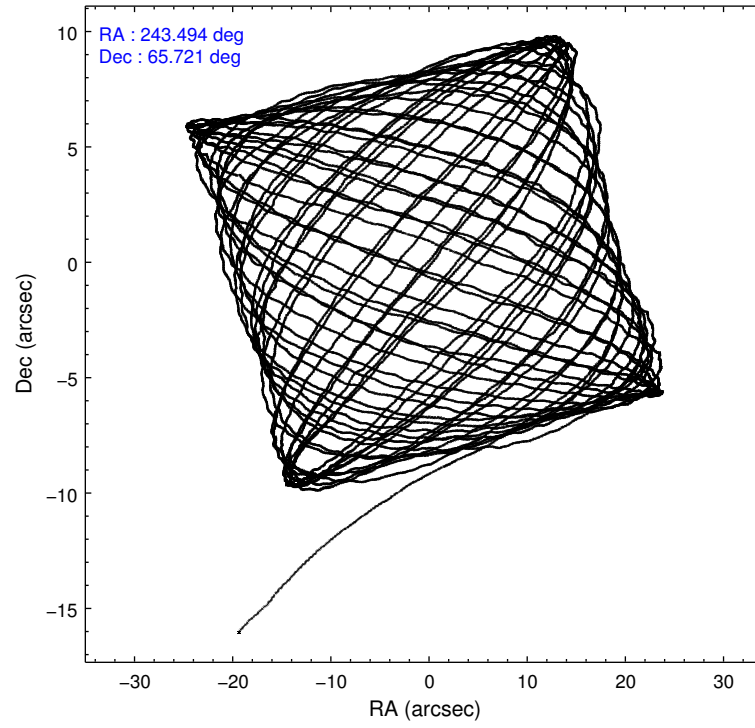
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	228227	150703	190211	186795	149605
rejected events	120127	132871	107499	140302	132319
rejected %	52%	88%	56%	75%	88%

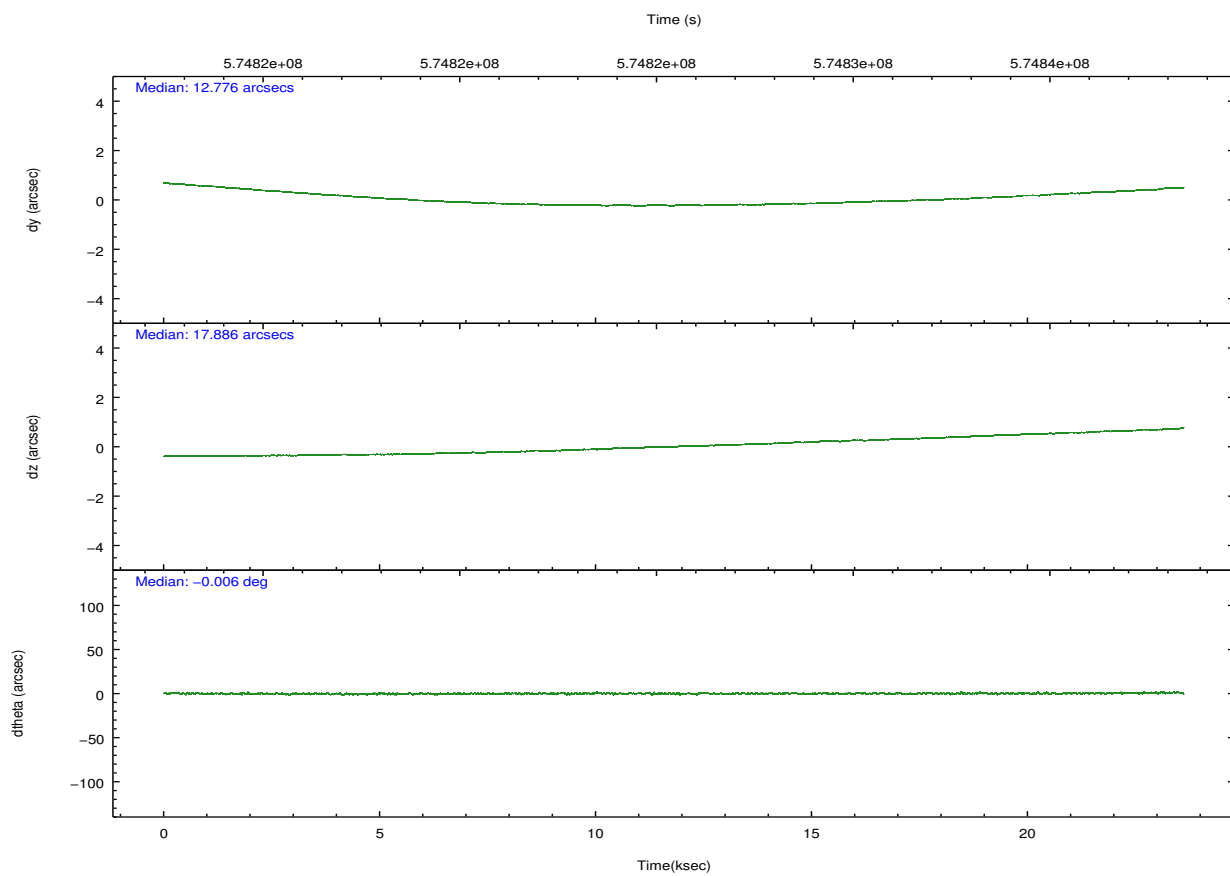
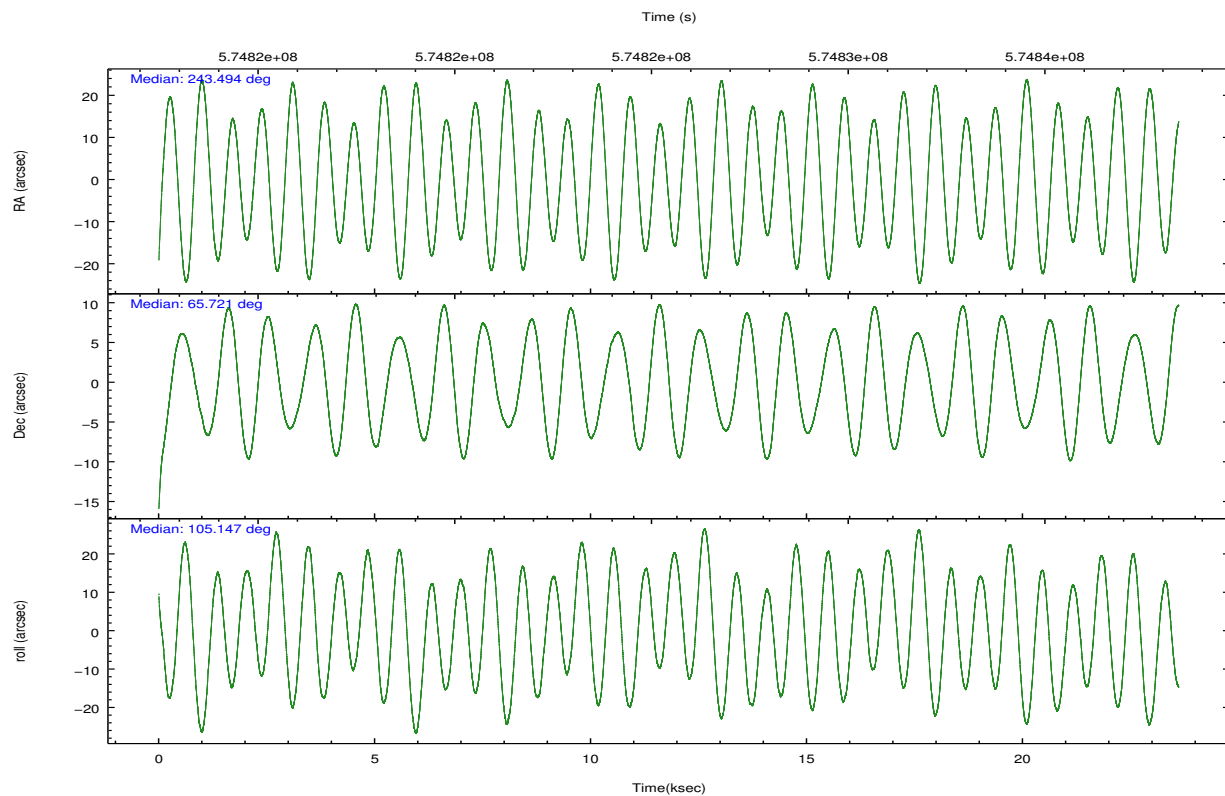
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	8397	6465	7181	13283	6000
	3%	4%	3%	7%	4%
grade 1 events	619	70	281	127	82
	0%	0%	0%	0%	0%
grade 2 events	32978	4184	17546	11501	3914
	14%	2%	9%	6%	2%
grade 3 events	3111	1602	6270	4599	1774
	1%	1%	3%	2%	1%
grade 4 events	3210	1528	6228	4303	1686
	1%	1%	3%	2%	1%
grade 5 events	15406	6560	17718	10037	7592
	6%	4%	9%	5%	5%
grade 6 events	60431	4054	45504	12831	3912
	26%	2%	23%	6%	2%
grade 7 events	104075	126240	89483	130114	124645
	45%	83%	47%	69%	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	243.541367	243.493480326289	CCD I2 on	N	N
[deg] Pointing Dec	65.701759	65.72086258436131	CCD I3 on	N	N
[deg] Pointing Roll	104.951658	105.1519257585633	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)	574814168.184000	574812906.92583	CCD S5 on	Y	Y
Observation start date	2016-03-19T22:35:00	2016-03-19T22:15:06	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	574837250.184000	574837476.17723	On-chip summing requested	N	N
Observation end date	2016-03-20T04:59:42	2016-03-20T05:04:36	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



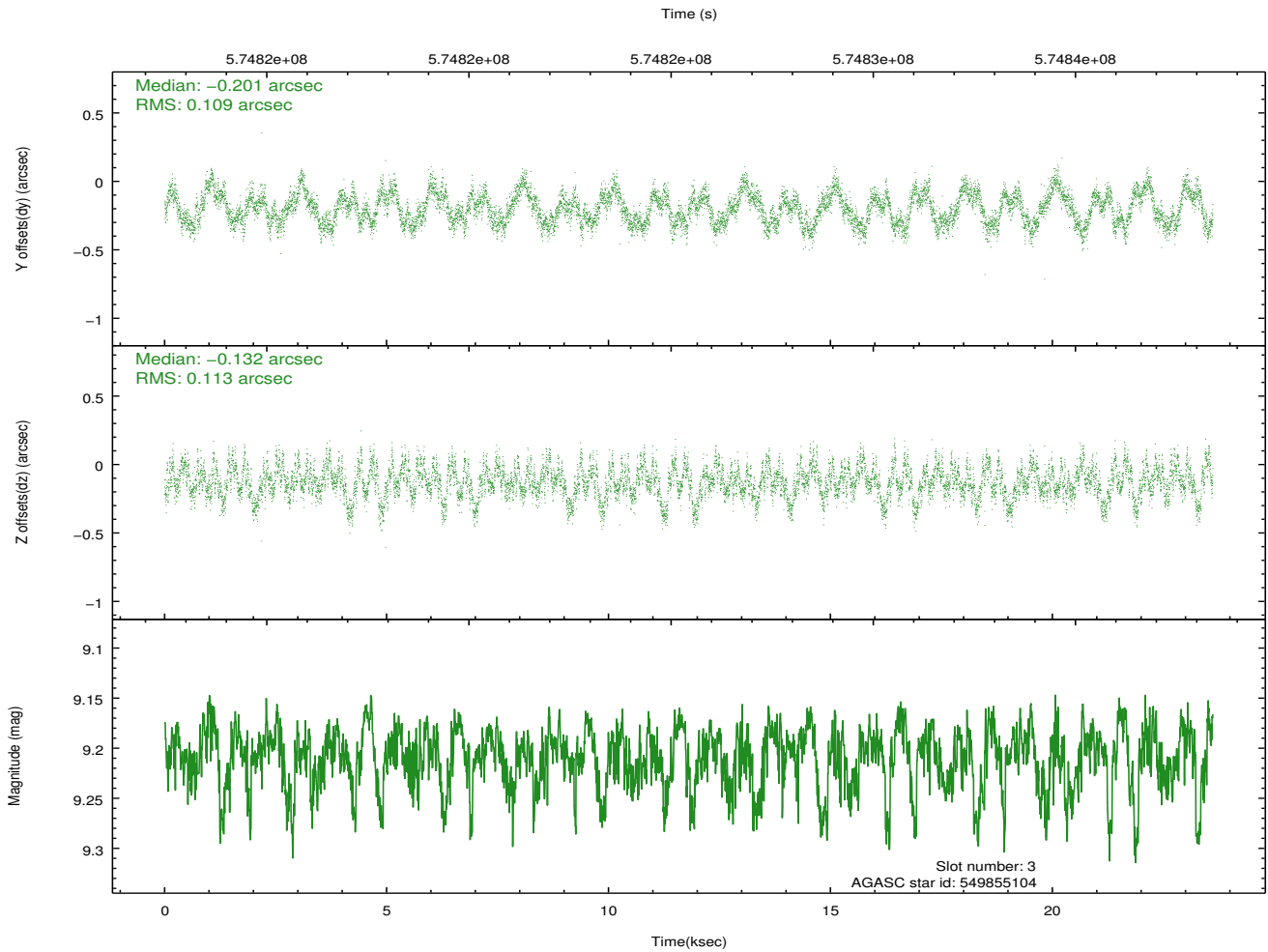
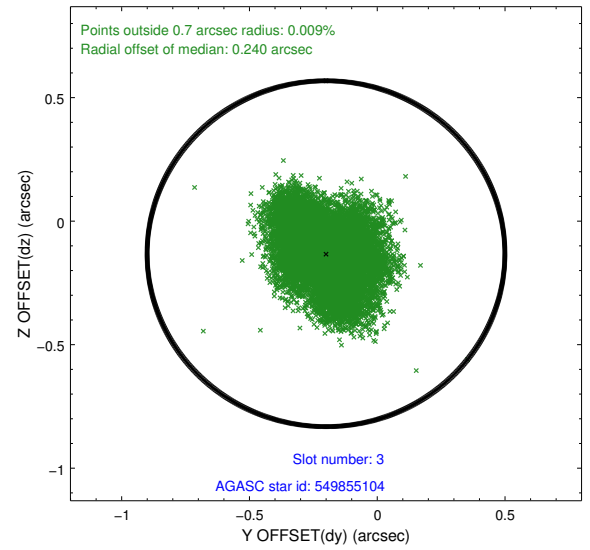
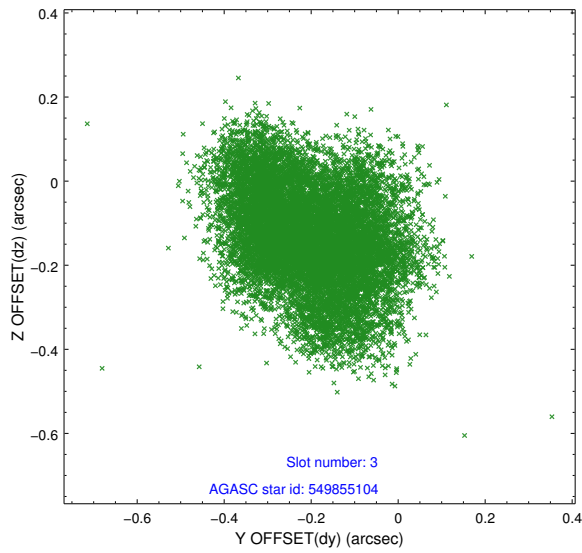


Slot Statistics

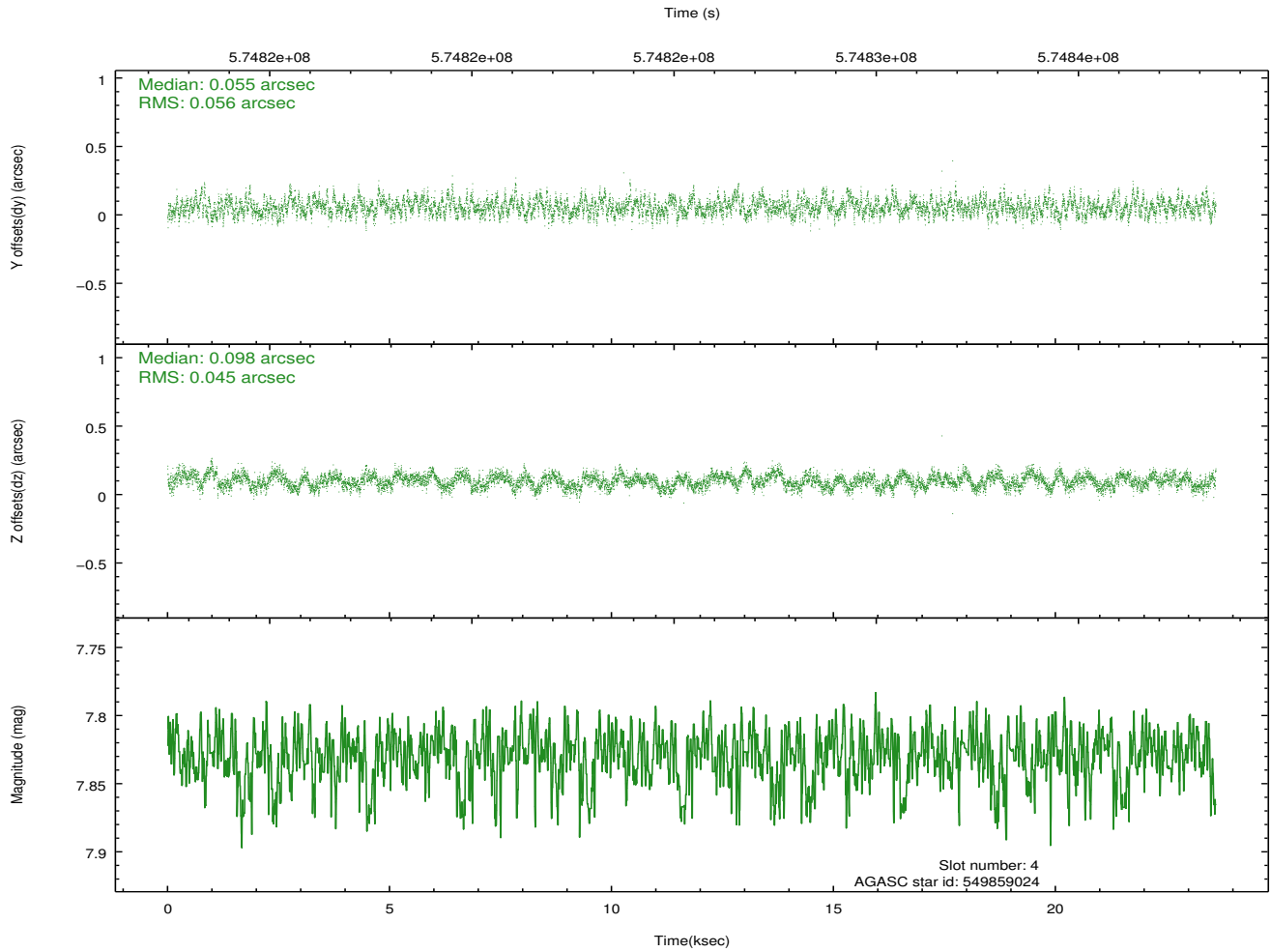
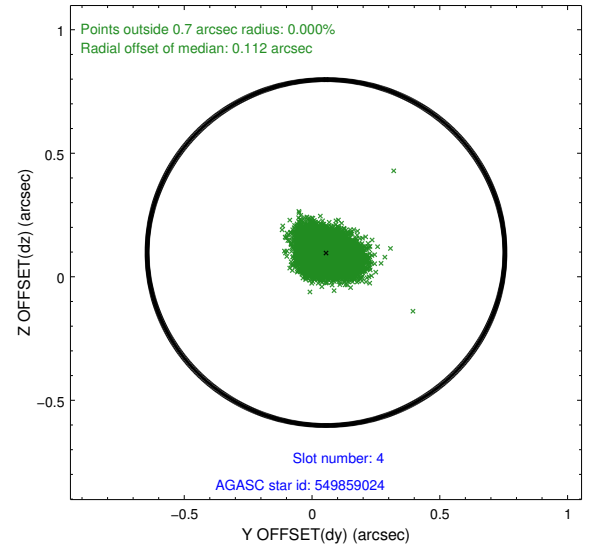
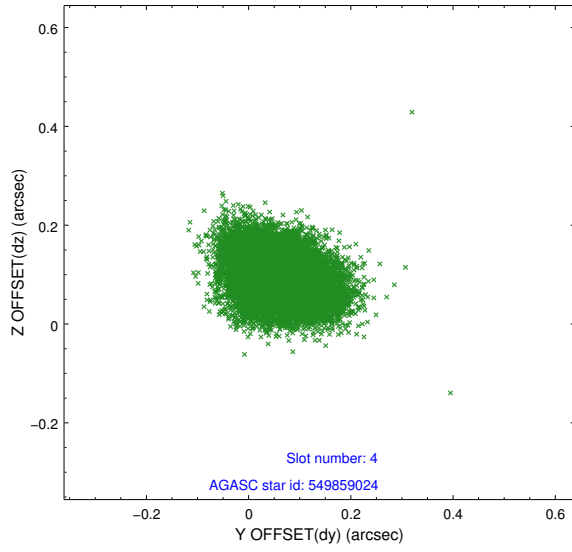
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-1	7.21	5759	-0.050	-0.024	0.015	0.027	0.000000	0.000000	930.25	-1735.00
1	FID		ACIS-S-4	7.22	5759	0.181	0.010	0.007	0.012	0.000000	0.000000	2147.94	169.07
2	FID		ACIS-S-6	7.35	5758	-0.154	0.027	0.015	0.025	0.000000	0.000000	396.23	806.58
3	GUIDE	used	549855104	9.21	11511	-0.201	-0.132	0.172	0.265	242.414078	65.829144	881.75	1483.28
4	GUIDE	used	549859024	7.83	11519	0.055	0.098	0.076	0.125	243.777882	65.072262	-2280.10	238.51
5	GUIDE	used	549863464	7.53	11517	-0.193	-0.076	0.068	0.114	243.630740	66.376841	2314.76	-750.95
6	GUIDE	used	549864184	9.07	11503	0.069	0.020	0.140	0.219	243.727034	65.246202	-1655.88	153.07
7	GUIDE	used	549864952	8.92	11513	0.272	0.083	0.160	0.262	244.861755	65.614211	-790.31	-1819.51

2.4 Star Slots

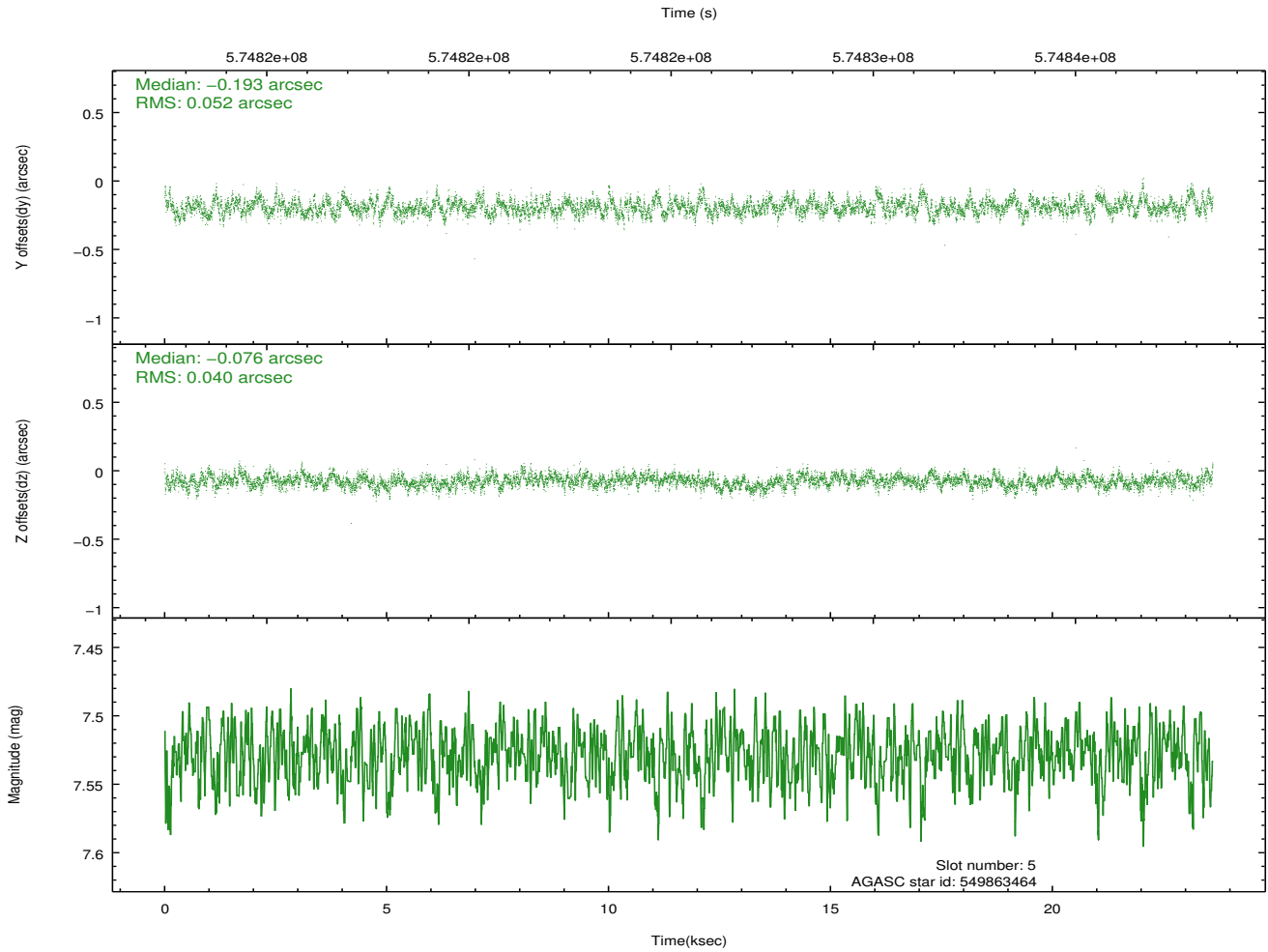
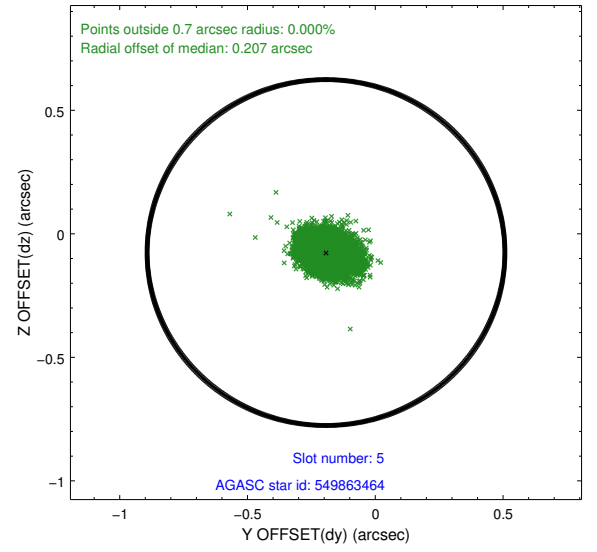
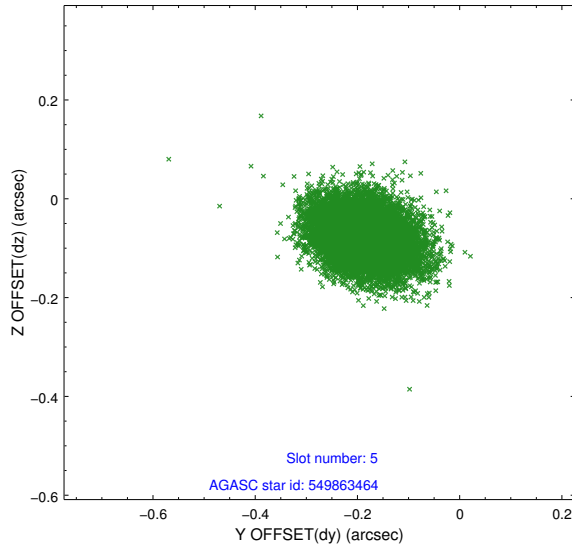
2.4.1 Slot 3



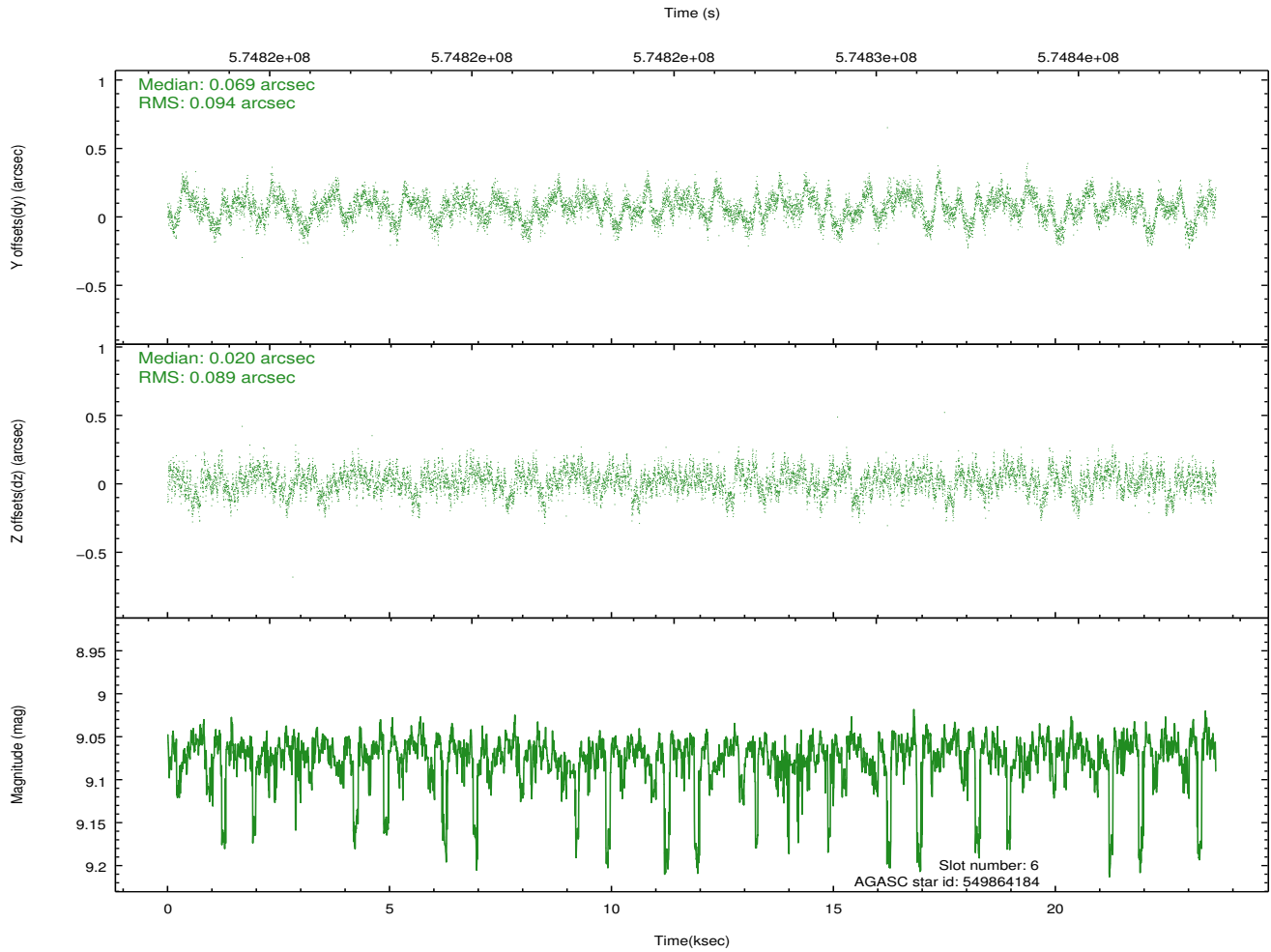
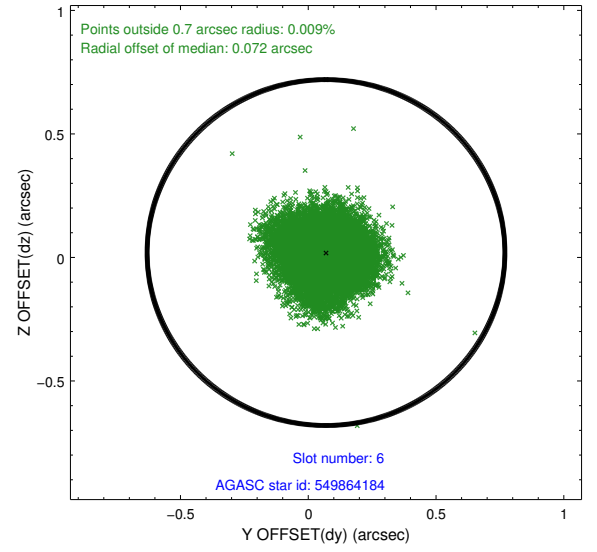
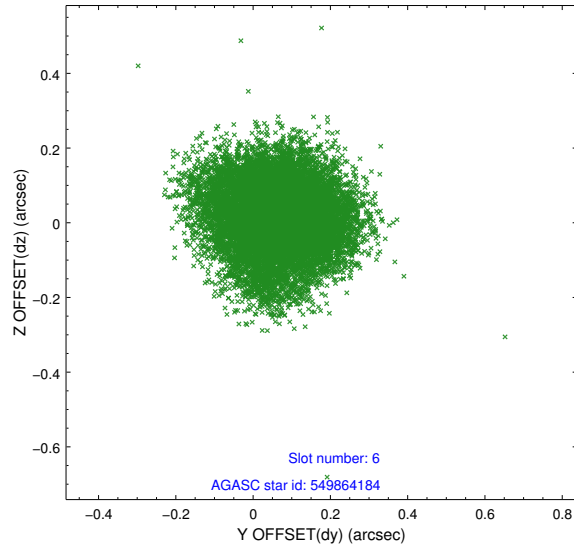
2.4.2 Slot 4



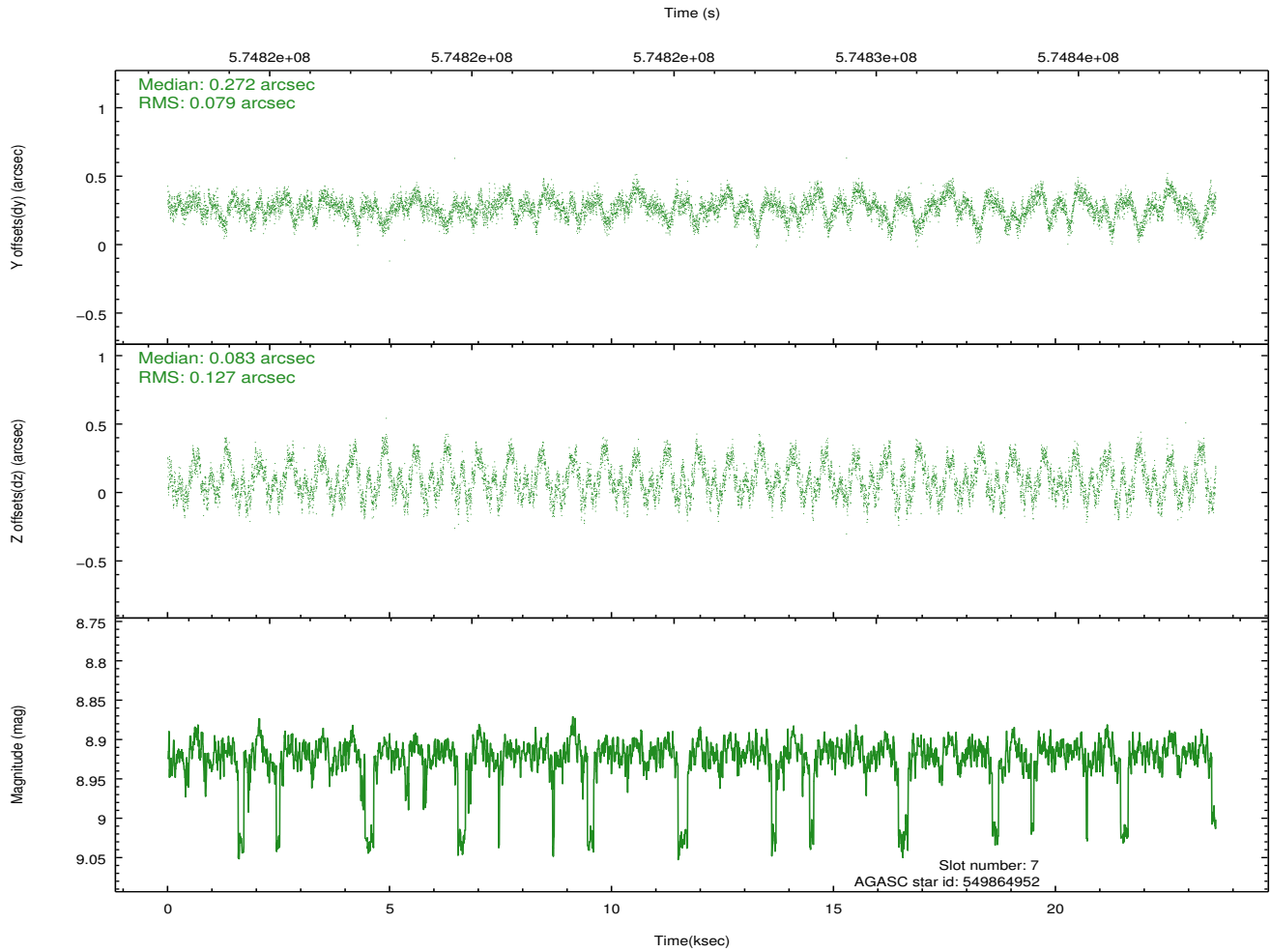
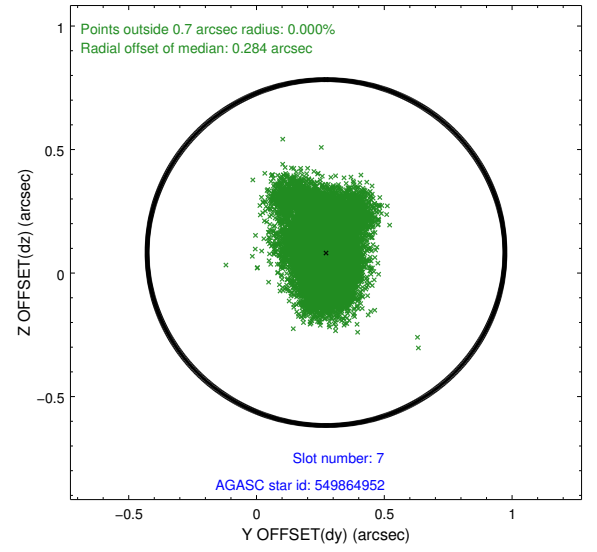
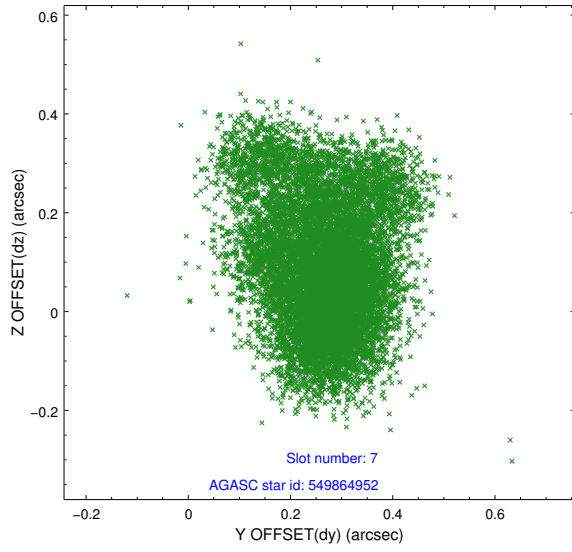
2.4.3 Slot 5



2.4.4 Slot 6

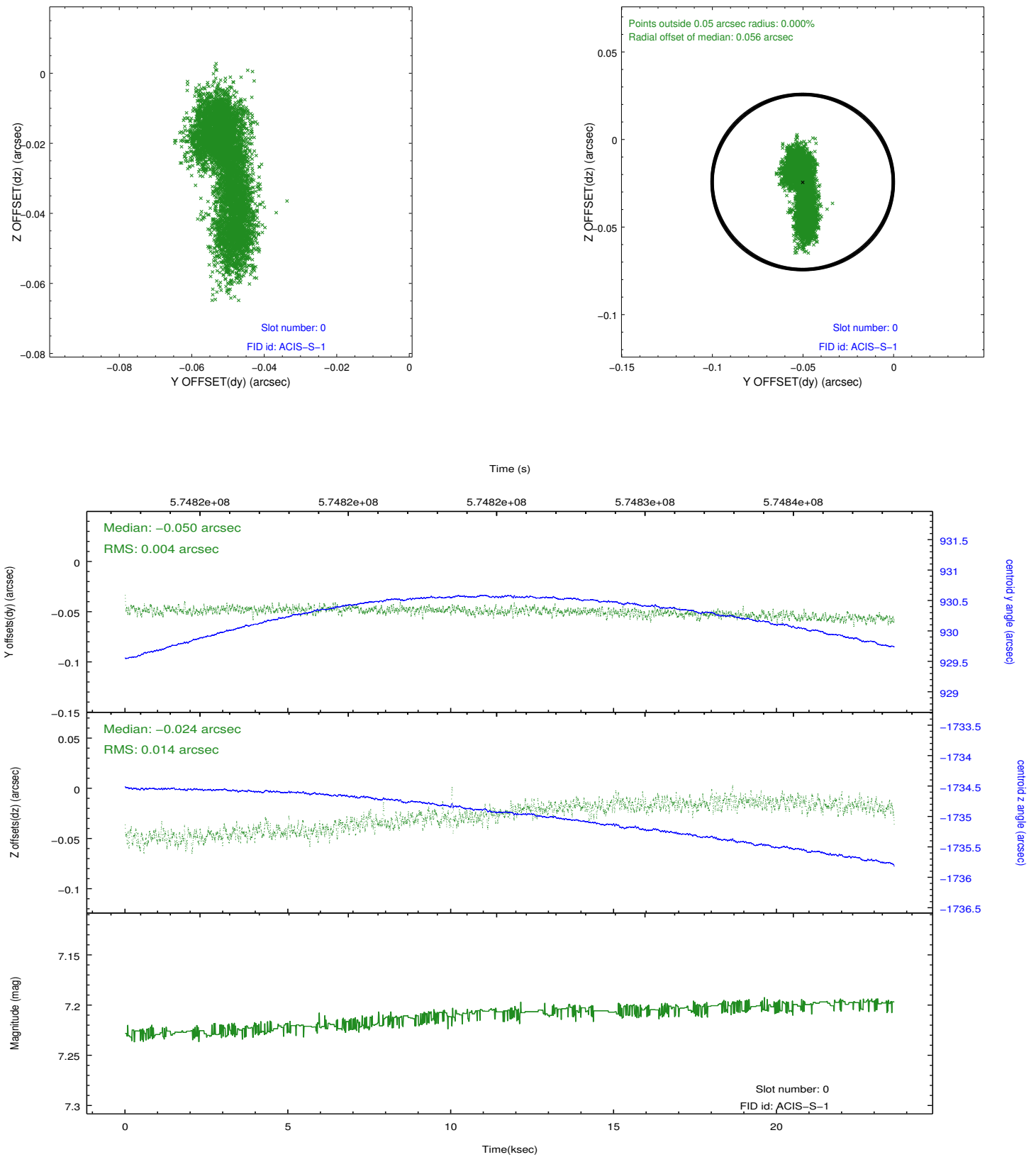


2.4.5 Slot 7

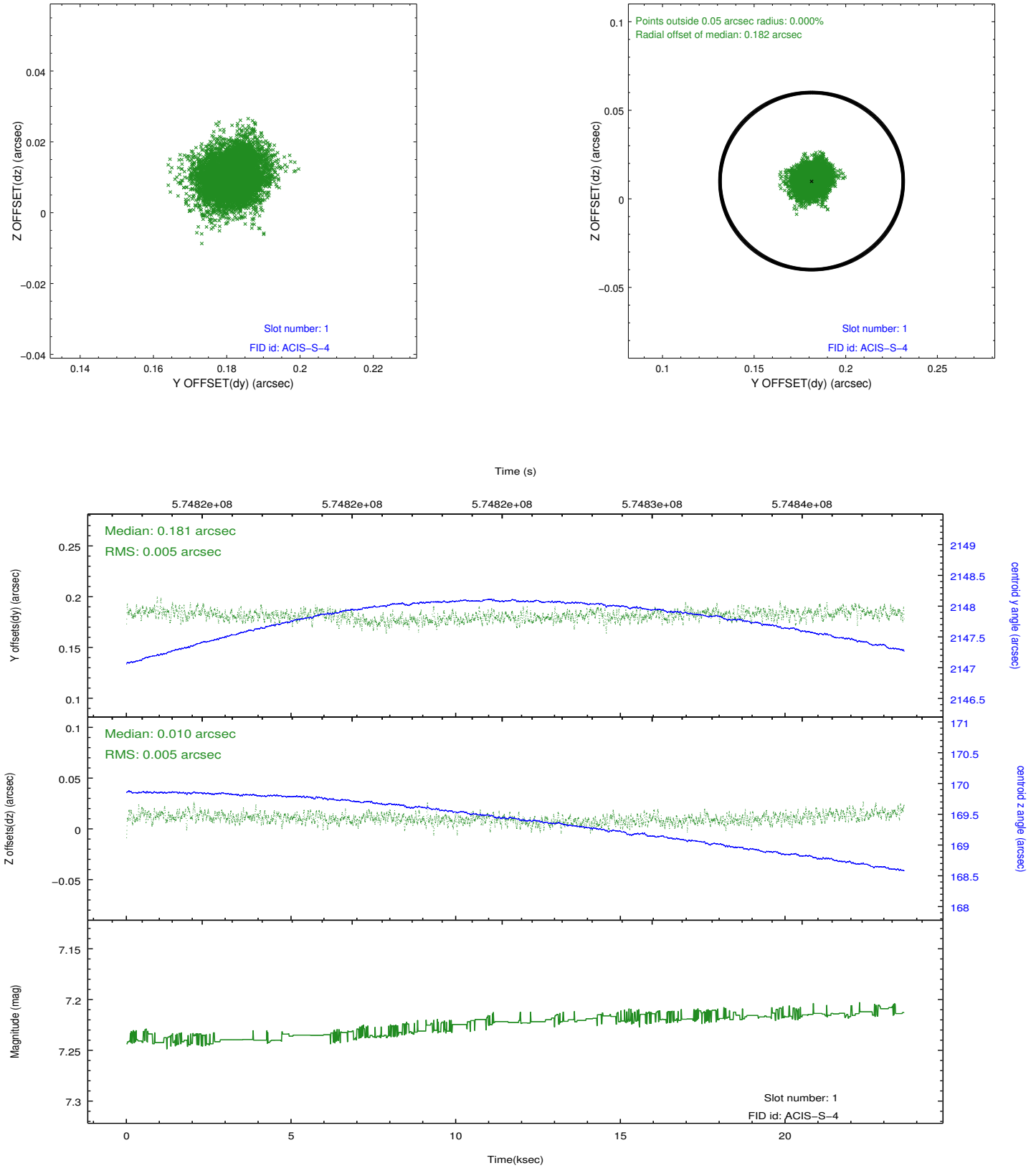


2.5 FID Slots

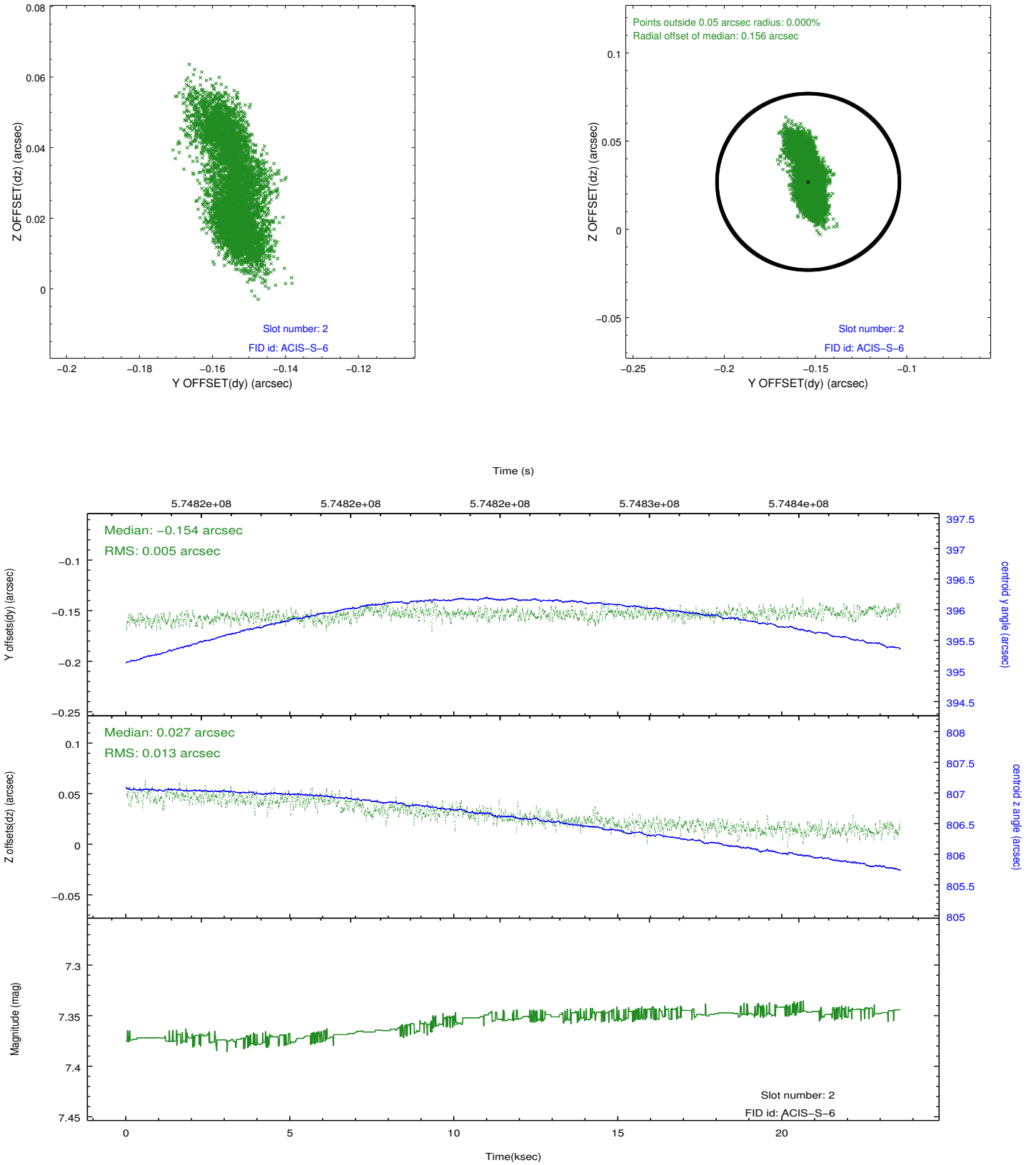
2.5.1 Slot 0



2.5.2 Slot 1

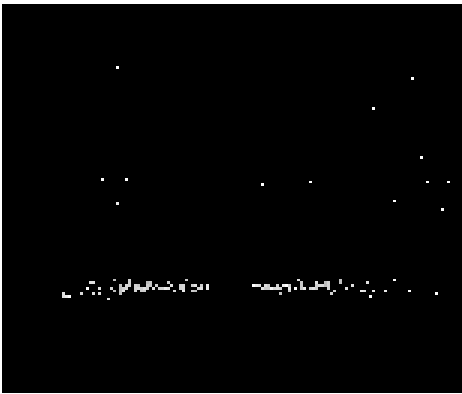


2.5.3 Slot 2

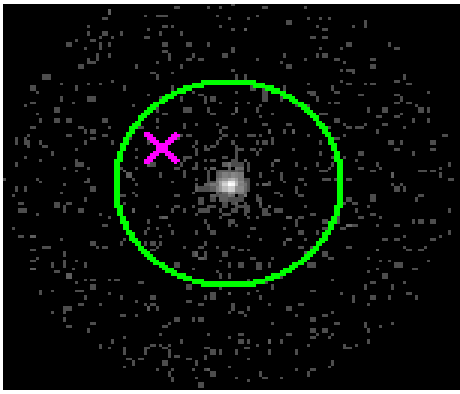


3 Gratings

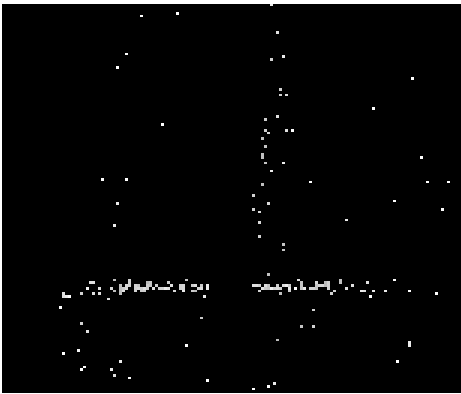
3.1 HEG Arm



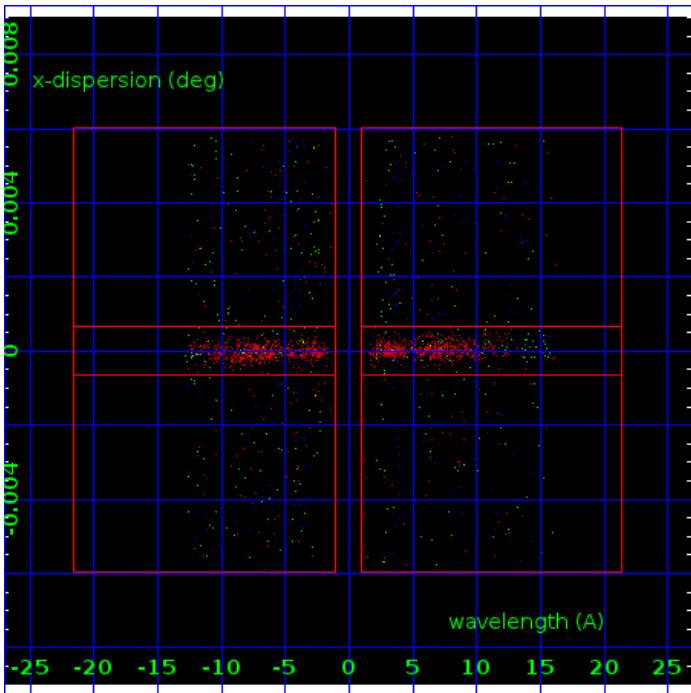
HEG Order Sort 123



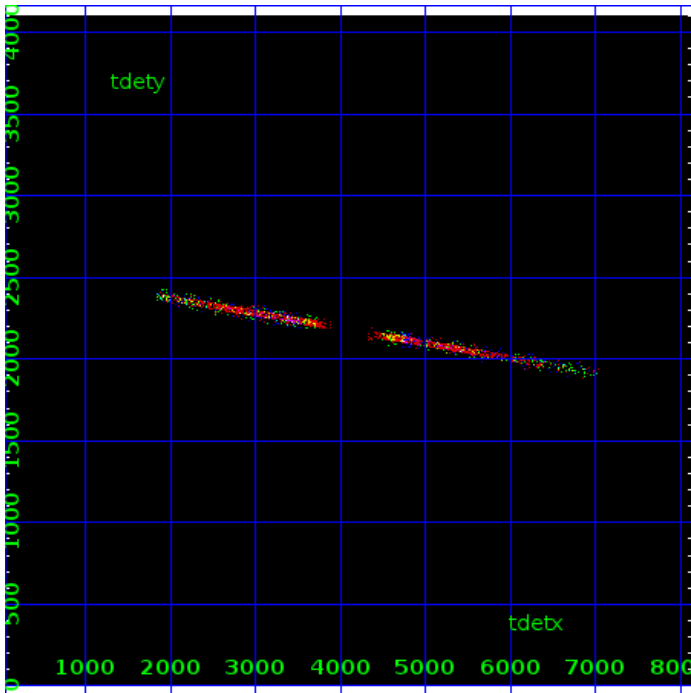
HEG Zero Order



HEG Order Sort ALL

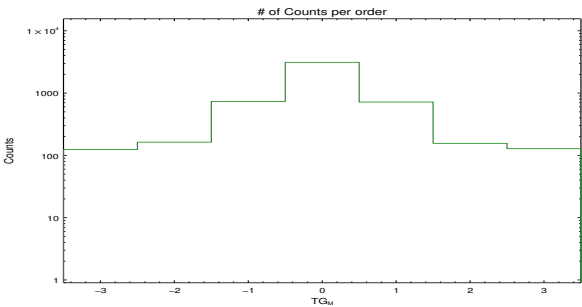


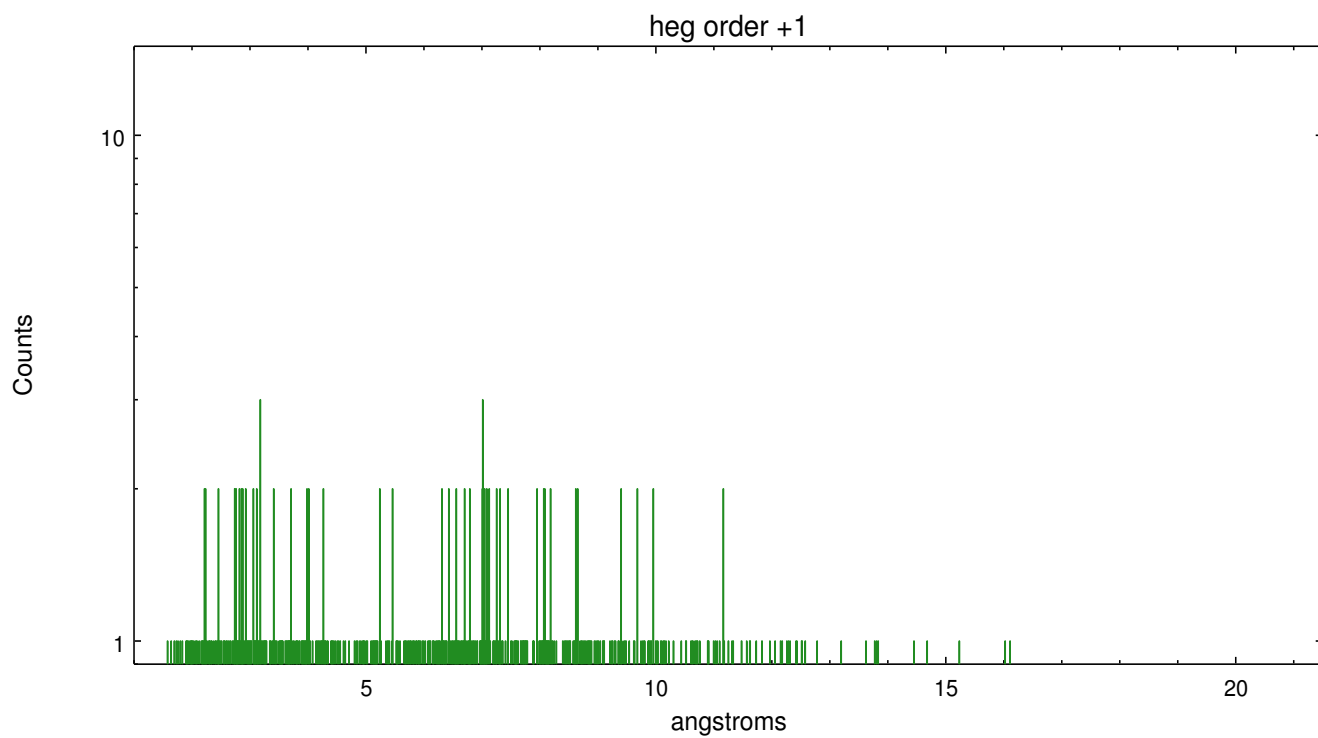
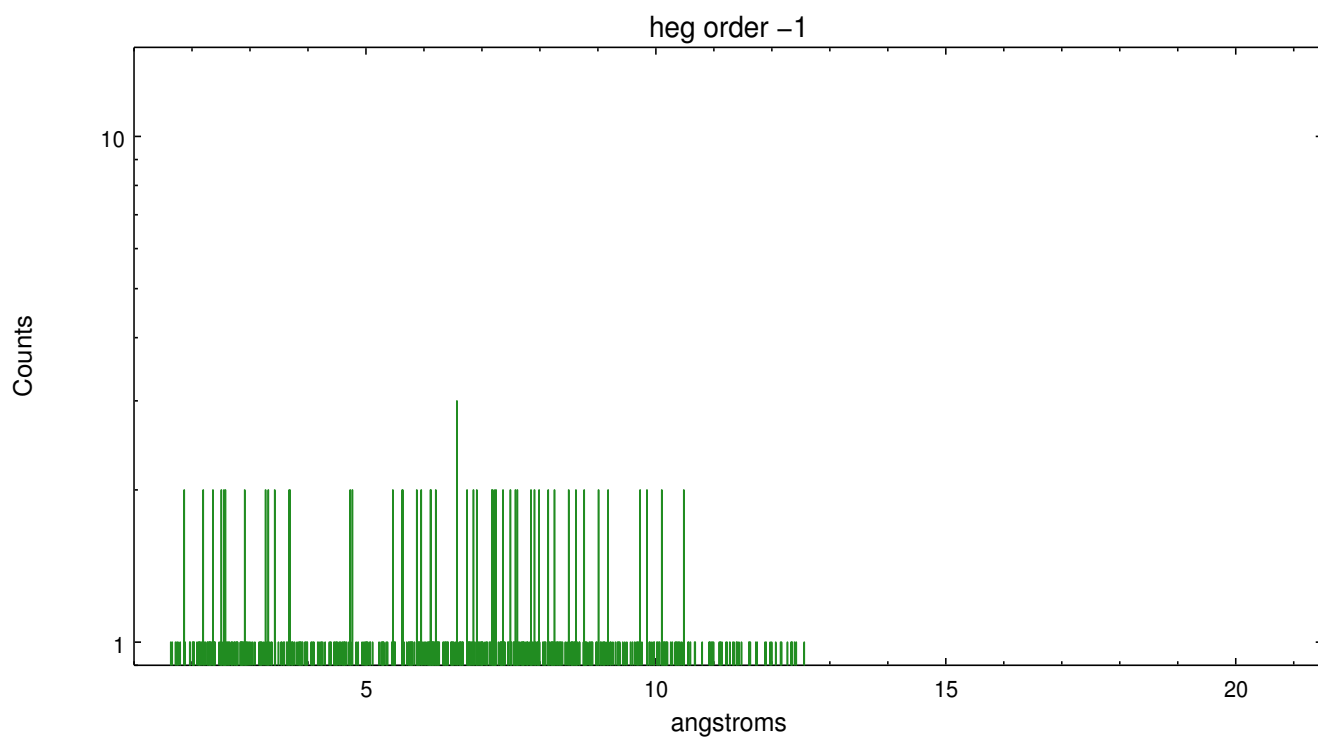
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	124	163	734	3119	718	156	128

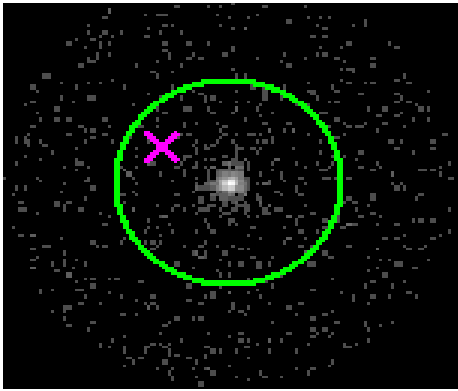




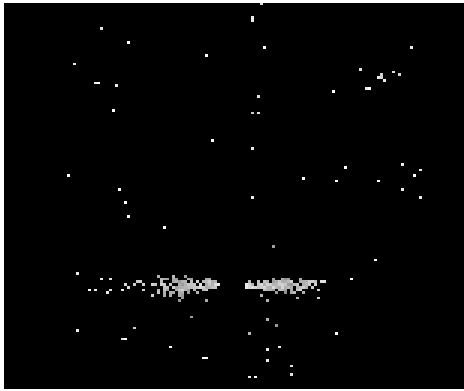
3.2 MEG Arm



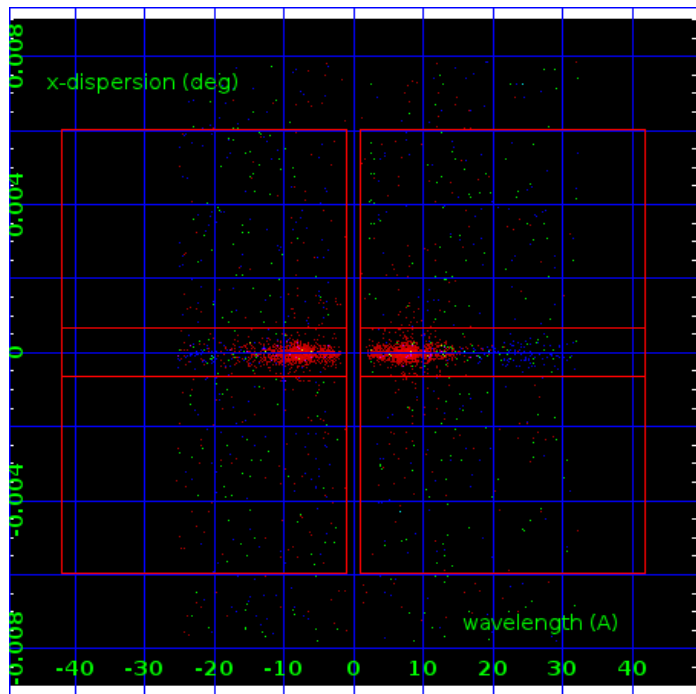
MEG Order Sort 123



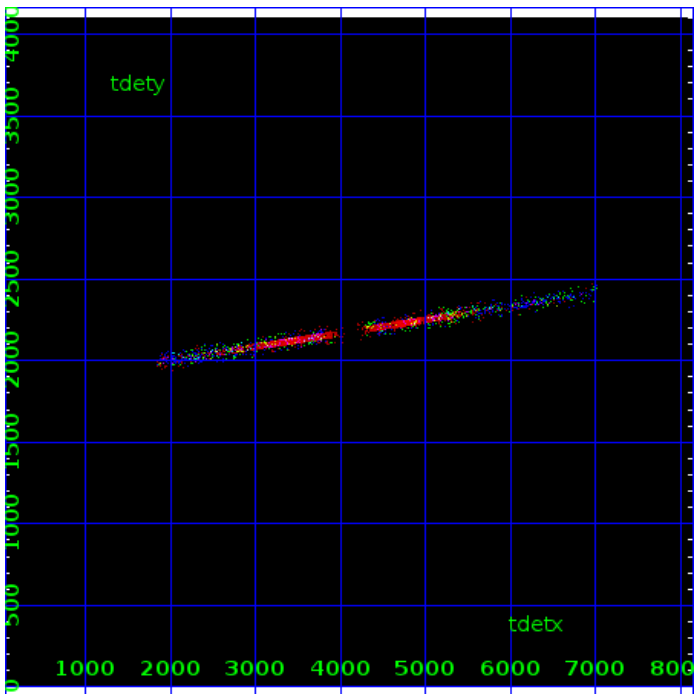
MEG Zero Order



MEG Order Sort ALL

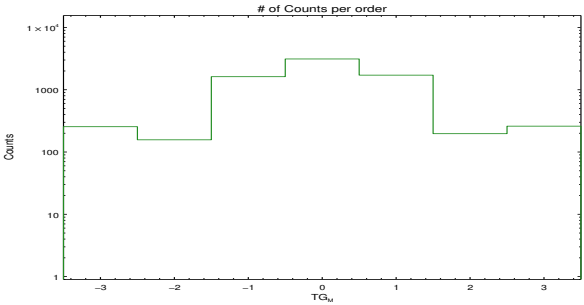


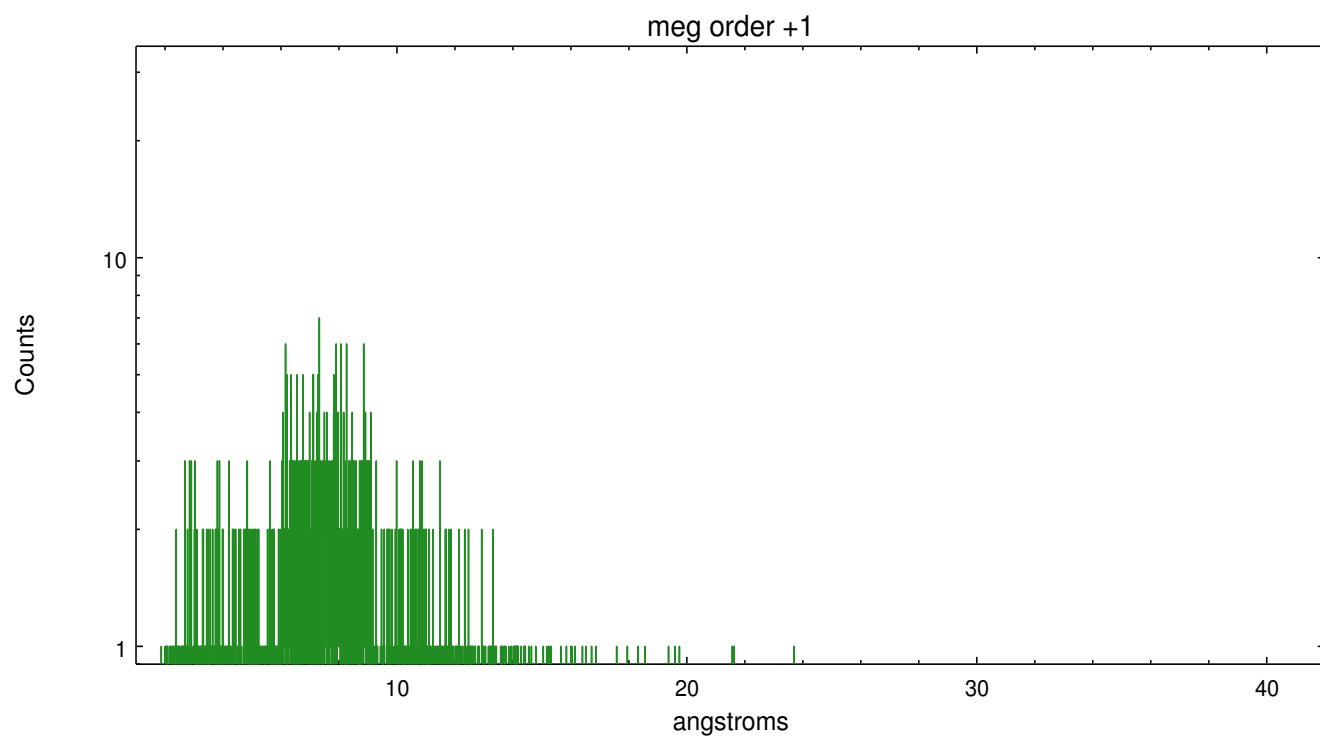
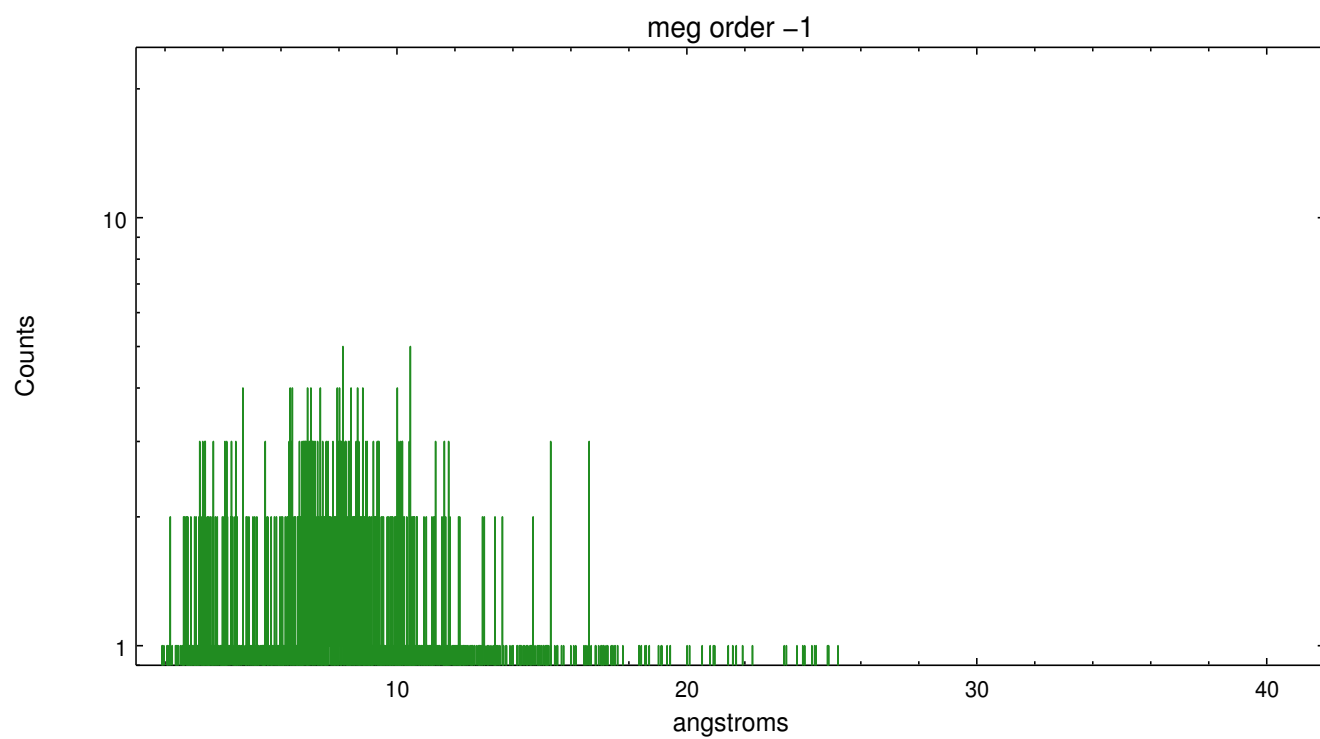
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	255	157	1620	3119	1714	197	260





A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2016.03.23
V&V Edition	2
V&V Disposition and Status	OK
V&V Charge Time	23.100430364728

A.2 Comments

Optional chip S0 was dropped.

==

The bias map for CCD_ID = 9 suffers from anomalously high bias values in an 'exacto-knife'-shaped area of the bias file. Pixels in the event data that have been bias-corrected by one of the affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small (~ 20 eV), it depends on many parameters that have not yet been fully explored for this anomaly. The pixels affected by the anomaly are bounded by sky coords: (243.53470,65.40041), (243.54103,65.39066), (243.64358,65.40218), (243.63475,65.41165). This bias map cannot be repaired because there are no acceptable, nearby observations that meet the selection criteria.