

V&V Reference Report

L2 ASCDS Version : 7.6.10

Observation 511 - L2 Version 4
Chandra X-Ray Center

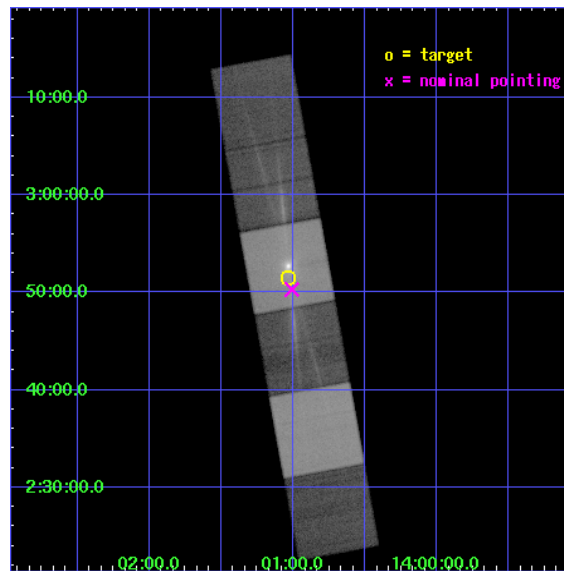
L2 Processing Date : Nov 9 2007

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1 Front

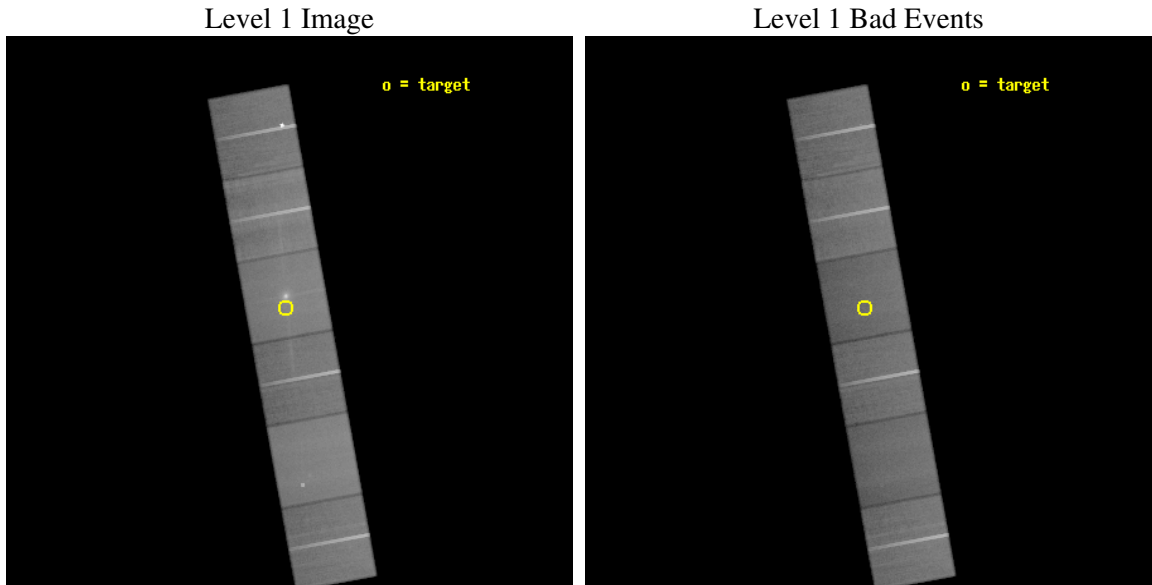
seq_num	800019
obs_id	511
title	HIGH RESOLUTION X-RAY SPECTRA OF CLUSTER COOLING FLOWS
observer	Prof. Claude Canizares
object	ABELL 1835
dtcycle	0
cycle	P
ra_targ	210.257917
dec_targ	2.858889
ra_nom	210.2523326176
dec_nom	2.8386337675699
roll_nom	259.6371816333
revision	4
ontime	126950.40011823
livetime	125342.87771158
ontime4	126937.43623742
ontime5	126947.15916799
ontime6	126950.40011823
ontime7	126950.40011823
ontime8	126943.91817784
ontime9	126940.67727748
l2events	1222505



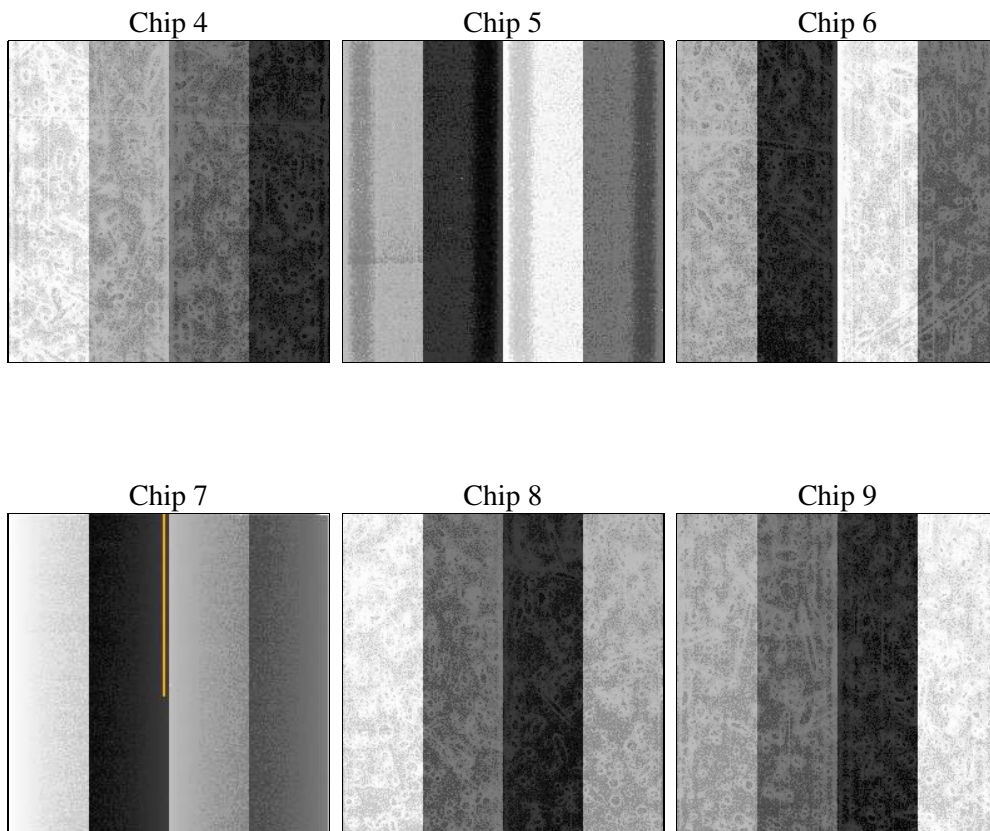
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0
ascdsver	7.6.10
caldsver	3.4.0
date	2007-06-05T14:14:51
revision	3

sched_exp_time	127000.000000
ontime	126950.40011823
ontime4	126937.43623742
ontime5	126947.15916799
ontime6	126950.40011823
ontime7	126950.40011823
ontime8	126943.91817784
ontime9	126940.67727748
l1events	5469720

2.1.4 Events

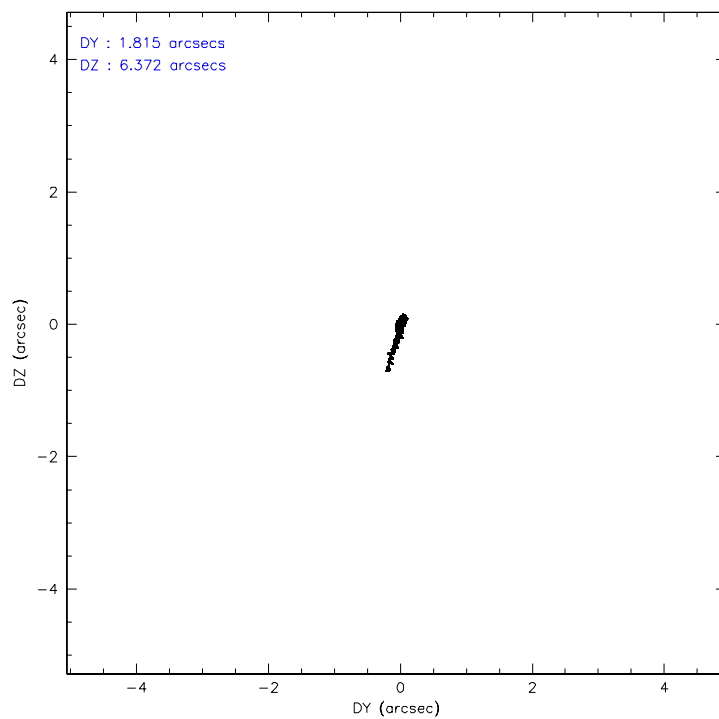
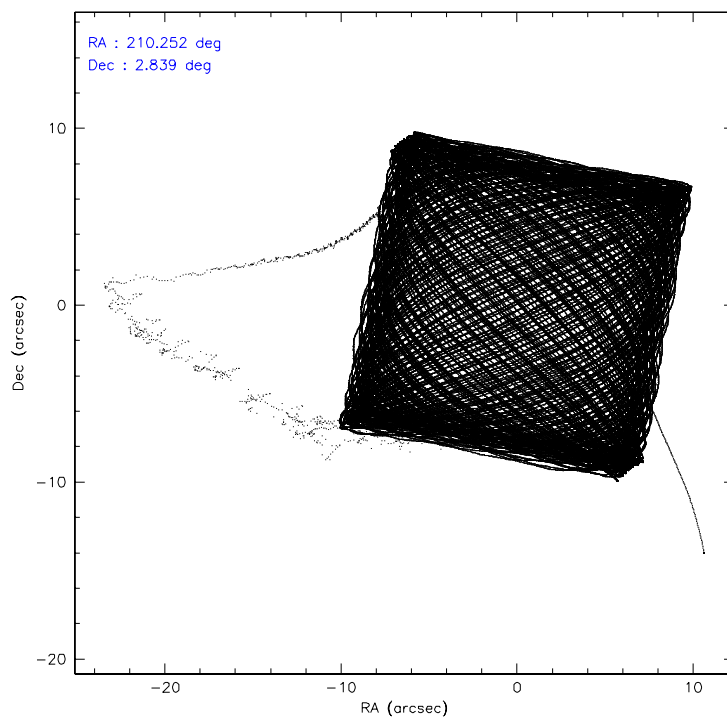
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	864156	1016680	795428	995877	989768	807811
rejected events	774619	559542	692339	547919	783844	681631
rejected %	89%	55%	87%	55%	79%	84%

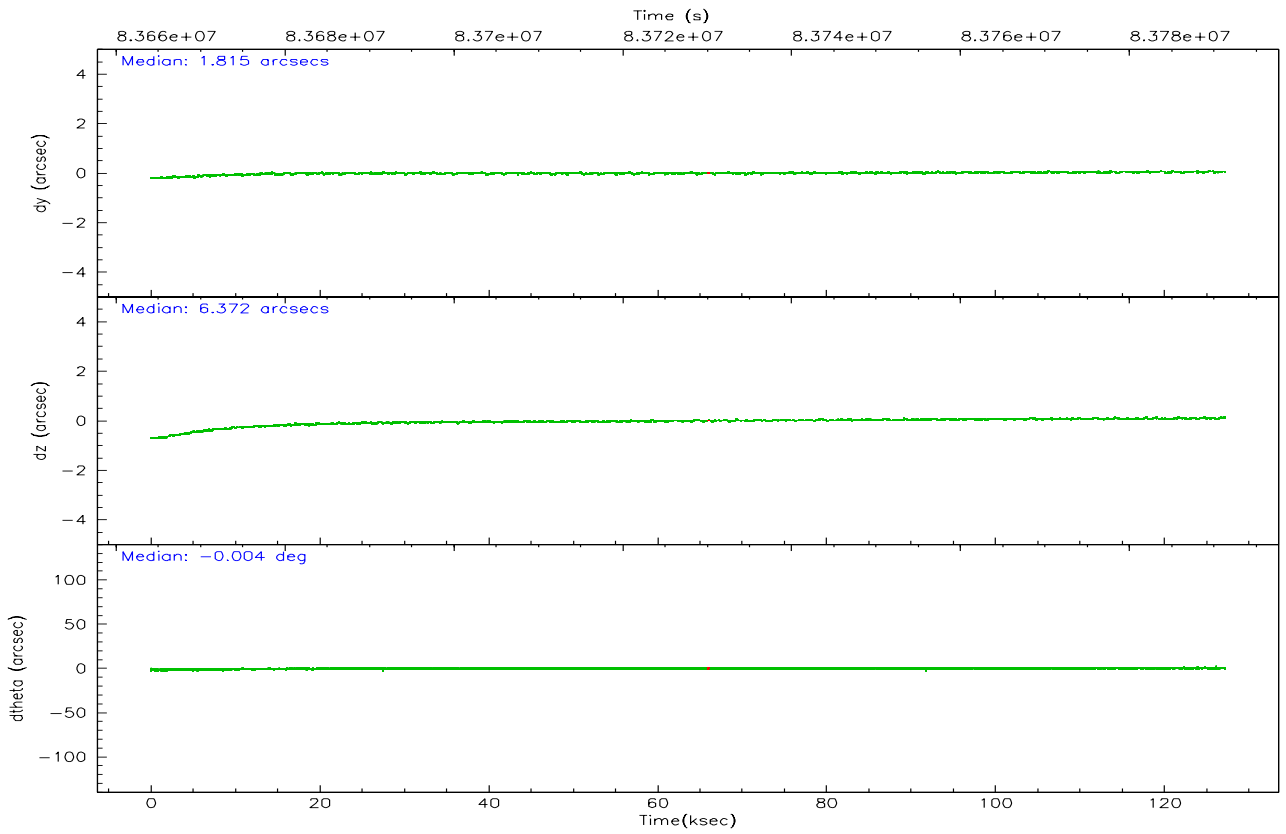
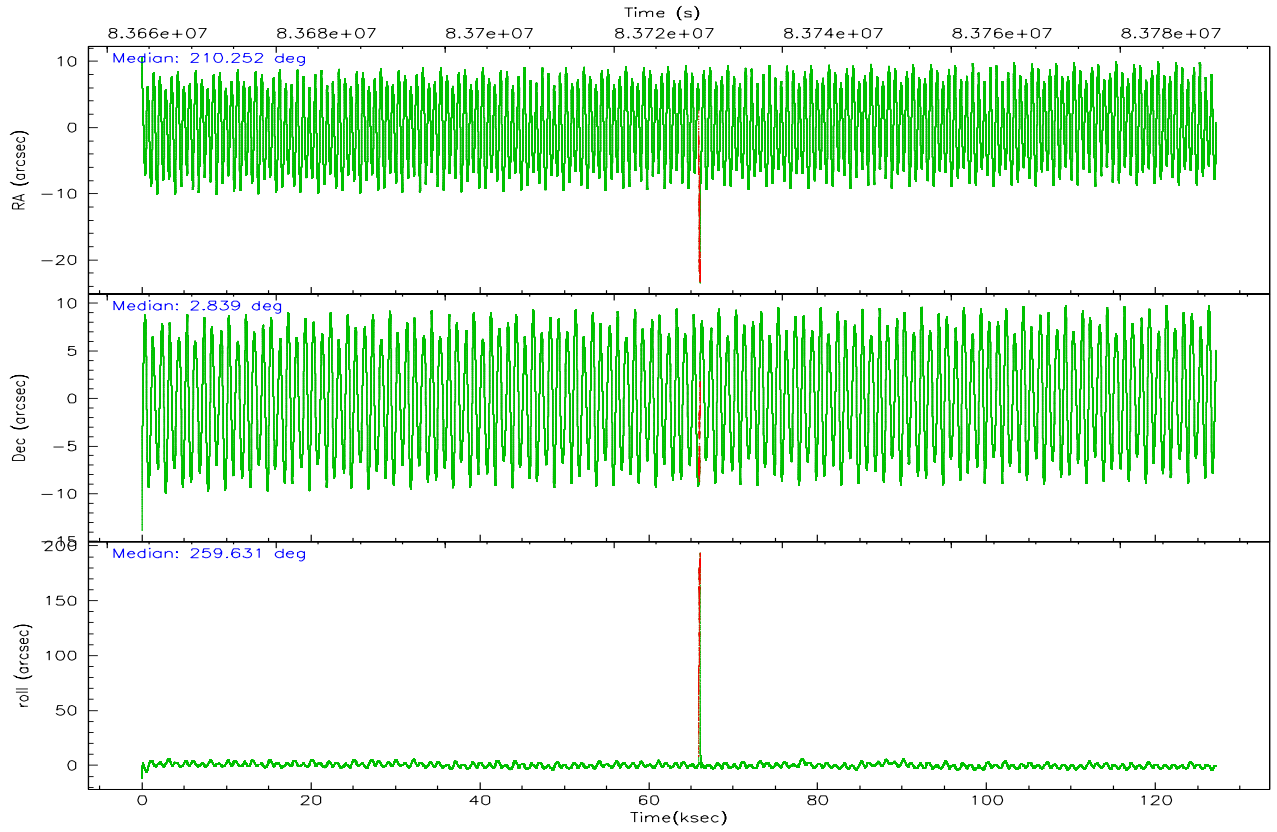
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	36489	36282	48806	51647	73422	74303
	4%	3%	6%	5%	7%	9%
grade 1 events	395	1332	385	862	596	605
	0%	0%	0%	0%	0%	0%
grade 2 events	20977	133885	18718	91195	42267	17643
	2%	13%	2%	9%	4%	2%
grade 3 events	8638	21496	9445	42567	21094	8874
	0%	2%	1%	4%	2%	1%
grade 4 events	8156	20836	9246	42416	19839	8523
	0%	2%	1%	4%	2%	1%
grade 5 events	26179	81021	30954	92092	39957	32206
	3%	7%	3%	9%	4%	3%
grade 6 events	15405	245318	16994	220713	49560	17015
	1%	24%	2%	22%	5%	2%
grade 7 events	747917	476510	660880	454385	743033	648642
	86%	46%	83%	45%	75%	80%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	6	6
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
Pointing RA	210.242975	210.2523326175959	Subarray requested	NONE	NONE
Pointing Dec	2.864371	2.838633767569894	Alternating exposures requested	N	N
Pointing Roll	259.480963	259.6371816333047	Primary exposure time	3.200000	3.2
SIM focus pos (mm)	-0.684267	-0.6828225247311905			
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-190.132523	-190.1400660498719			
SIM translation stage offset (mm)	0	0.00754346686406393			
Observation start time	83664326.184000	83663285.733189			
Observation start date	2000-08-26T08:04:22	2000-08-26T07:48:05			
Observation end time	83791326.184000	83792309.66303			
Observation end date	2000-08-27T19:21:02	2000-08-27T19:38:29			
Read mode	TIMED	TIMED			

2.3 Aspect



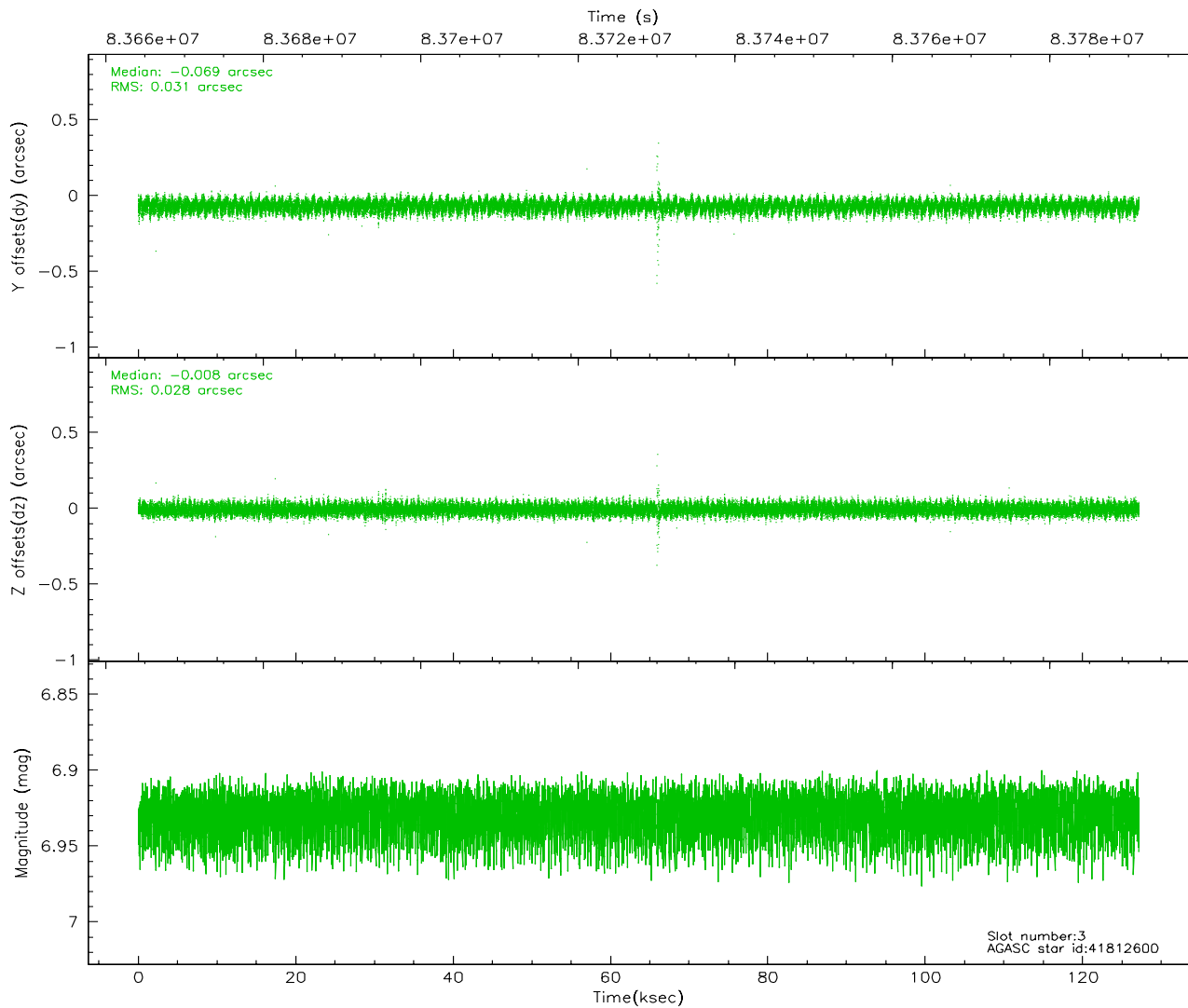
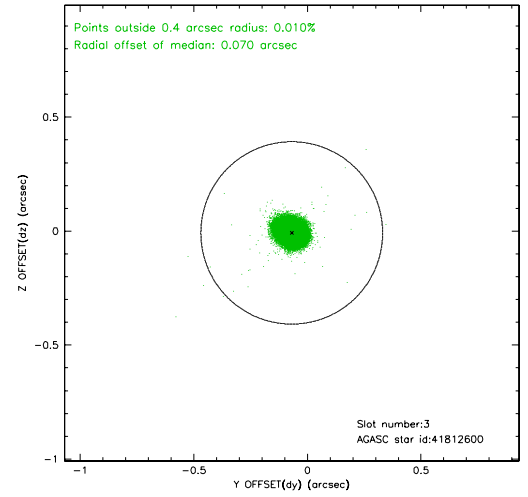
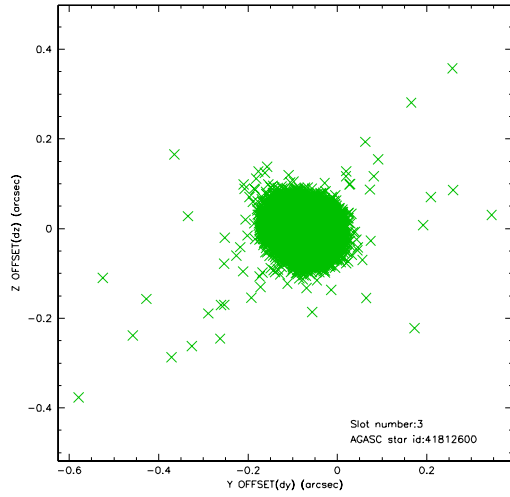


Slot Statistics

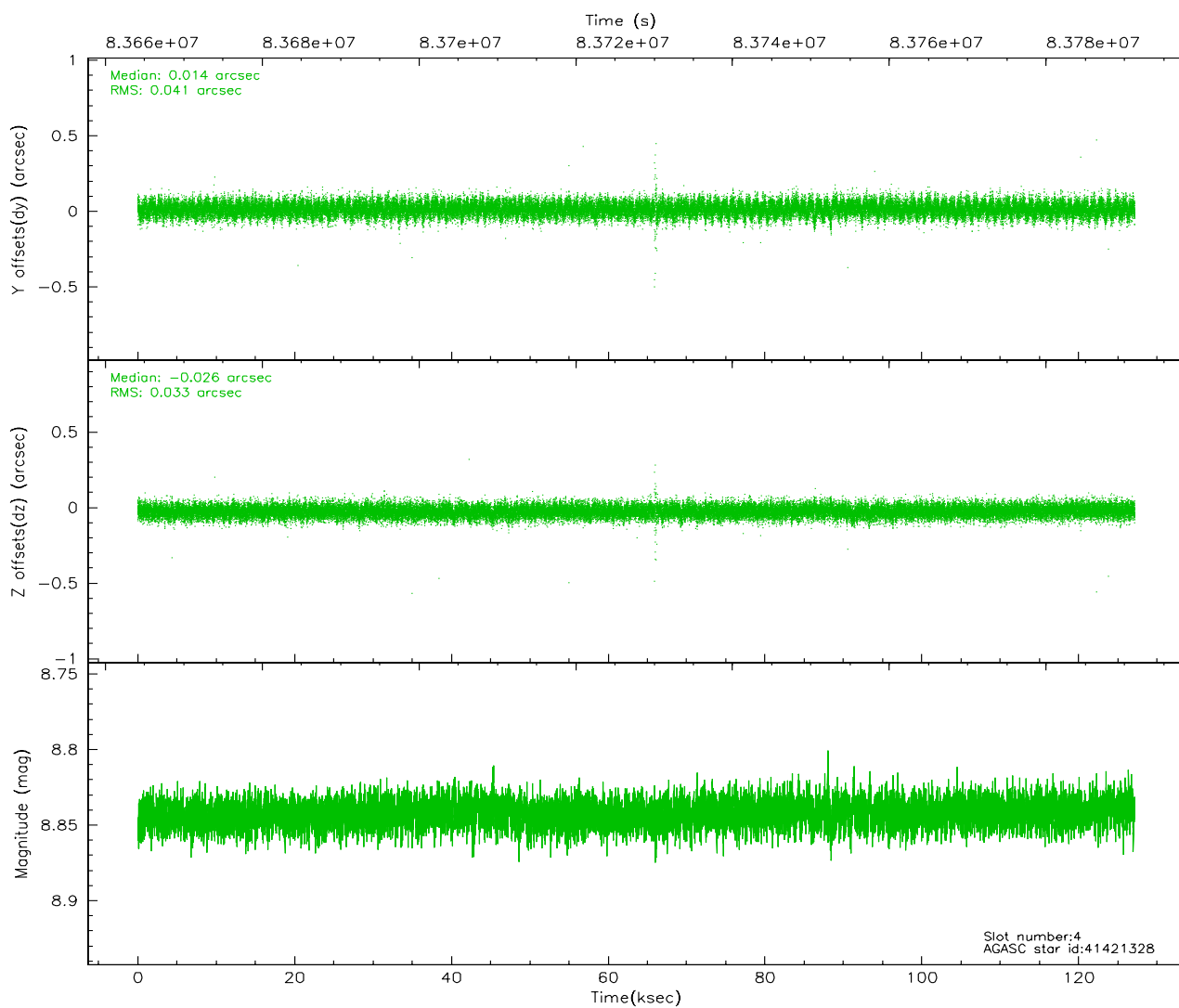
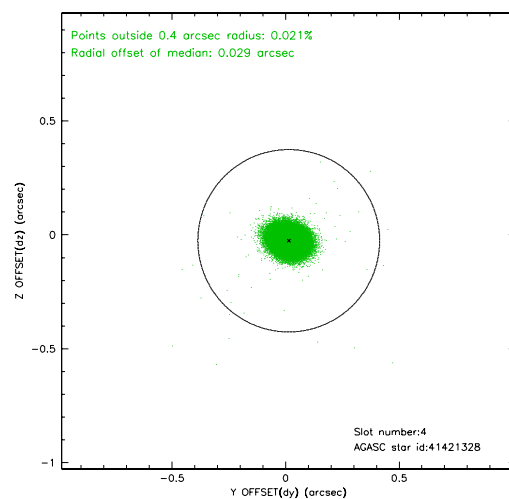
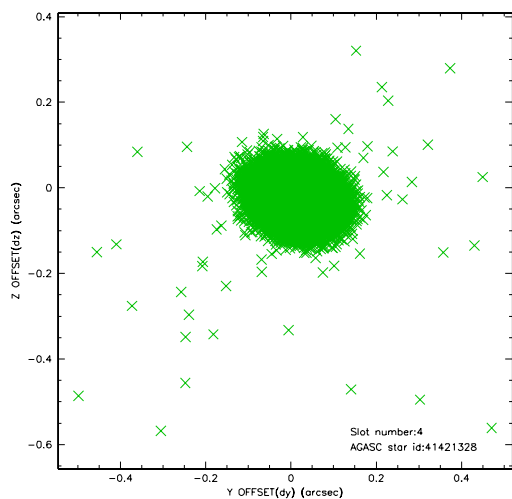
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	31021	-0.016	0.034	0.007	0.012	0.000000	0.000000	-754.43	-1727.45
1	FID	ACIS-S-4	7.21	31019	-0.078	-0.001	0.005	0.010	0.000000	0.000000	2158.83	181.11
2	FID	ACIS-S-5	7.23	31019	0.063	-0.024	0.006	0.011	0.000000	0.000000	-1807.33	174.64
3	GUIDE	41812600	6.93	61998	-0.069	-0.008	0.044	0.071	210.084142	2.674576	776.13	-436.25
4	GUIDE	41421328	8.84	61986	0.014	-0.026	0.055	0.090	210.405722	2.285281	1942.82	956.88
5	GUIDE	41812672	9.18	61966	-0.005	0.016	0.073	0.118	210.433277	2.688495	497.70	789.03
6	GUIDE	41423376	9.45	61981	0.043	0.123	0.091	0.147	210.567769	2.137823	2358.20	1627.29
7	GUIDE	41812184	9.38	61957	0.018	-0.104	0.072	0.119	210.003940	2.531299	1336.01	-625.78

2.4 Star Slots

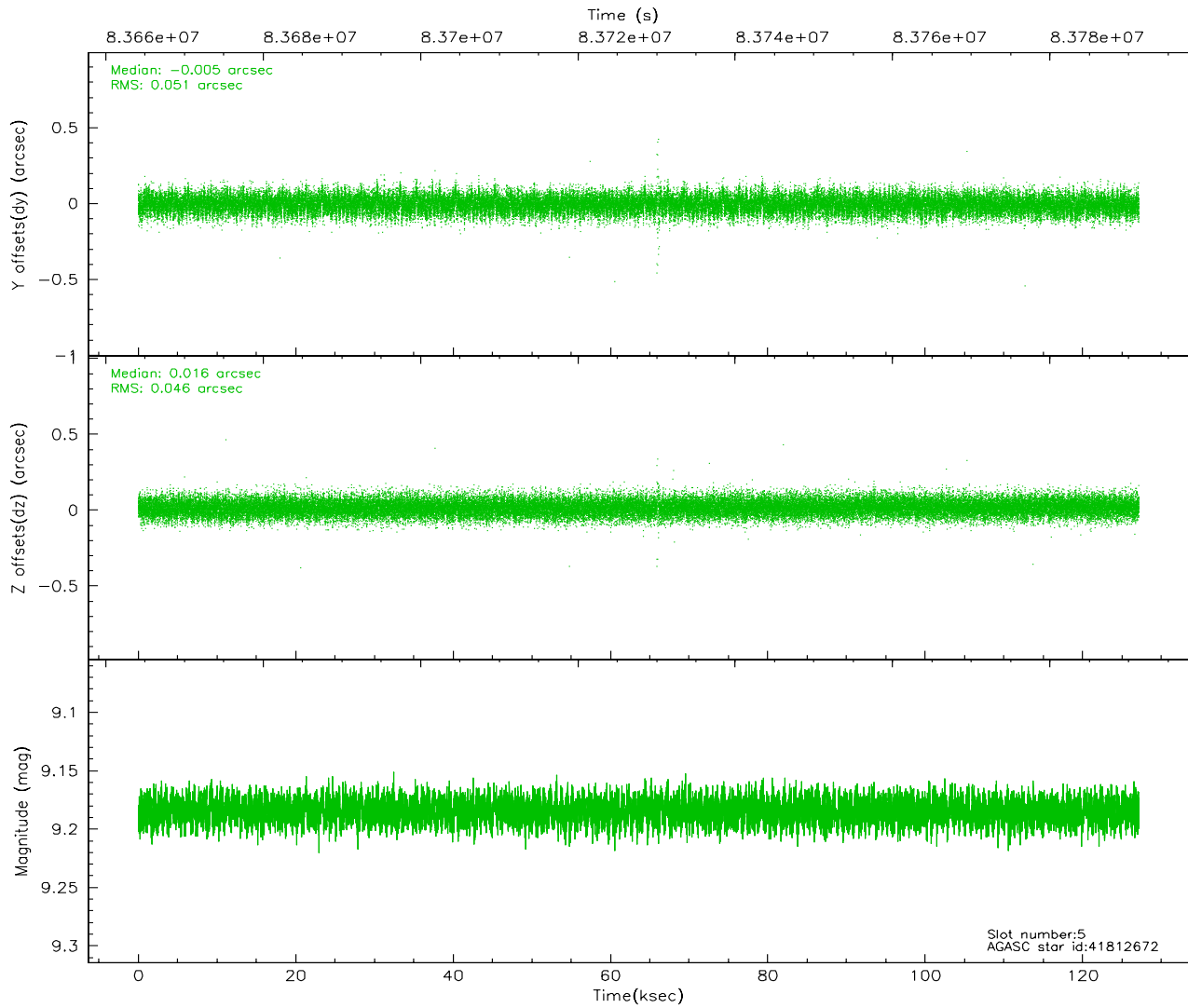
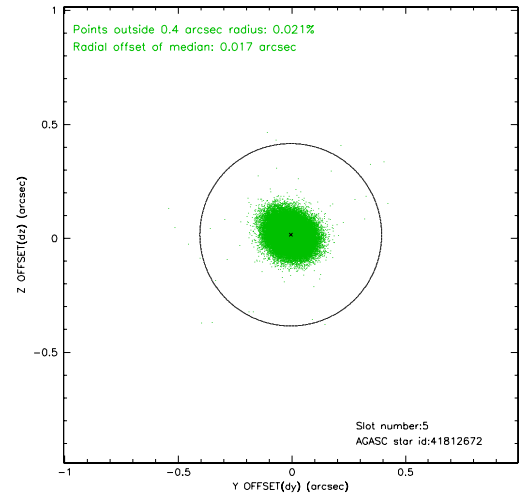
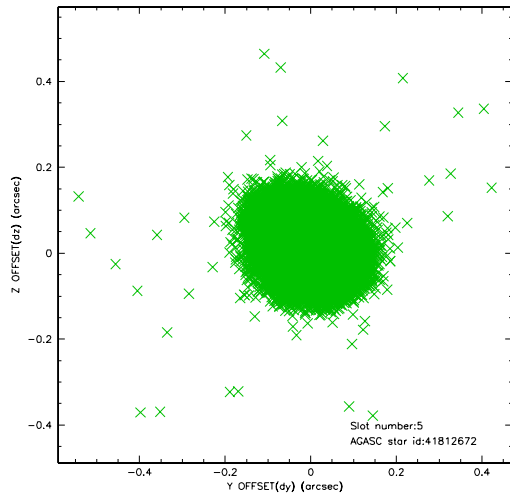
2.4.1 Slot 3



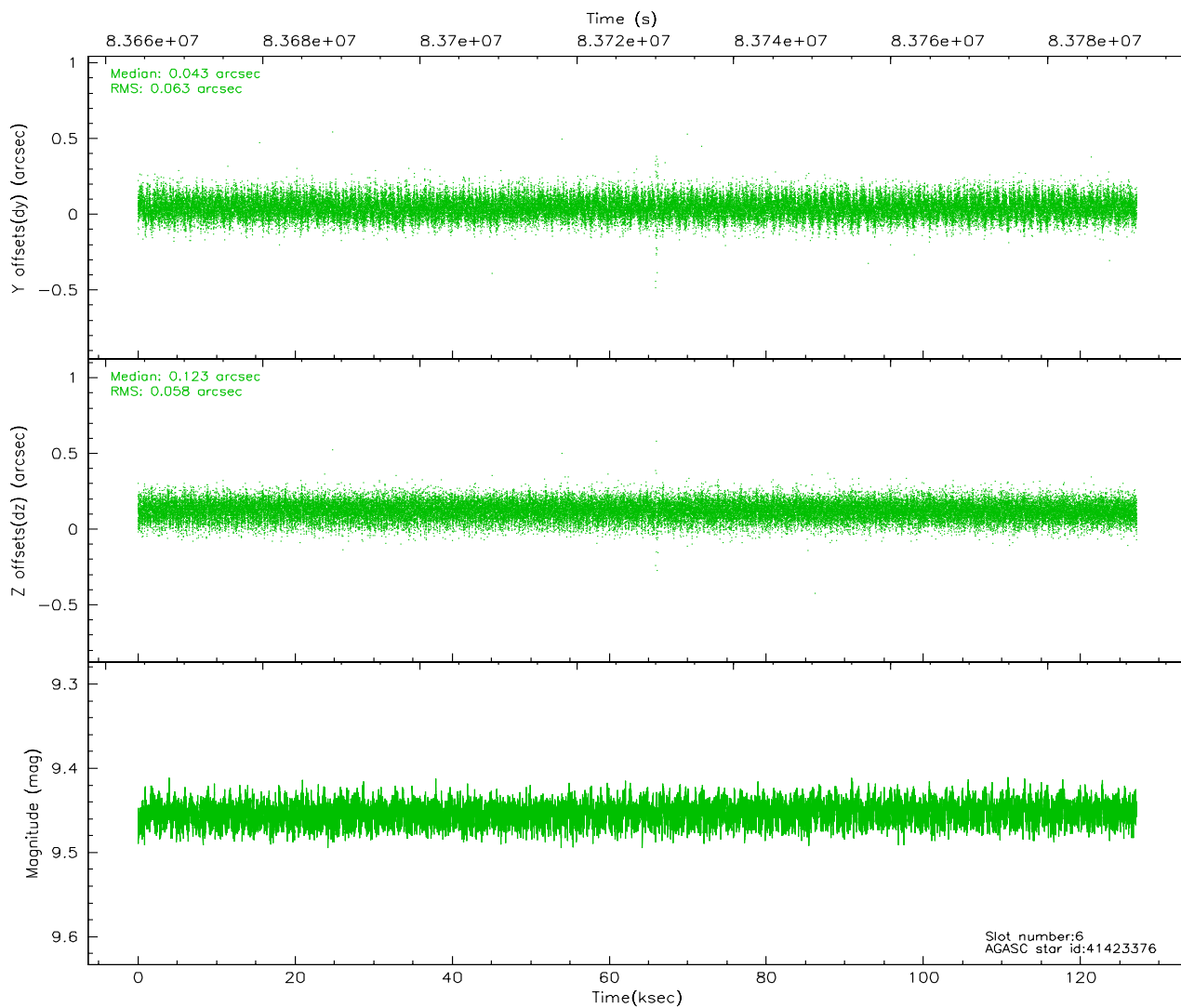
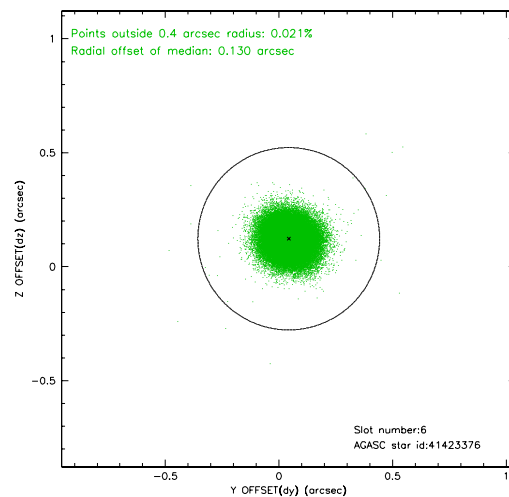
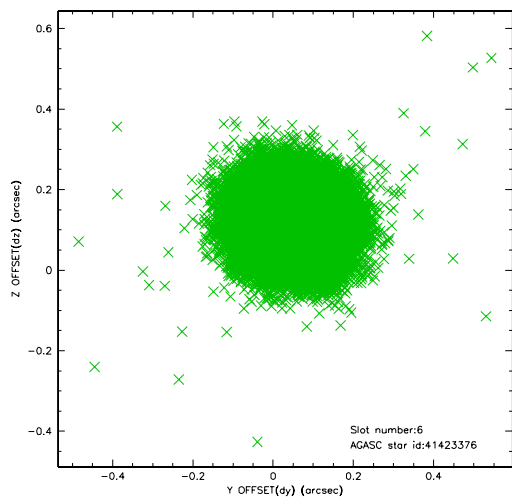
2.4.2 Slot 4



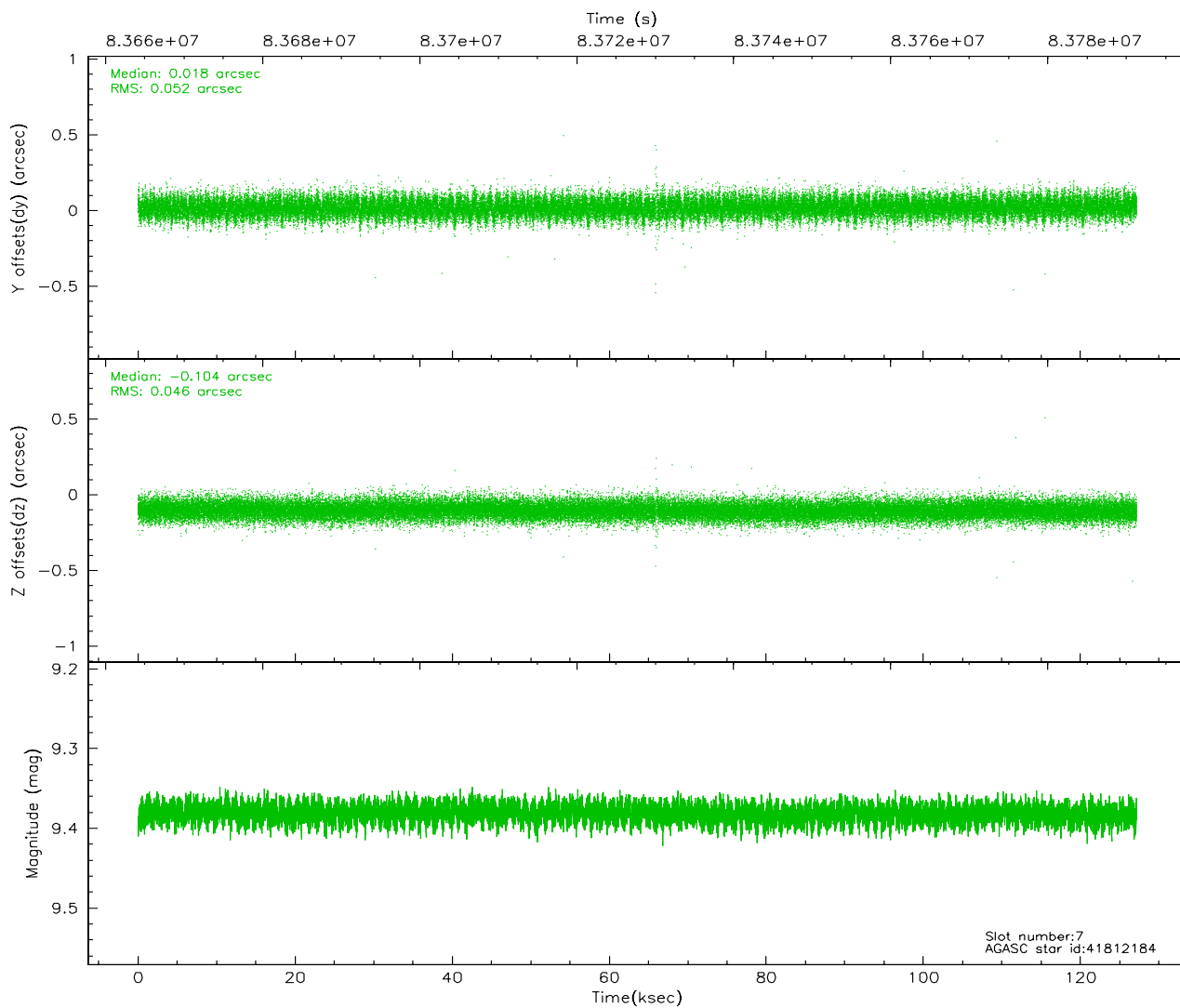
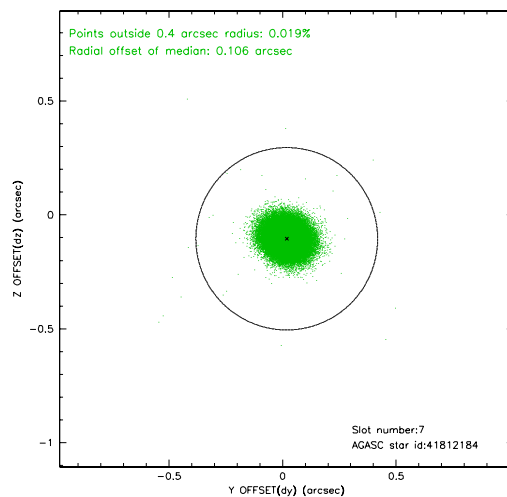
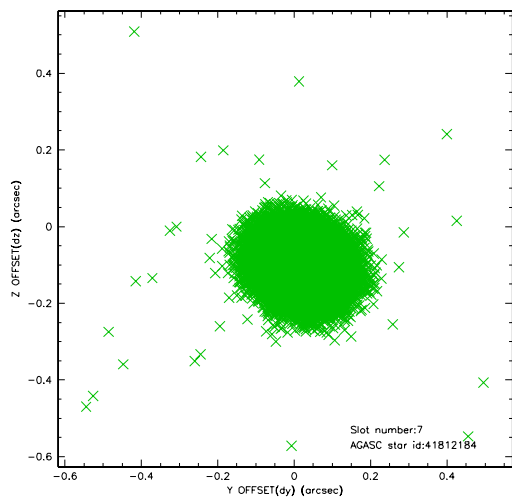
2.4.3 Slot 5



2.4.4 Slot 6

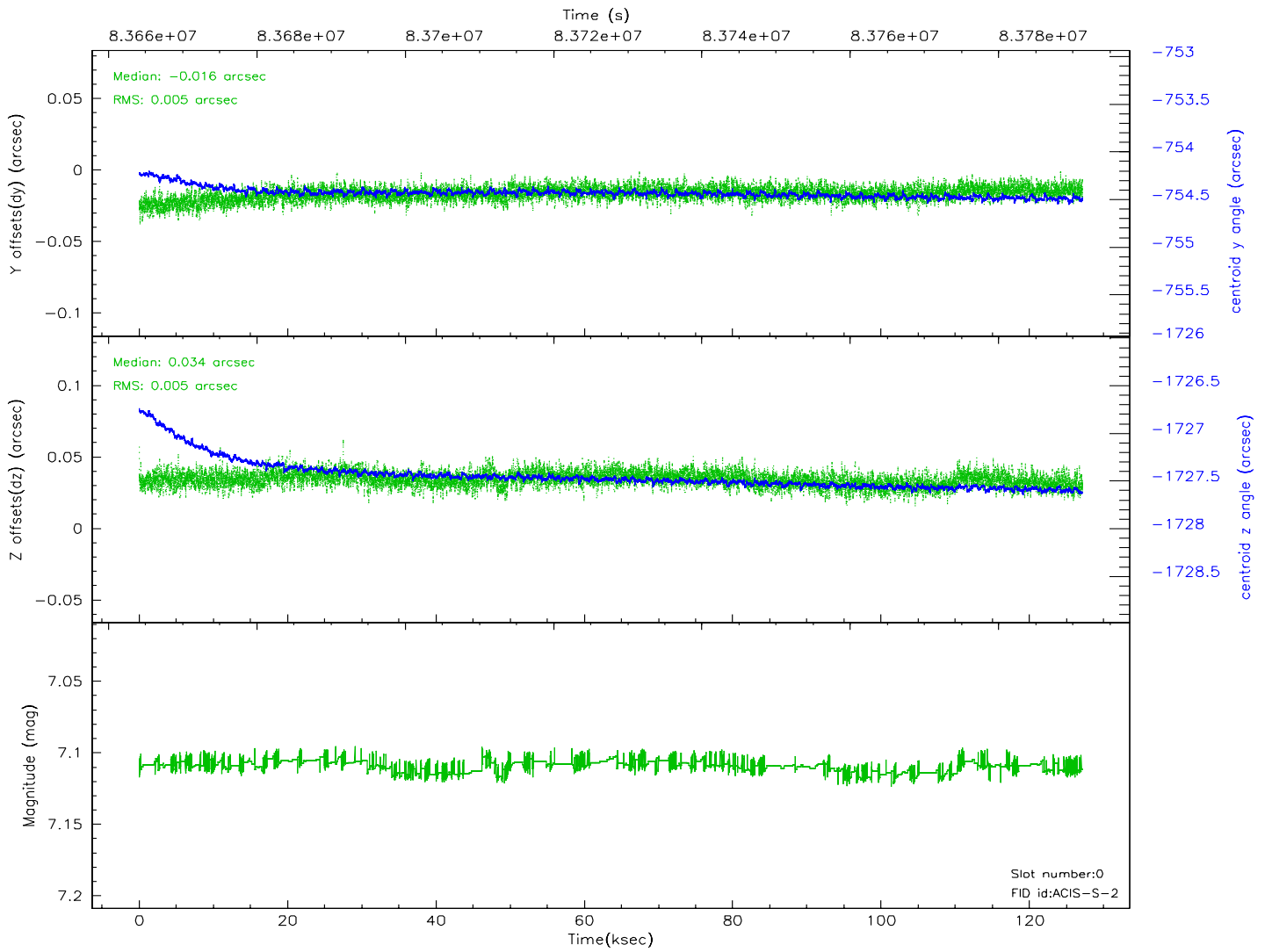
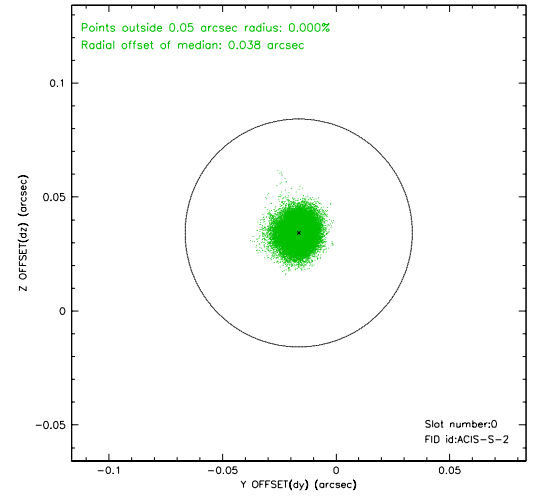
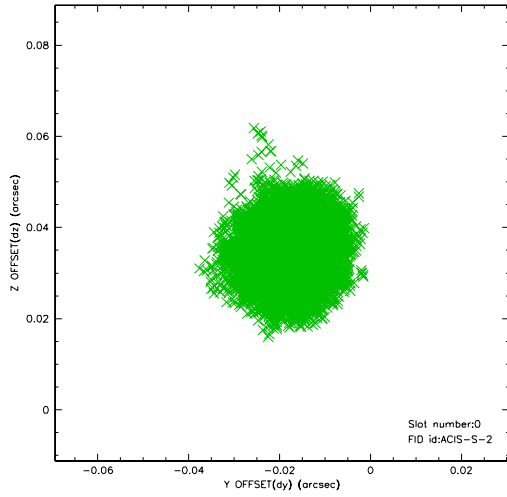


2.4.5 Slot 7

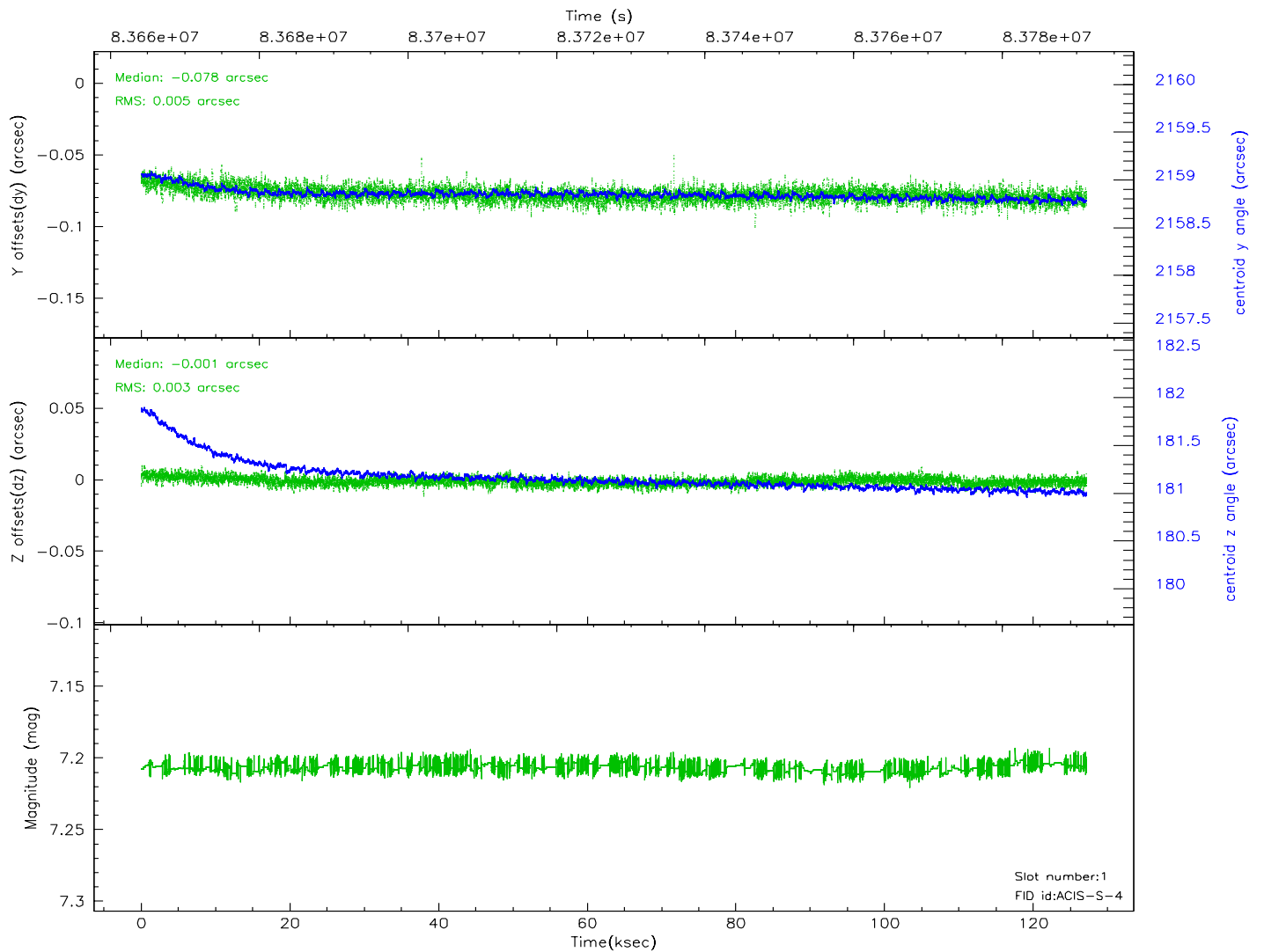
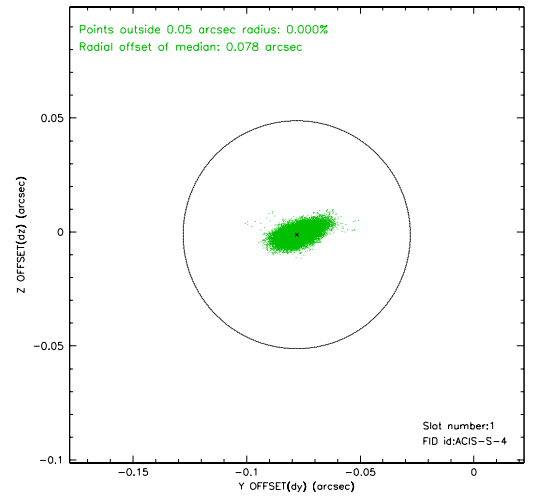
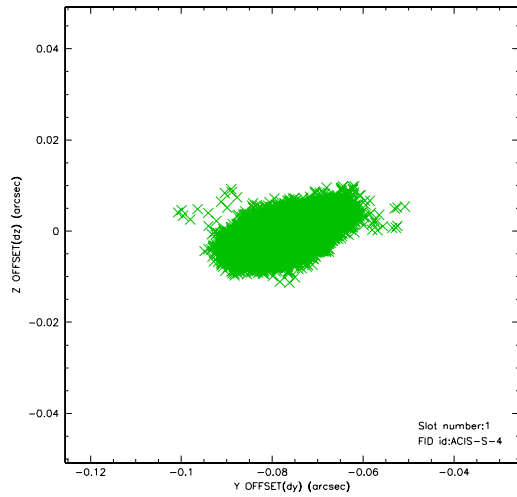


2.5 FID Slots

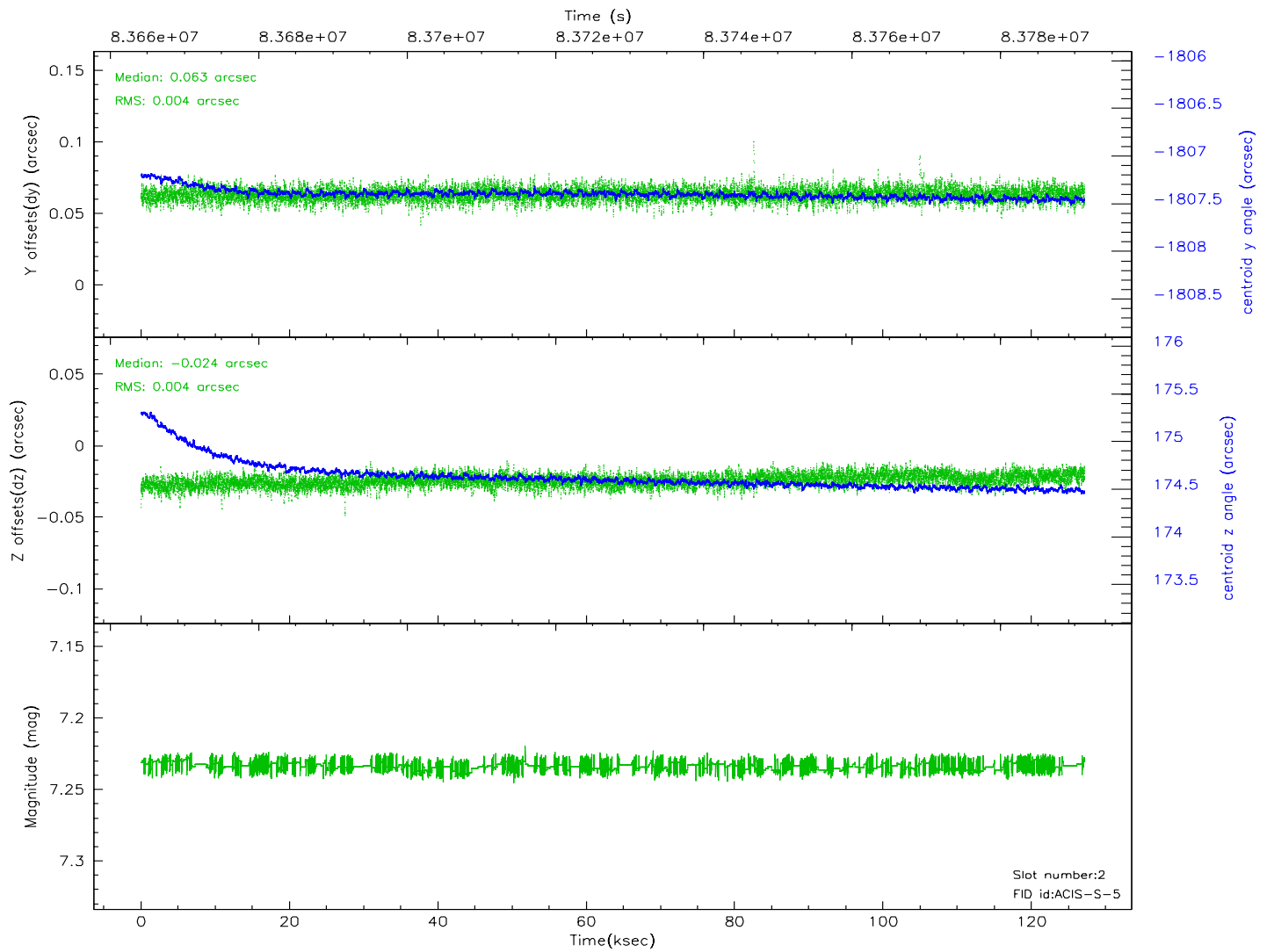
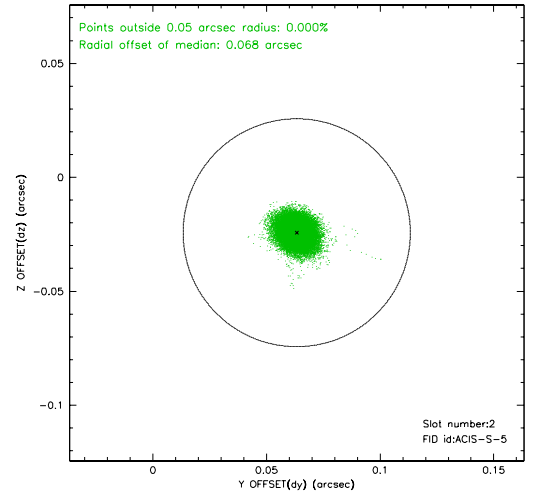
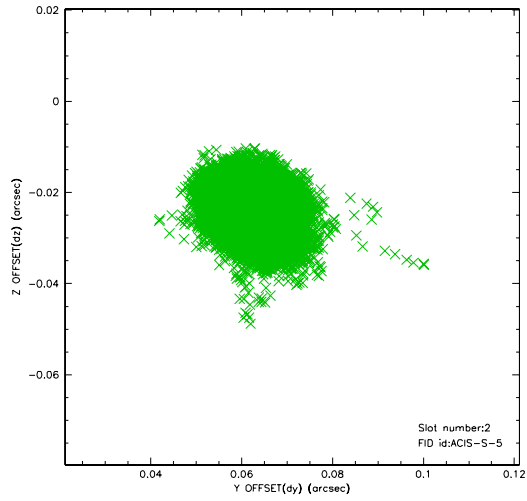
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

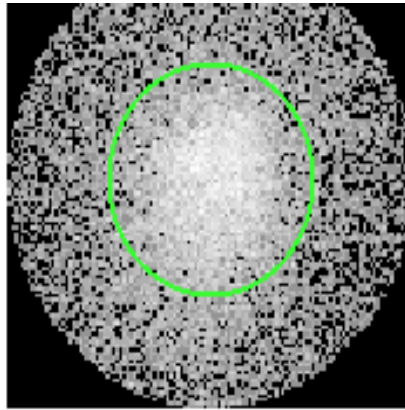


3 Gratings

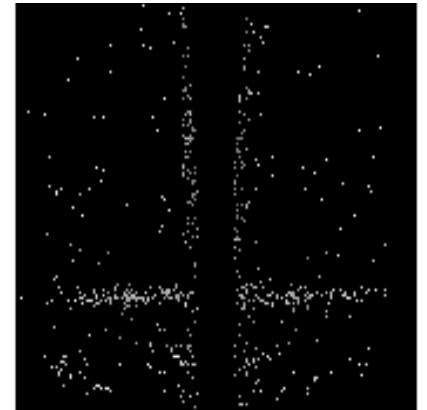
3.1 HEG Arm



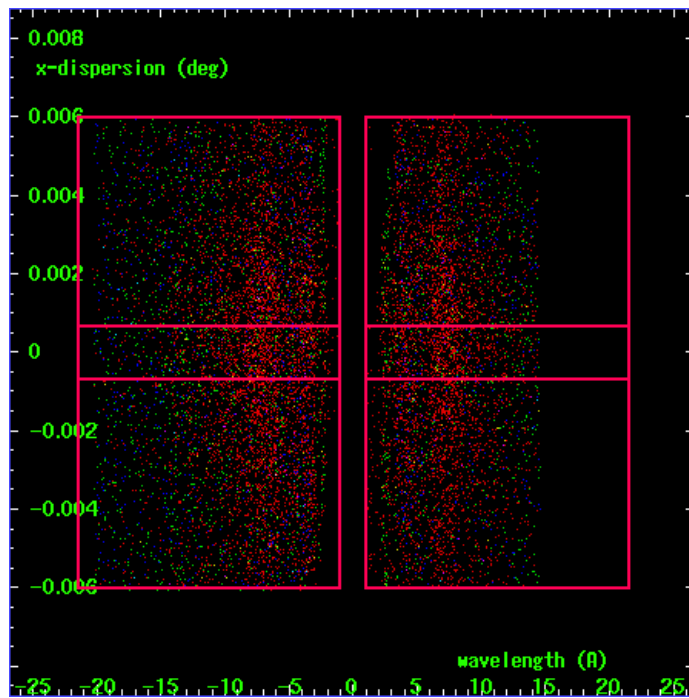
HEG Order Sort 123



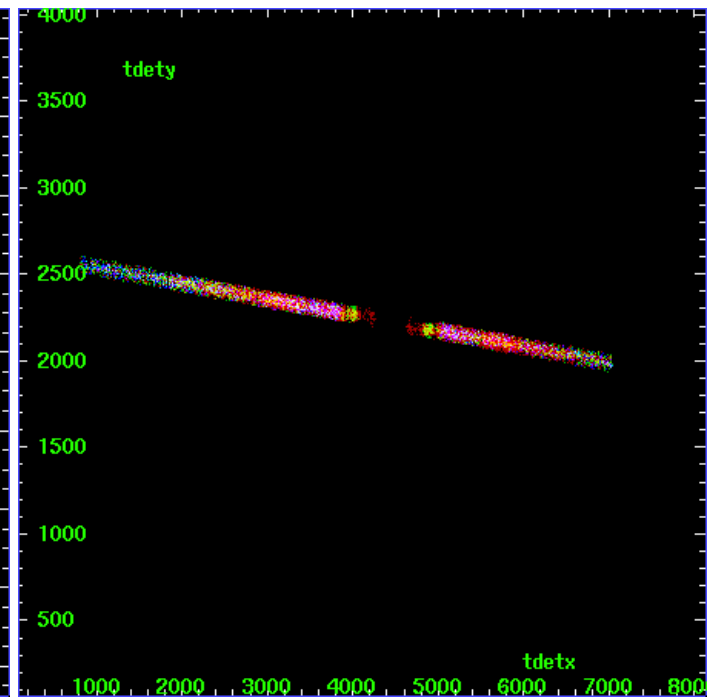
HEG Zero Order



HEG Order Sort ALL

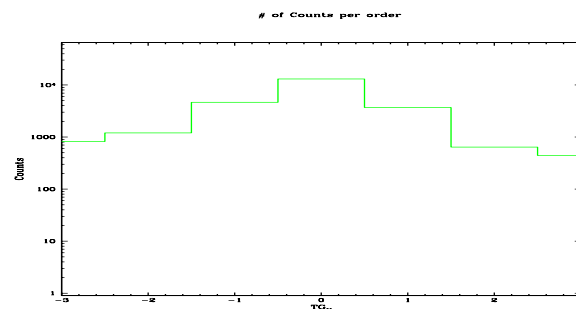


Spot Image HEG

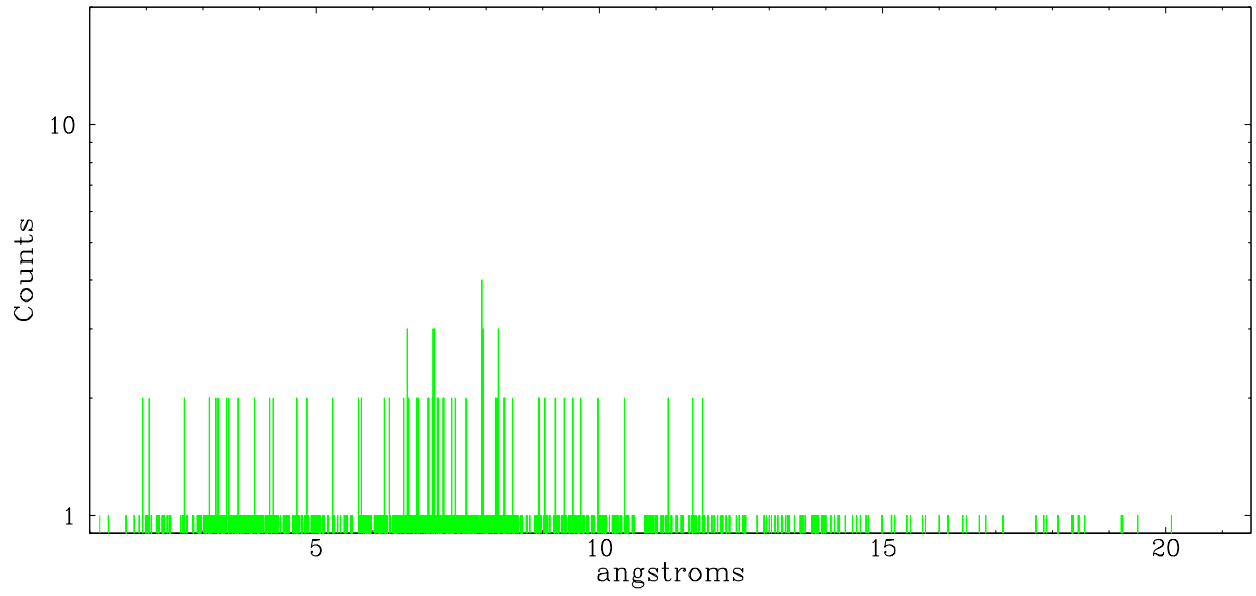


Full Detector HEG

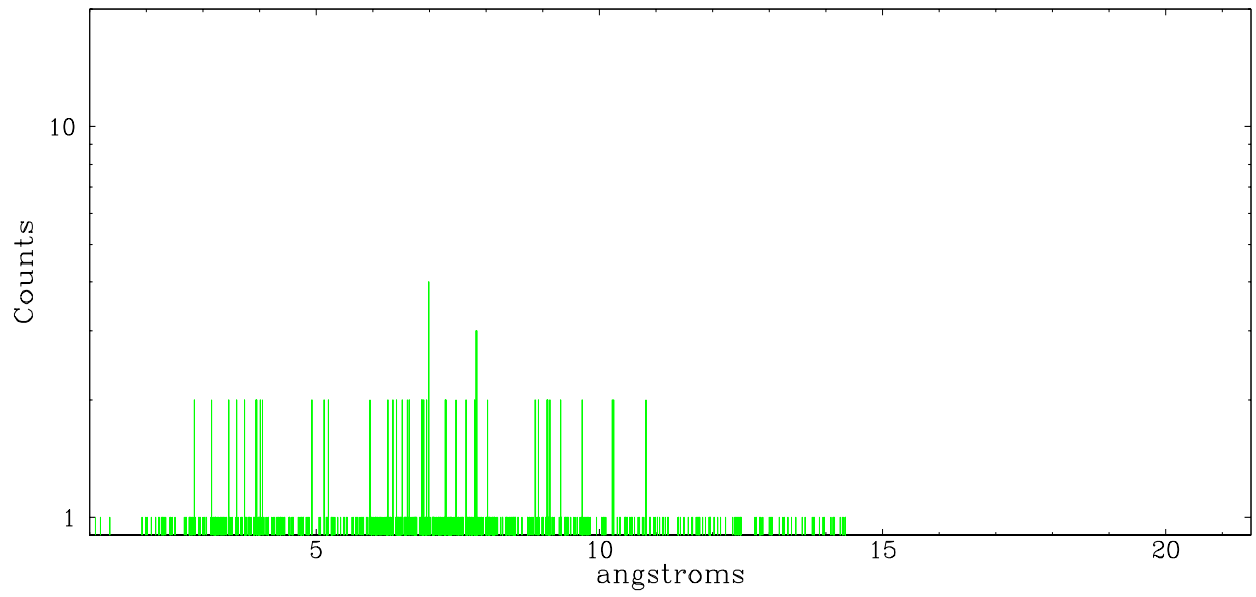
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	822	1200	4658	13030	3696	644	442



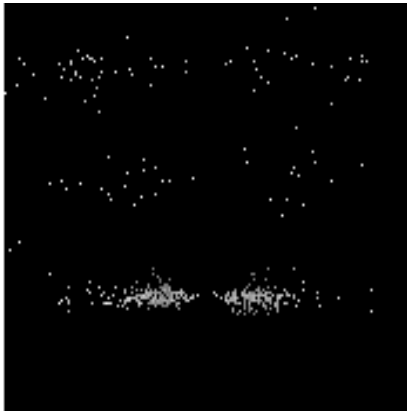
heg order -1



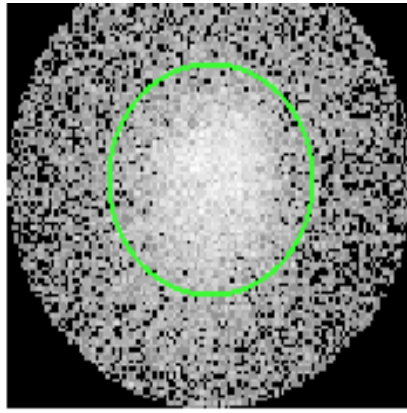
heg order +1



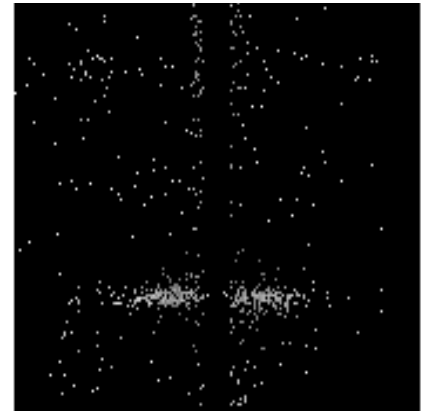
3.2 MEG Arm



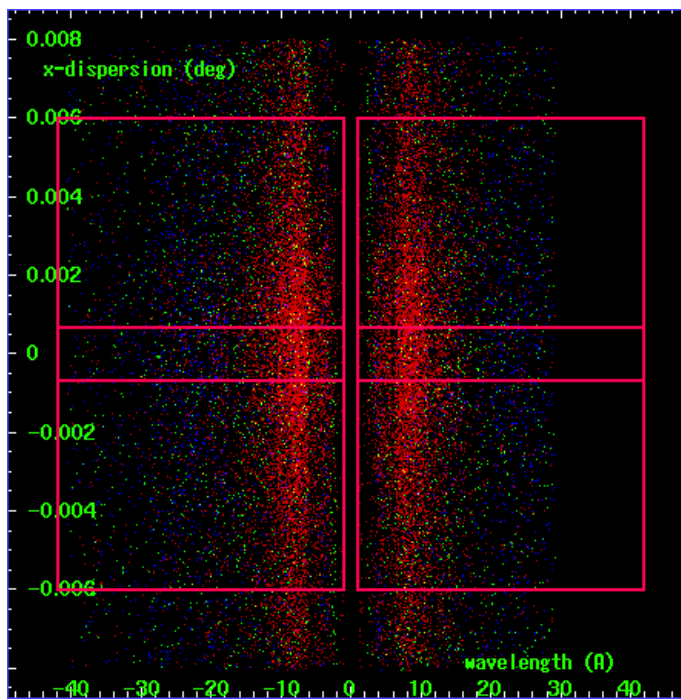
MEG Order Sort 123



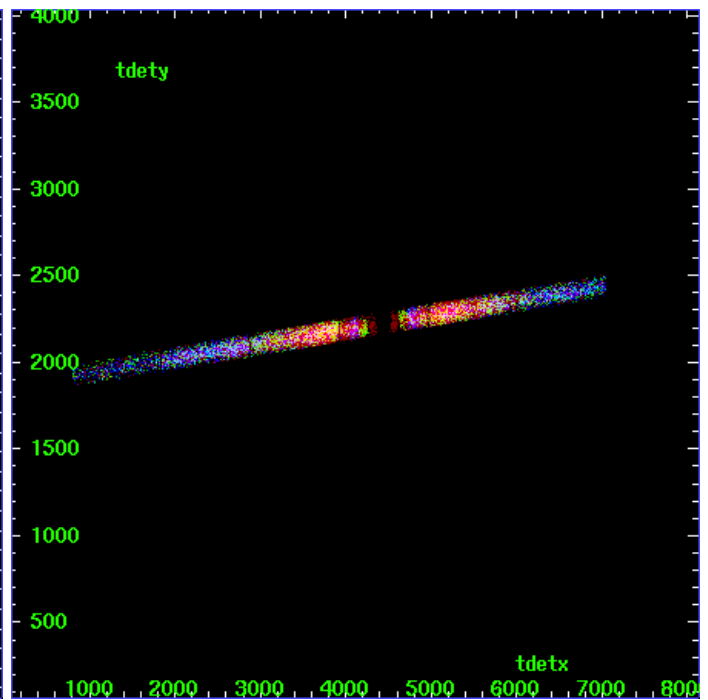
MEG Zero Order



MEG Order Sort ALL

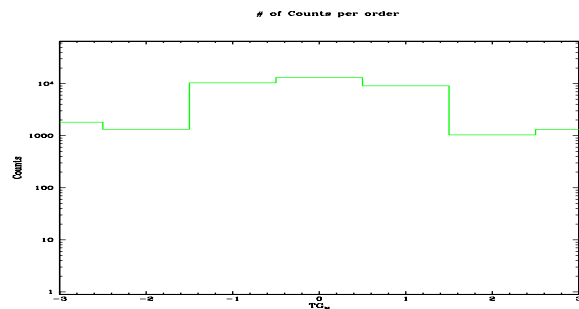


Spot Image MEG

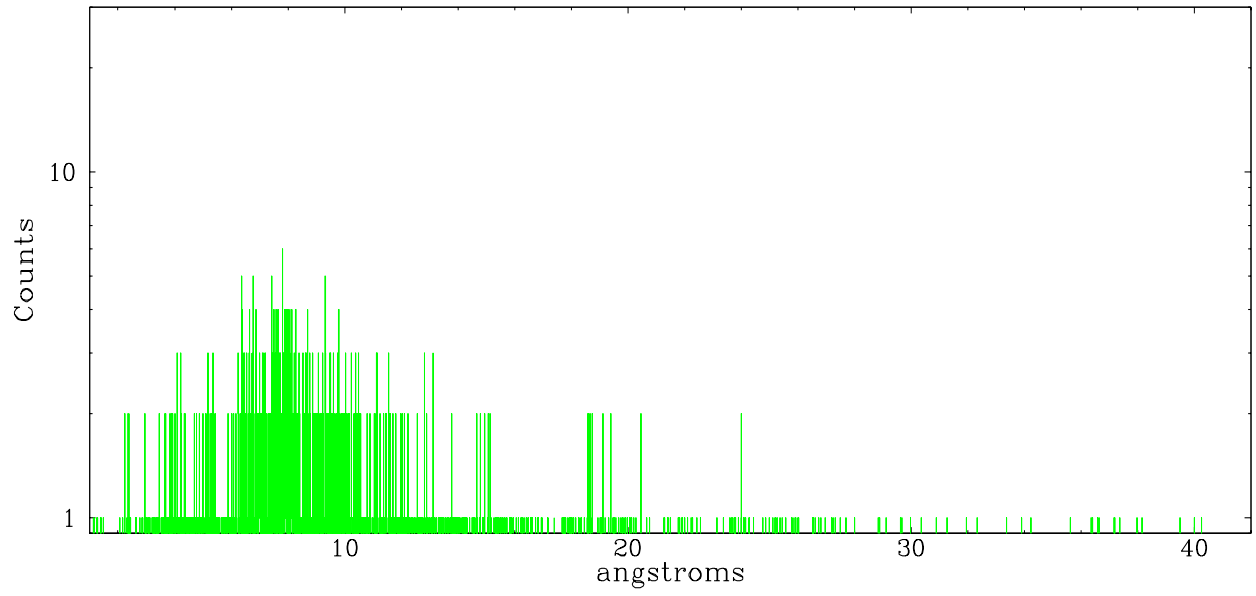


Full Detector MEG

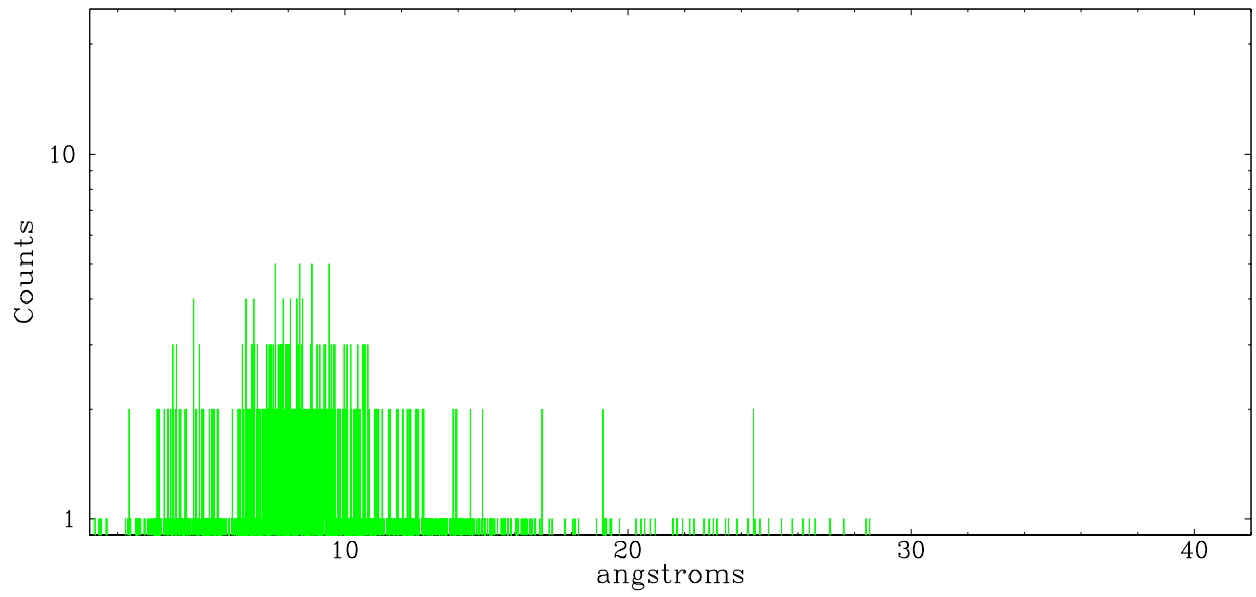
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1815	1325	10405	13030	9096	1036	1317



meg order -1



meg order +1



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2007.11.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	127

A.2 Comments

Extended source : tgdetect failed to get centroid because a) source is near edge of default search box; b) extended source has a broad zero order. This was compensated for by using customized parameters in tgdetect: zo_pos_x=4050 zo_pos_y=4391 fixedcell=45 (which gives the zero order centroid of 4052.2, 4389.1). This observation will also require user-customization of HEG and MEG extraction regions (see use_user_pars section of tg_create_mask ahelp and extraction region width parameters in tgextract).

=====

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.