

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 425 - L2 Version 8
Chandra X-Ray Center

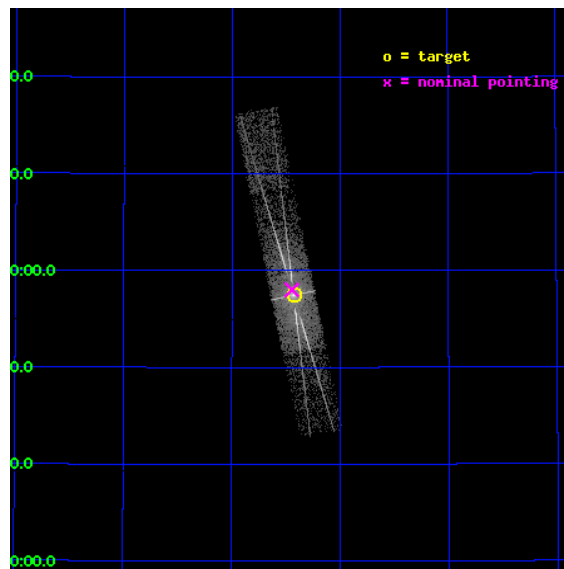
L2 Processing Date : Aug 28 2012

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1 Front

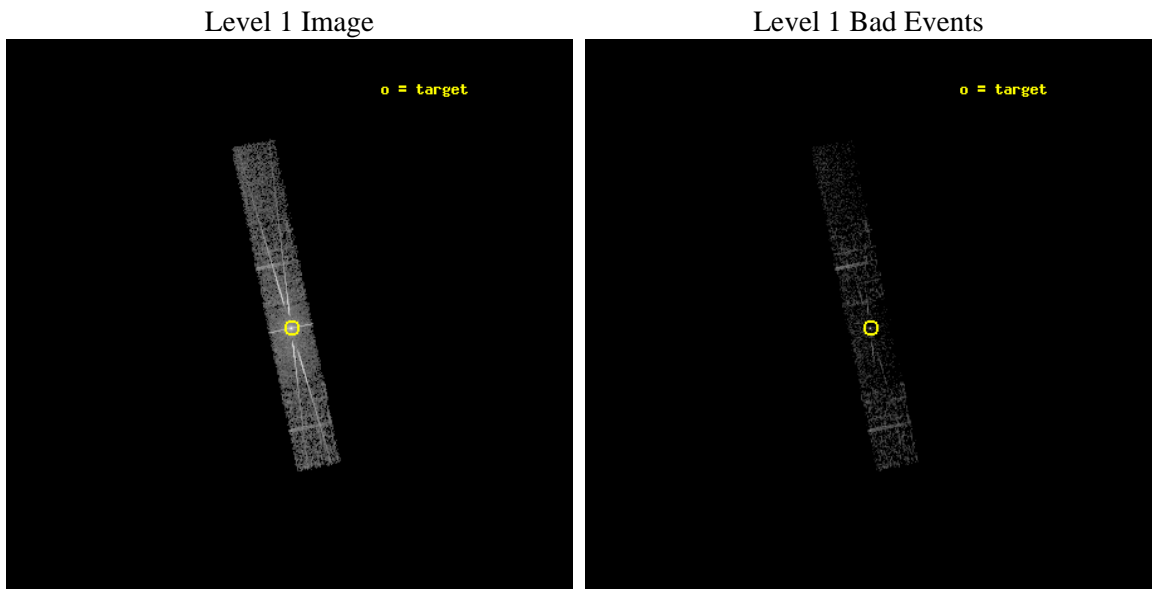
seq_num	400092	Sequence number
obs_id	425	Observation id
title	TOO OBSERVATION OF THE RELATIVISTIC JET SOURCE CYGNUS X-3	Proposal
observer	Dr. Michael McCollough	Principal investigator
object	CYG X-3	Source name
dtcycle	0	
cycle	P	events are from which exps? P[rimary] S[econdar]
ra_targ	308.10625	Observer's specified target RA [deg]
dec_targ	40.957694	Observer's specified target Dec [deg]
ra_nom	308.11126392546	Nominal RA [deg]
dec_nom	40.966982683722	Nominal Dec [deg]
roll_nom	78.398482528091	Nominal Roll [deg]
revision	8	Processing version of data
ontime	2694.4717644006	Sum of GTIs [s]
livetime	385.82479562797	Livetime [s]
ontime5	2694.4717644006	Sum of GTIs [s]
ontime6	2694.4717644006	Sum of GTIs [s]
ontime7	2694.4717644006	Sum of GTIs [s]
ontime8	2694.4717644006	Sum of GTIs [s]
l2events	45707	Number of level 2 events



2 OBI Primary

2.1 OBI

2.1.1 Images



2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	21339.388000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	2694.4717644006	Sum of GTIs [s]
caldbver	4.5.1.1	 	ontime5	2694.4717644006	Sum of GTIs [s]
date	2012-08-25T12:36:13	Date and time of file creation	ontime6	2694.4717644006	Sum of GTIs [s]
revision	6	Processing version of data	ontime7	2694.4717644006	Sum of GTIs [s]
			ontime8	2694.4717644006	Sum of GTIs [s]
			l1events	67758	Number of level 1 events

2.1.3 Events

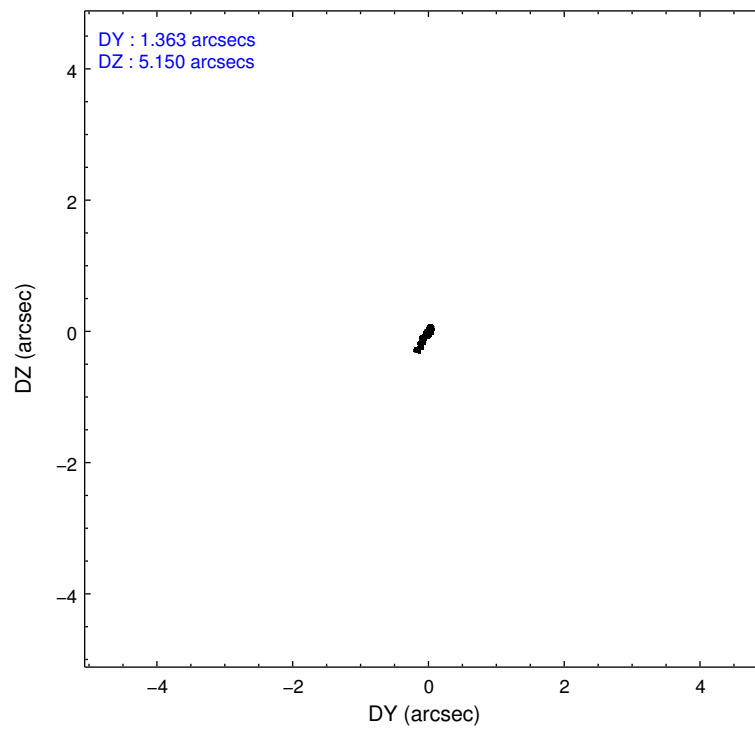
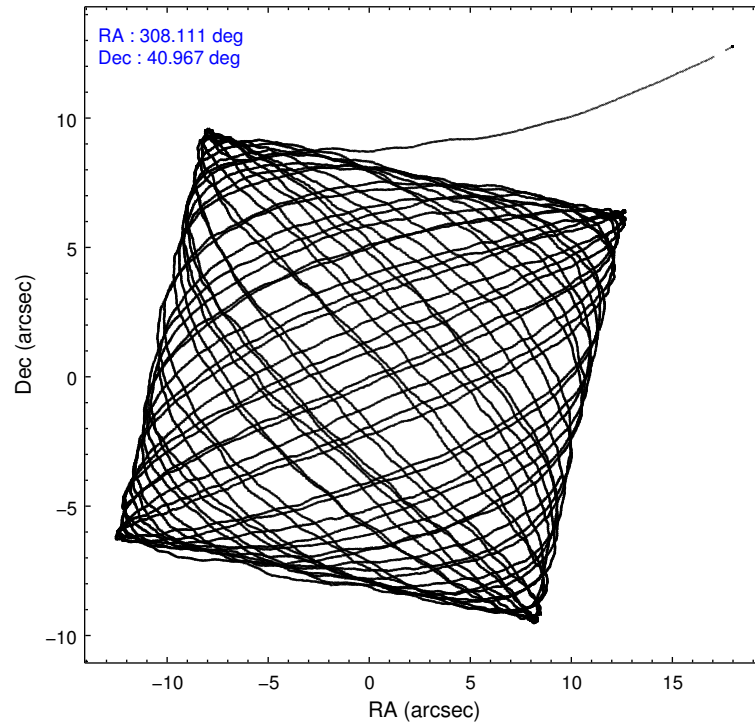
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	5588	18474	33538	10158
rejected events	3089	6191	4421	6719
rejected %	55%	33%	13%	66%

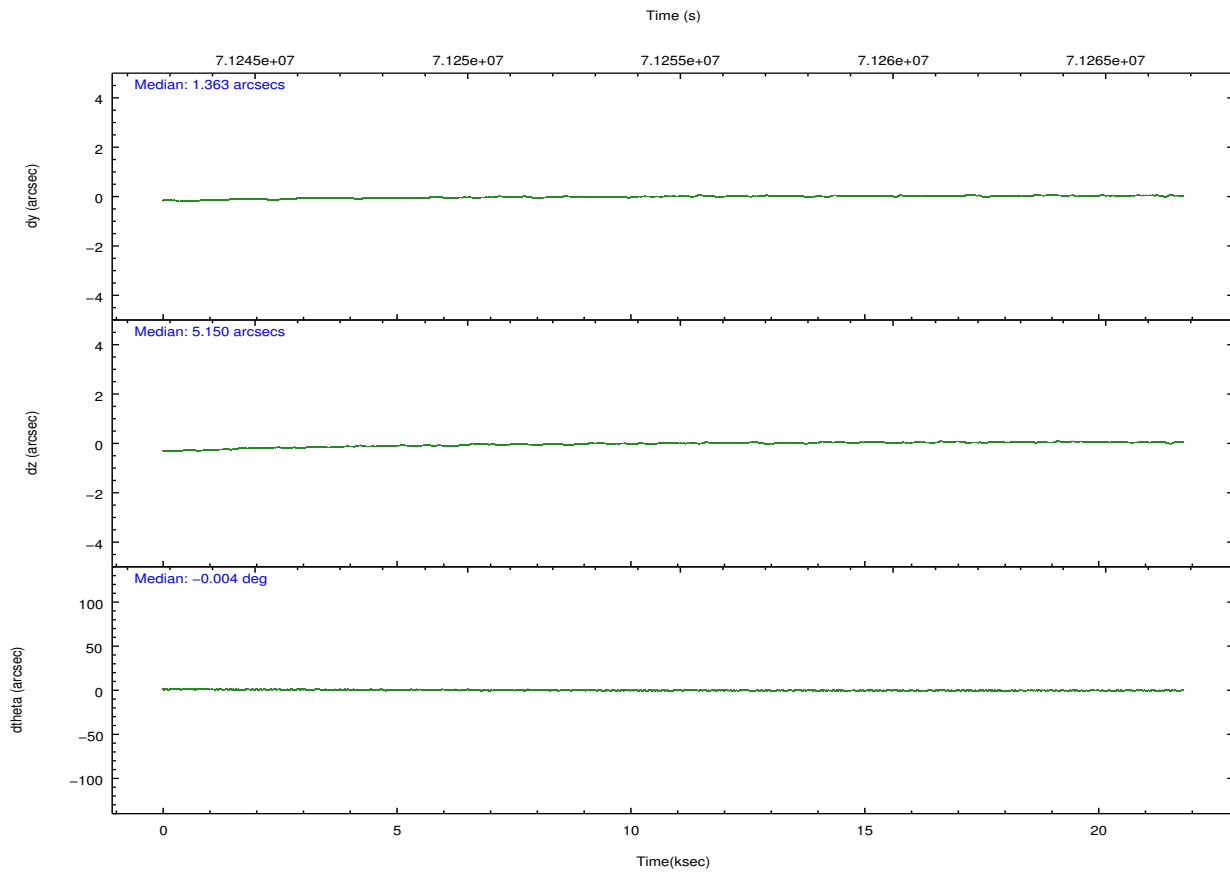
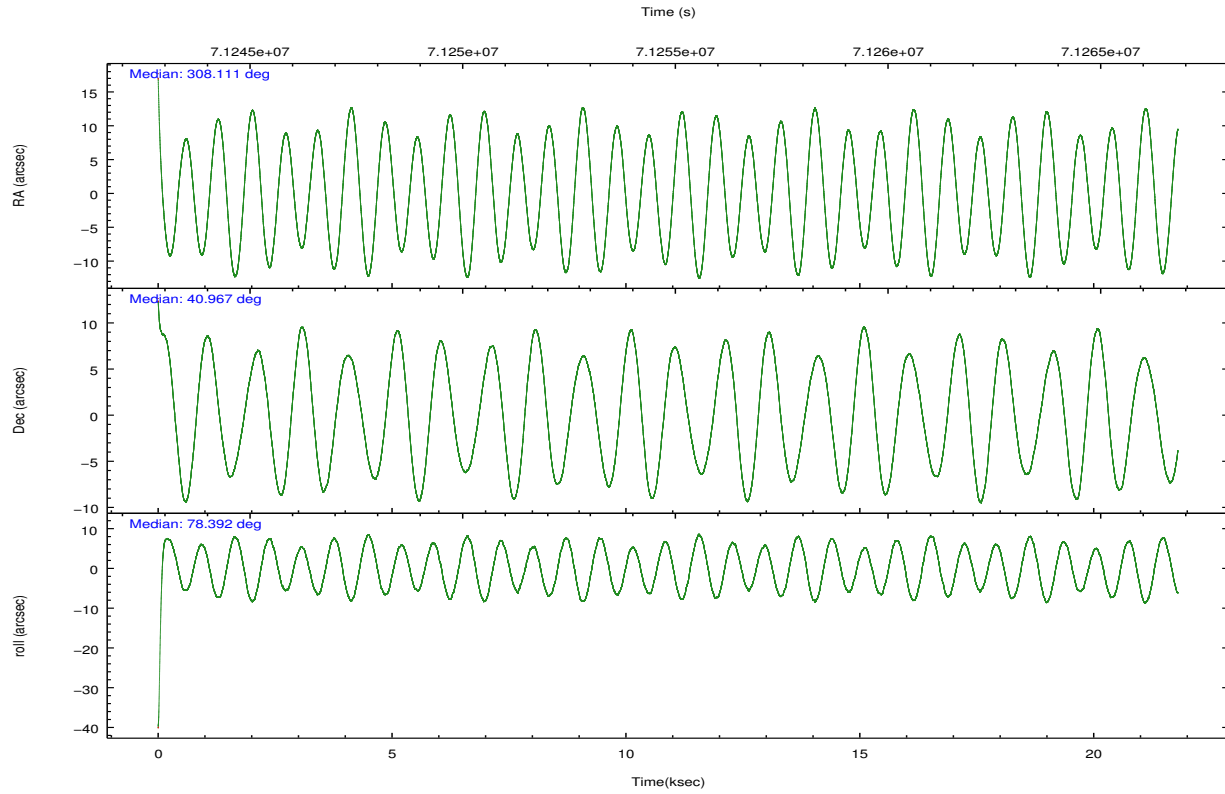
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	201	8285	5184	2166
	3%	44%	15%	21%
grade 1 events	2	39	53	7
	0%	0%	0%	0%
grade 2 events	799	1906	8055	531
	14%	10%	24%	5%
grade 3 events	130	575	2505	193
	2%	3%	7%	1%
grade 4 events	121	610	2631	241
	2%	3%	7%	2%
grade 5 events	285	182	696	160
	5%	0%	2%	1%
grade 6 events	1249	927	10759	313
	22%	5%	32%	3%
grade 7 events	2801	5950	3655	6547
	50%	32%	10%	64%

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	GRADED	GRADED	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	308.122822	308.1112639254639	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	40.940962	40.96698268372213	Subarray start row	249	249
[deg] Pointing Roll	78.234307	78.39848252809138	Subarray row count	542	542
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	Y	Y
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.300000	0.3
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	[s] Secondary exposure time	1.700000	1.8
[mm] SIM translation stage offset	0	0.01005778216563158	Duty cycle	8	8
[s] Observation start time (MET)	71244395.184000	71243371.54962599			
Observation start date	2000-04-04T14:05:31	2000-04-04T13:49:31			
[s] Observation end time (MET)	71265734.184000	71266043.525456			
Observation end date	2000-04-04T20:01:10	2000-04-04T20:07:23			
Read mode	TIMED	TIMED			

2.3 Aspect



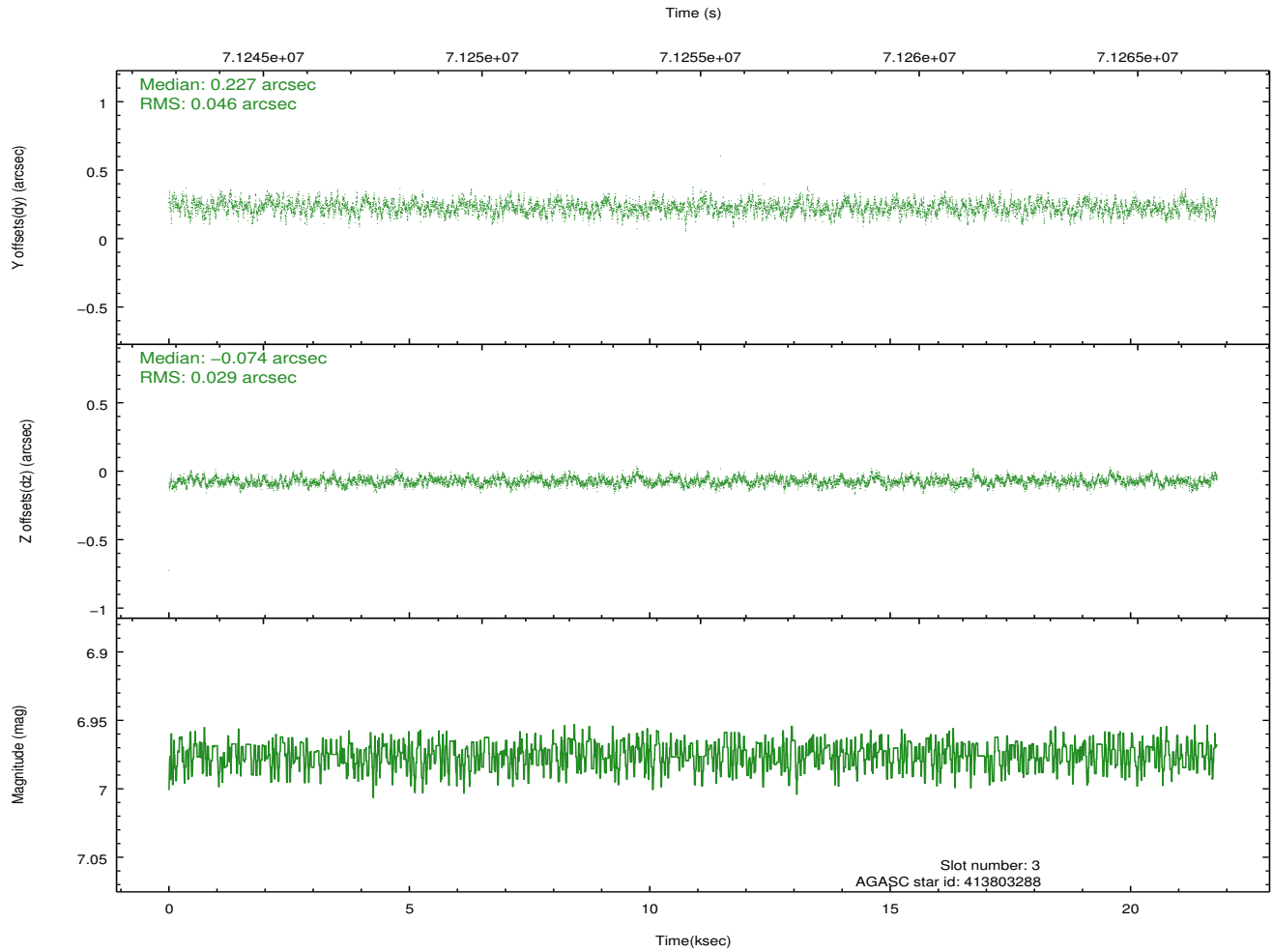
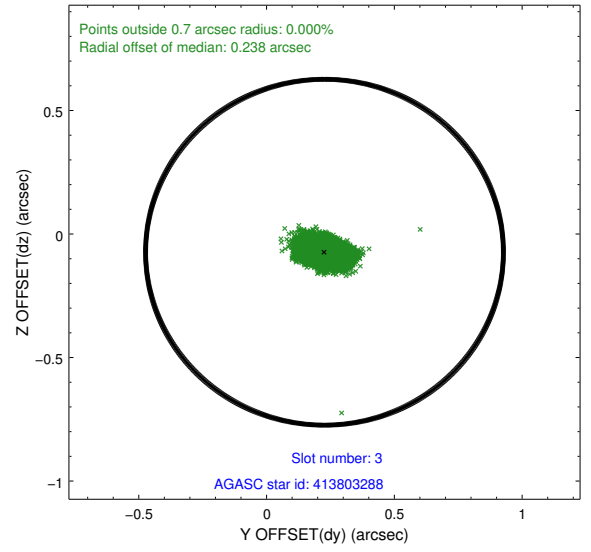
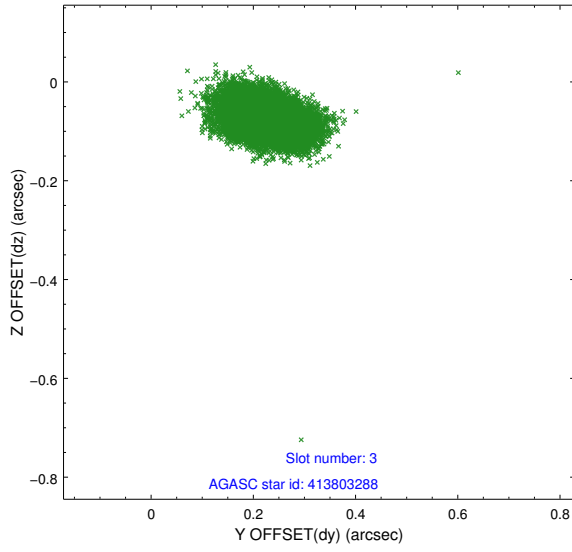


Slot Statistics

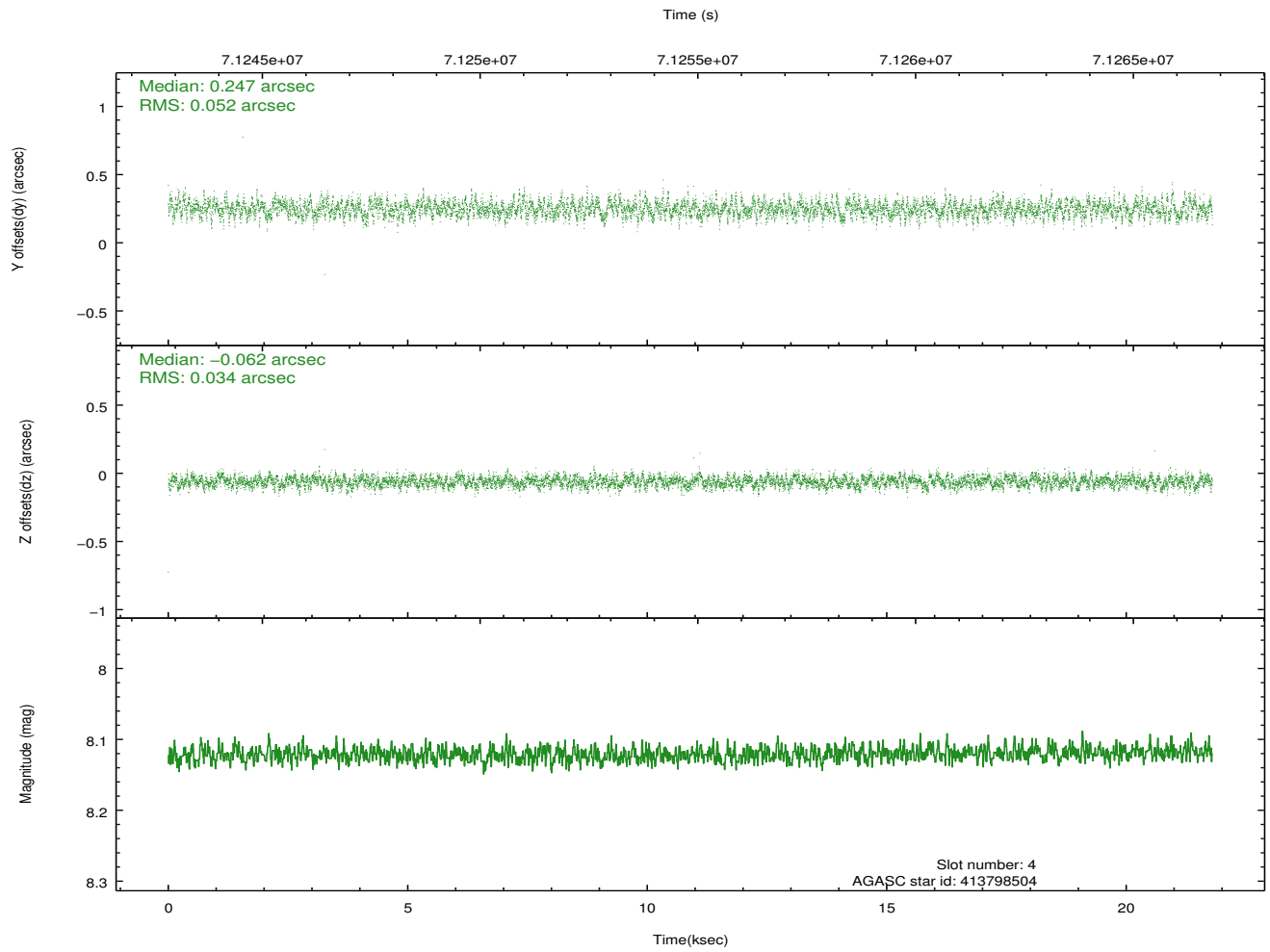
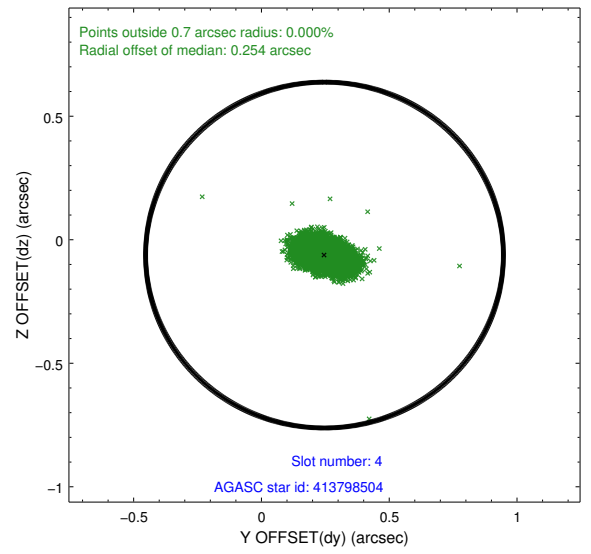
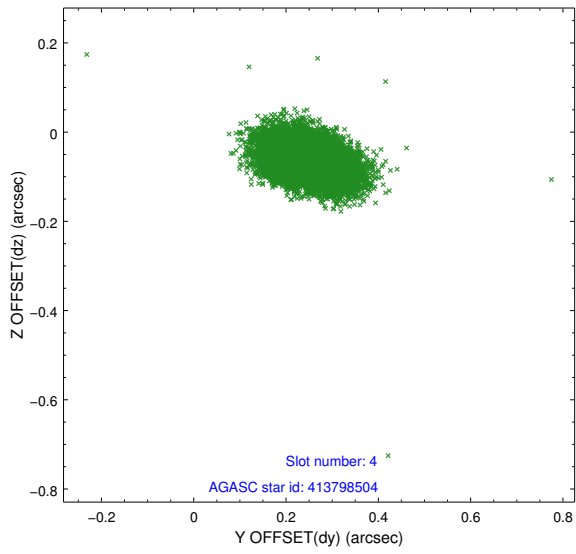
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	5316	-0.031	0.001	0.007	0.012	0.000000	0.000000	-753.98	-1726.17
1	FID	ACIS-S-4	7.21	5317	-0.003	0.015	0.006	0.011	0.000000	0.000000	2159.26	182.15
2	FID	ACIS-S-5	7.23	5317	0.003	-0.007	0.008	0.014	0.000000	0.000000	-1806.58	175.99
3	GUIDE	413803288	6.98	10635	0.227	-0.074	0.056	0.095	307.629978	40.506899	-1800.98	1002.20
4	GUIDE	413798504	8.12	10633	0.247	-0.062	0.064	0.109	307.761525	40.426565	-2012.74	591.61
5	GUIDE	414328464	9.19	10625	-0.078	-0.010	0.076	0.126	308.778827	41.333671	1752.18	-1446.51
6	GUIDE	414329800	8.02	10633	-0.648	0.325	0.058	0.093	308.093720	41.305429	1268.04	344.60
7	GUIDE	414329664	9.28	10627	0.251	-0.179	0.076	0.127	307.941690	41.290854	1134.10	736.26

2.4 Star Slots

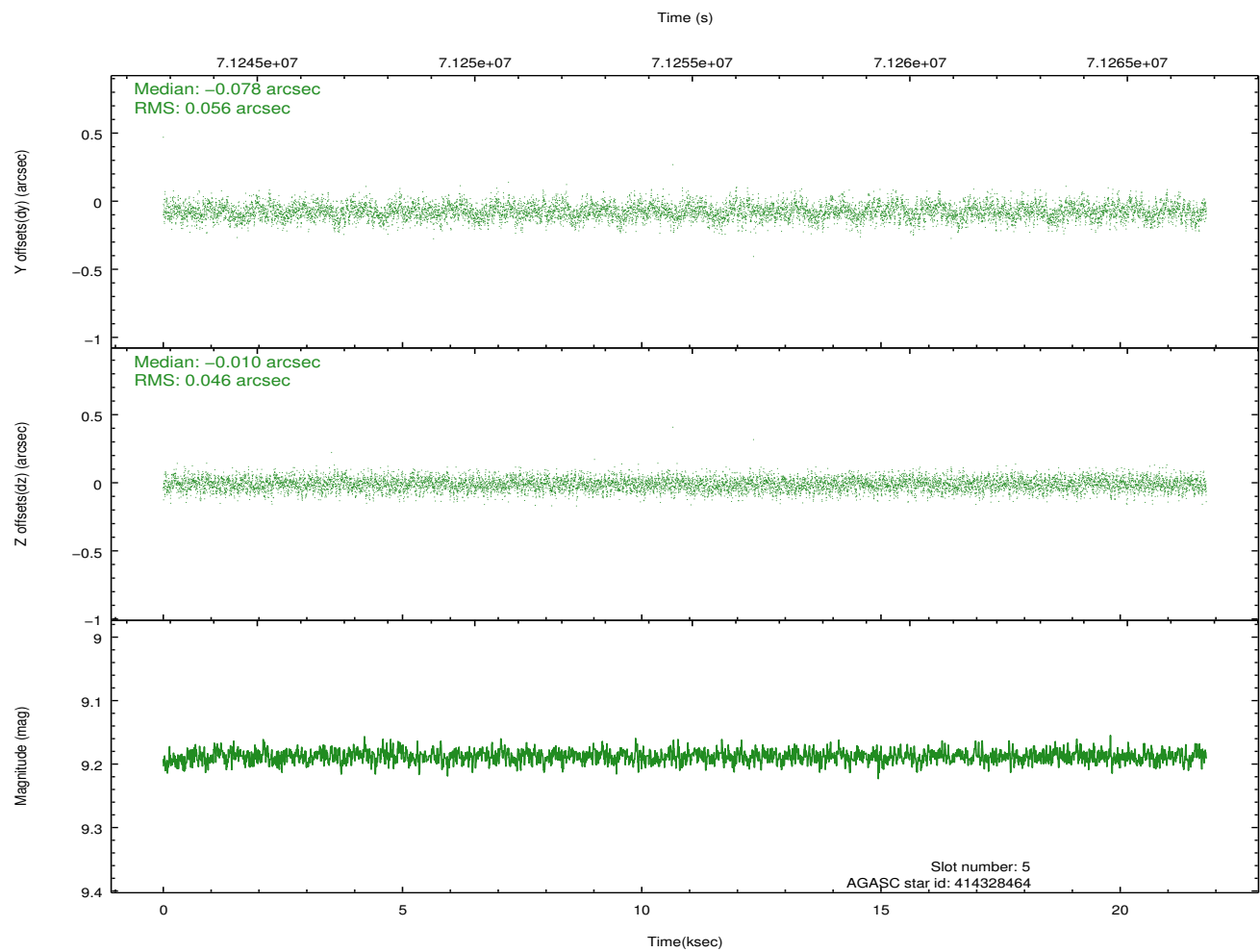
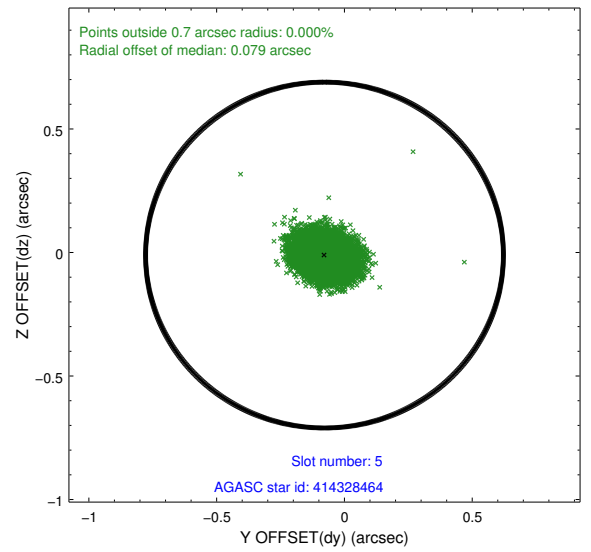
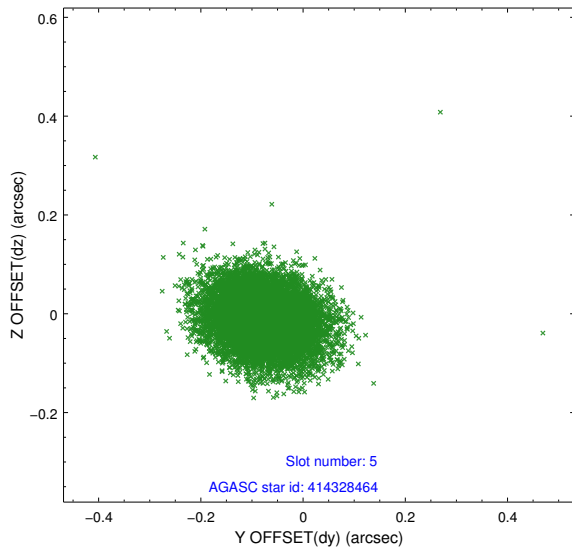
2.4.1 Slot 3



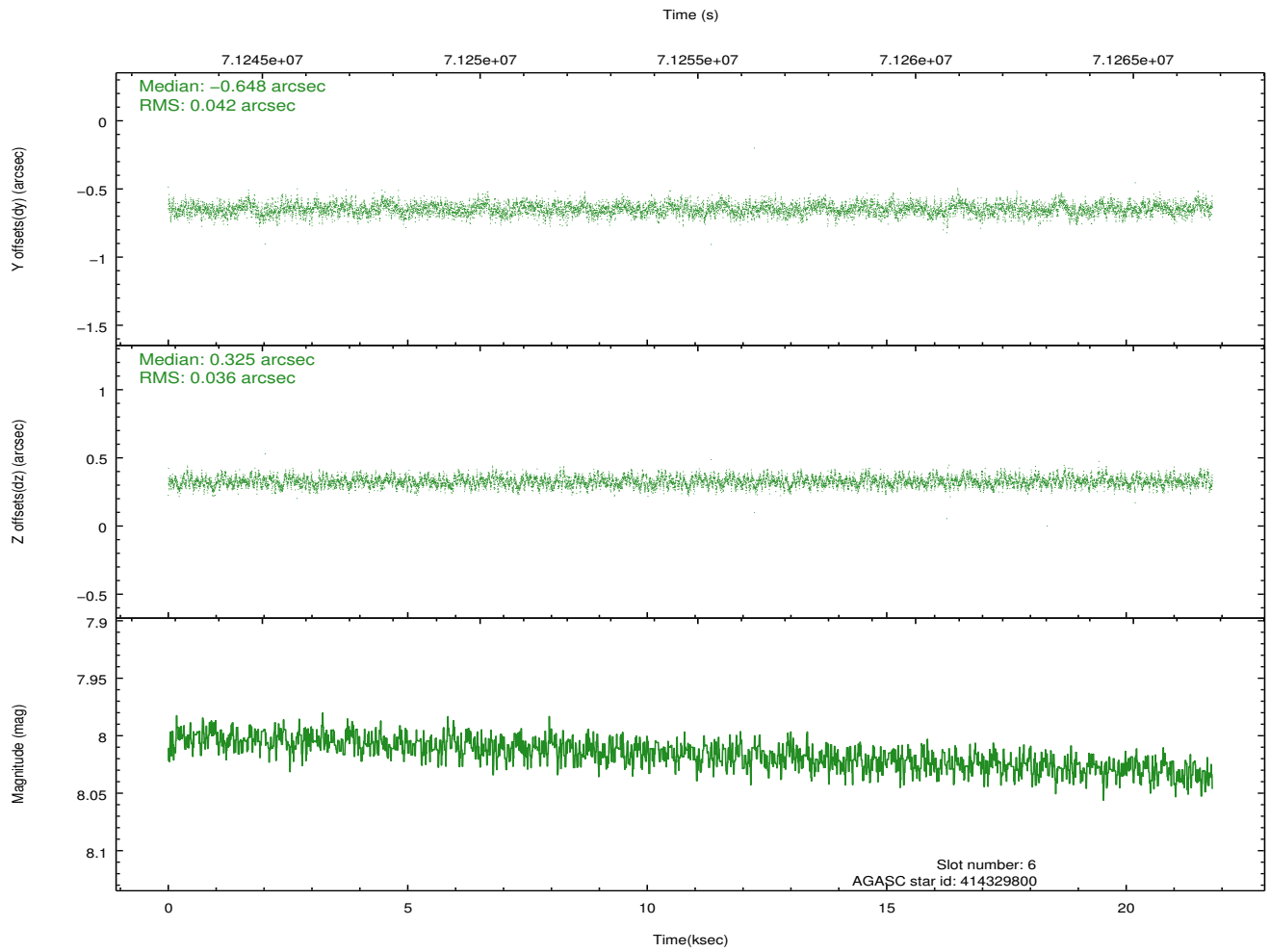
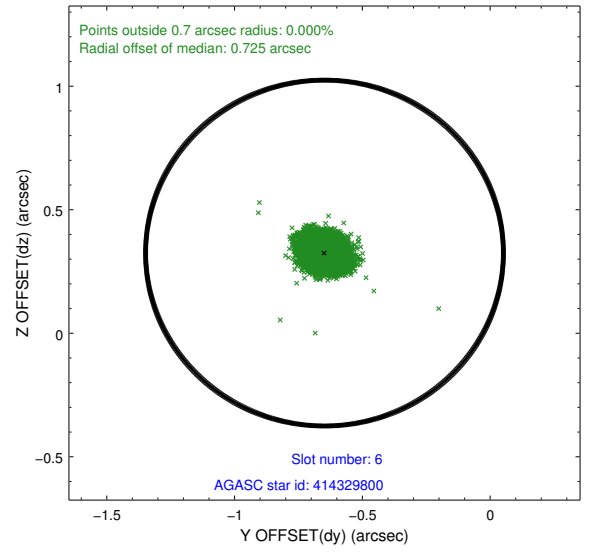
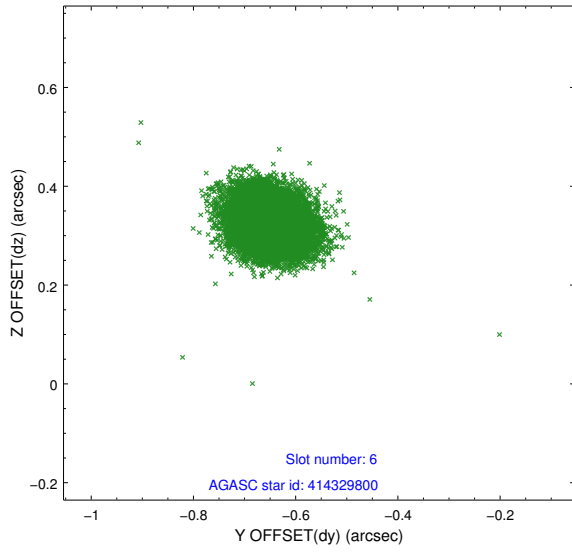
2.4.2 Slot 4



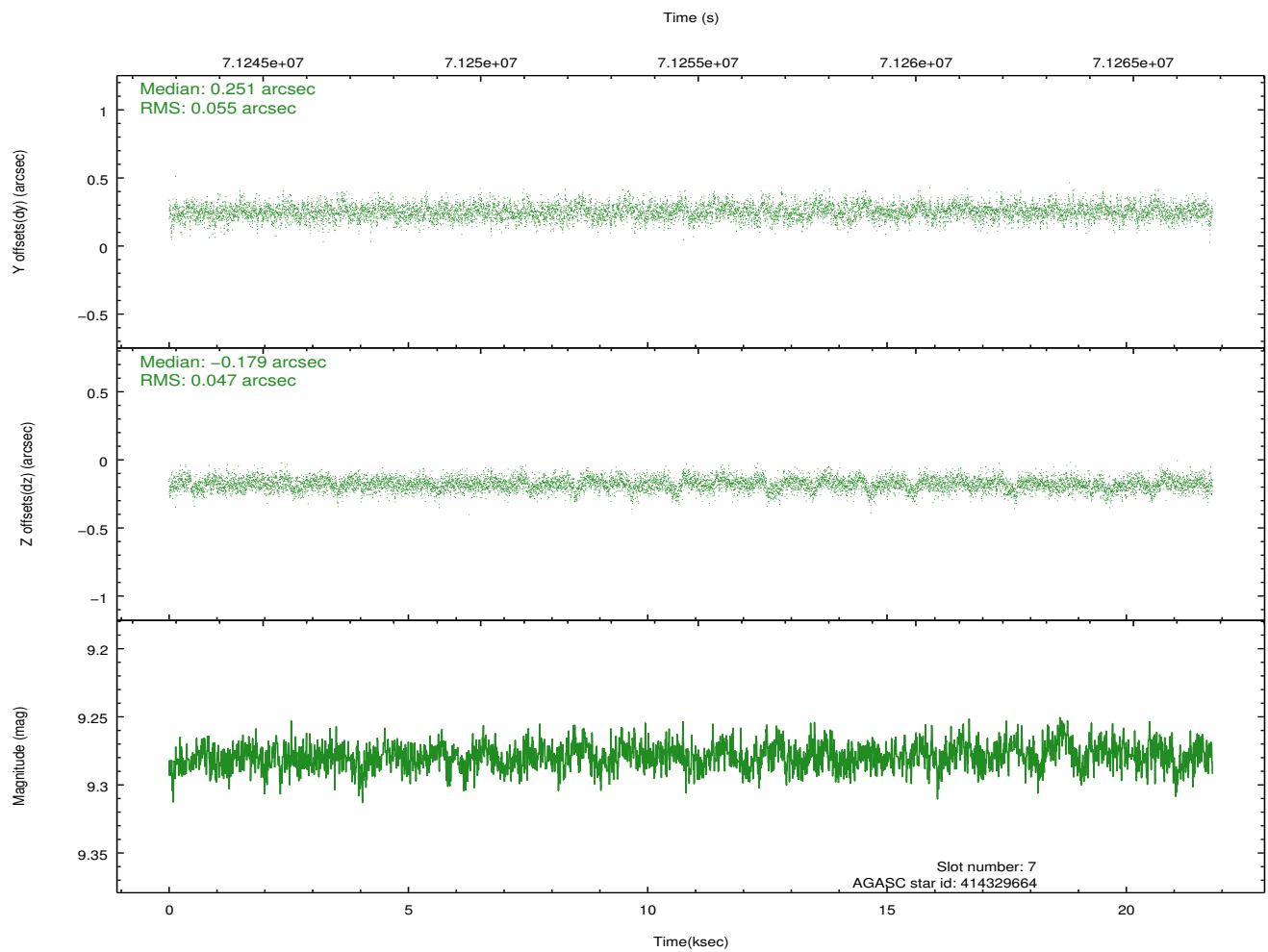
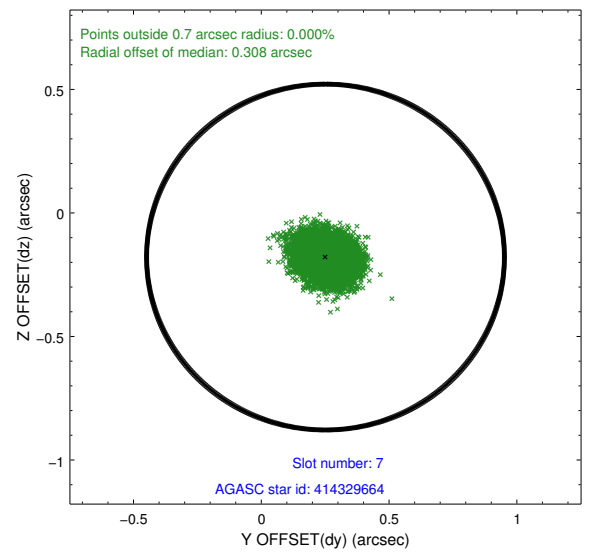
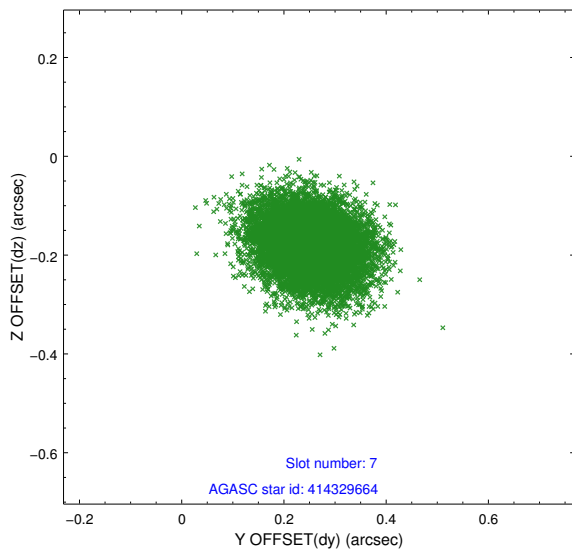
2.4.3 Slot 5



2.4.4 Slot 6

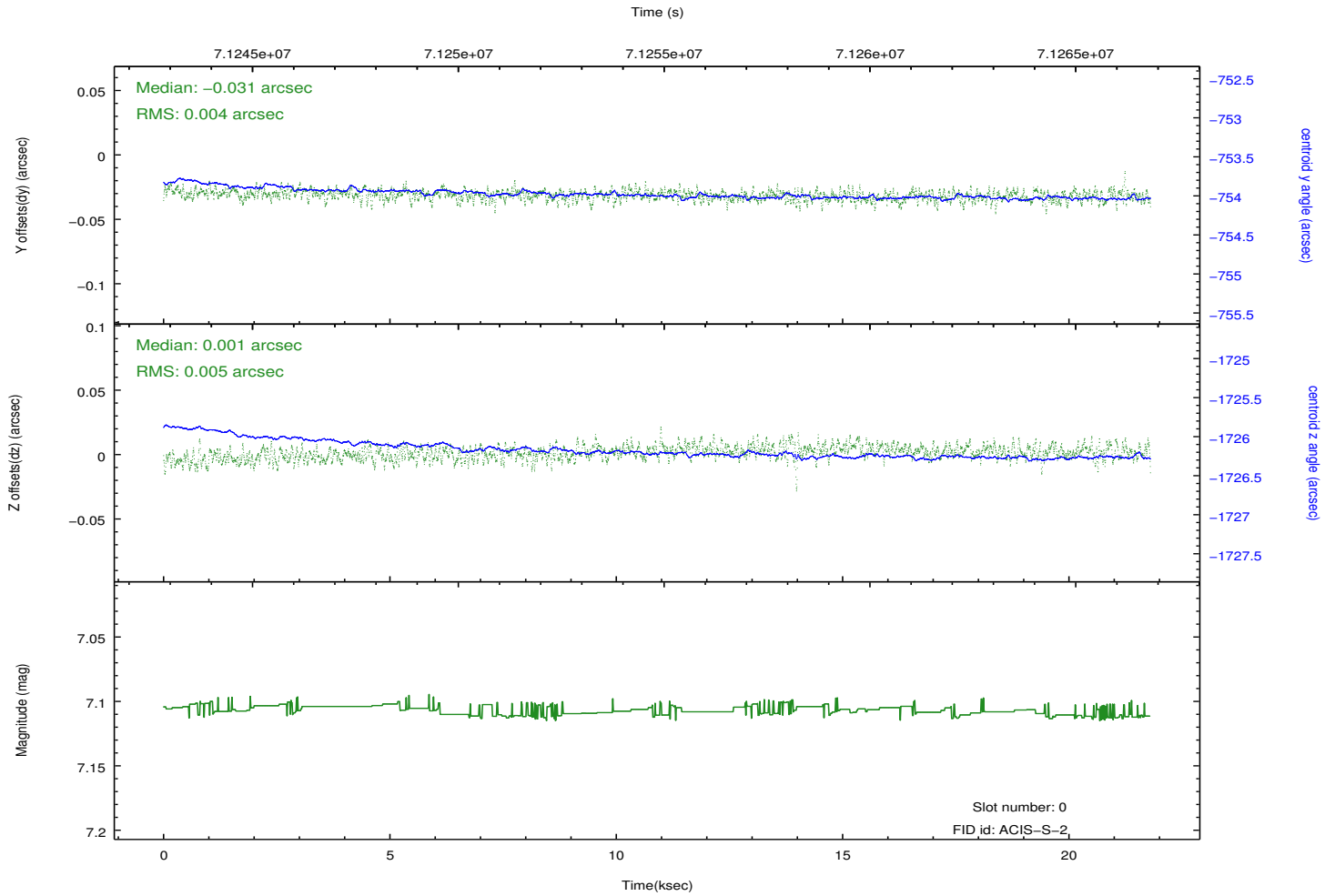
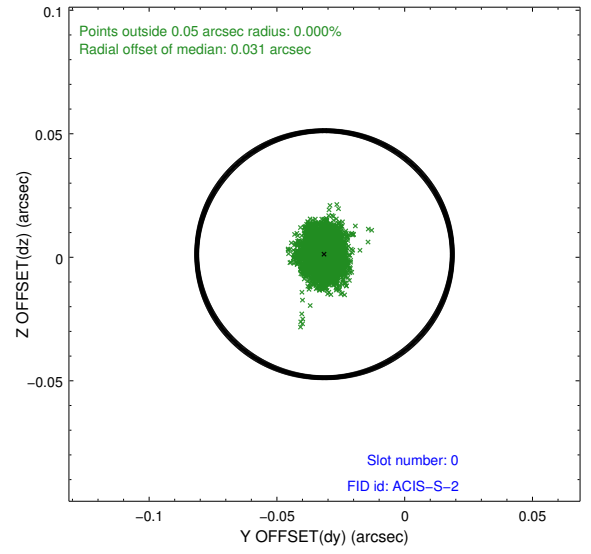
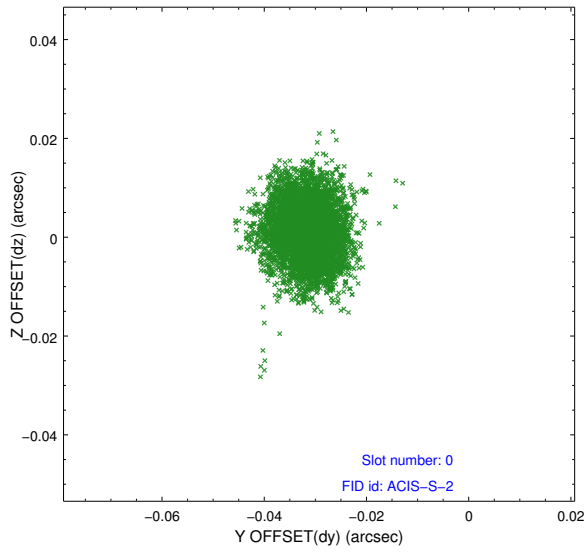


2.4.5 Slot 7

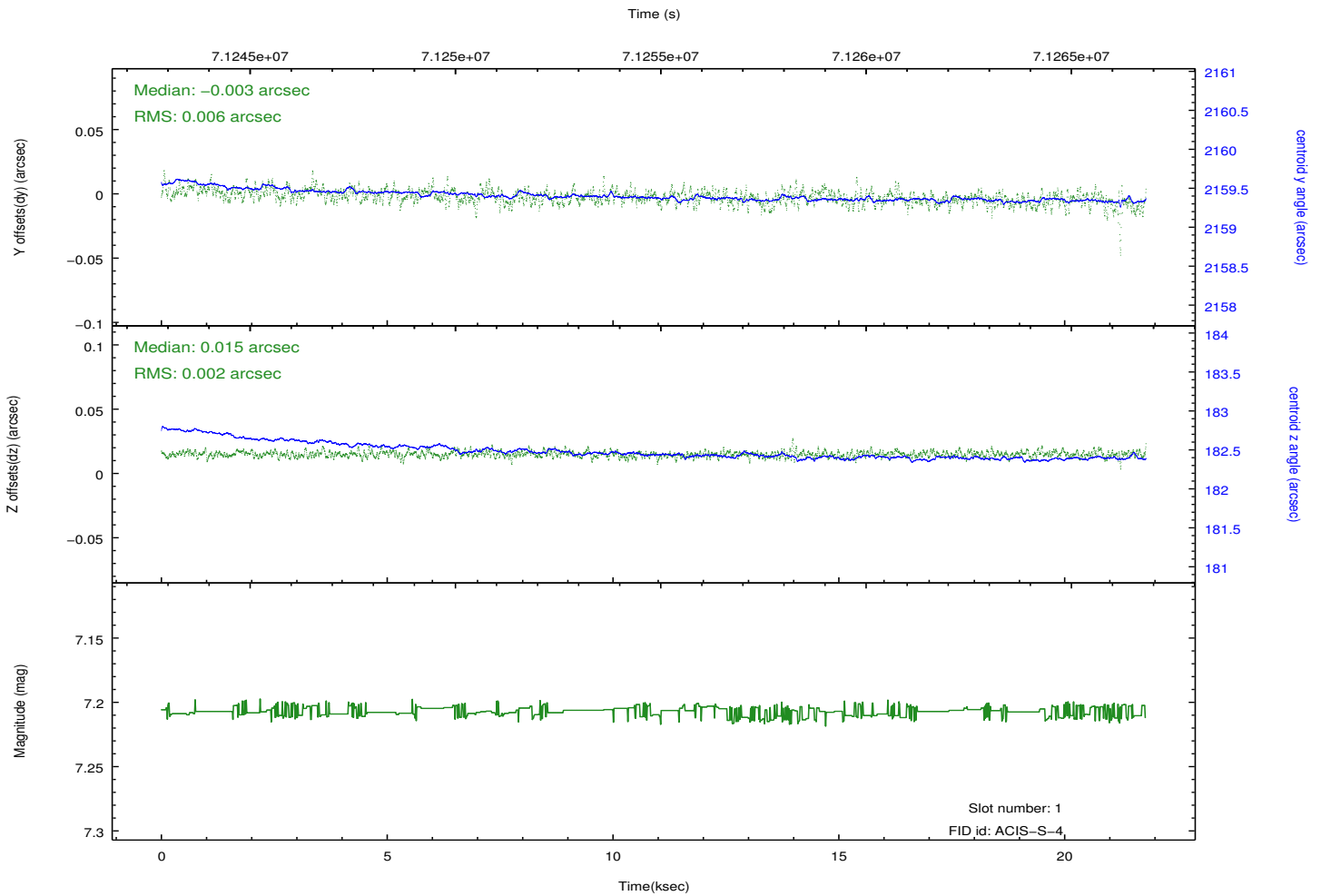
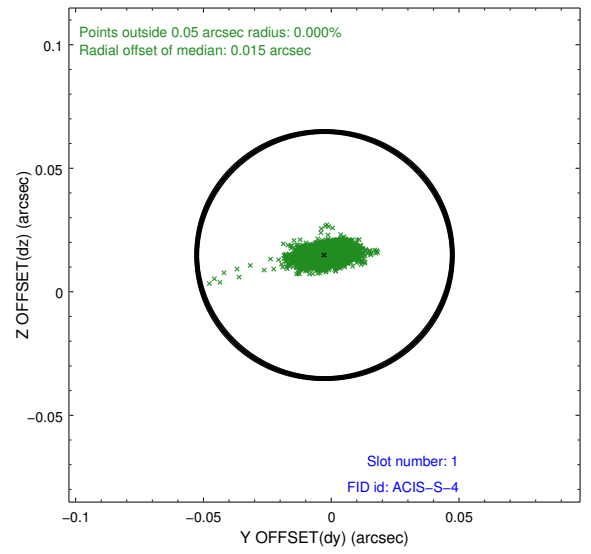
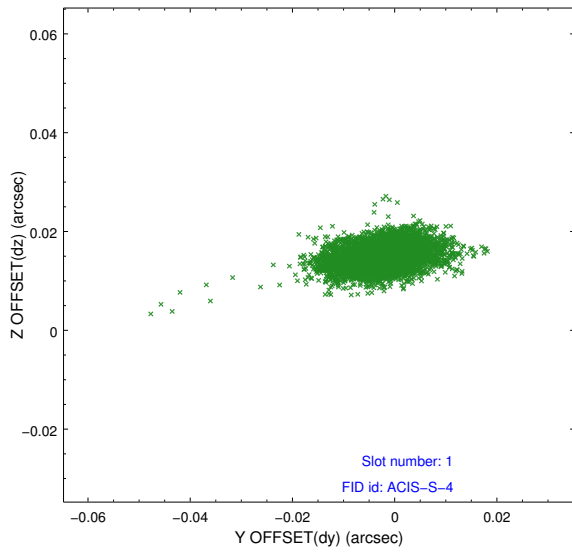


2.5 FID Slots

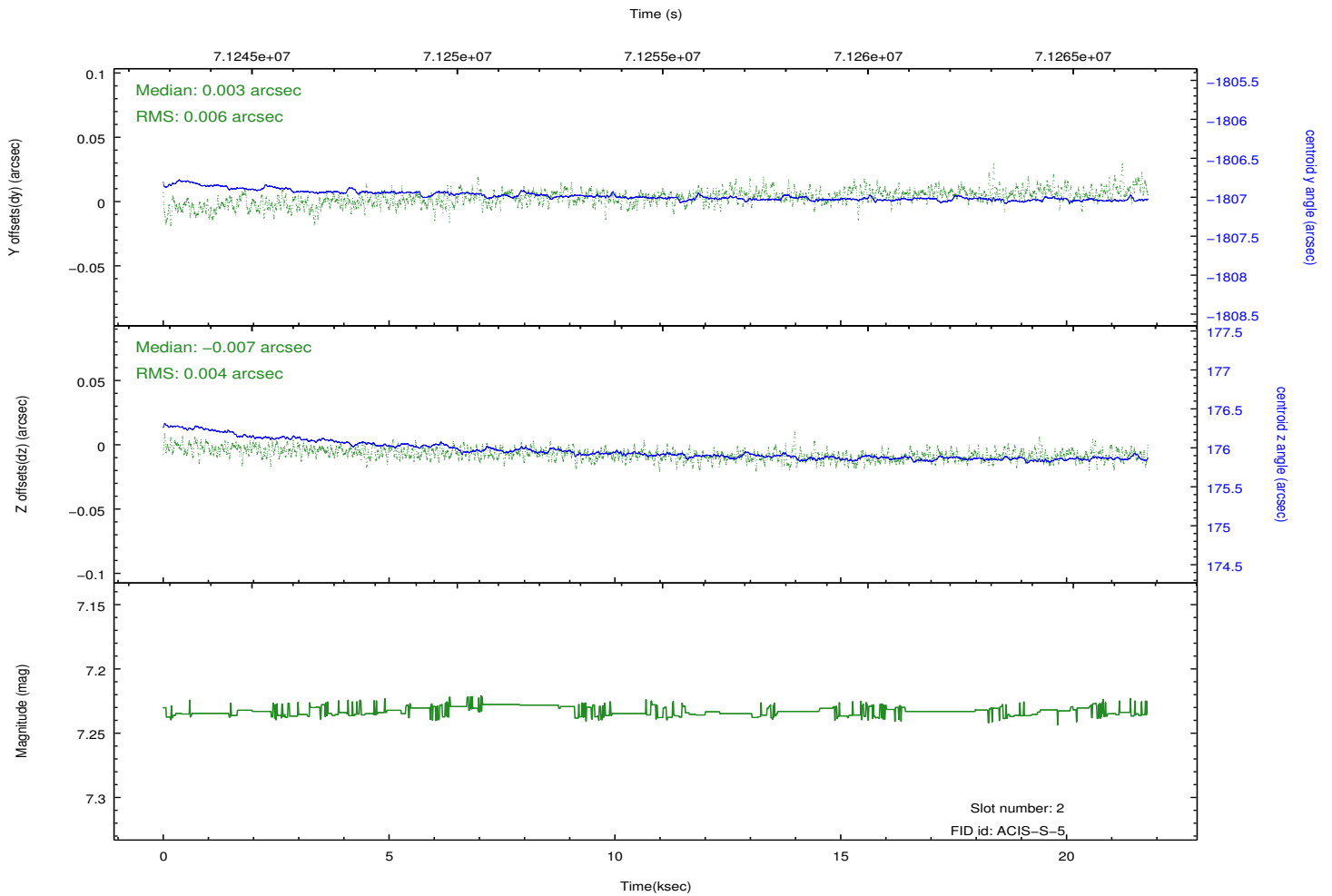
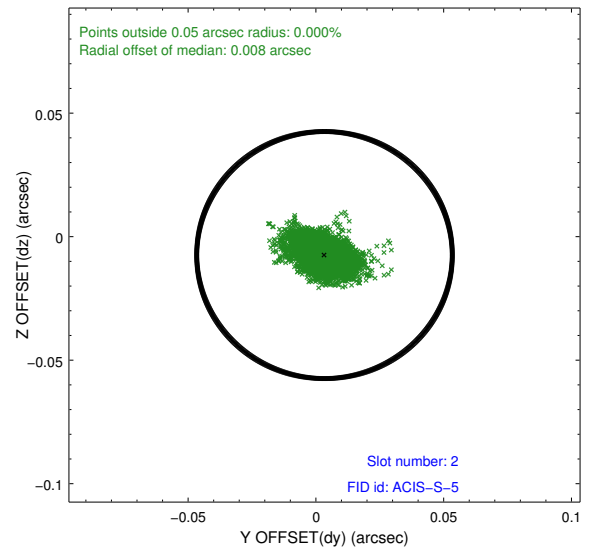
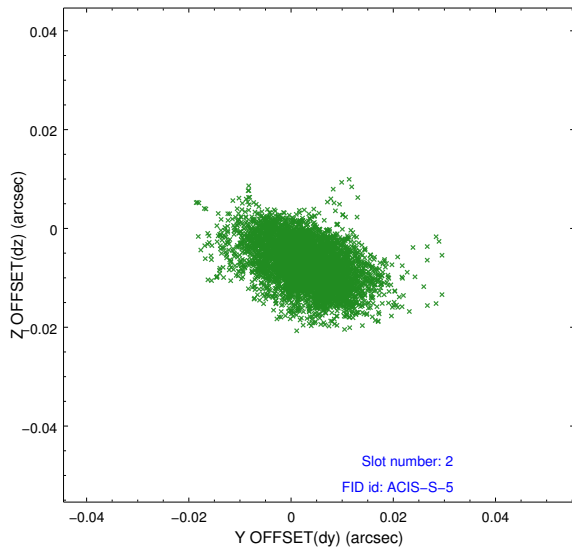
2.5.1 Slot 0



2.5.2 Slot 1



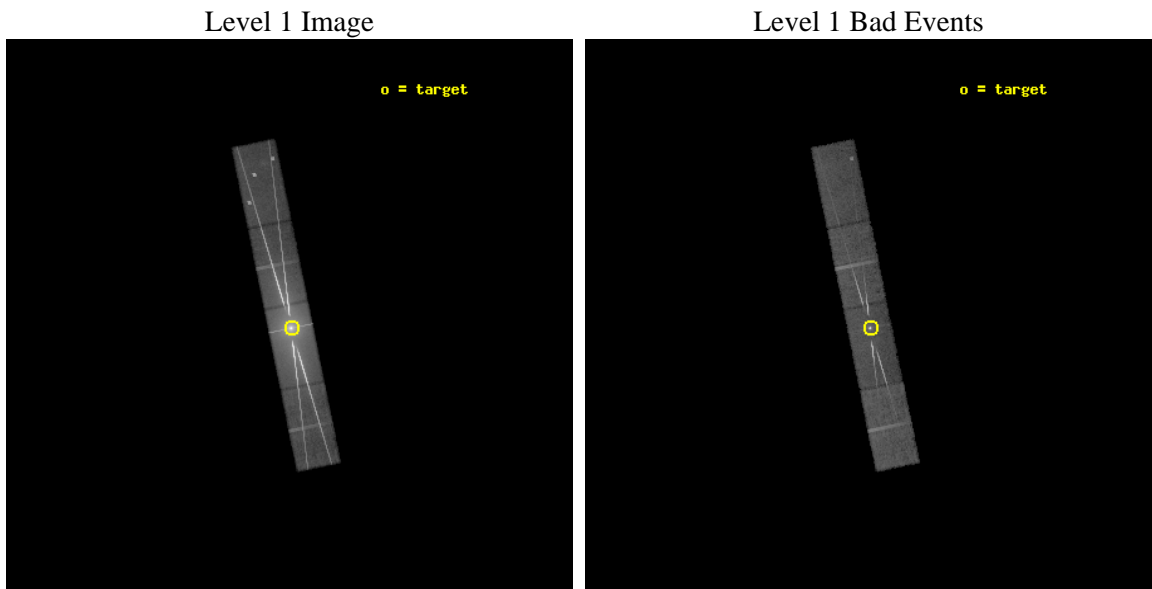
2.5.3 Slot 2



3 OBI Secondary

3.1 OBI

3.1.1 Images



3.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	21339.388000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	18959.774030745	Sum of GTIs [s]
caldbver	4.5.1.1	 	ontime5	18957.932421744	Sum of GTIs [s]
date	2012-08-25T13:10:15	Date and time of file creation	ontime6	18957.932990909	Sum of GTIs [s]
revision	6	Processing version of data	ontime7	18959.774030745	Sum of GTIs [s]
			ontime8	18957.932960808	Sum of GTIs [s]
			l1events	2203008	Number of level 1 events

3.1.3 Events

	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	156036	605638	1212273	229061
rejected events	54824	94782	144829	85809
rejected %	35%	15%	11%	37%

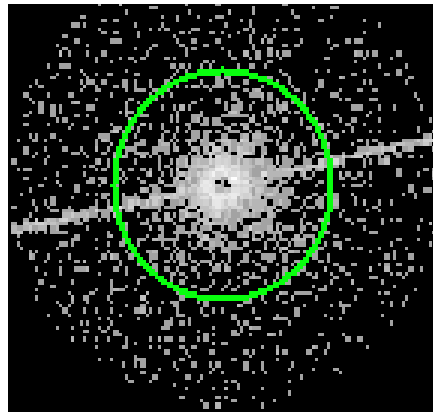
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	26722	340958	178677	97338
	17%	56%	14%	42%
grade 1 events	1158	7375	5015	583
	0%	1%	0%	0%
grade 2 events	32414	81346	289936	20992
	20%	13%	23%	9%
grade 3 events	3332	25172	95718	7124
	2%	4%	7%	3%
grade 4 events	3287	24902	93807	6821
	2%	4%	7%	2%
grade 5 events	5275	10009	33252	3547
	3%	1%	2%	1%
grade 6 events	35477	38608	409560	11004
	22%	6%	33%	4%
grade 7 events	48371	77268	106308	81652
	30%	12%	8%	35%

4 Gratings

4.1 HEG Arm



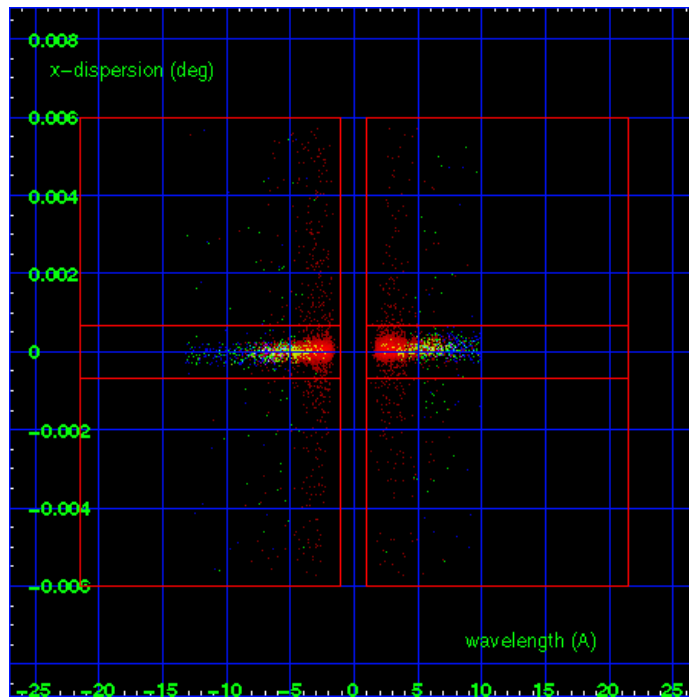
HEG Order Sort 123



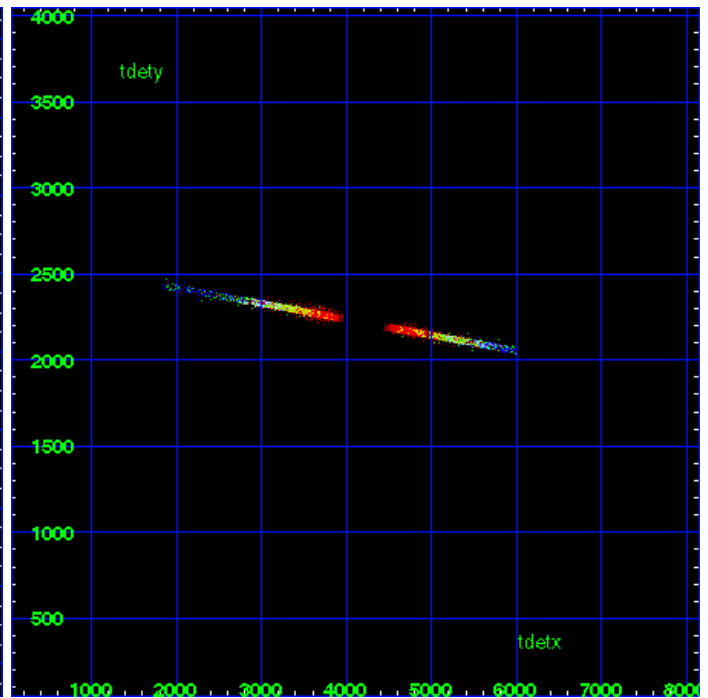
HEG Zero Order



HEG Order Sort ALL

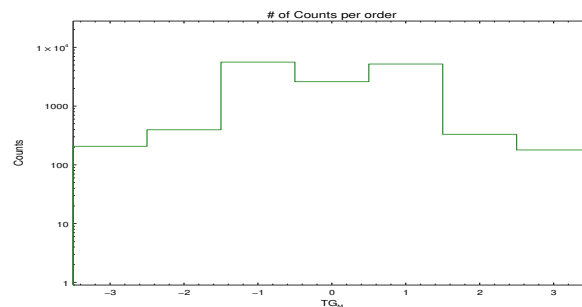


Spot Image HEG

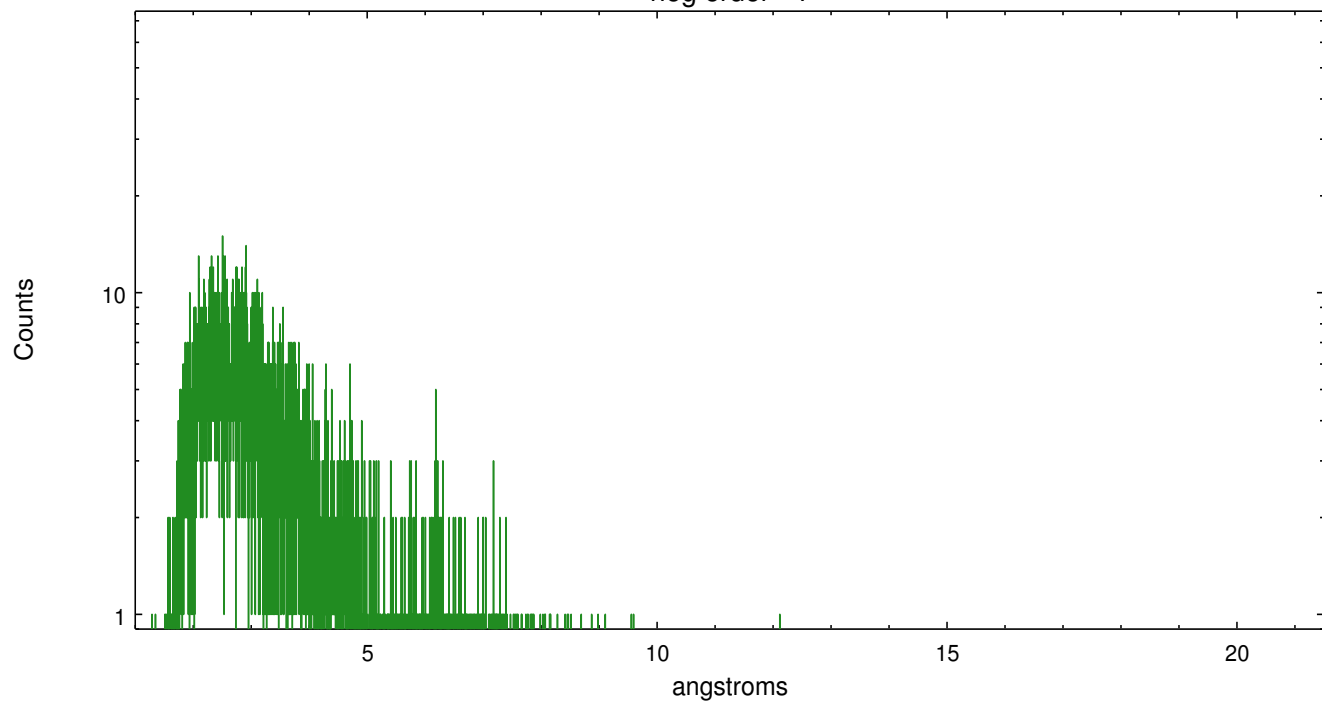


Full Detector HEG

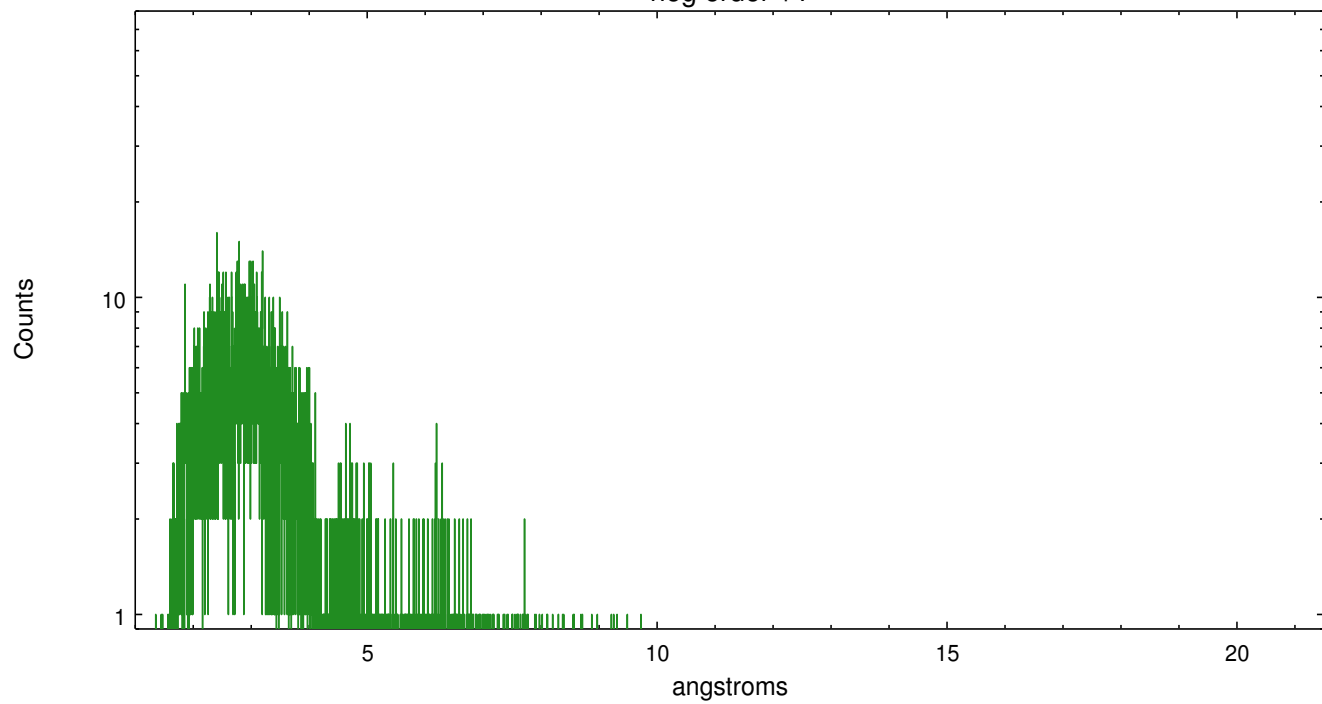
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	207	395	5599	2598	5197	331	179



heg order -1



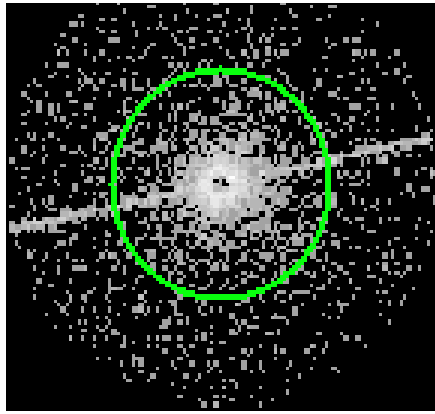
heg order +1



4.2 MEG Arm



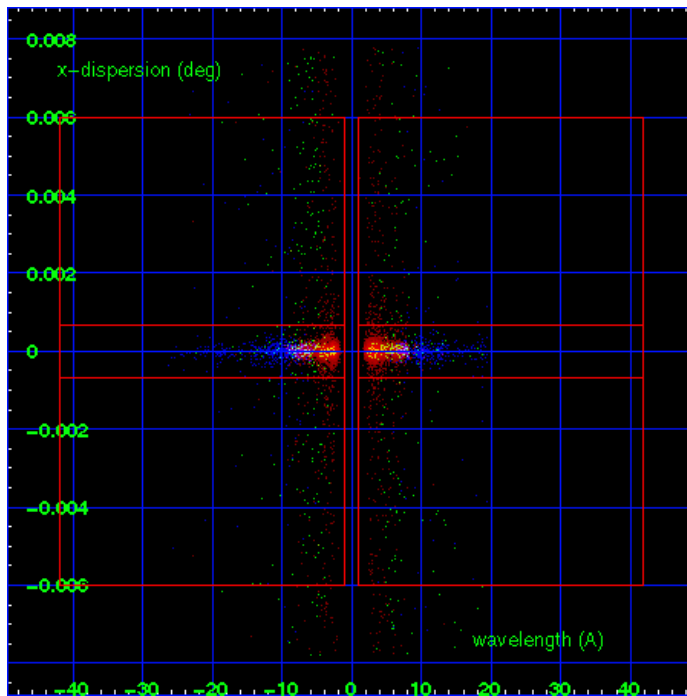
MEG Order Sort 123



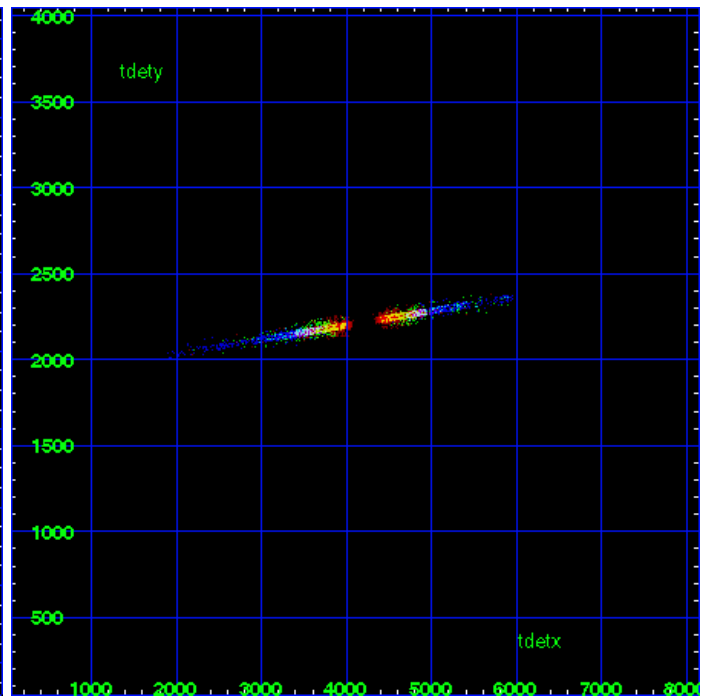
MEG Zero Order



MEG Order Sort ALL

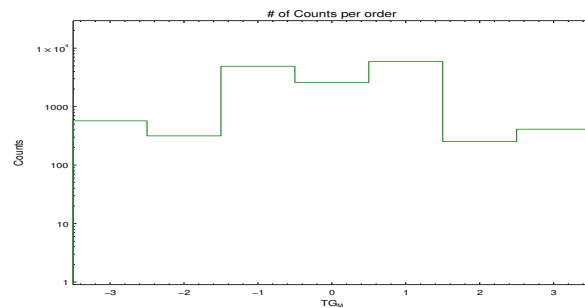


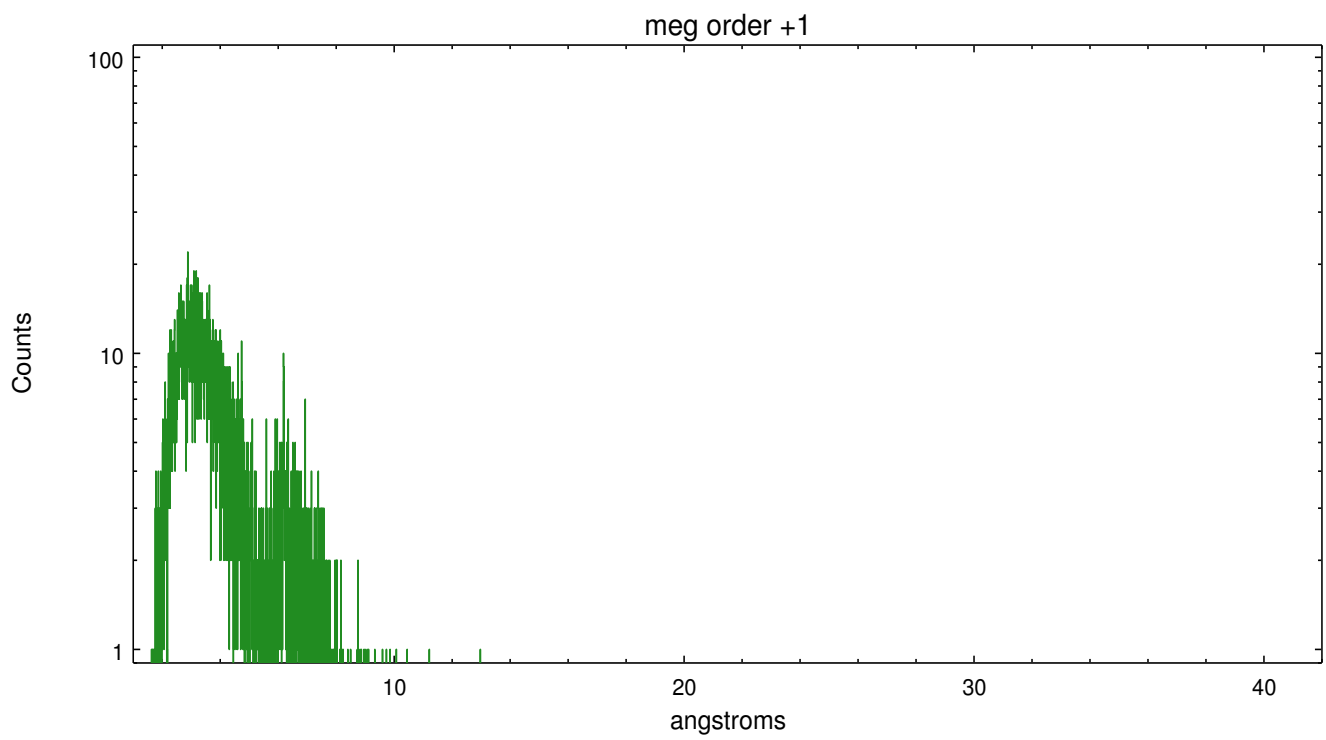
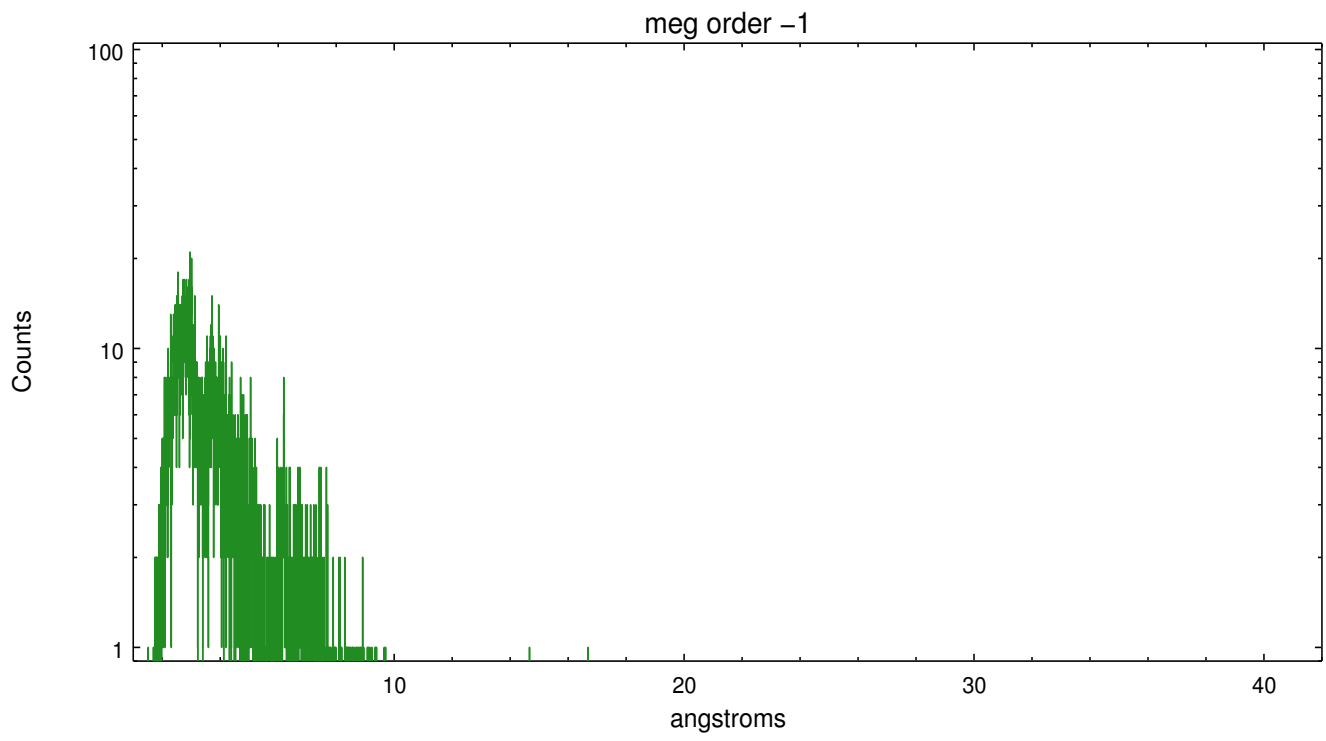
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	571	316	4901	2598	5900	253	411





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.08.30
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	21.533

A.2 Comments

Charge time for this ObsId remains at previous value of 21.533 k, although with the current processing the charge time would be 21.654 ks.

===

This is an interleaved-mode observation. The primary exposure (e1) is shorter than the secondary exposure (e2). Therefore the longer exposure was used to determine the zeroth order position, then that position was applied to both exposures.

Zeroth order piled up. Standard data processing software did not correctly locate the zeroth order due to pileup. Manual intervention was used to input the correct sky coordinates (x=4117.84, y=4029.27) into the *src1a.fits file table. These corrected coordinates were determined using a software tool developed by CXC called findzero, which is expected to be released in CIAO as tg_findzo (currently in ISIS as findzo). The tool calculates the point of intersection of the readout streak and the meg arm. The zeroth order source position determined by the standard pipeline processing using the tool tgdetect was not used in this processing. The newly determined zeroth order coordinates have been placed in the *src1a.fits file, replacing the coordinates determined by tgdetect. Note that these corrected coordinates of the zeroth order cannot be reproduced by running tgdetect on the data.