

V&V Reference Report

L2 ASCDS Version : 7.6.11.1

Observation 1045 - L2 Version 3
Chandra X-Ray Center

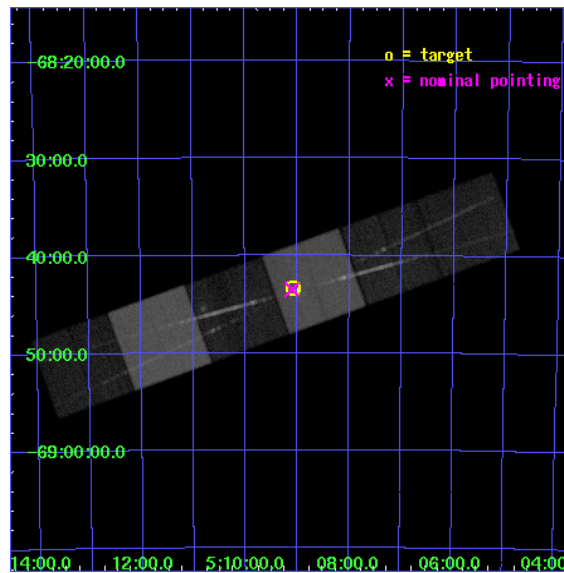
L2 Processing Date : Oct 10 2007

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1 Front

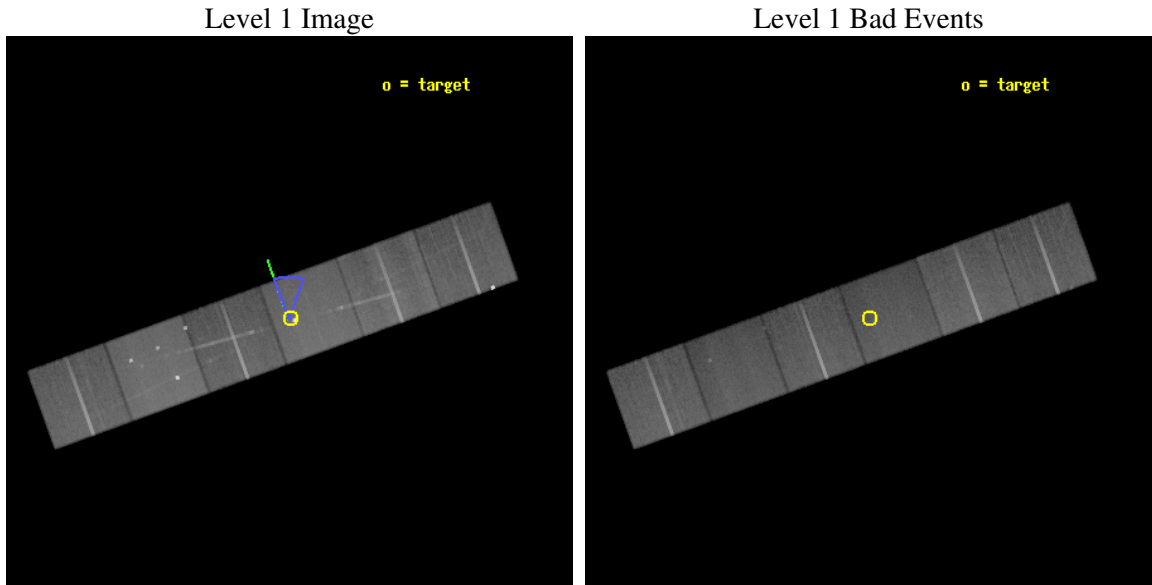
seq_num	500111
obs_id	1045
title	HIGH RESOLUTION SPECTRA OF YOUNG SUPERNOVA REMNANTS
observer	Prof. Claude Canizares
object	N103B
dtcycle	0
cycle	P
ra_targ	77.26625
dec_targ	-68.721944
ra_nom	77.275421066659
dec_nom	-68.725007199688
roll_nom	340.10473519193
revision	3
ontime	74009.600068927
livetime	73072.445949623
ontime4	74009.600068927
ontime5	74009.600068927
ontime6	74009.600068927
ontime7	74009.600068927
ontime8	74003.118118525
ontime9	74006.359048843
l2events	761443



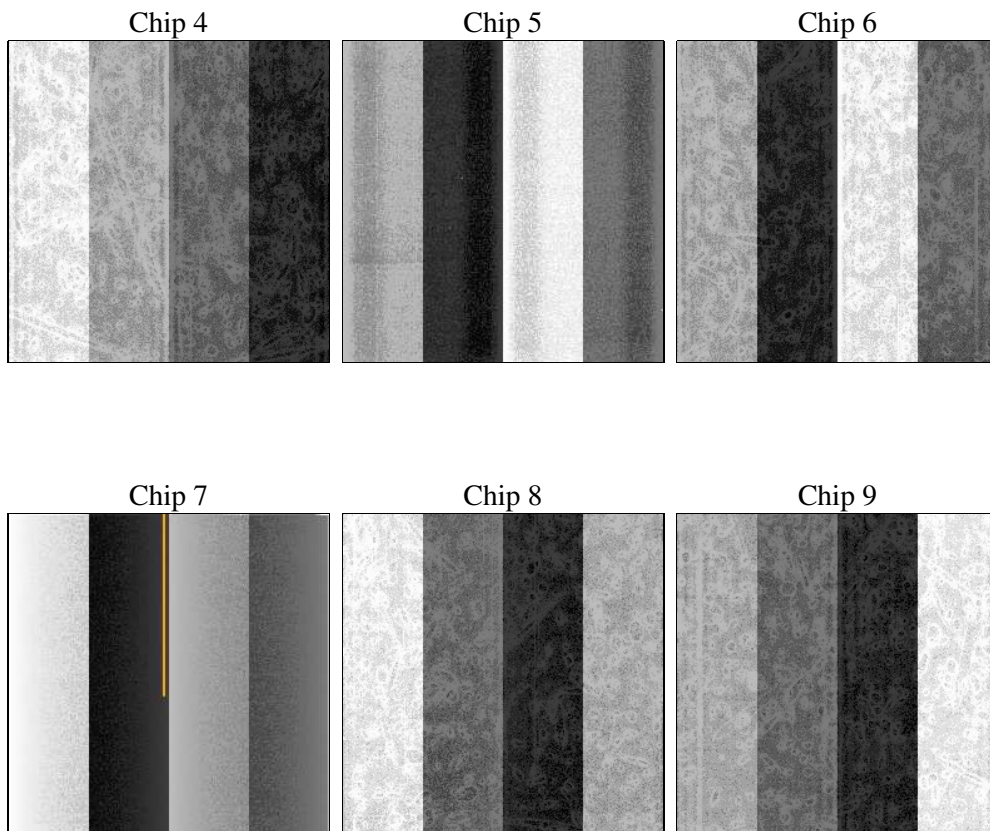
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1
ascdsver	7.6.11.1
caldbver	3.4.1
date	2007-10-10T03:31:06
revision	3

sched_exp_time	74255.628000
ontime	74009.600068927
ontime4	74009.600068927
ontime5	74009.600068927
ontime6	74009.600068927
ontime7	74009.600068927
ontime8	74003.118118525
ontime9	74006.359048843
l1events	3246402

2.1.4 Events

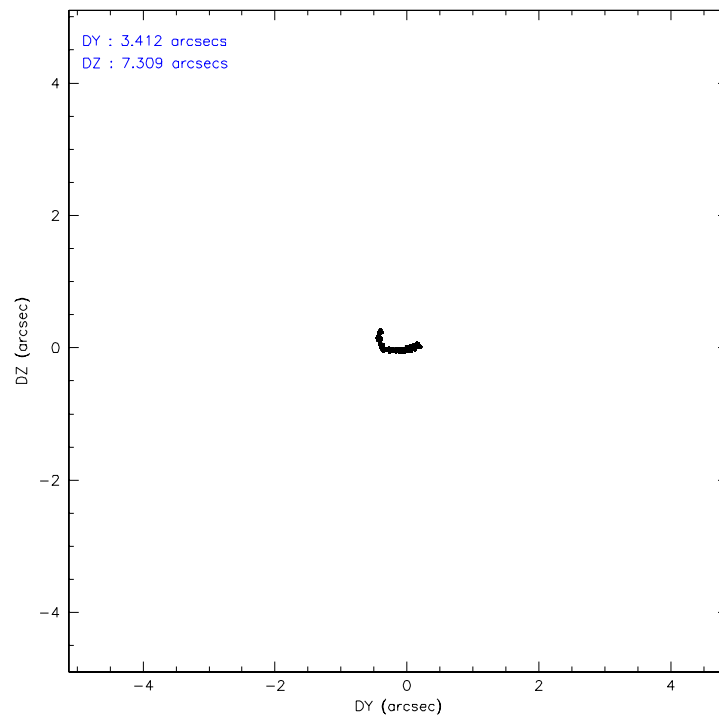
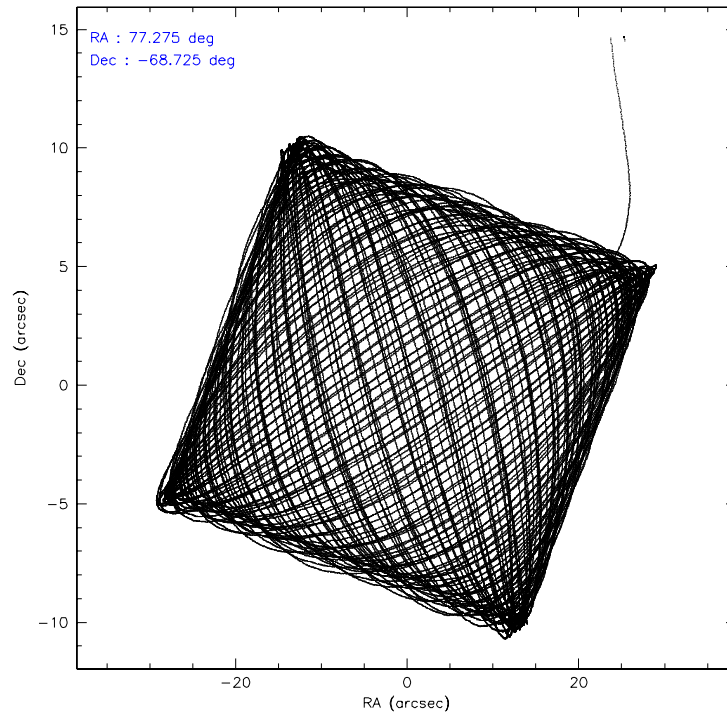
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	491107	641972	466690	610401	574062	462170
rejected events	436635	334881	395718	330099	450951	386272
rejected %	88%	52%	84%	54%	78%	83%

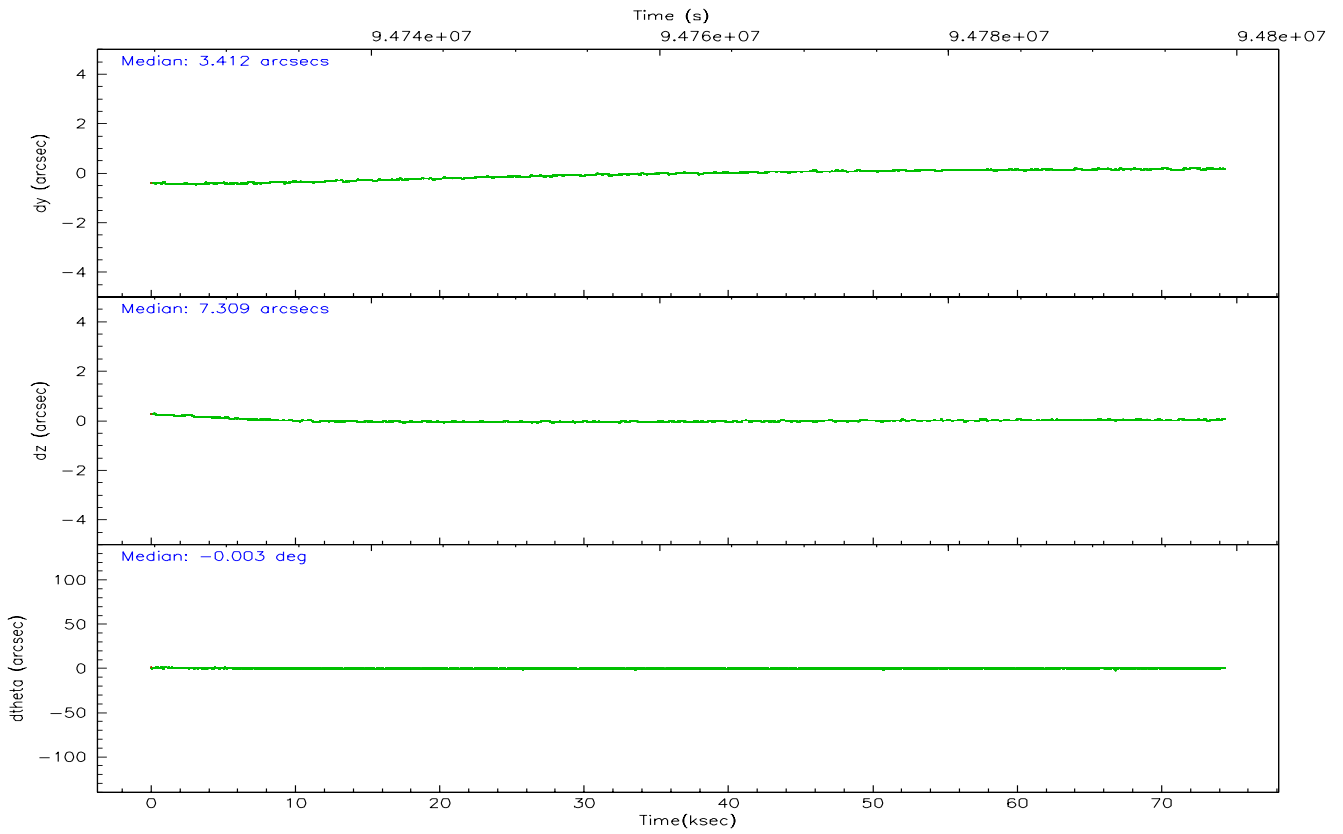
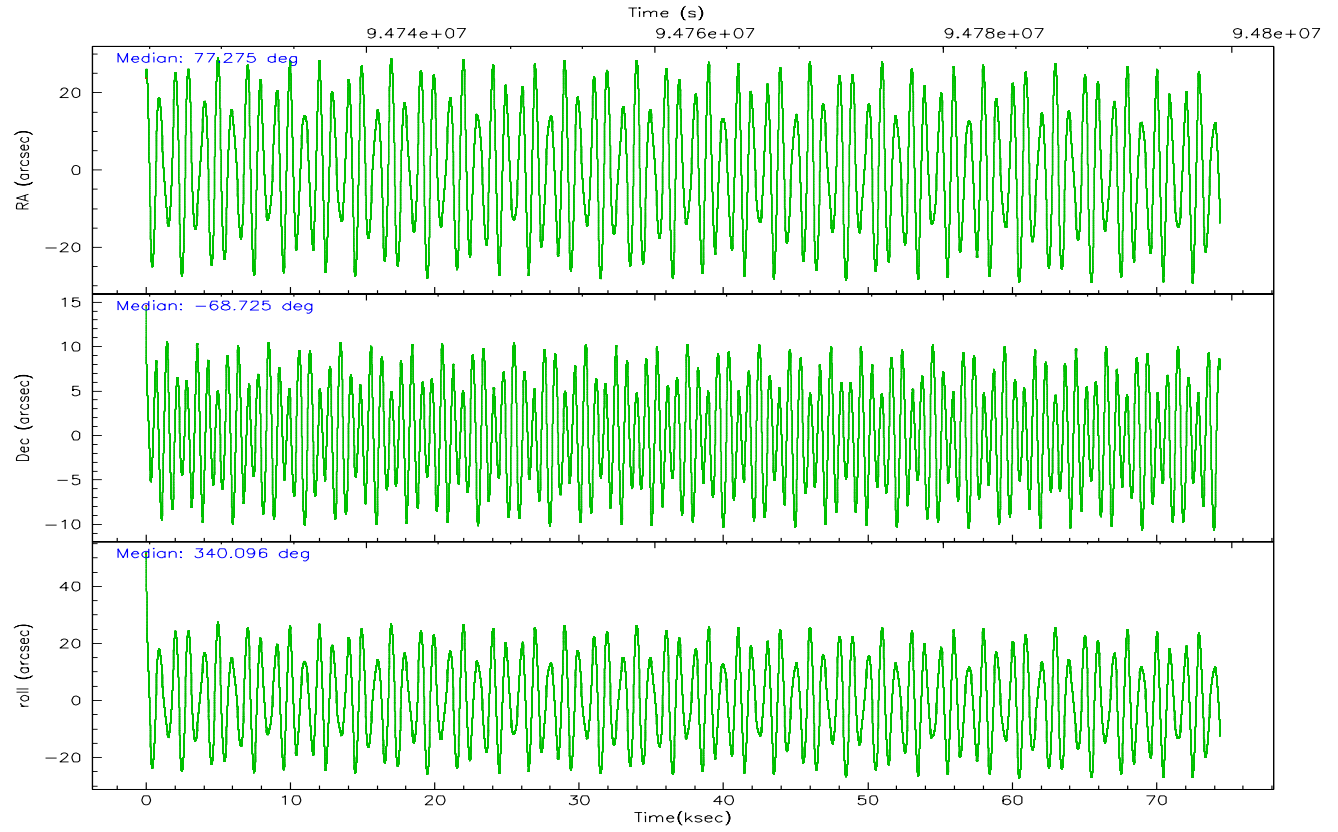
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	22834	51952	37863	35981	46787	44781
	4%	8%	8%	5%	8%	9%
grade 1 events	215	1734	269	550	347	375
	0%	0%	0%	0%	0%	0%
grade 2 events	12650	82800	12011	58651	24585	10670
	2%	12%	2%	9%	4%	2%
grade 3 events	4970	12713	5543	27440	11891	5289
	1%	1%	1%	4%	2%	1%
grade 4 events	4823	12718	5381	26757	11067	5007
	0%	1%	1%	4%	1%	1%
grade 5 events	15774	46585	18696	54544	23666	18903
	3%	7%	4%	8%	4%	4%
grade 6 events	9204	146926	10174	131488	28823	10156
	1%	22%	2%	21%	5%	2%
grade 7 events	420637	286544	376753	274990	426896	366989
	85%	44%	80%	45%	74%	79%

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	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
Pointing RA	77.201357	77.27542106665894	Subarray requested	NONE	NONE
Pointing Dec	-68.730022	-68.72500719968785	Alternating exposures requested	N	N
Pointing Roll	339.879085	340.1047351919258	Primary exposure time	0.000000	3.2
Roll angle	0.000000	0.000000			
Roll tolerance	20.000000	20.000000			
Roll constraint allows 180D rotation	N	N			
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	94724912.184000	94723619.88989			
Observation start date	2001-01-01T08:27:28	2001-01-01T08:06:59			
Observation end time	94799167.184000	94799481.680297			
Observation end date	2001-01-02T05:05:03	2001-01-02T05:11:21			
Read mode	TIMED	TIMED			

2.3 Aspect



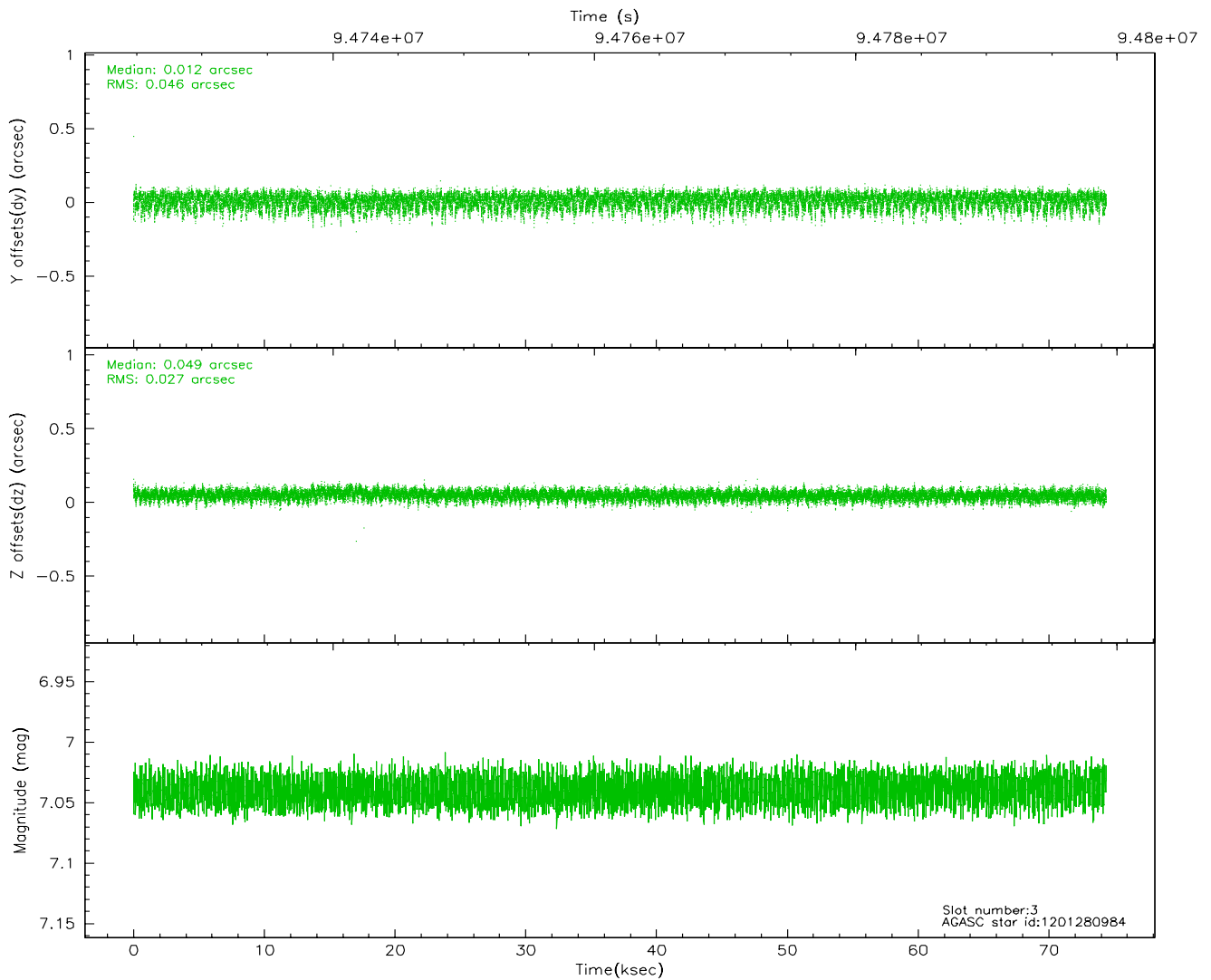
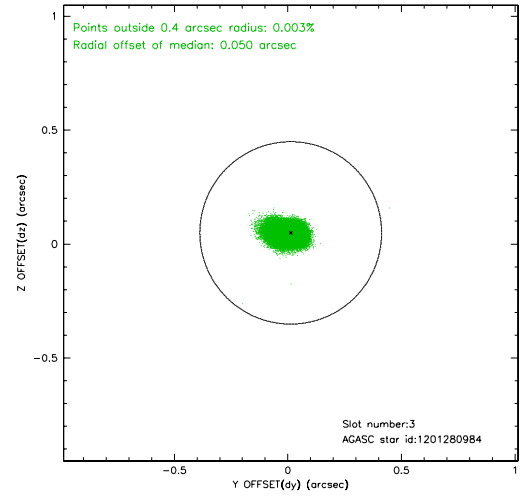
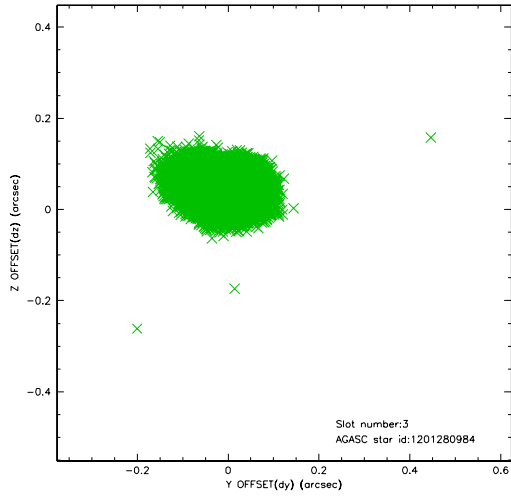


Slot Statistics

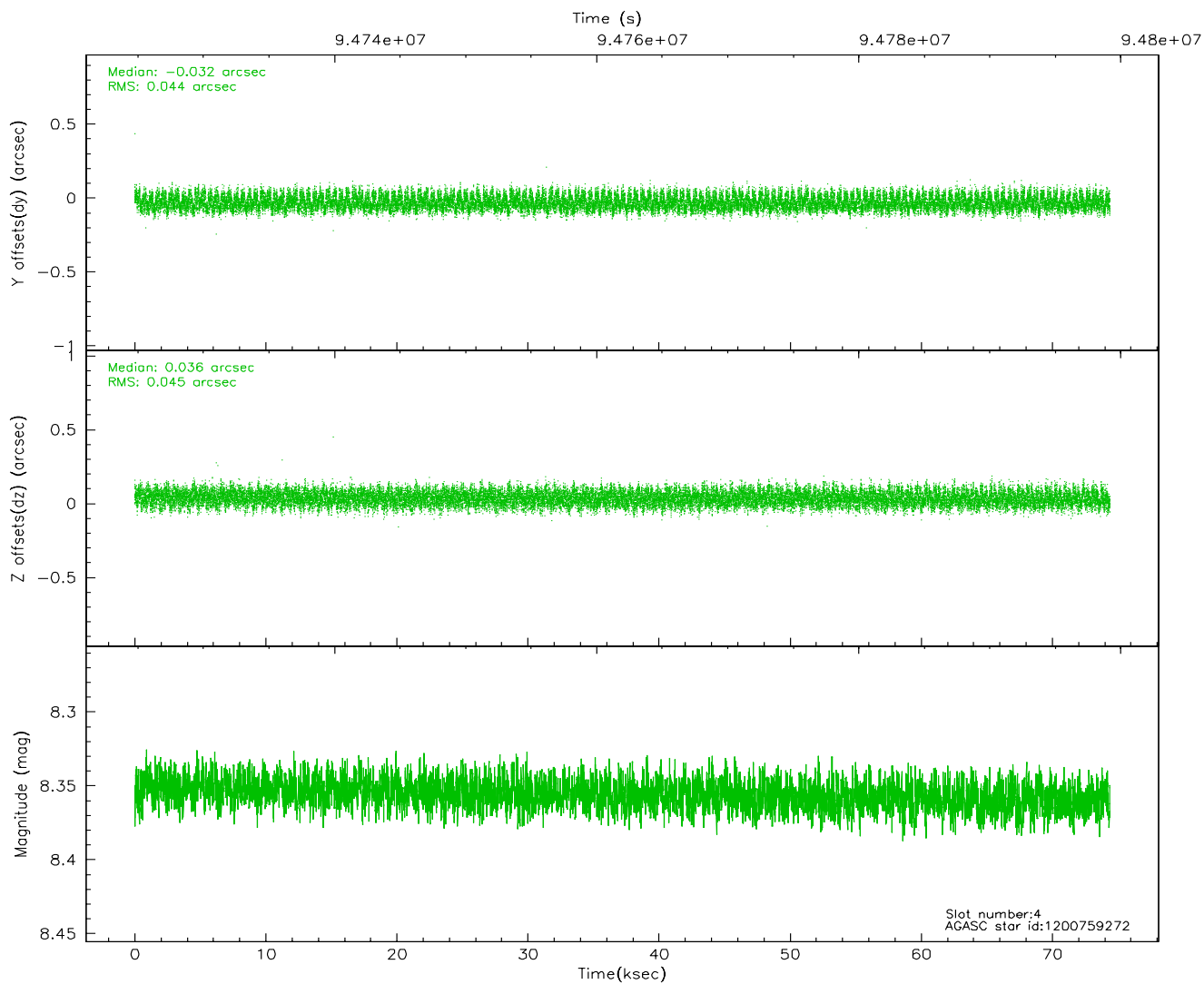
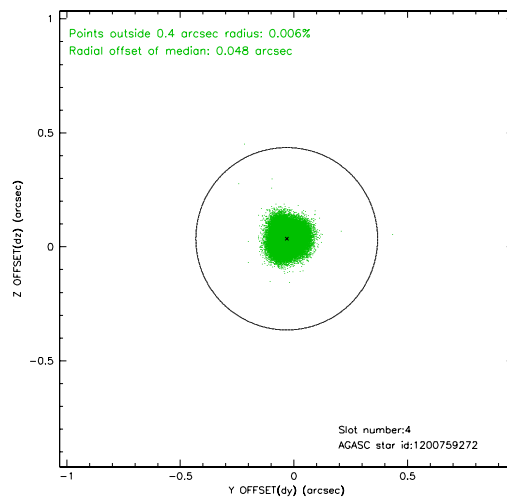
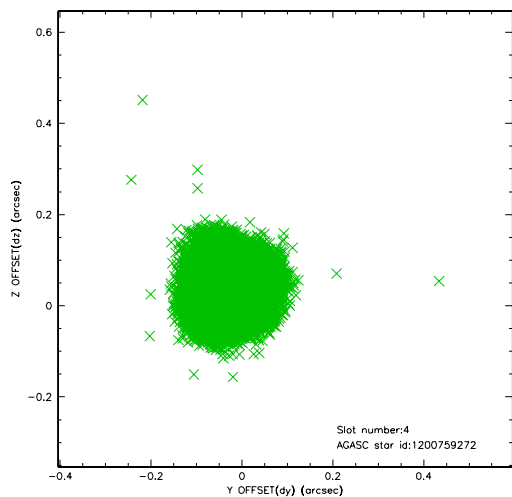
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.12	18147	0.014	0.032	0.007	0.011	0.000000	0.000000	-756.01	-1728.45
1	FID	ACIS-S-4	7.20	18146	-0.070	-0.015	0.012	0.022	0.000000	0.000000	2157.23	180.01
2	FID	ACIS-S-5	7.24	18146	0.025	-0.008	0.012	0.021	0.000000	0.000000	-1808.90	173.67
3	GUIDE	1201280984	7.04	36296	0.012	0.049	0.055	0.096	77.867422	-69.546090	1799.46	-2473.65
4	GUIDE	1200759272	8.36	36291	-0.032	0.036	0.069	0.103	75.444915	-68.988718	-1796.78	-1684.40
5	GUIDE	1200758760	8.31	36285	0.071	-0.041	0.073	0.118	76.277764	-68.086435	-1959.26	1740.23
6	GUIDE	1200760024	8.47	36289	-0.035	0.023	0.053	0.087	77.625244	-69.320410	1238.03	-1811.15
7	GUIDE	1200757184	8.26	36224	-0.014	-0.066	0.068	0.111	76.495289	-68.416644	-1264.27	733.04

2.4 Star Slots

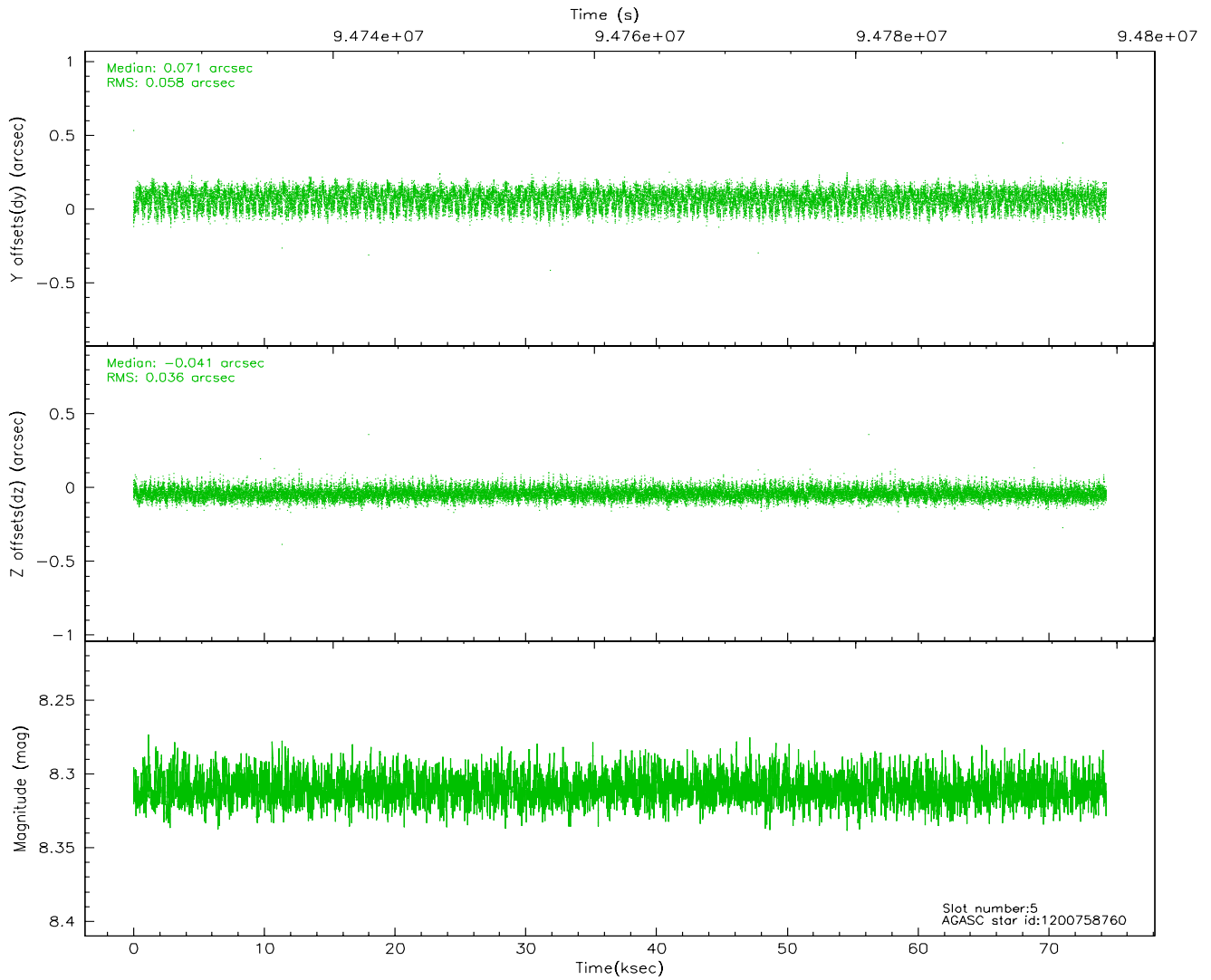
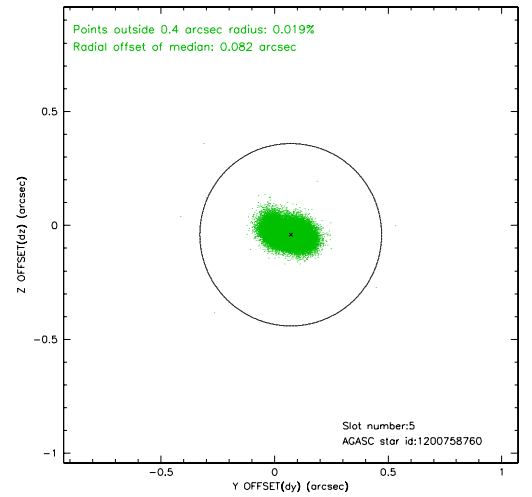
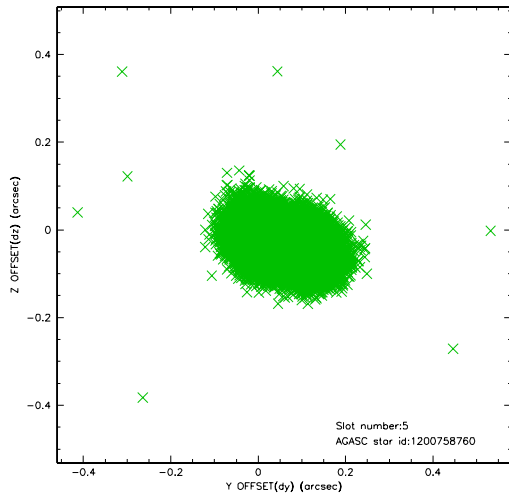
2.4.1 Slot 3



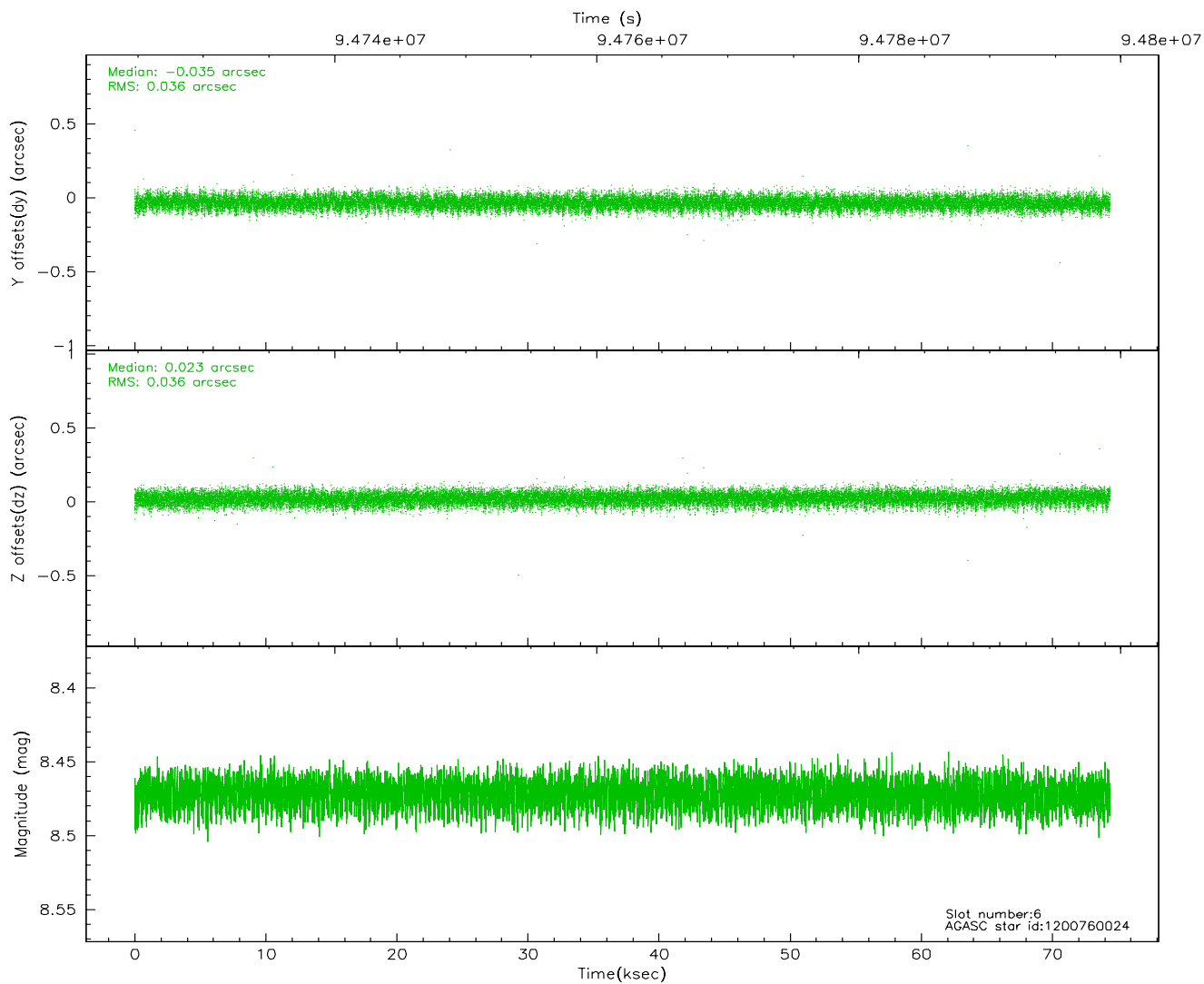
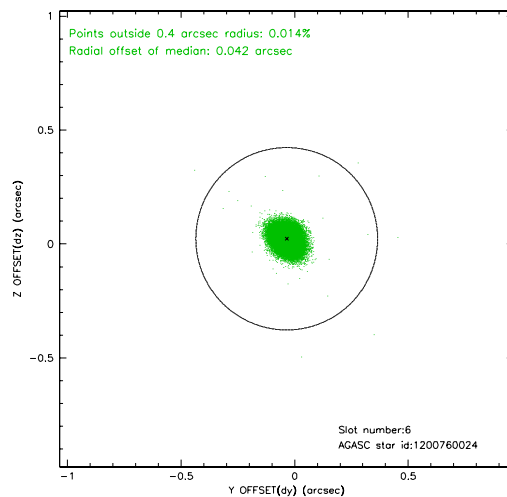
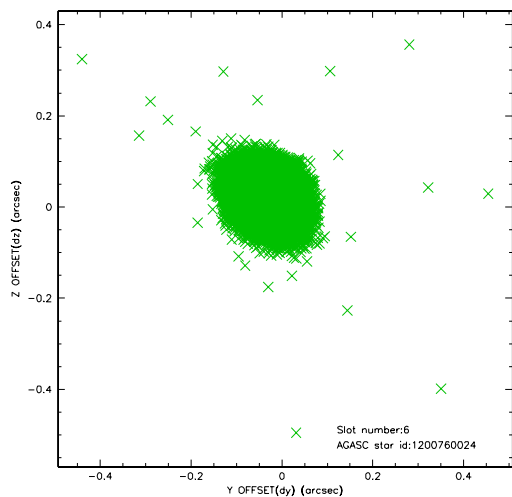
2.4.2 Slot 4



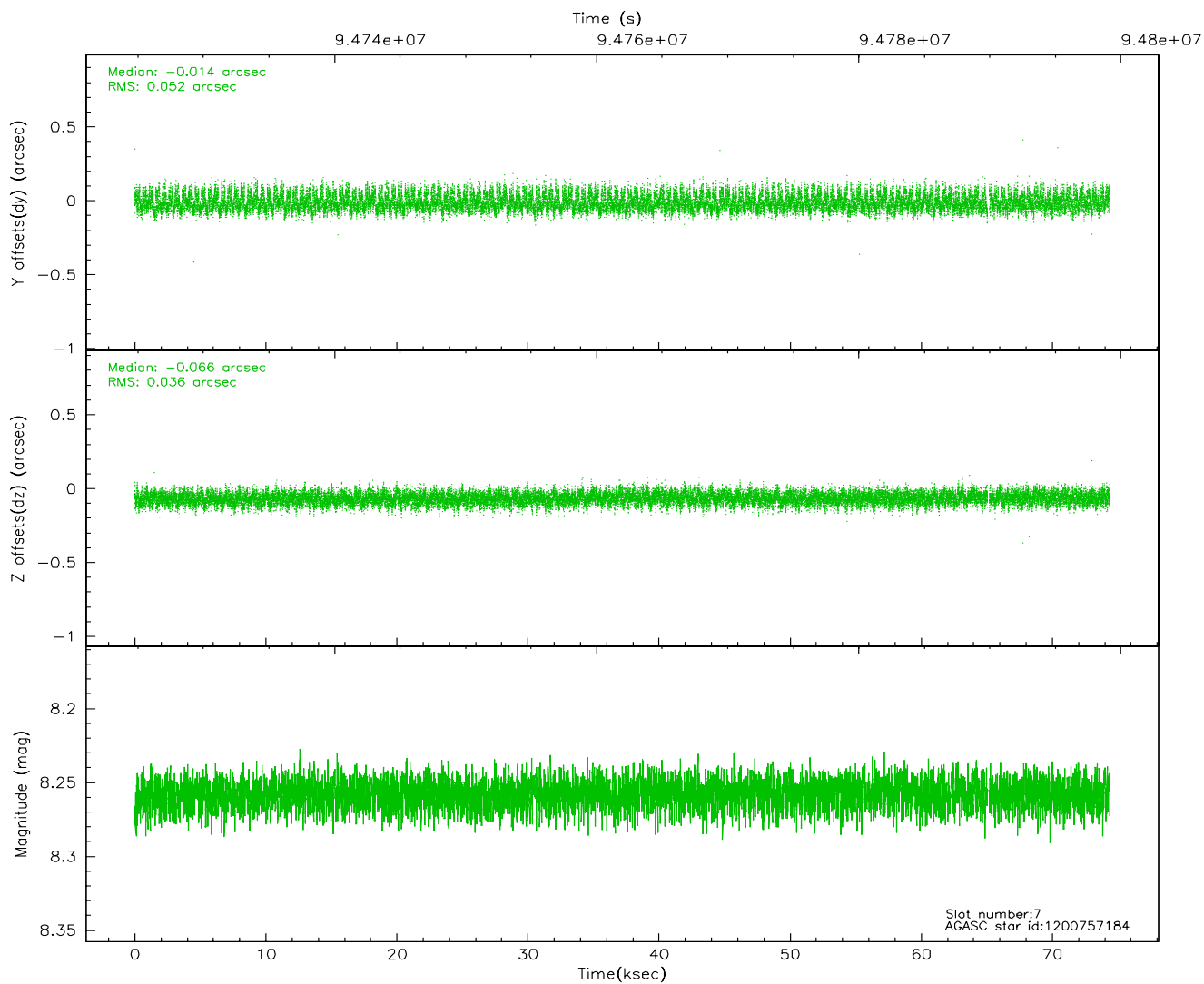
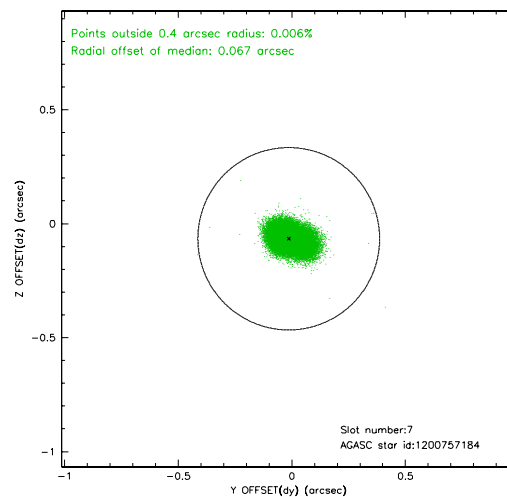
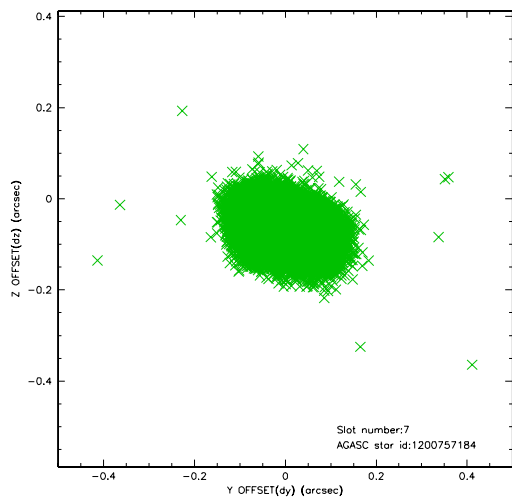
2.4.3 Slot 5



2.4.4 Slot 6

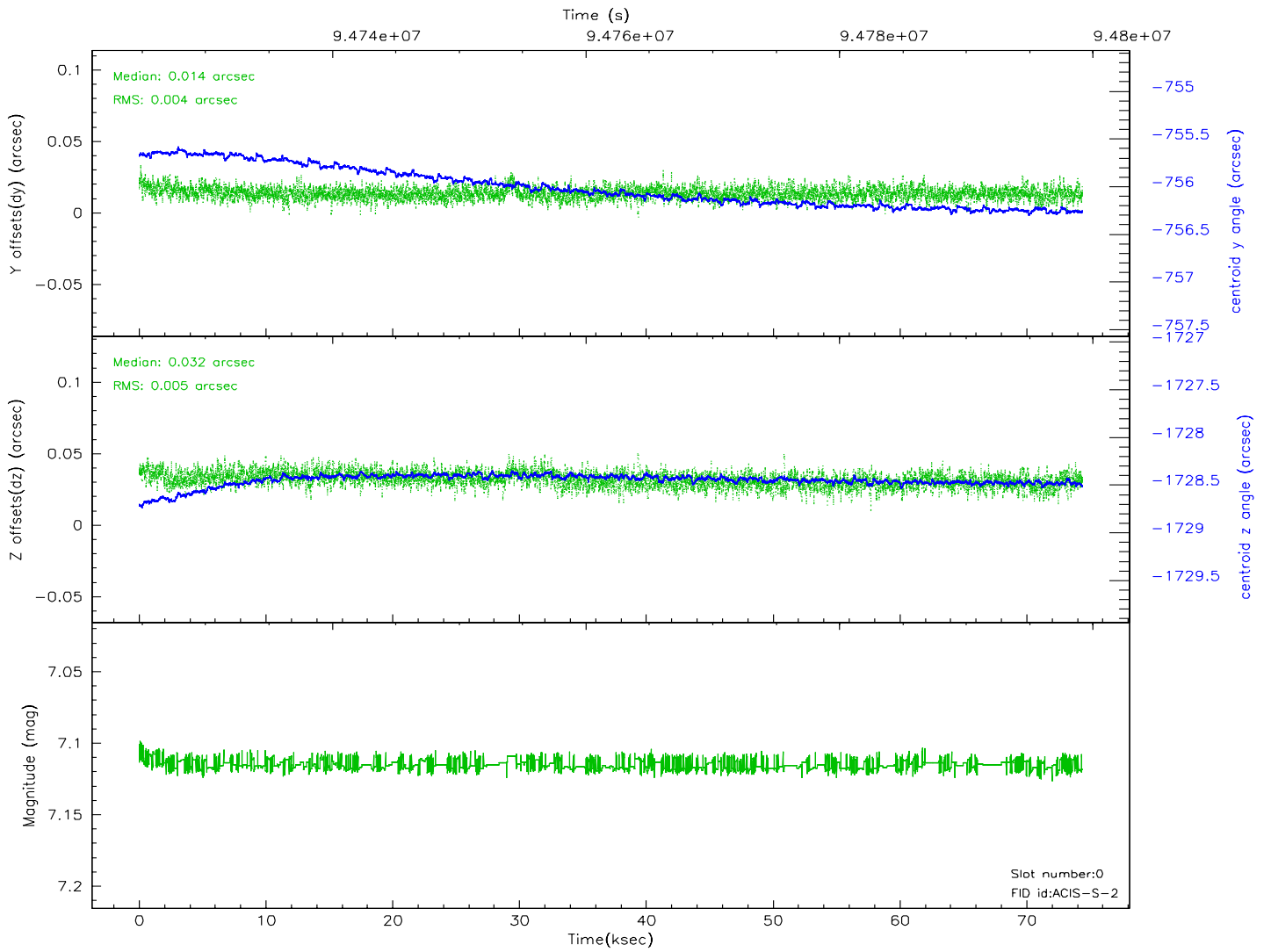
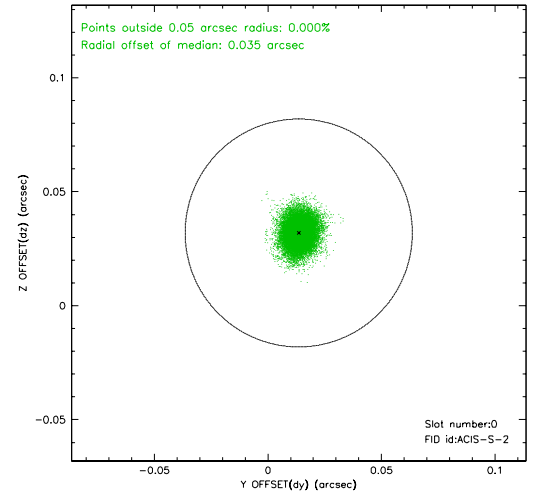
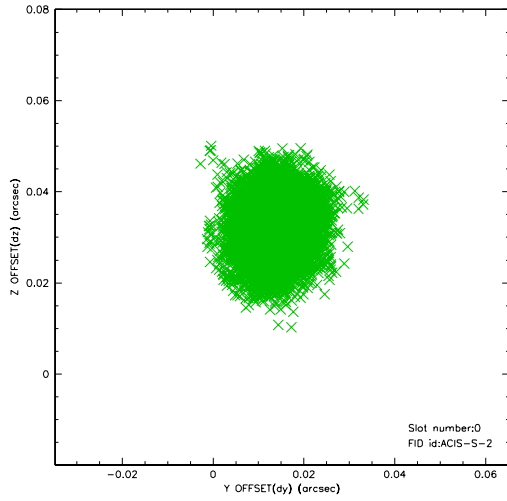


2.4.5 Slot 7

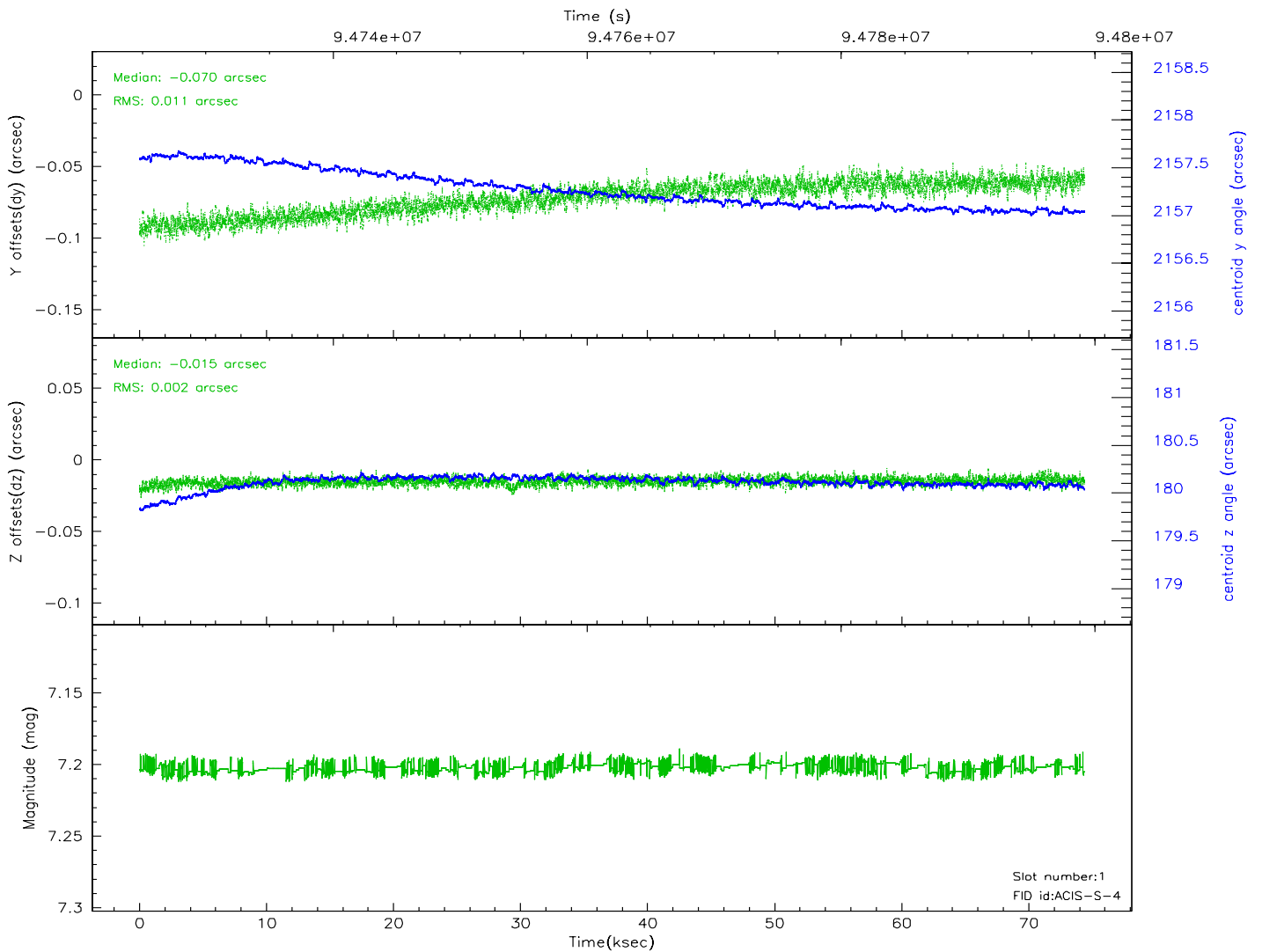
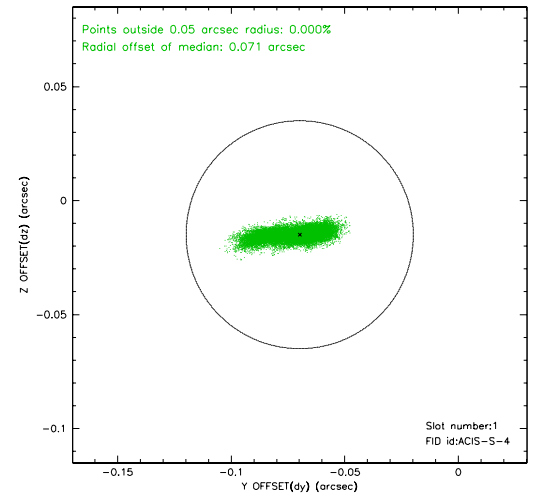
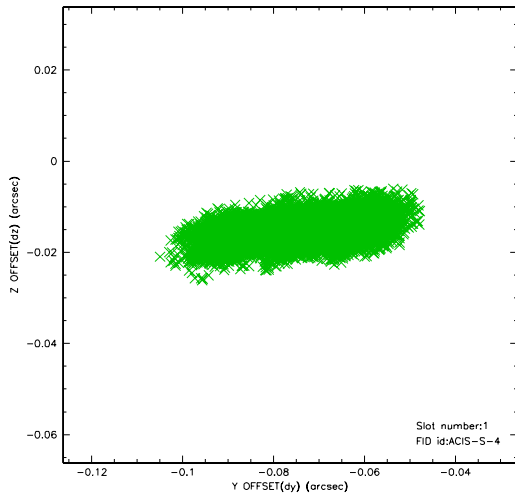


2.5 FID Slots

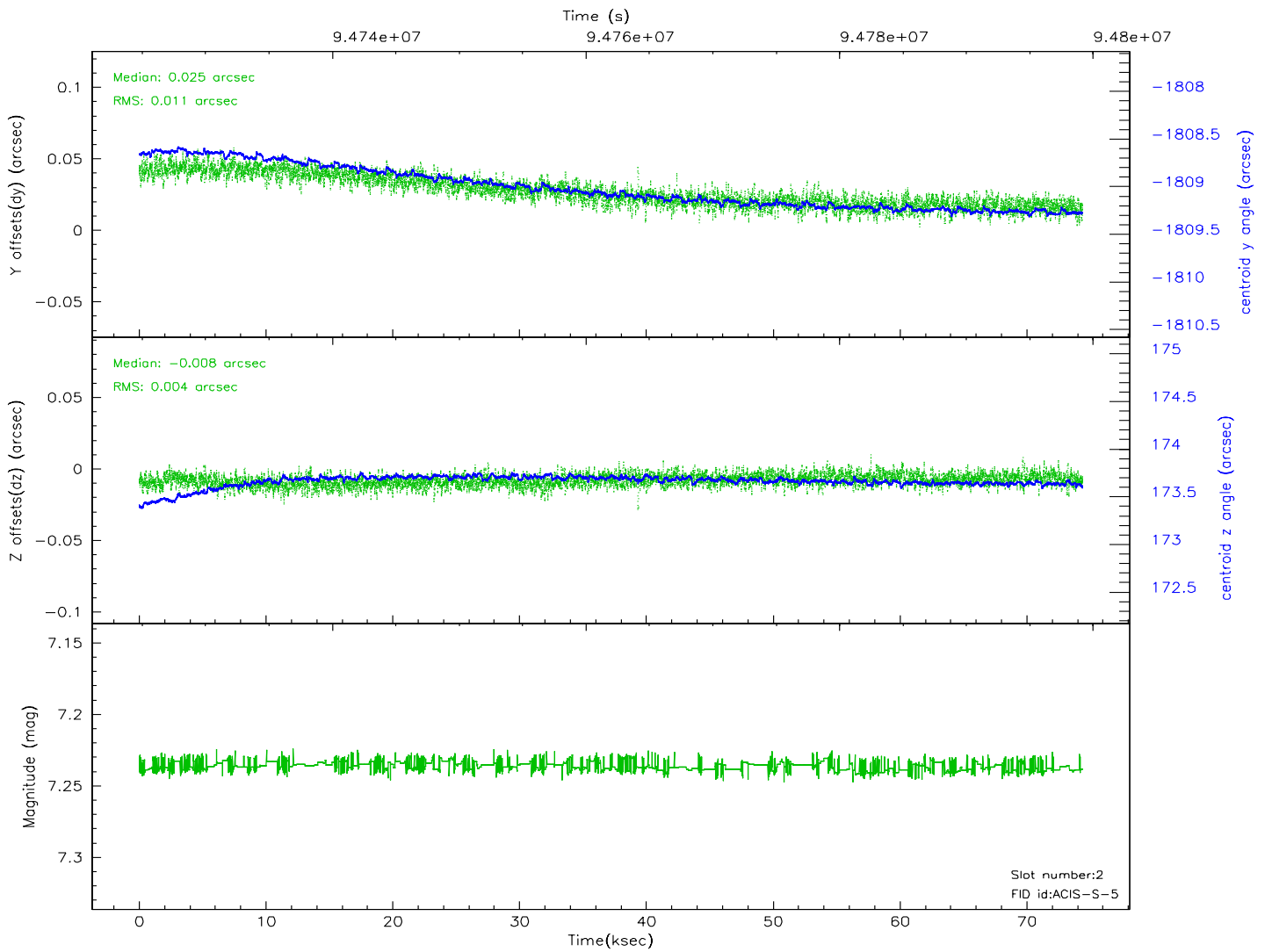
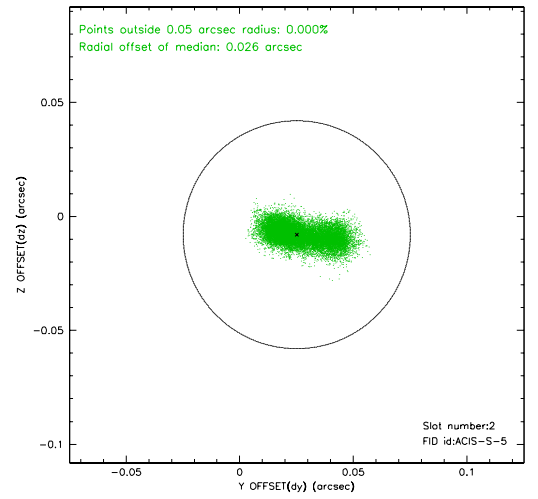
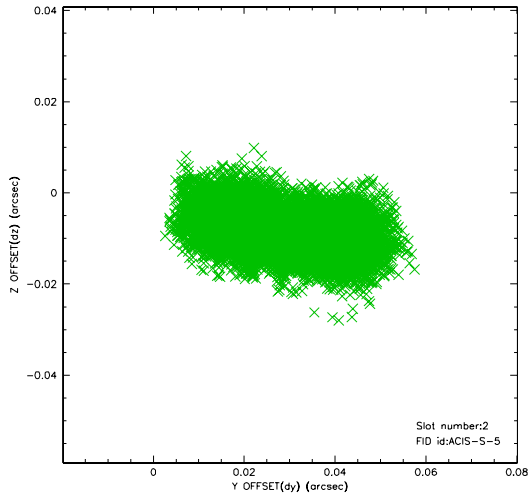
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

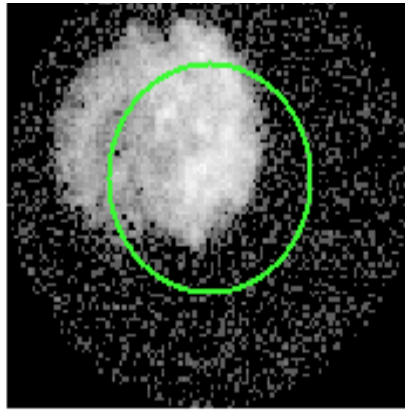


3 Gratings

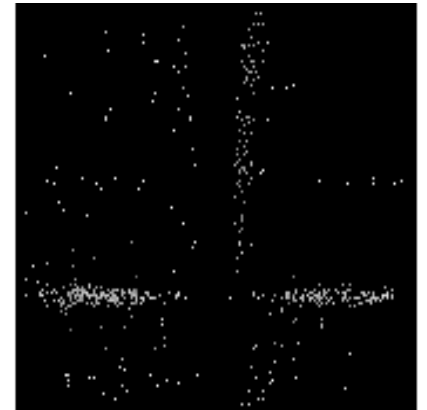
3.1 HEG Arm



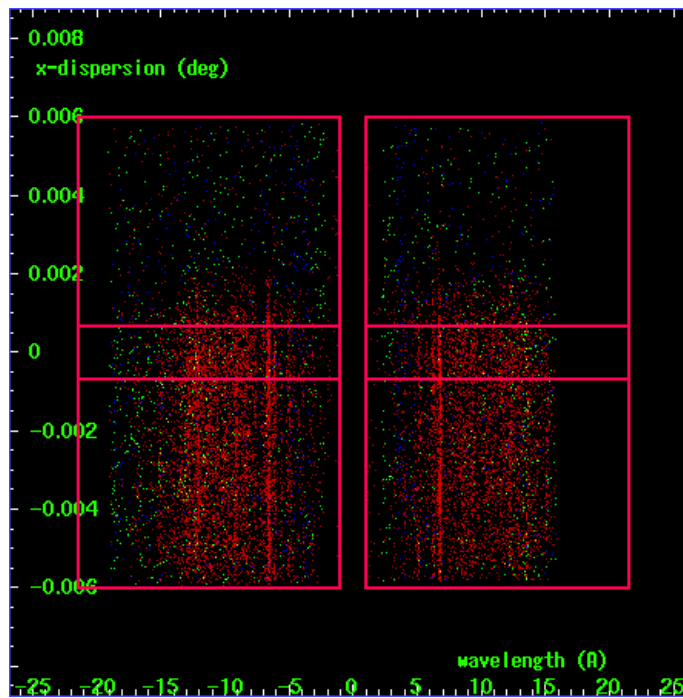
HEG Order Sort 123



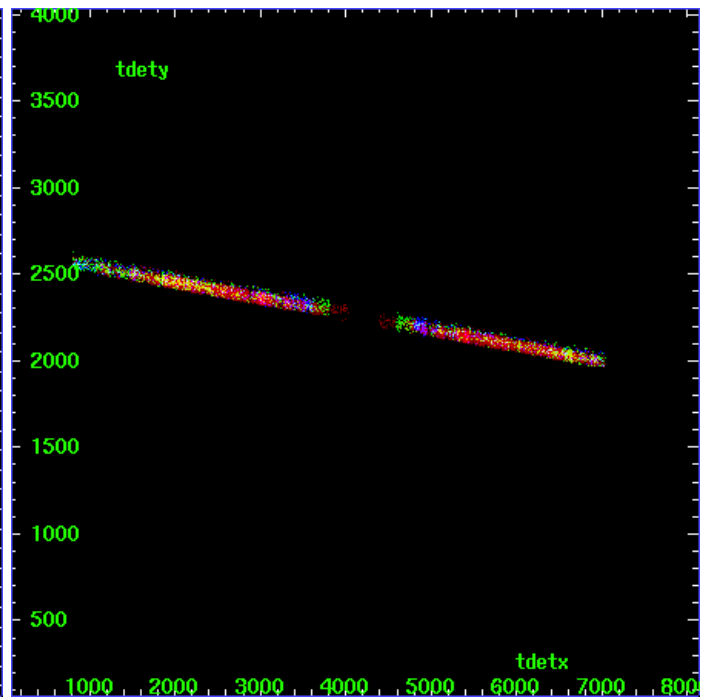
HEG Zero Order



HEG Order Sort ALL

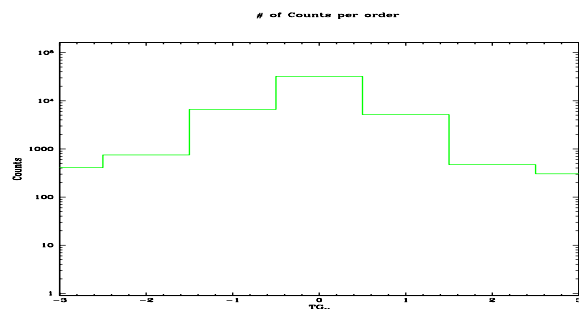


Spot Image HEG

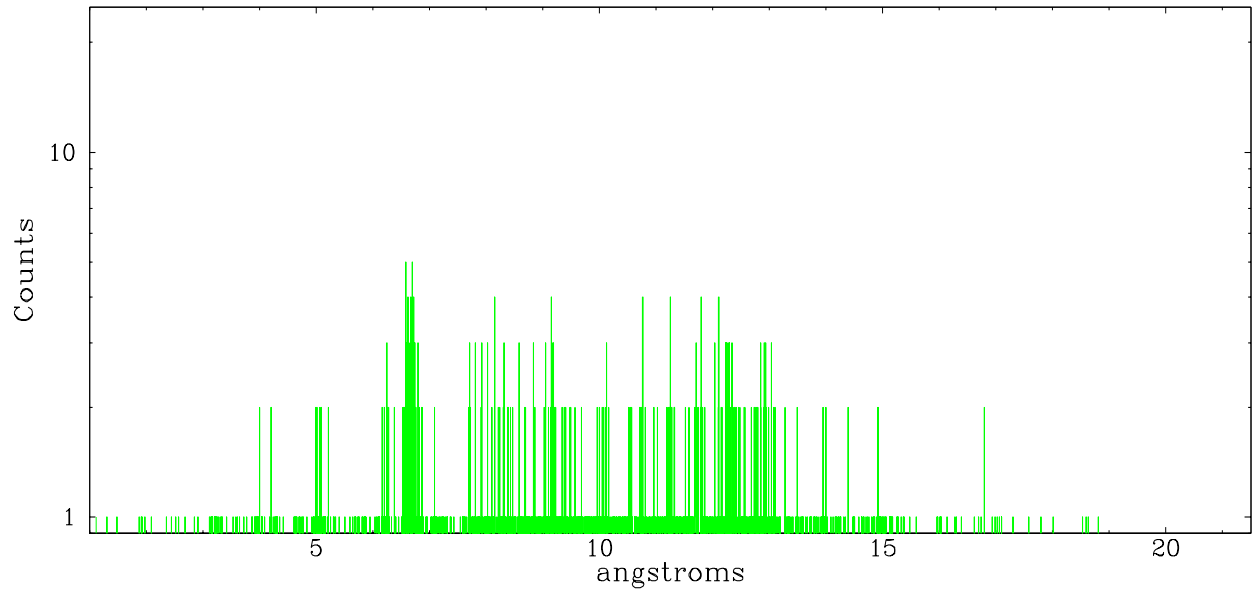


Full Detector HEG

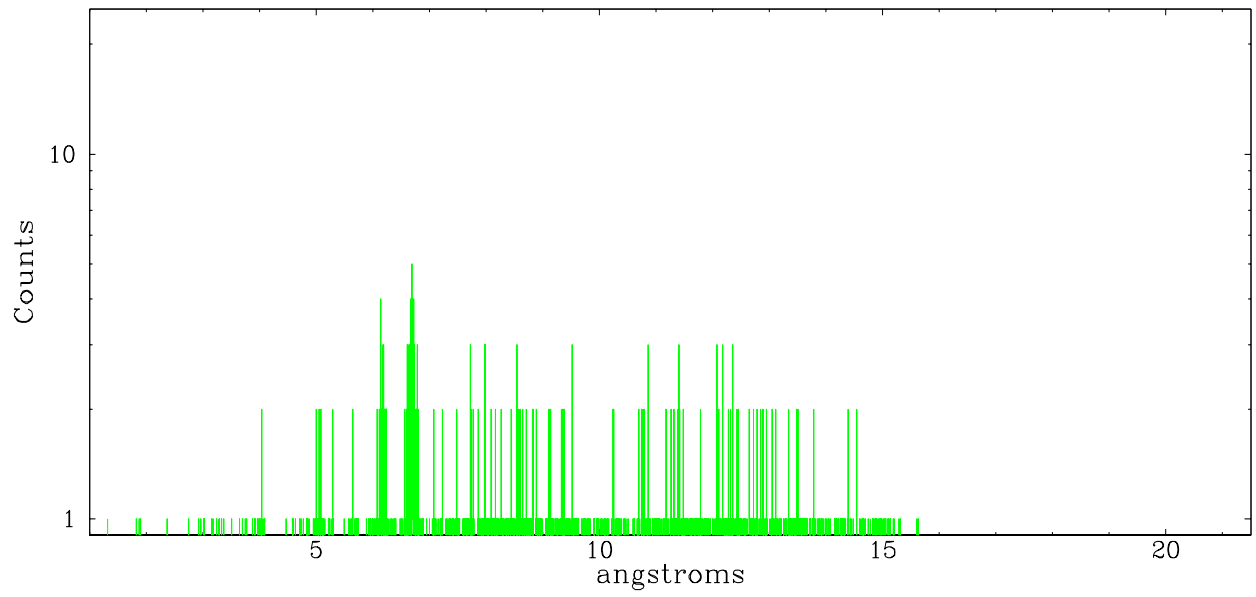
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	408	748	6586	32134	5131	473	304



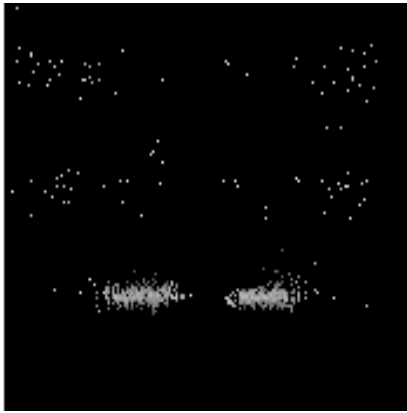
heg order -1



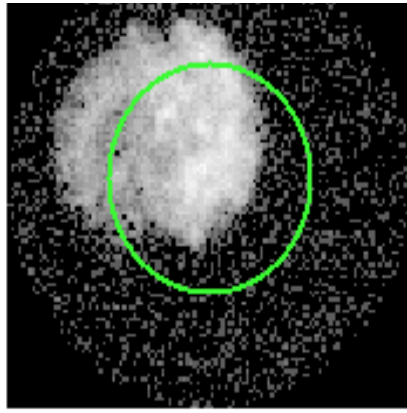
heg order +1



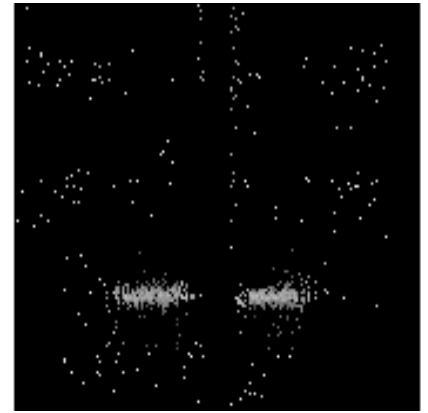
3.2 MEG Arm



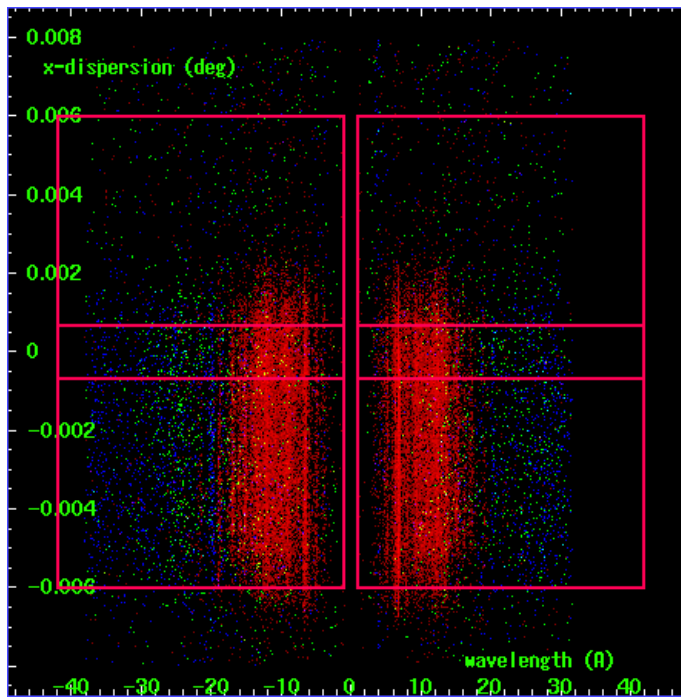
MEG Order Sort 123



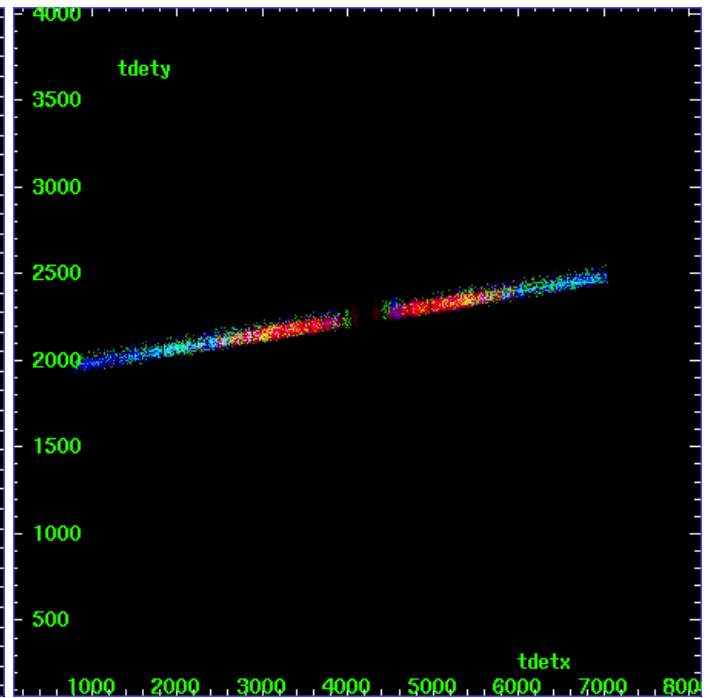
MEG Zero Order



MEG Order Sort ALL

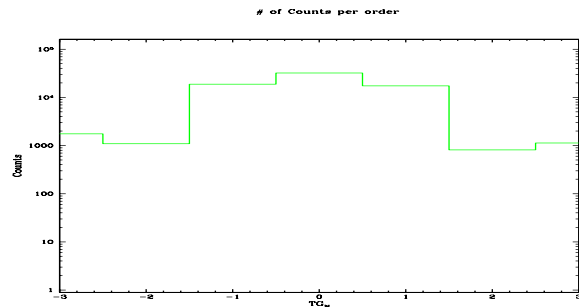


Spot Image MEG

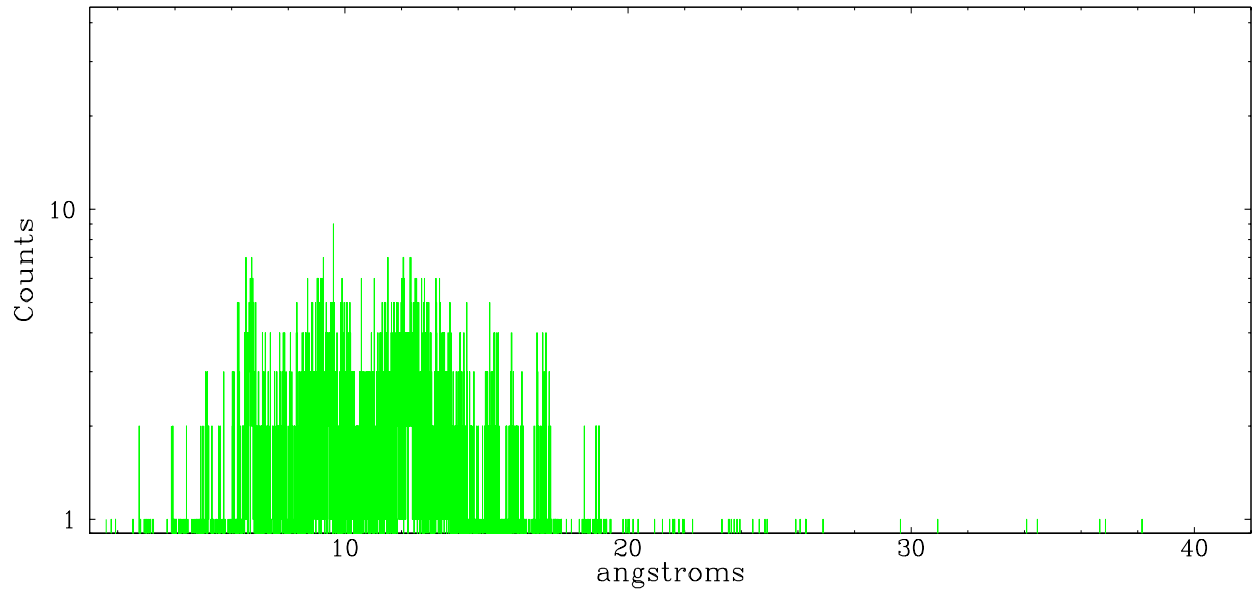


Full Detector MEG

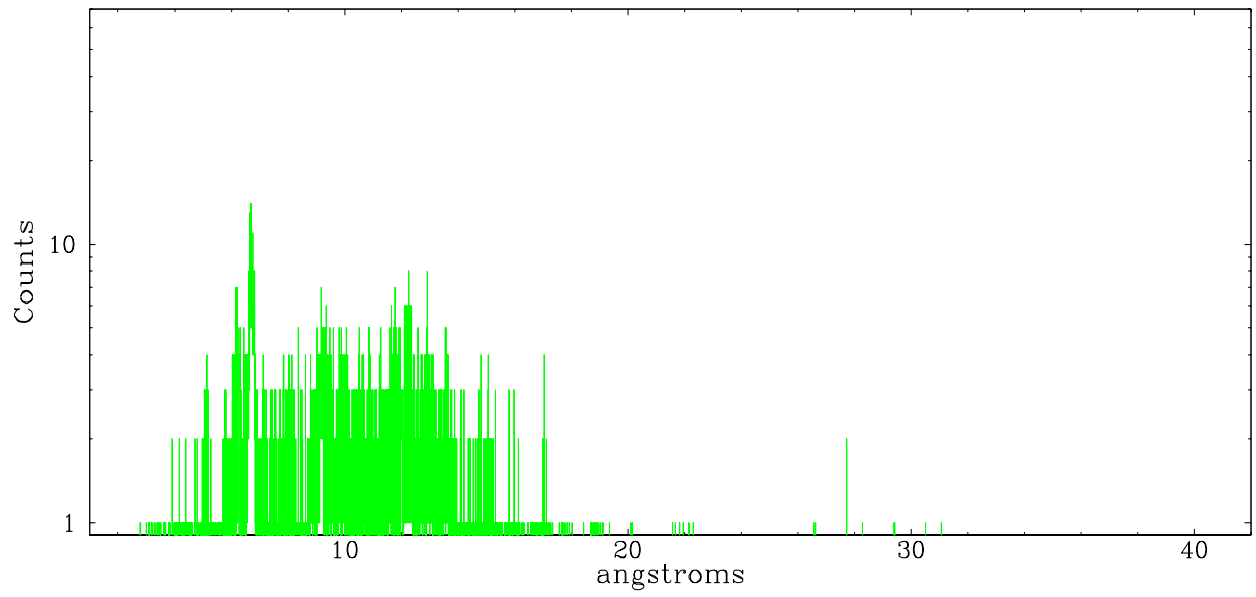
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1756	1094	18798	32134	17339	813	1134



meg order -1



meg order +1



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2007.10.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	74.009

A.2 Comments

Roll constraint met.=====

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. WARNING::Zeroth order selected by pipeline tools is on a bright filament southwest of the center of the supernova remnant. The user will need to select a region or source of interest, then use software tools such as CIAO to specify the coordinates of the zeroth order source of interest before running the tools to resolve the dispersed events. The spectral data supplied in this processing are only energy-calibrated for the particular emission filament selected. However, it should be noted that the emission filament that has been selected as the zeroth order source is filamentary and curved, so the energy assignments to the events should take the spatial information into account. The zeroth order used for extracting the spectral data in this processing is not located at the position of the brightest X-ray emission in the filament.

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The bias map for CCD_ID = 9 suffered 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 bias anomaly. The bias map for CCD_ID=9 was recreated to remove this anomaly and the data were reprocessed.