

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 10844 - L2 Version 3
Chandra X-Ray Center

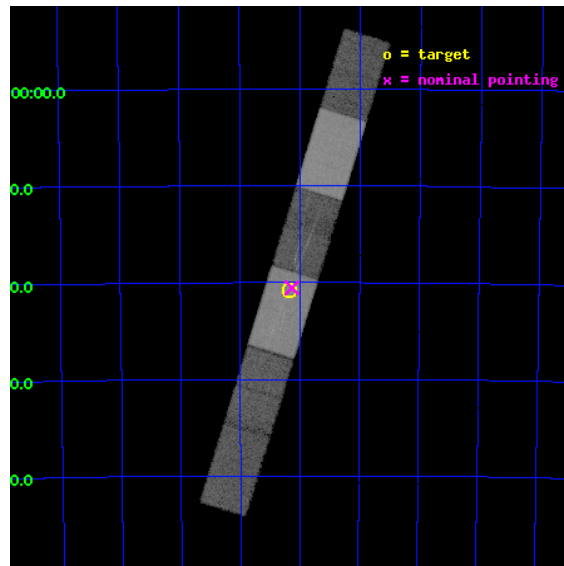
L2 Processing Date : May 30 2012

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1 Front

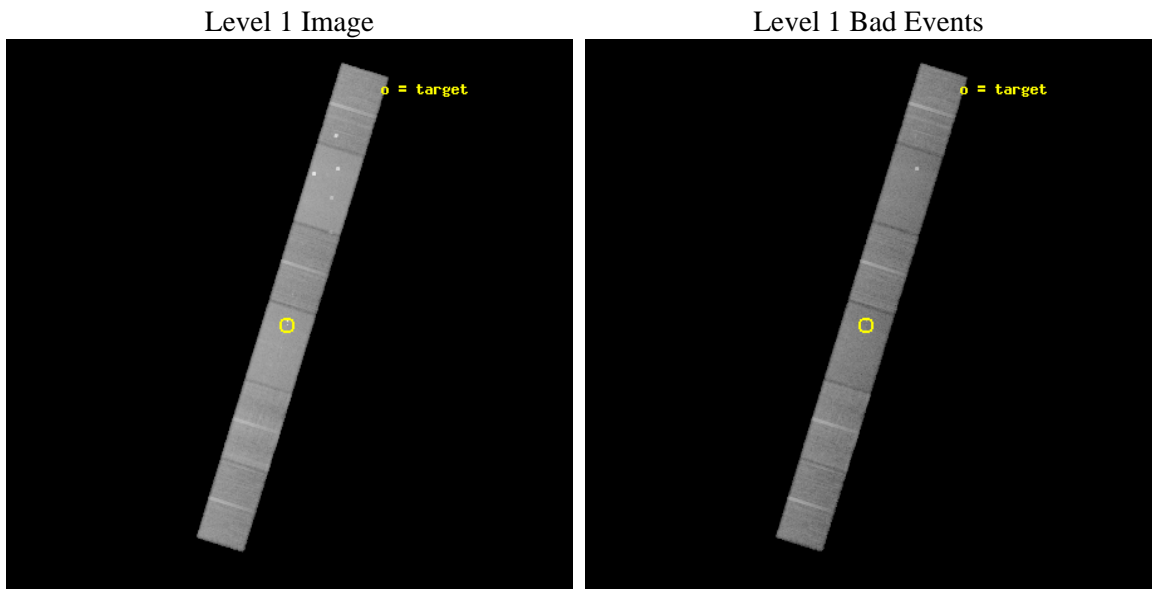
seq_num	501150	Sequence number
obs_id	10844	Observation id
title	A Deep HETG Probe of the CSM Interaction in SN1996cr	Proposal titl
observer	Dr. Franz Bauer	Principal investigator
object	SN1996cr	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	213.291667	Observer's specified target RA [deg]
dec_targ	-65.345694	Observer's specified target Dec [deg]
ra_nom	213.28293001854	Nominal RA [deg]
dec_nom	-65.342520654257	Nominal Dec [deg]
roll_nom	107.14867601508	Nominal Roll [deg]
revision	3	Processing version of data
ontime	27732.0	Sum of GTIs [s]
livetime	27174.381687767	Livetime [s]
ontime4	27732.0	Sum of GTIs [s]
ontime5	27732.0	Sum of GTIs [s]
ontime6	27729.958959818	Sum of GTIs [s]
ontime7	27732.0	Sum of GTIs [s]
ontime8	27732.0	Sum of GTIs [s]
ontime9	27732.0	Sum of GTIs [s]
l2events	295950	Number of level 2 events



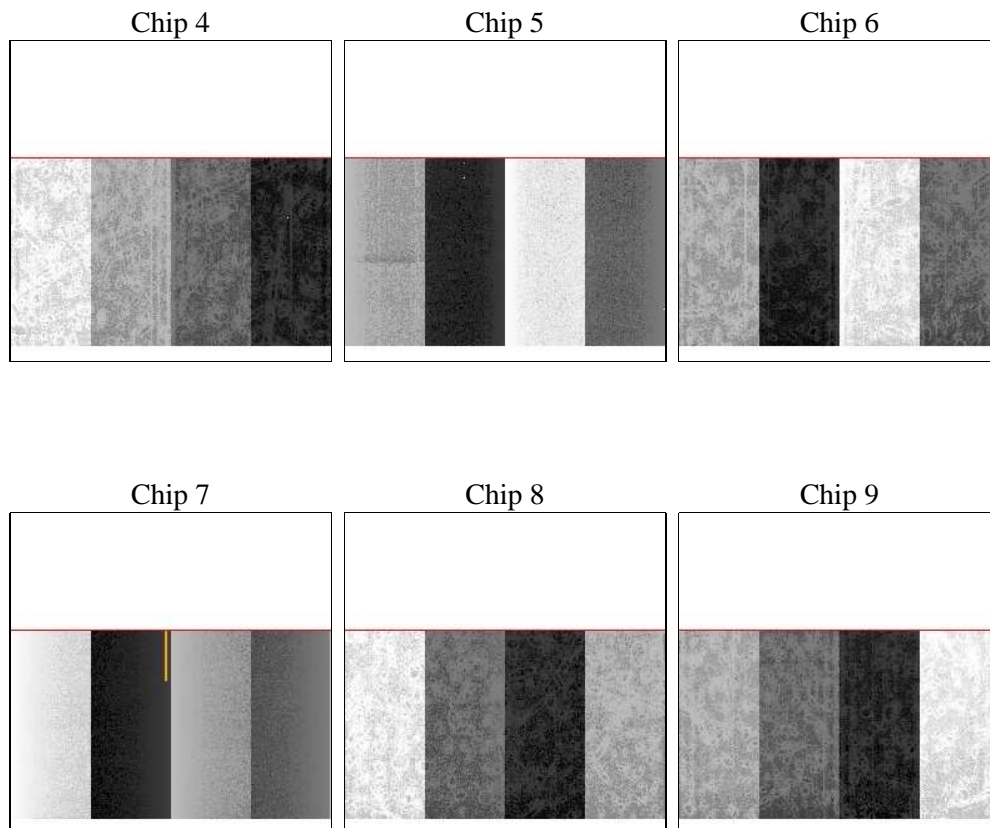
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	27552.016000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	27732.0	Sum of GTIs [s]
caldbver	4.4.9	 	ontime4	27732.0	Sum of GTIs [s]
date	2012-05-29T15:12:27	Date and time of file creation	ontime5	27732.0	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	27729.958959818	Sum of GTIs [s]
			ontime7	27732.0	Sum of GTIs [s]
			ontime8	27732.0	Sum of GTIs [s]
			ontime9	27732.0	Sum of GTIs [s]
			l1events	1273966	Number of level 1 events

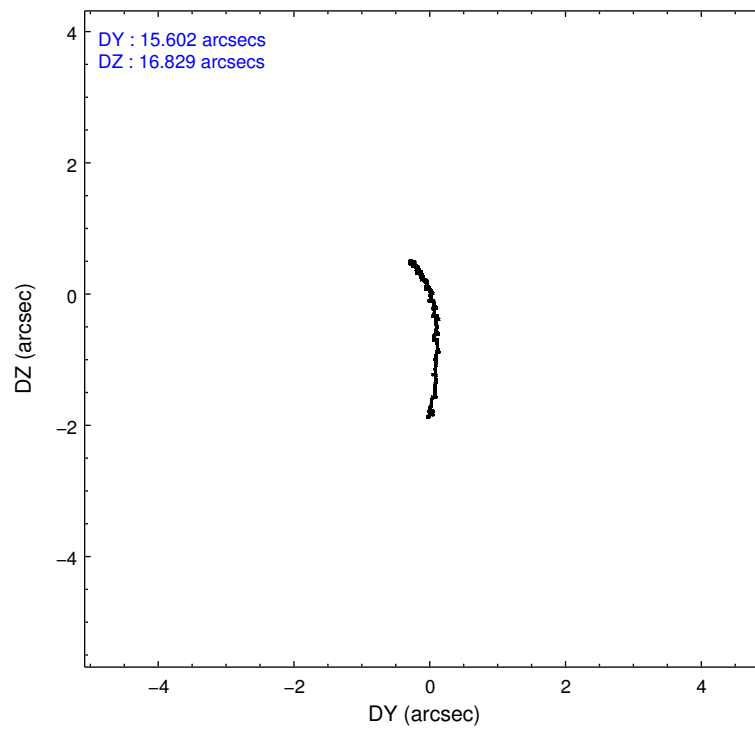
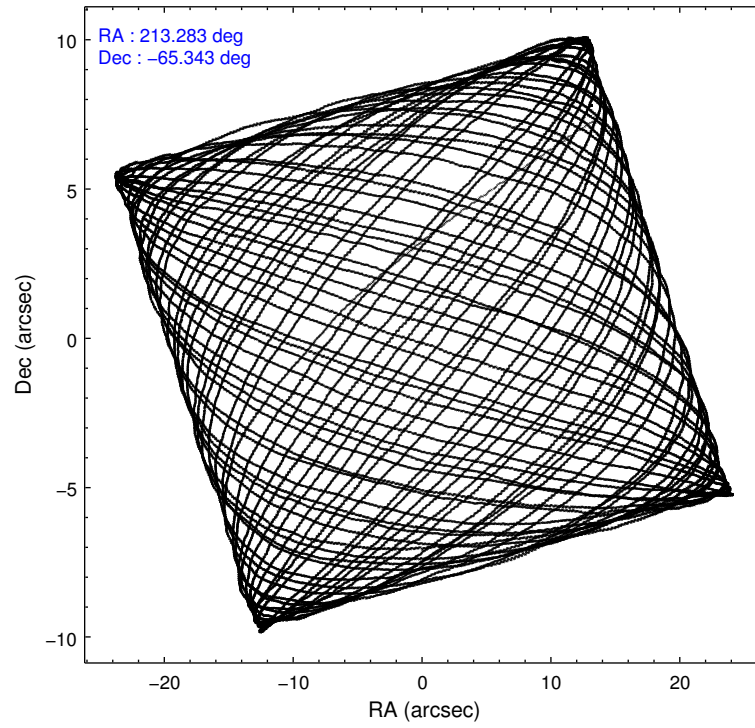
2.1.4 Events

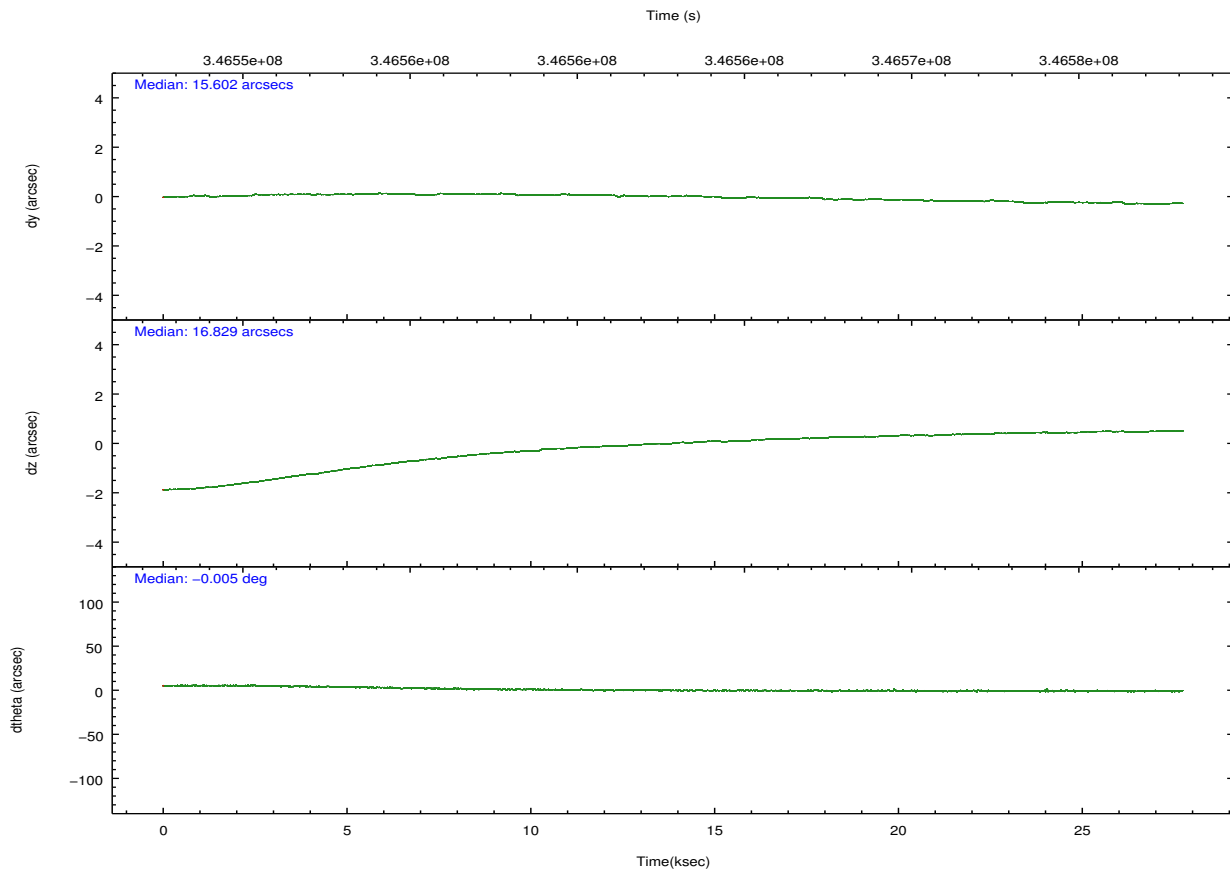
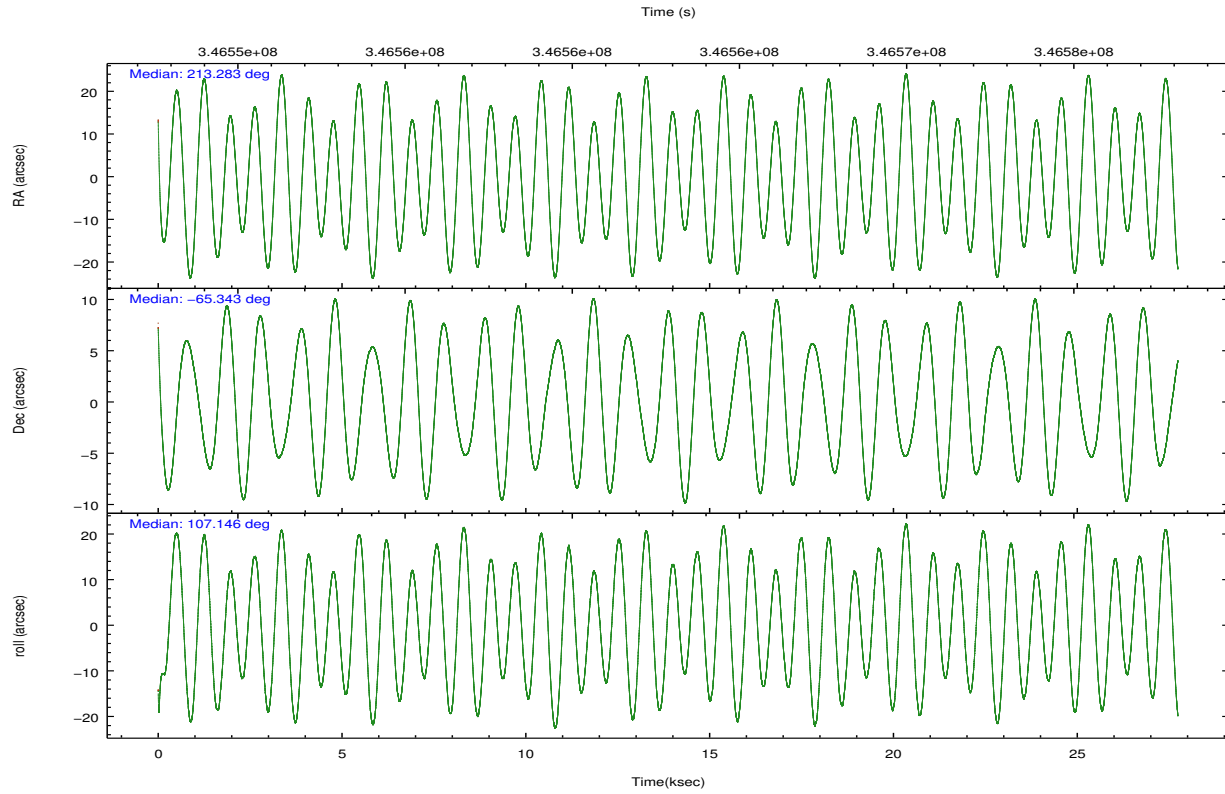
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	193371	278883	172196	242511	222750	164255	grade 0 events	15182	24654	9730	10136	16123	8913
rejected events	165196	145642	148949	137711	170654	142267		7%	8%	5%	4%	7%	5%
rejected %	85%	52%	86%	56%	76%	86%	grade 1 events	159	3170	110	283	151	87
								0%	1%	0%	0%	0%	0%
							grade 2 events	5053	36893	4903	22545	11846	4443
								2%	13%	2%	9%	5%	2%
							grade 3 events	2501	5723	2355	9640	5653	2420
								1%	2%	1%	3%	2%	1%
							grade 4 events	2400	5619	2302	9583	5151	2261
								1%	2%	1%	3%	2%	1%
							grade 5 events	7677	20168	8031	22090	10671	8521
								3%	7%	4%	9%	4%	5%
							grade 6 events	3671	63424	4443	55128	14374	4423
								1%	22%	2%	22%	6%	2%
							grade 7 events	156728	119232	140322	113106	158781	133187
								81%	42%	81%	46%	71%	81%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	213.331601	213.2829300185423	CCD I2 on	N	N
[deg] Pointing Dec	-65.360830	-65.34252065425677	CCD I3 on	N	N
[deg] Pointing Roll	107.036301	107.148676015079	CCD S0 on	O1	Y
[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	-186.132523	-186.1397904050899	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-4	-3.992732177917873	CCD S4 on	Y	Y
[s] Observation start time (MET)	346549177.184000	346547922.26766	CCD S5 on	Y	Y
Observation start date	2008-12-24T23:38:32	2008-12-24T23:18:42	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	346576729.184000	346576960.00659	On-chip summing requested	N	N
Observation end date	2008-12-25T07:17:44	2008-12-25T07:22:40	Subarray requested	CUSTOM	CUSTOM
Read mode	TIMED	TIMED	Subarray start row	50	50
			Subarray row count	600	600
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	2

2.3 Aspect



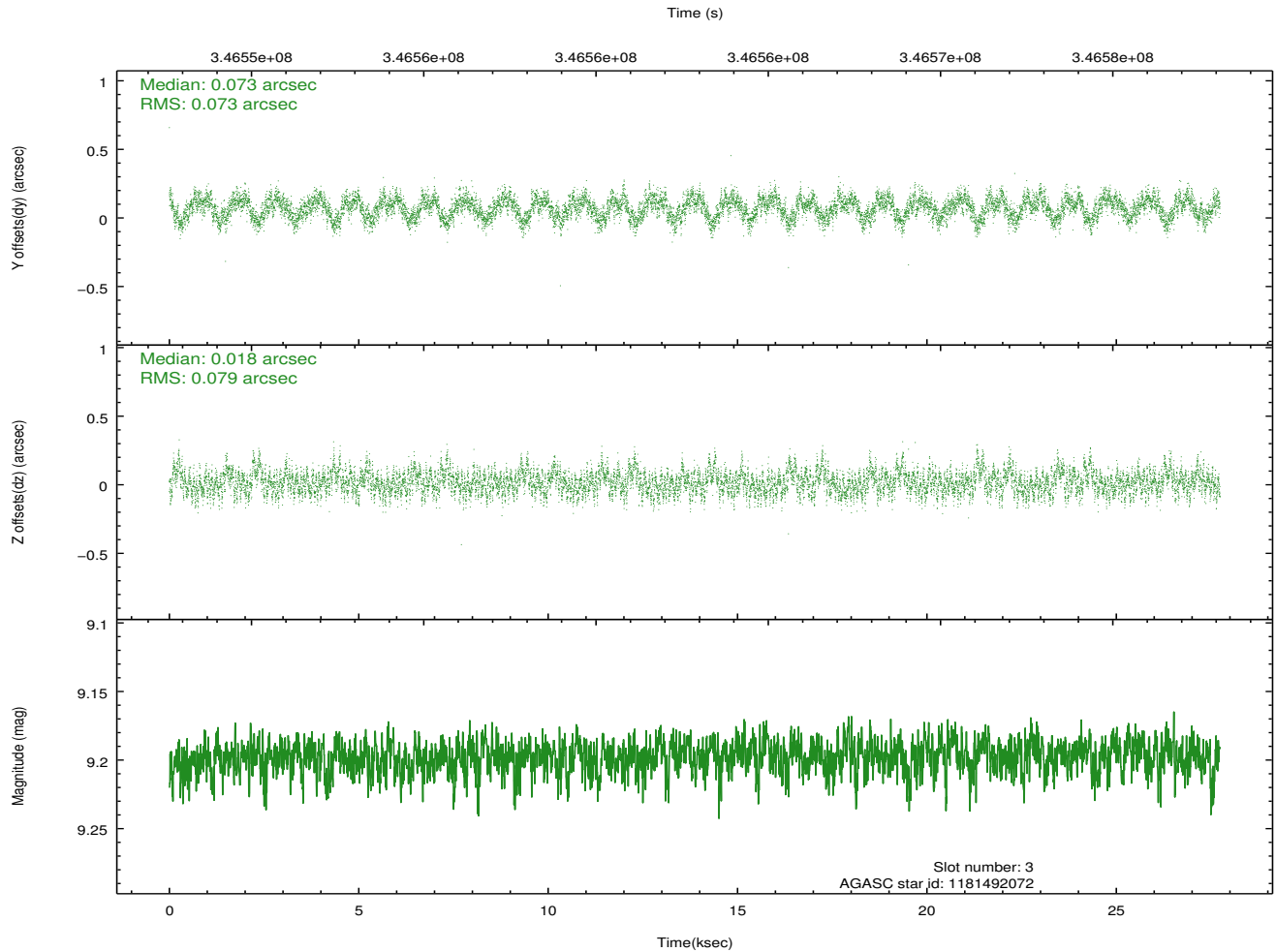
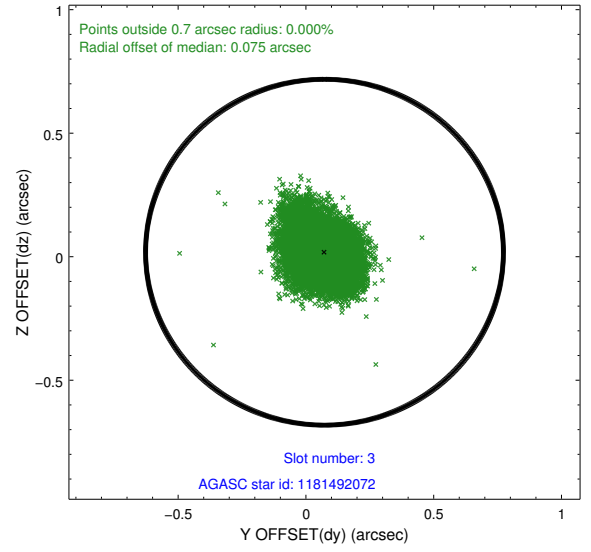
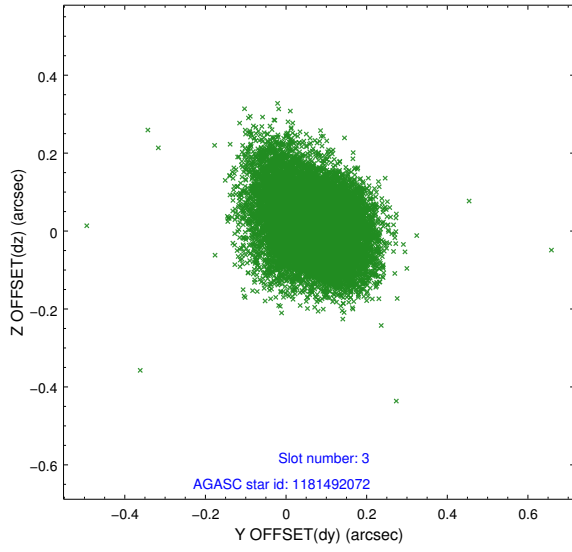


Slot Statistics

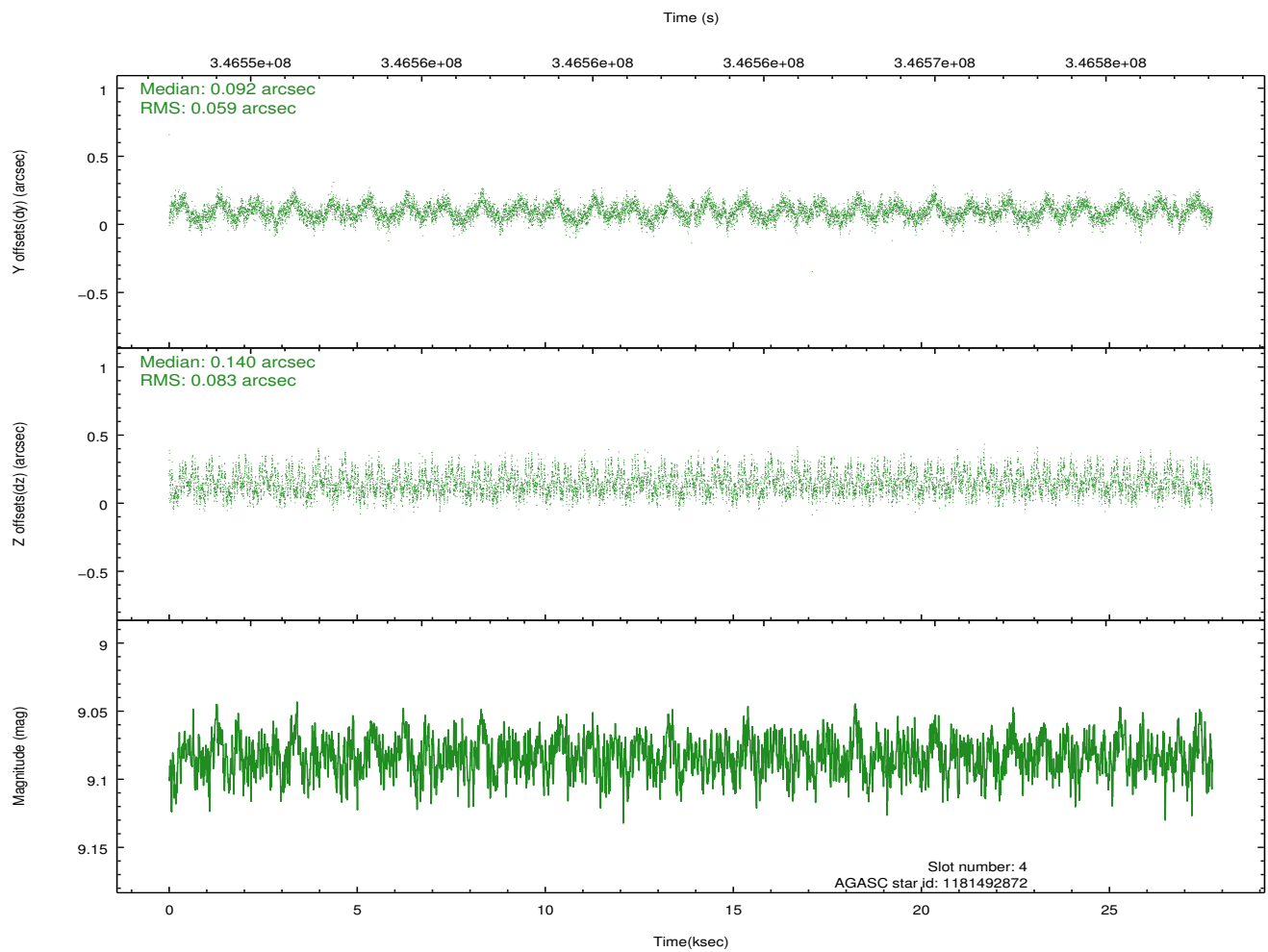
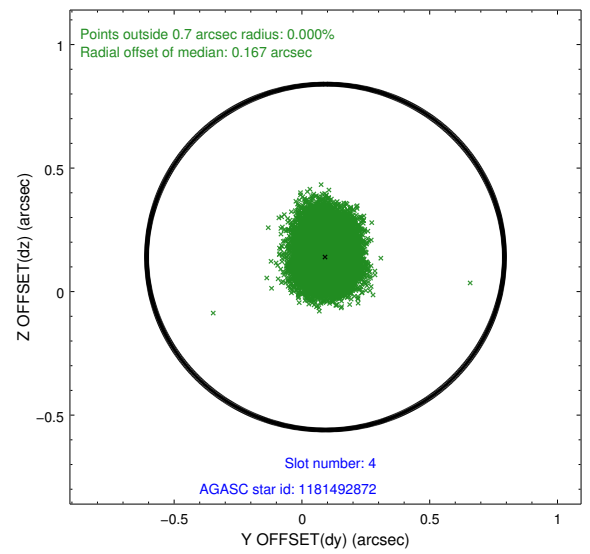
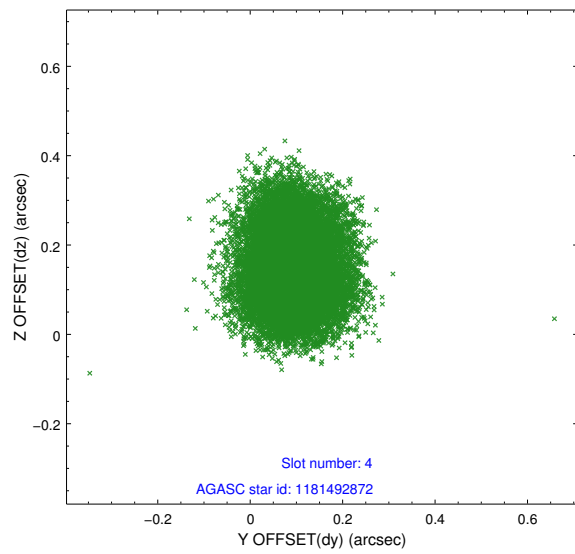
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.94	6766	-0.114	-0.062	0.023	0.057	0.000000	0.000000	-768.37	-1820.45
1	FID	ACIS-S-4	7.01	6766	0.218	0.071	0.011	0.020	0.000000	0.000000	2145.18	88.08
2	FID	ACIS-S-5	7.05	6766	-0.137	-0.003	0.020	0.052	0.000000	0.000000	-1821.13	81.77
3	GUIDE	1181492072	9.20	13520	0.073	0.018	0.113	0.186	214.479575	-65.592809	-1313.14	-1383.22
4	GUIDE	1181492872	9.08	13524	0.092	0.140	0.110	0.174	214.965330	-65.517798	-1284.09	-2154.92
5	GUIDE	1181888328	9.11	13522	0.140	-0.064	0.098	0.171	213.100875	-66.006078	-2122.26	1003.78
6	GUIDE	1181362720	8.23	13528	-0.231	-0.265	0.056	0.092	212.359703	-64.776136	2438.36	812.55
7	GUIDE	1181356824	8.93	13519	-0.074	0.167	0.093	0.151	213.100076	-64.682630	2438.70	-373.67

2.4 Star Slots

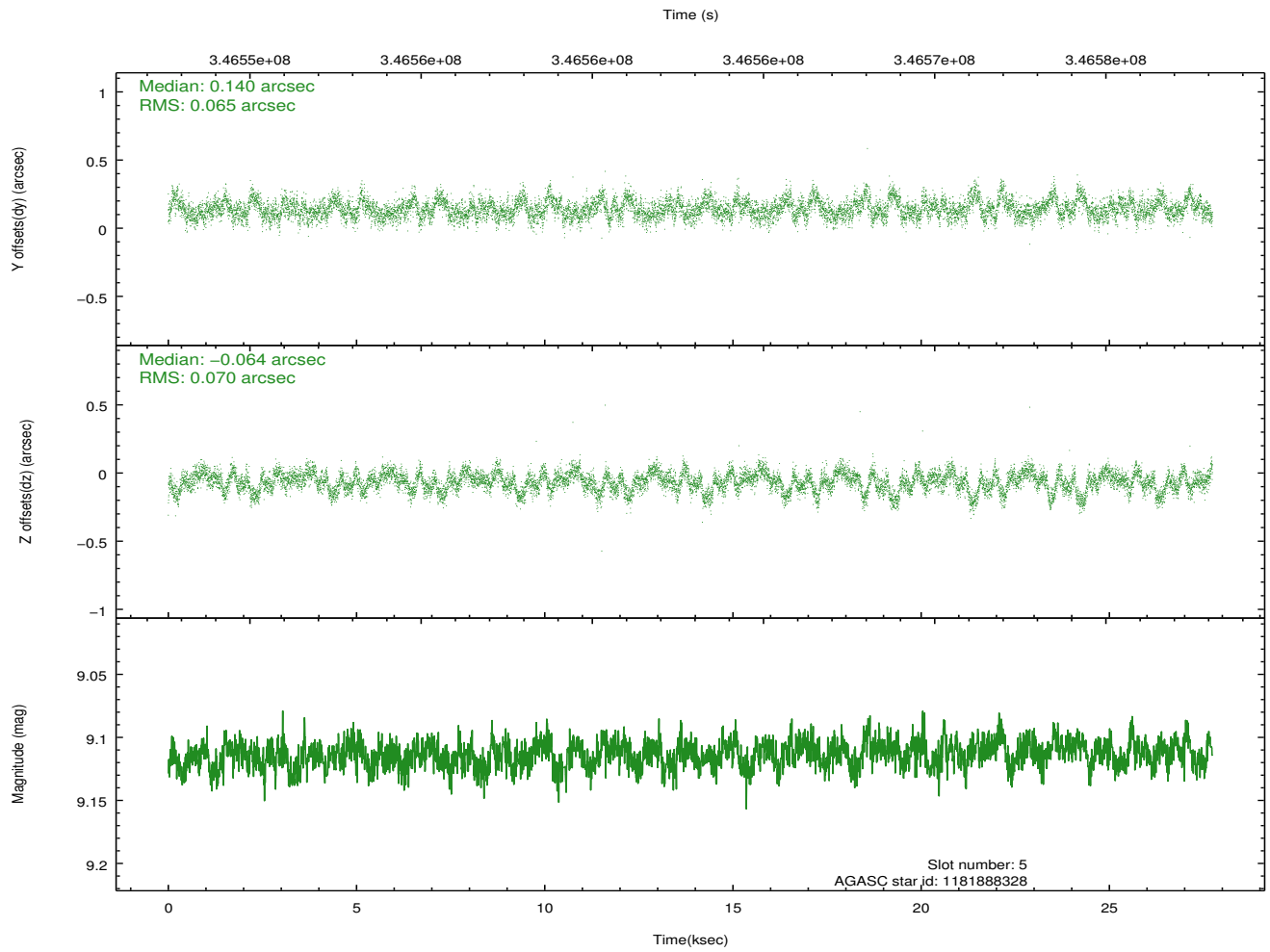
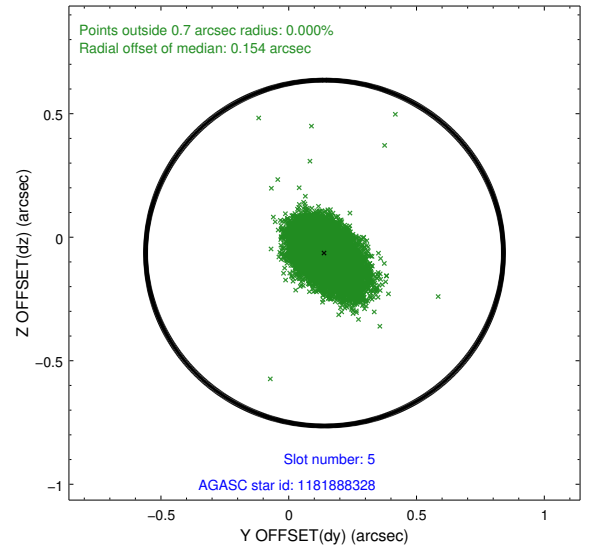
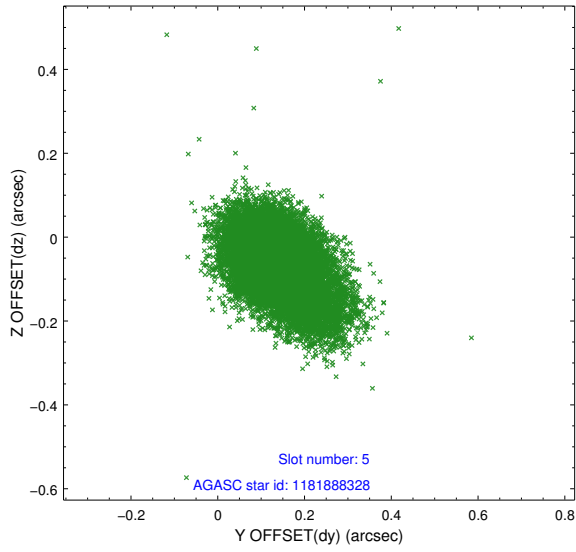
2.4.1 Slot 3



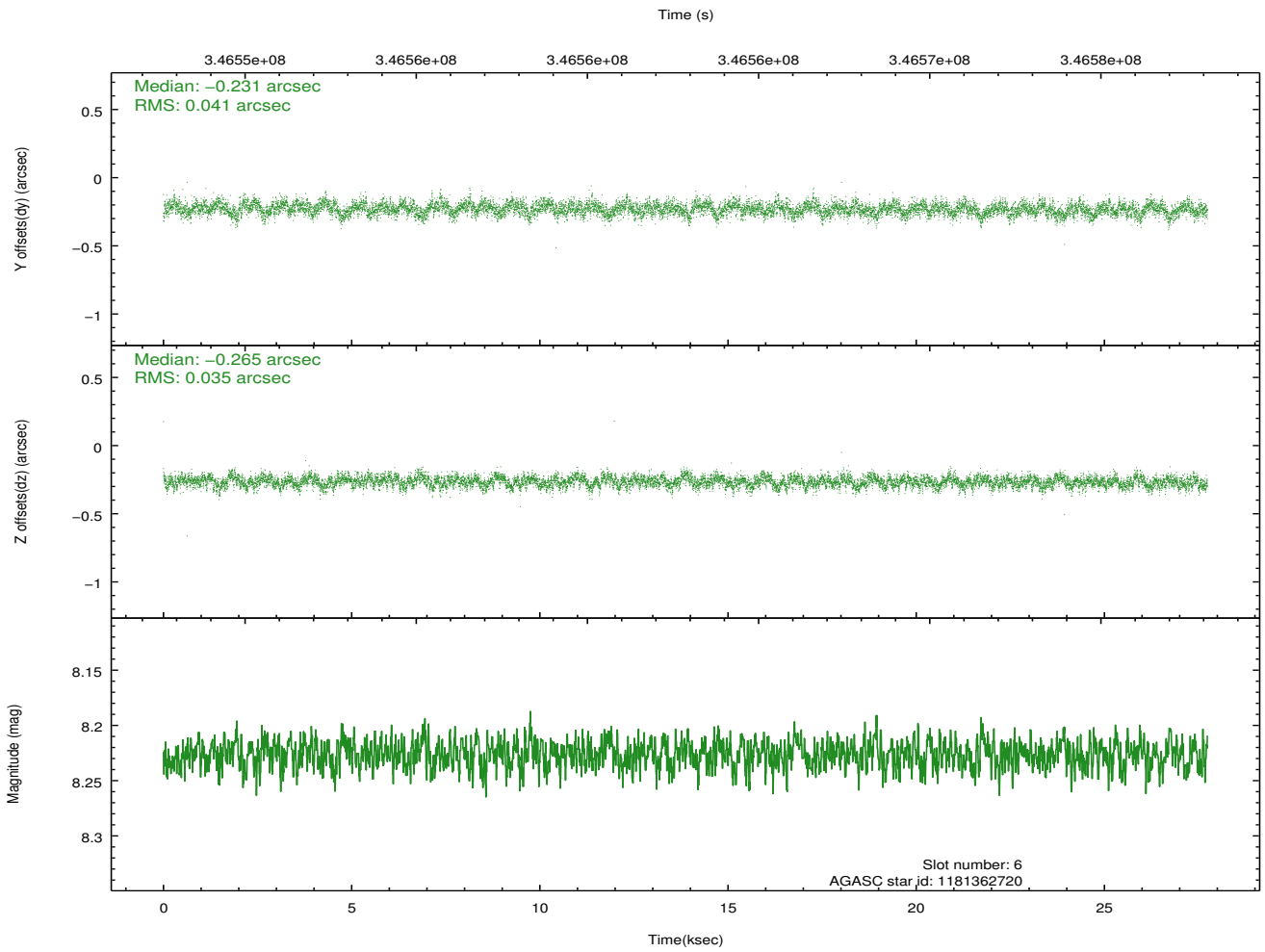
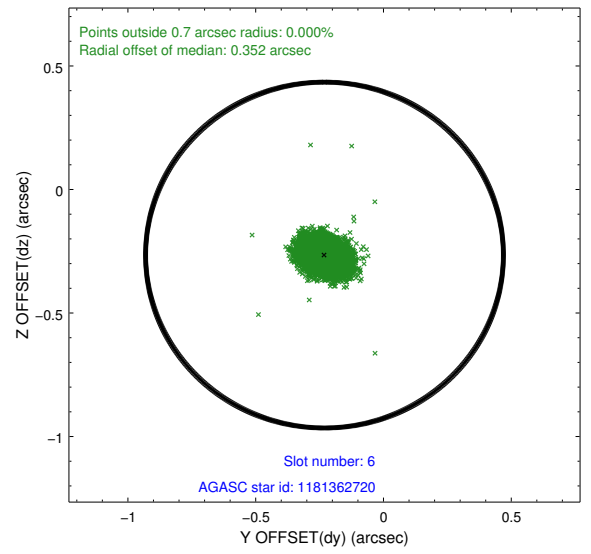
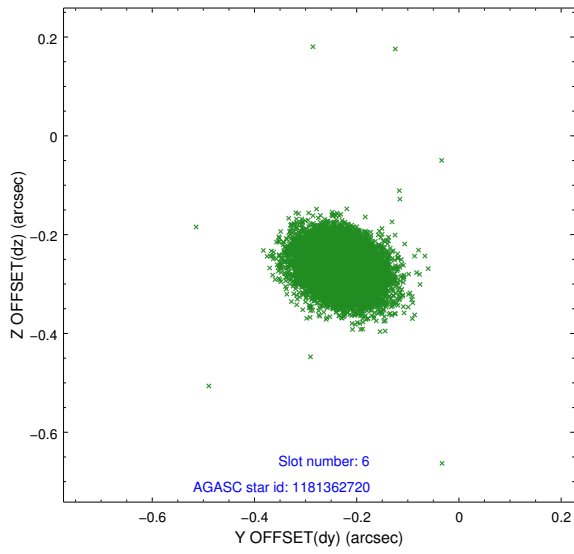
2.4.2 Slot 4



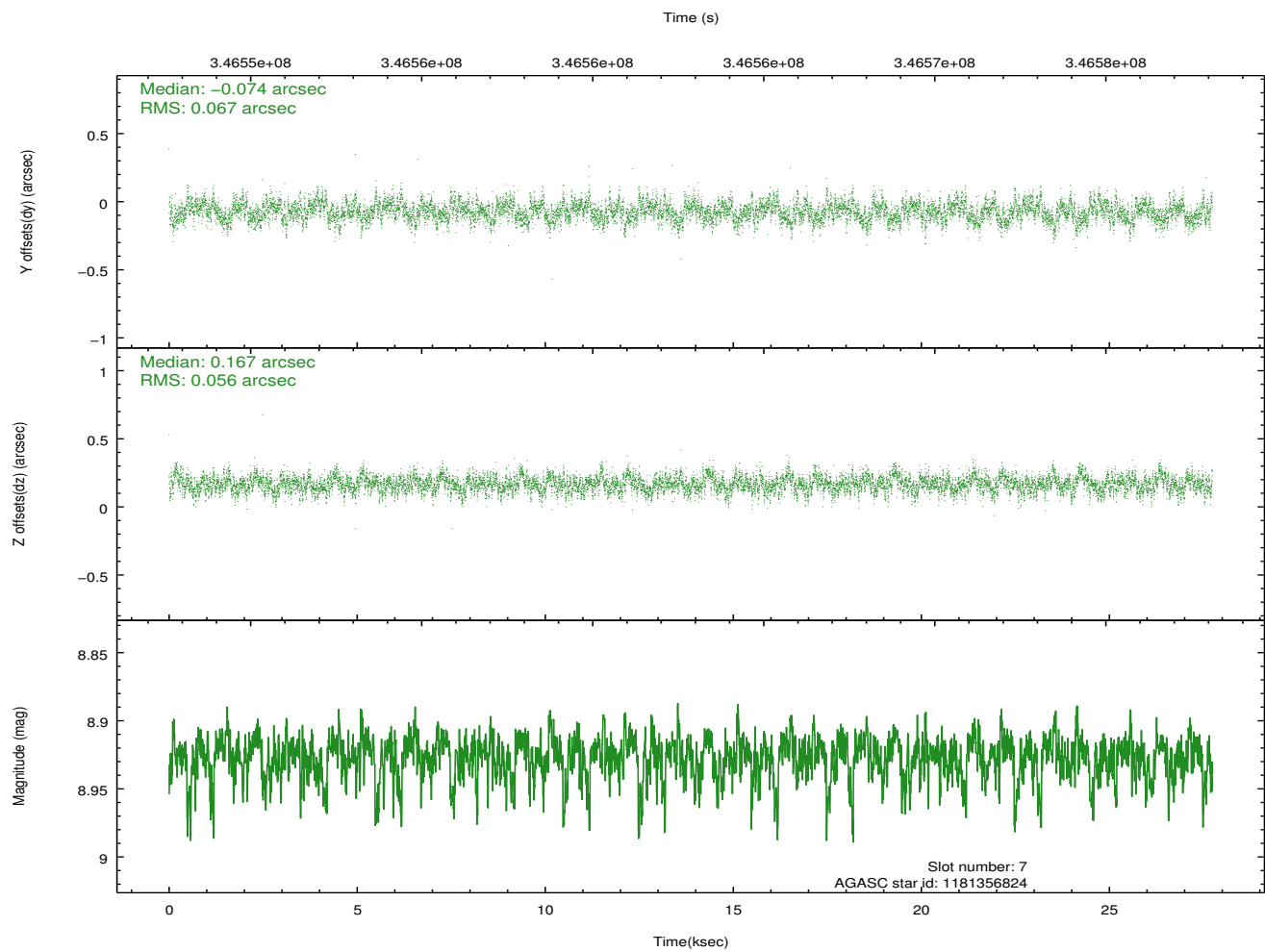
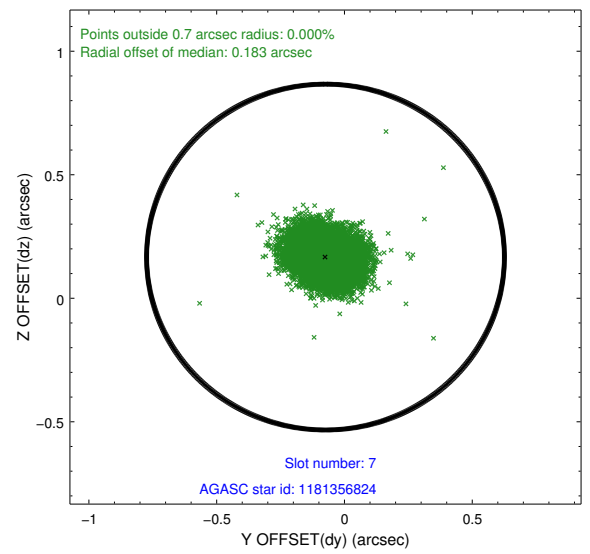
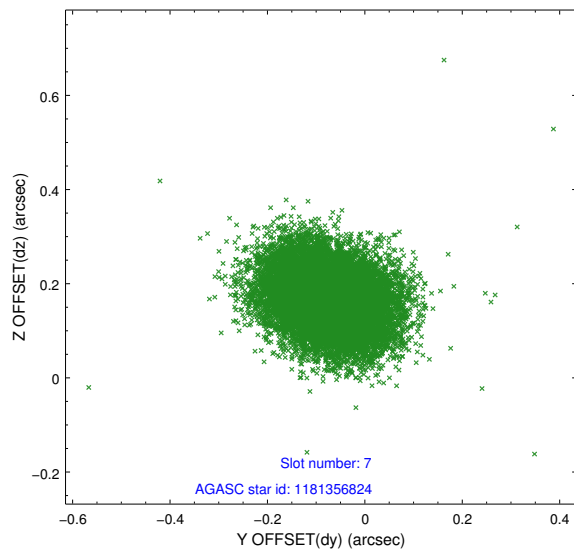
2.4.3 Slot 5



2.4.4 Slot 6

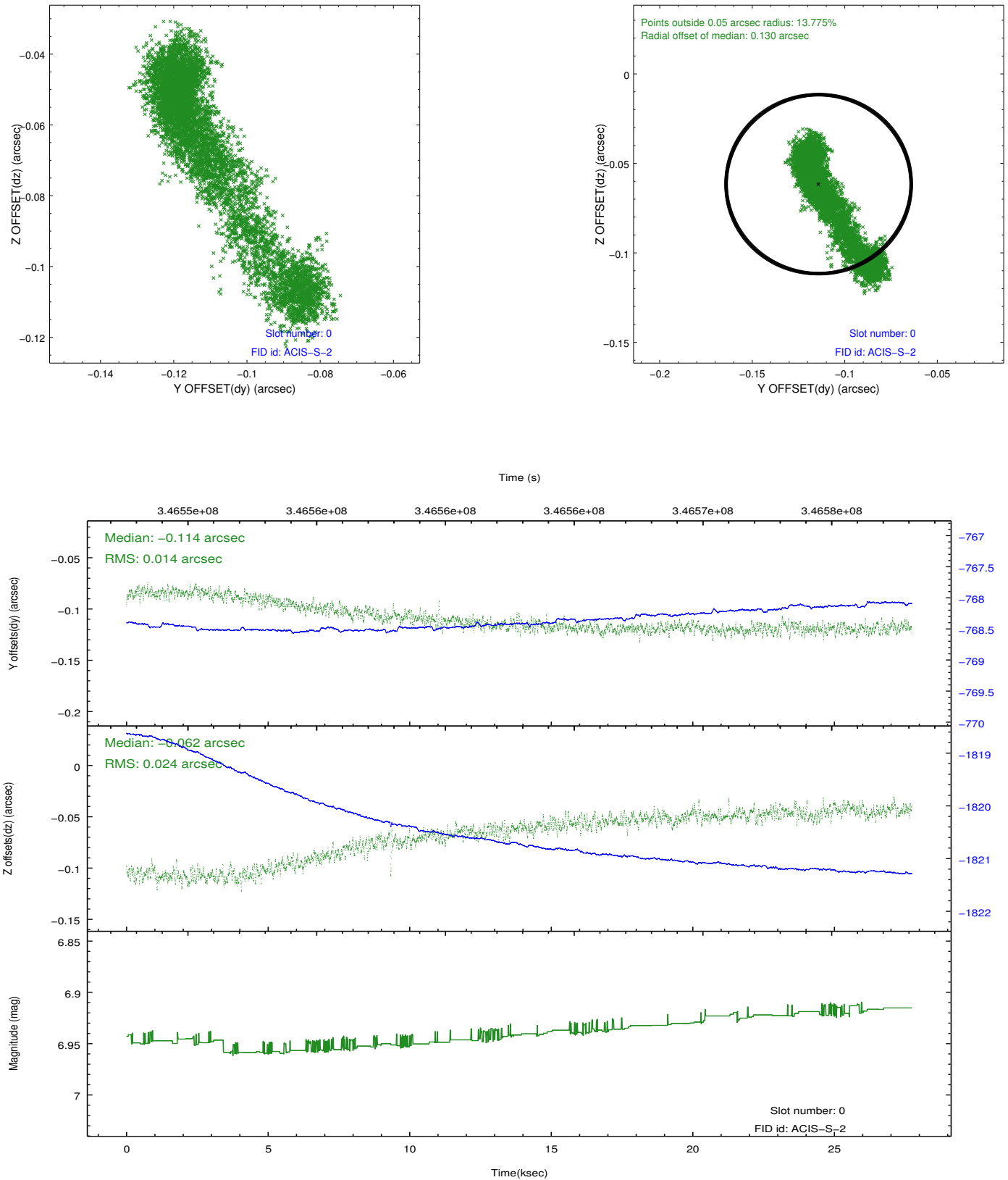


2.4.5 Slot 7

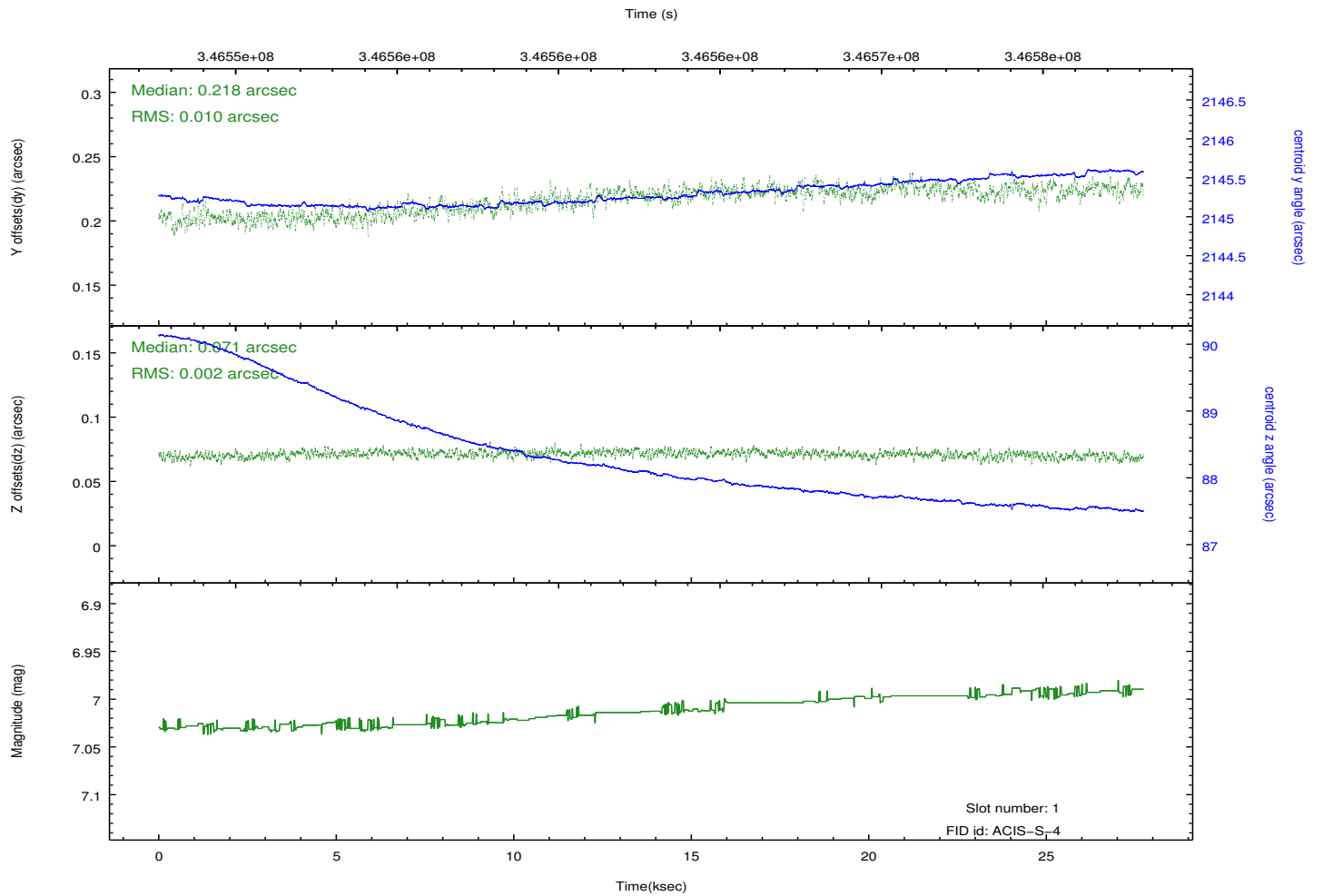
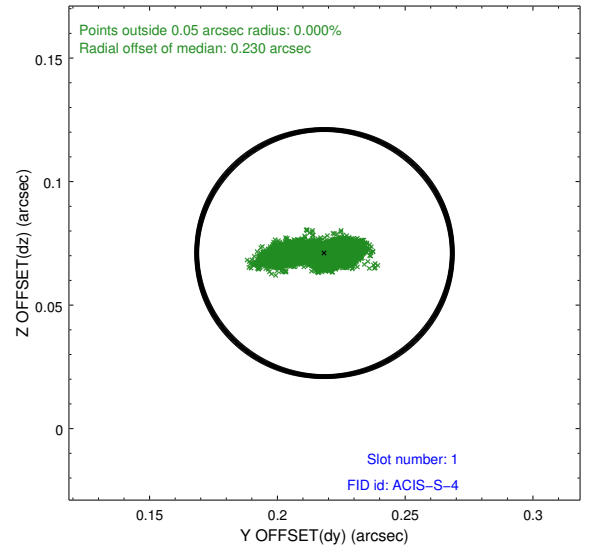
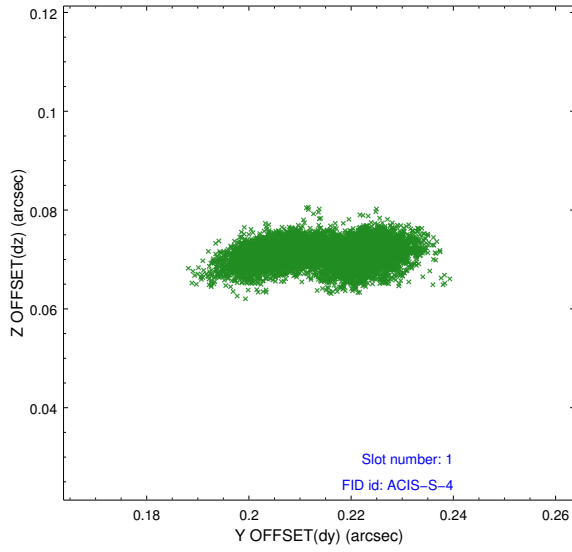


2.5 FID Slots

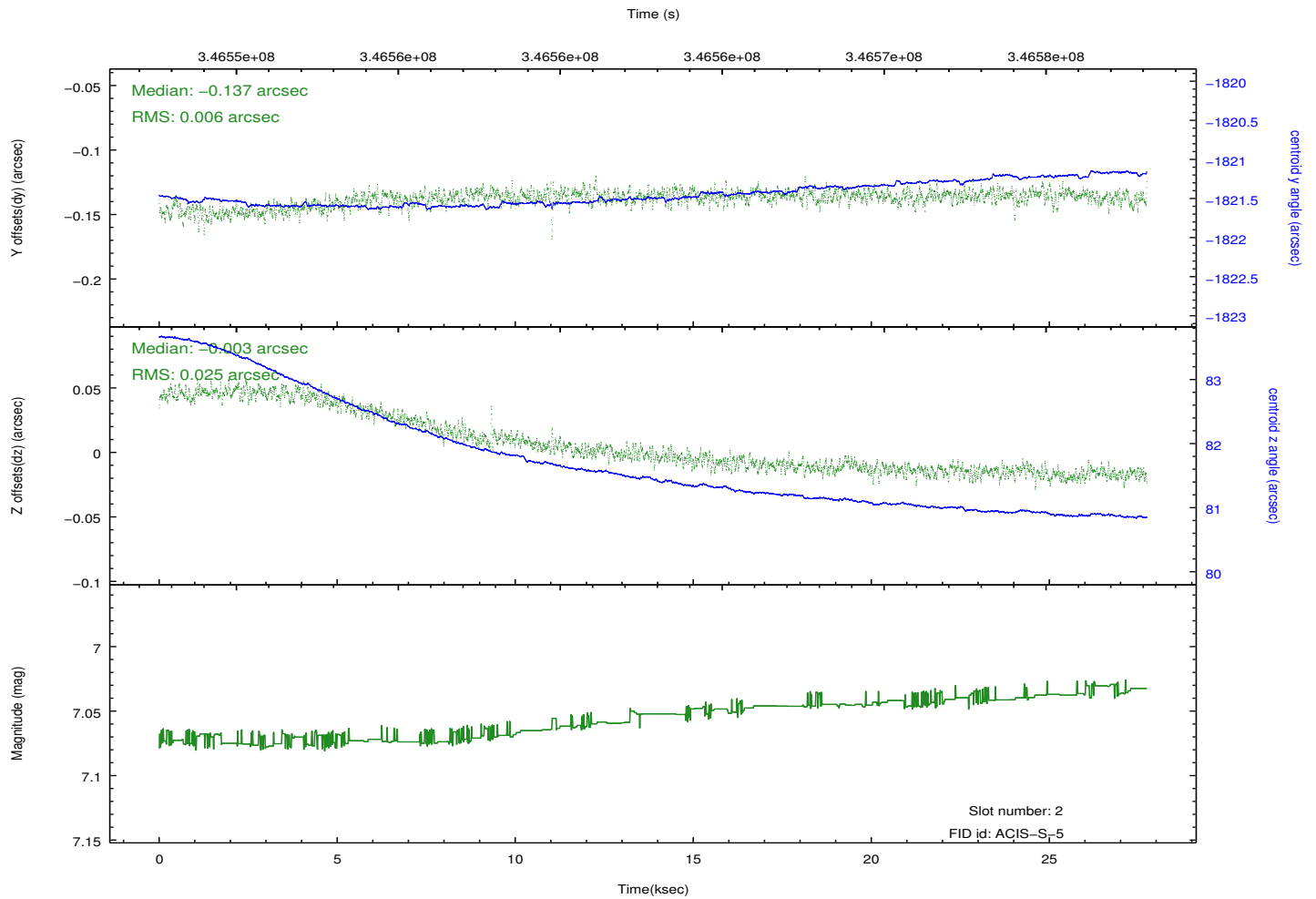
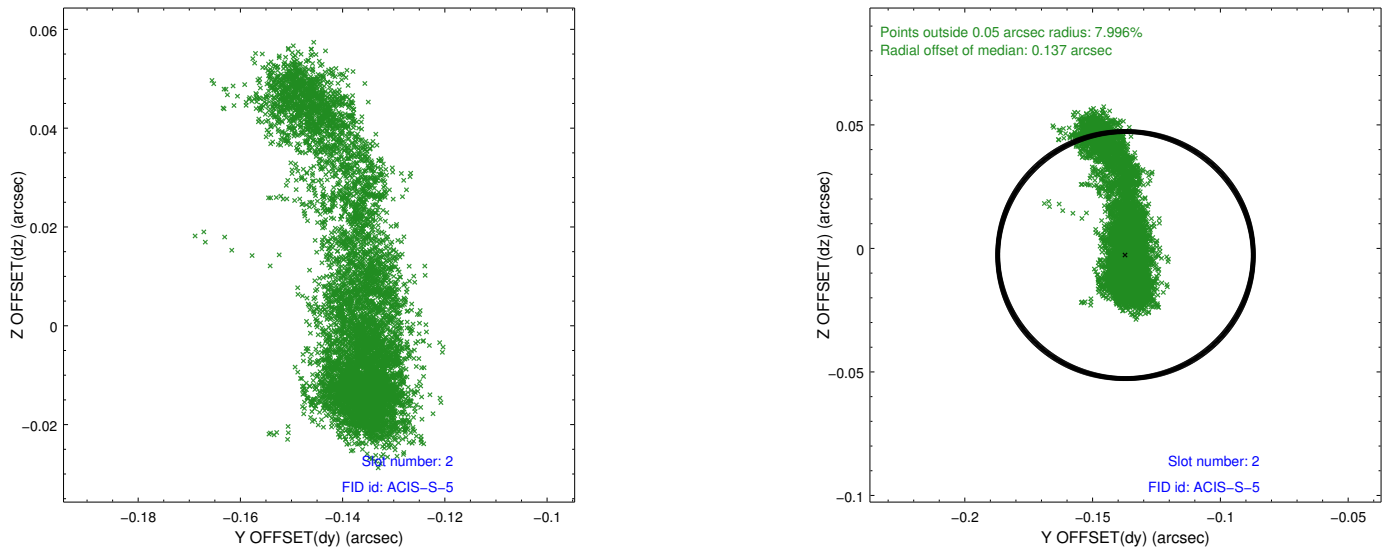
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

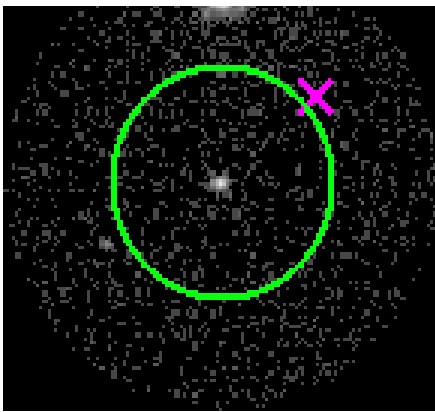


3 Gratings

3.1 HEG Arm



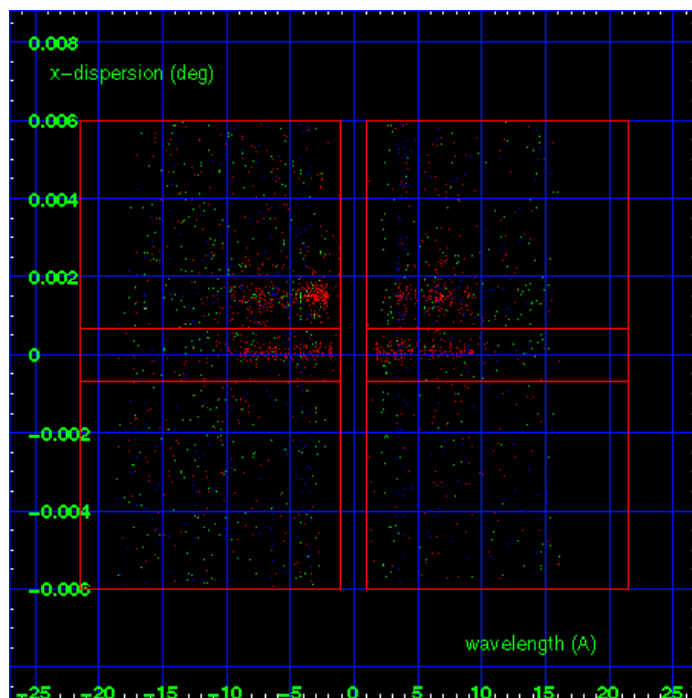
HEG Order Sort 123



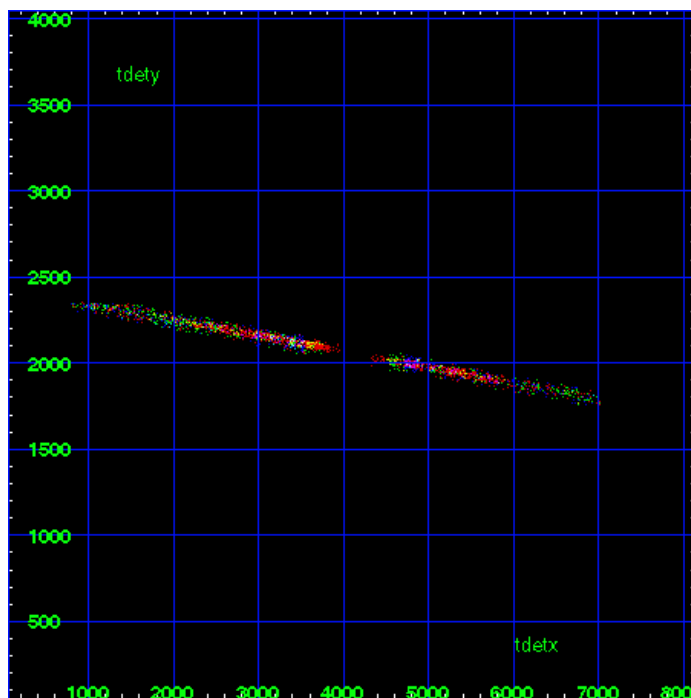
HEG Zero Order



HEG Order Sort ALL

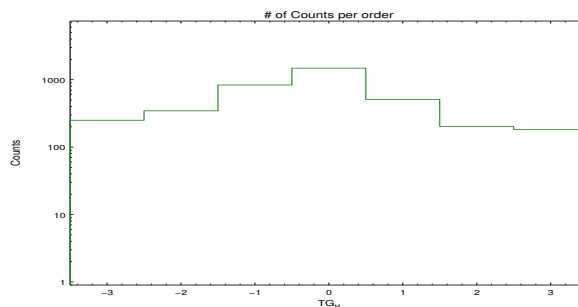


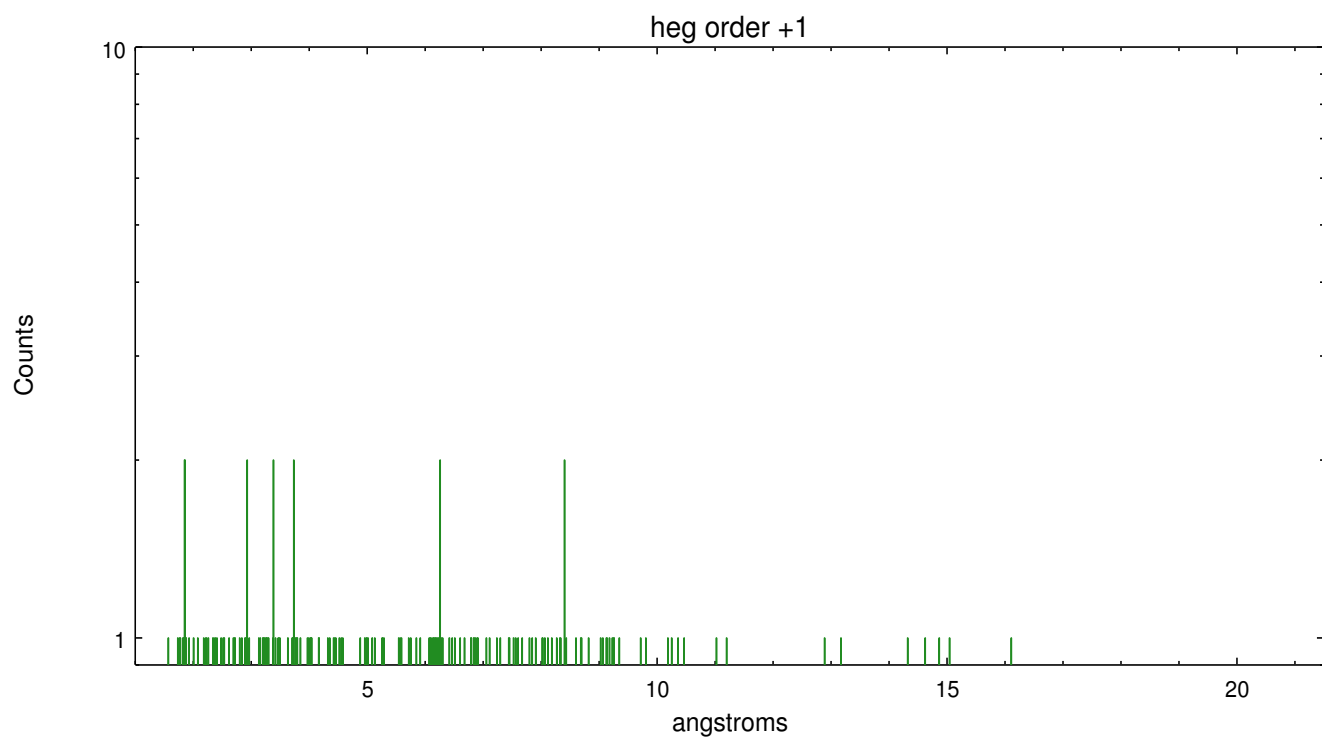
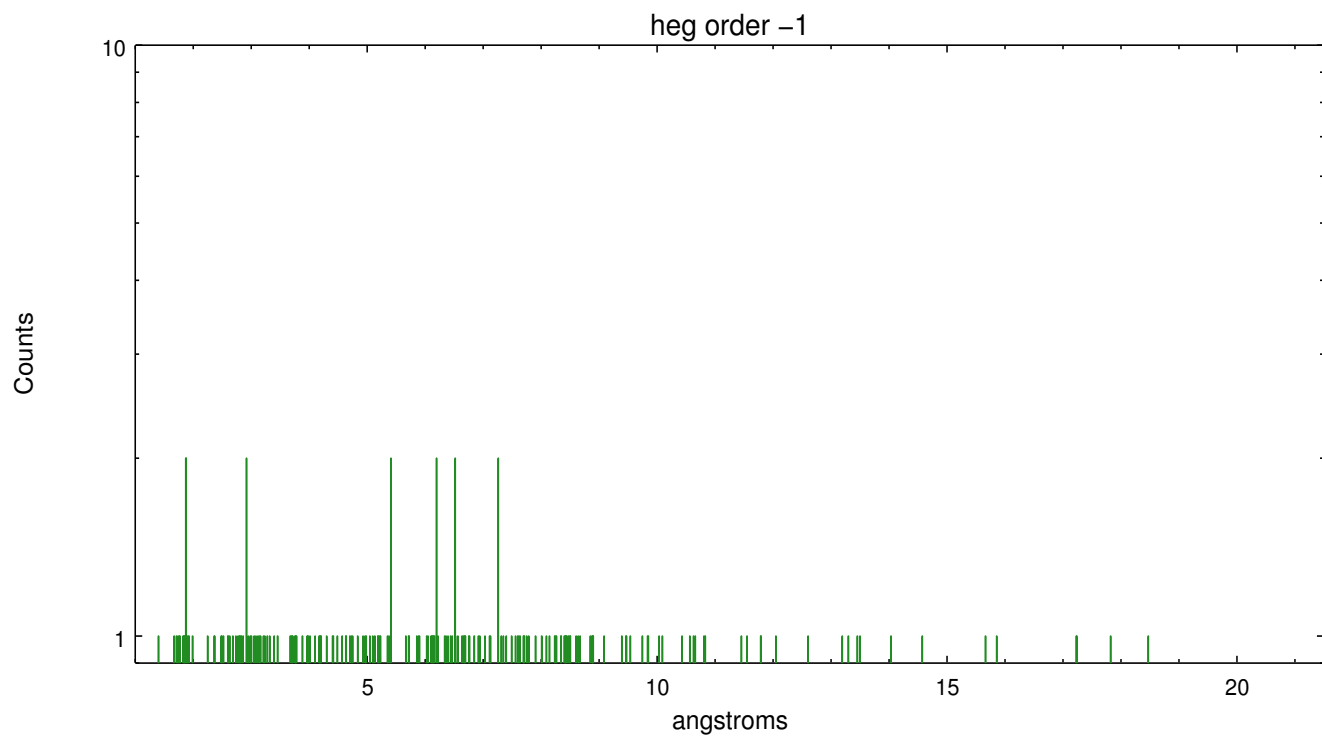
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	250	345	835	1481	509	203	183

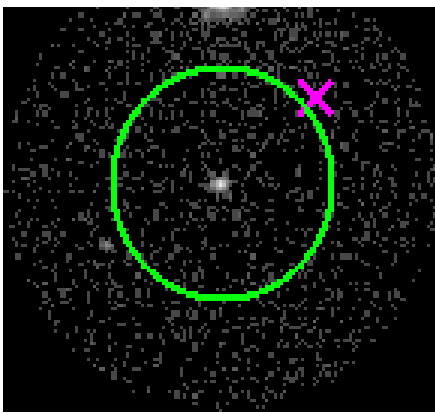




3.2 MEG Arm



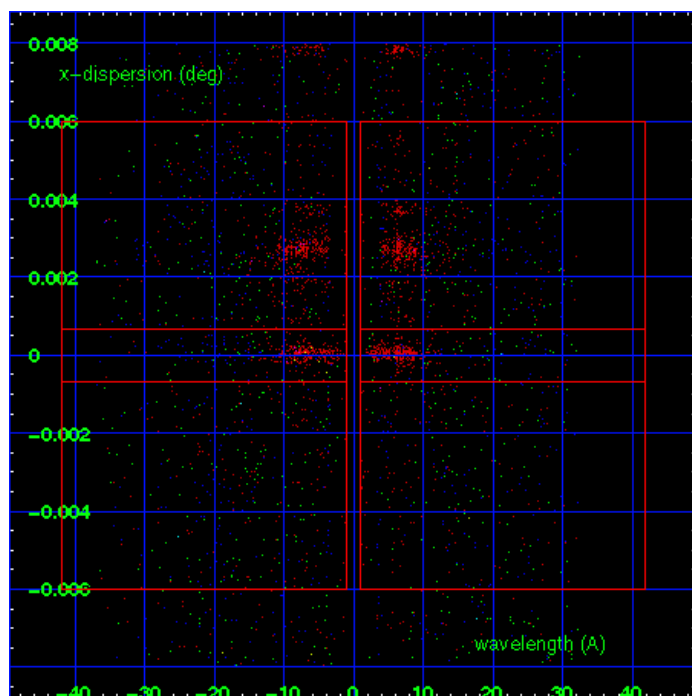
MEG Order Sort 123



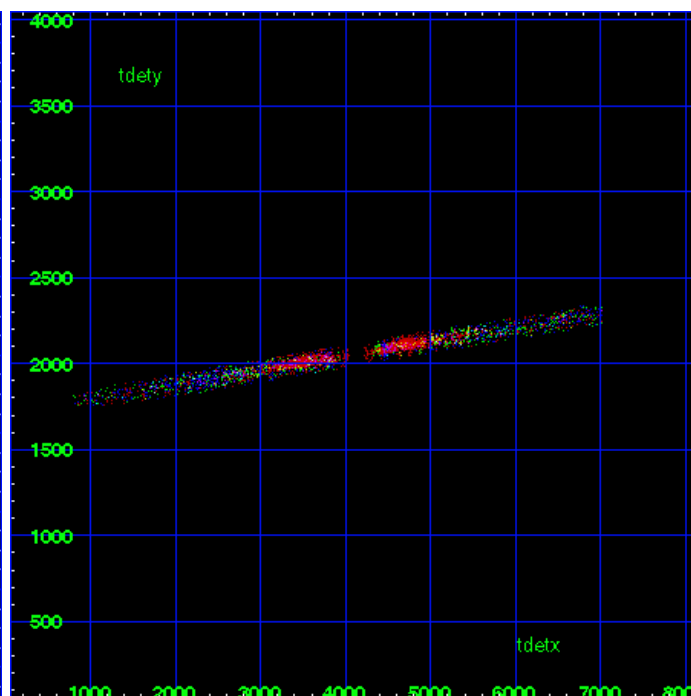
MEG Zero Order



MEG Order Sort ALL

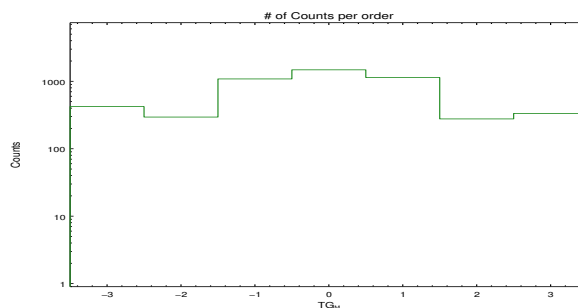


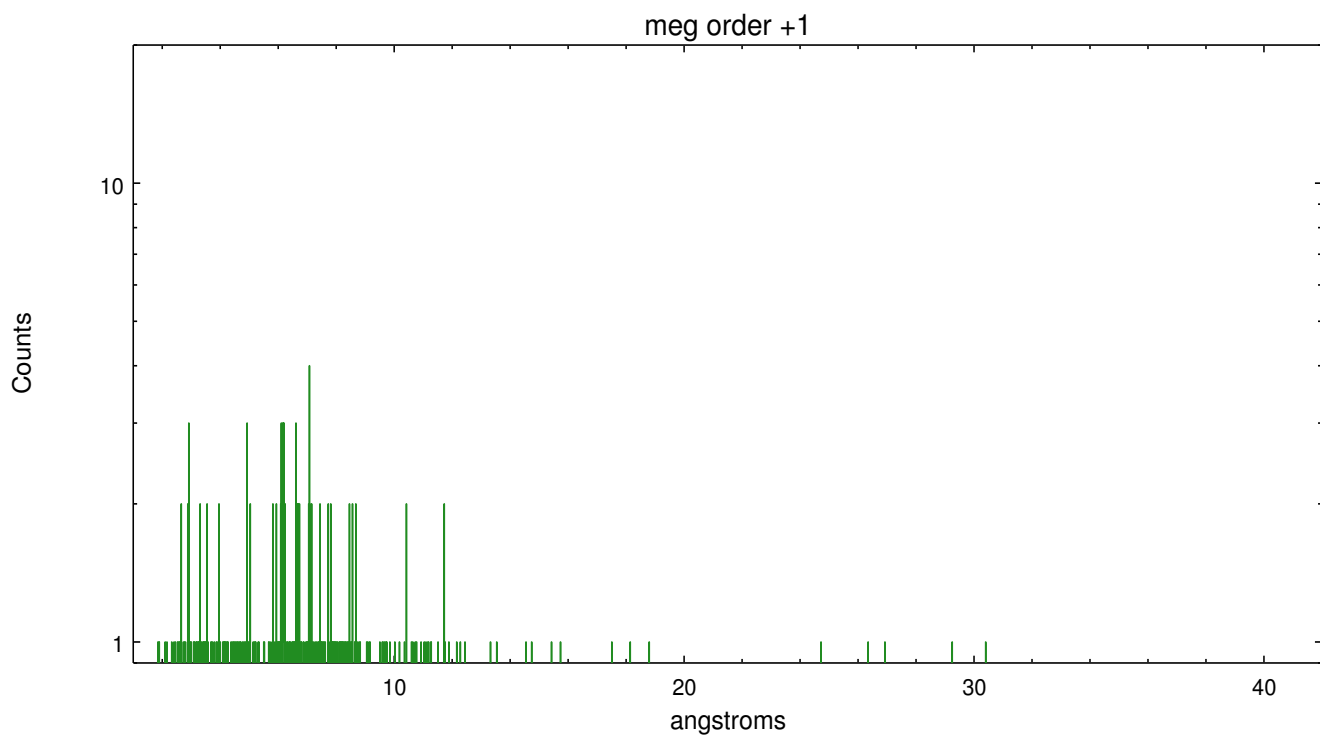
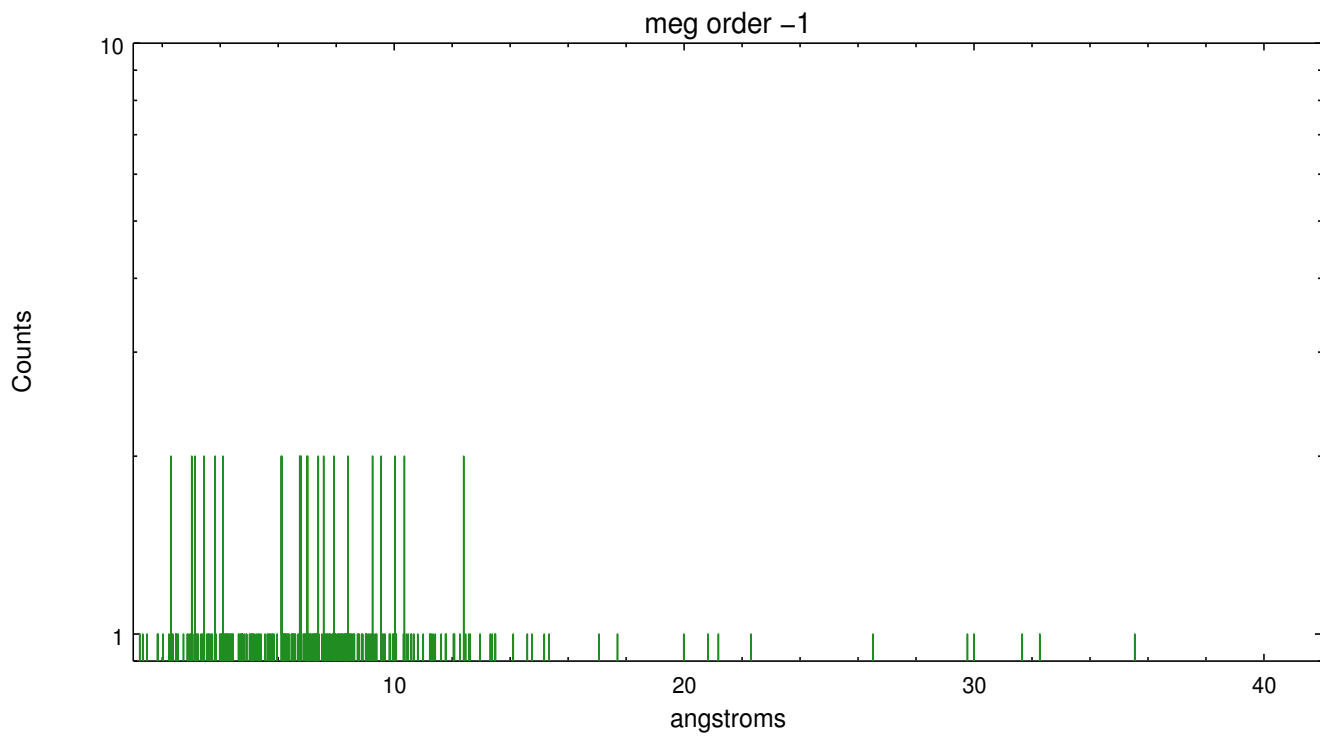
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	422	295	1085	1481	1138	277	334





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.05.30
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	27.732

A.2 Comments

The HETG dispersed spectra for these data products have been extracted using the position of SN1996cr as the position of the zeroth order. The sky coordinates $x=4069.83$, $y=4073.28$ were manually input to the `tg_create_mask` tool. The newly determined zeroth order coordinates have been placed in the `*src1a.fits` file, replacing the coordinates determined by `tgdetect`. Therefore the extracted spectra correspond to the supernova remnant, not the center of the galaxy. There are multiple dispersed spectra associated with different sources in this observation. The `ciao` tool `tgextract2` can be used to create non-standard background regions. ===== In future analysis, if the `ciao` tool `tgdetect` is used on this observation to locate the zeroth order source, the center of the Cir galaxy will be found, not SN 1996cr, which is not as X-ray-bright.

===

Data products for spectral extractions of other targets in this field can be found in TGCat.