

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 10873 - L2 Version 3
Chandra X-Ray Center

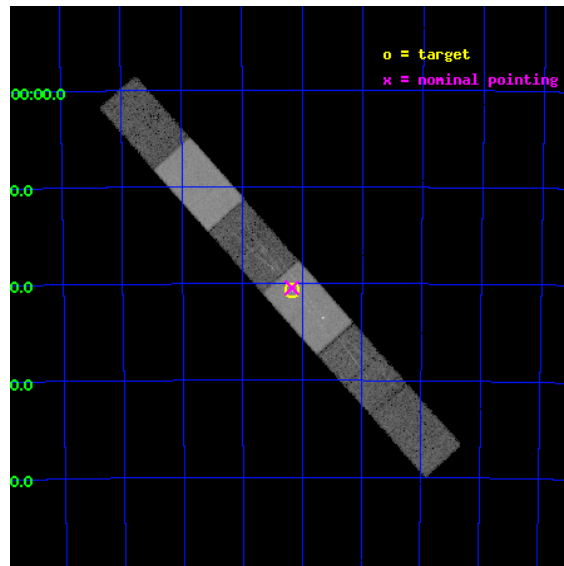
L2 Processing Date : Jun 4 2012

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1 Front

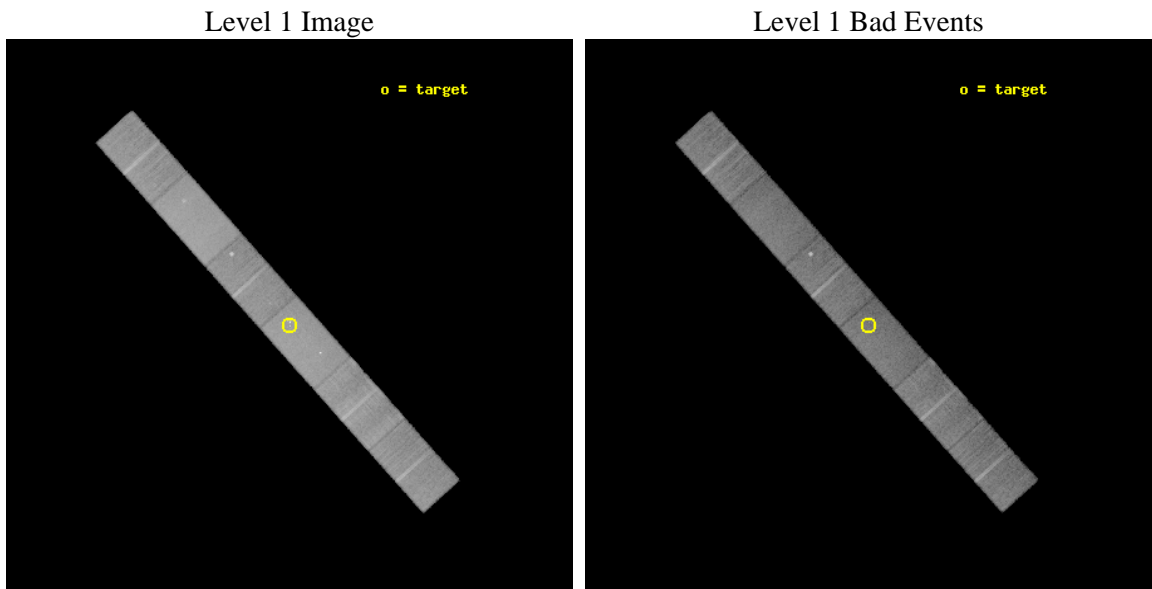
seq_num	501150	Sequence number
obs_id	10873	Observation id
title	A Deep HETG Probe of the CSM Interaction in SN1996cr	Proposal titl
observer	Dr. Franz Bauer	Principal investigator
object	SN1996cr	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	213.291667	Observer's specified target RA [deg]
dec_targ	-65.345694	Observer's specified target Dec [deg]
ra_nom	213.29371173444	Nominal RA [deg]
dec_nom	-65.34095712124	Nominal Dec [deg]
roll_nom	48.158478940259	Nominal Roll [deg]
revision	3	Processing version of data
ontime	18474.0	Sum of GTIs [s]
livetime	18102.535962059	Livetime [s]
ontime4	18474.0	Sum of GTIs [s]
ontime5	18474.0	Sum of GTIs [s]
ontime6	18471.958979845	Sum of GTIs [s]
ontime7	18474.0	Sum of GTIs [s]
ontime8	18471.958979785	Sum of GTIs [s]
ontime9	18474.0	Sum of GTIs [s]
l2events	202539	Number of level 2 events



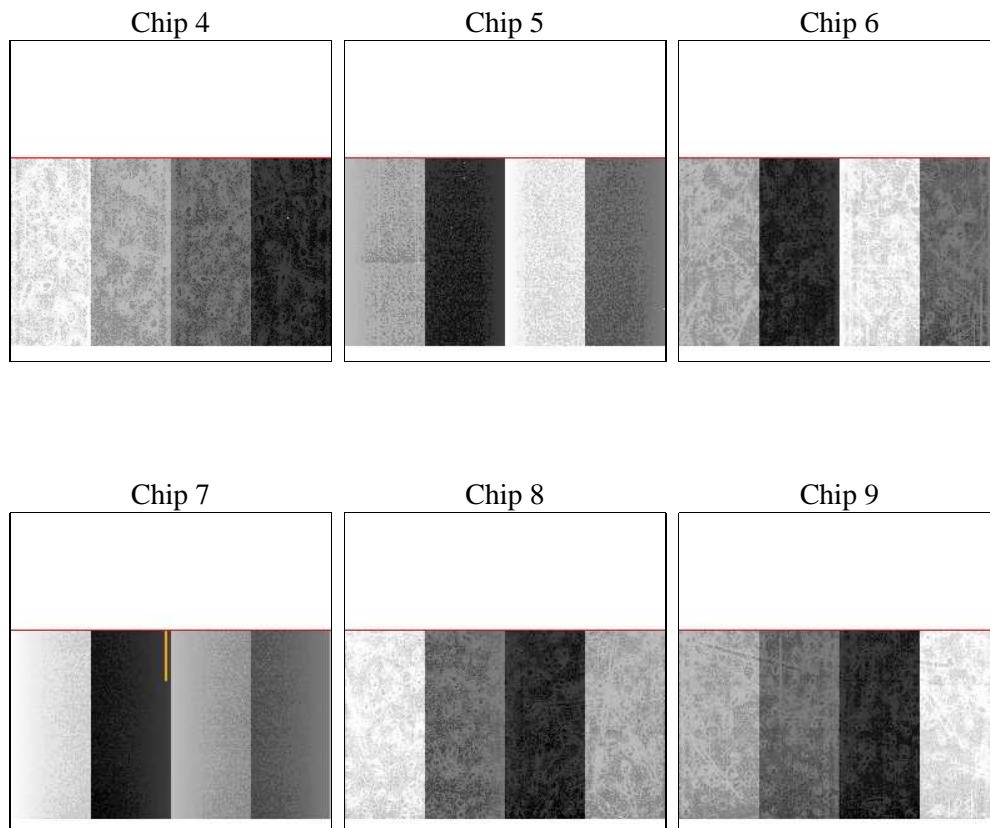
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	18400.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	18474.0	Sum of GTIs [s]
caldsver	4.4.9	 	ontime4	18474.0	Sum of GTIs [s]
date	2012-06-01T23:50:49	Date and time of file creation	ontime5	18474.0	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	18471.958979845	Sum of GTIs [s]
			ontime7	18474.0	Sum of GTIs [s]
			ontime8	18471.958979785	Sum of GTIs [s]
			ontime9	18474.0	Sum of GTIs [s]
			l1events	834131	Number of level 1 events

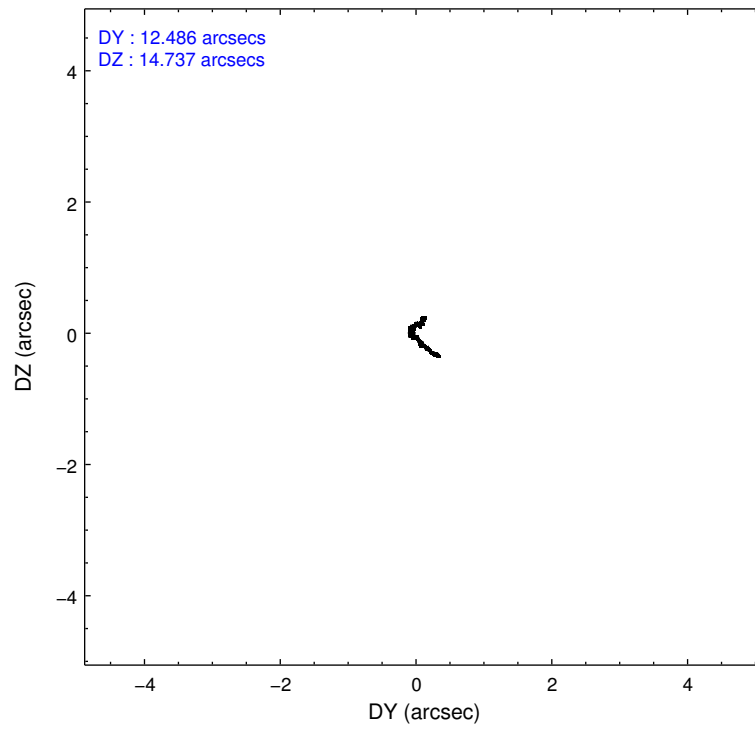
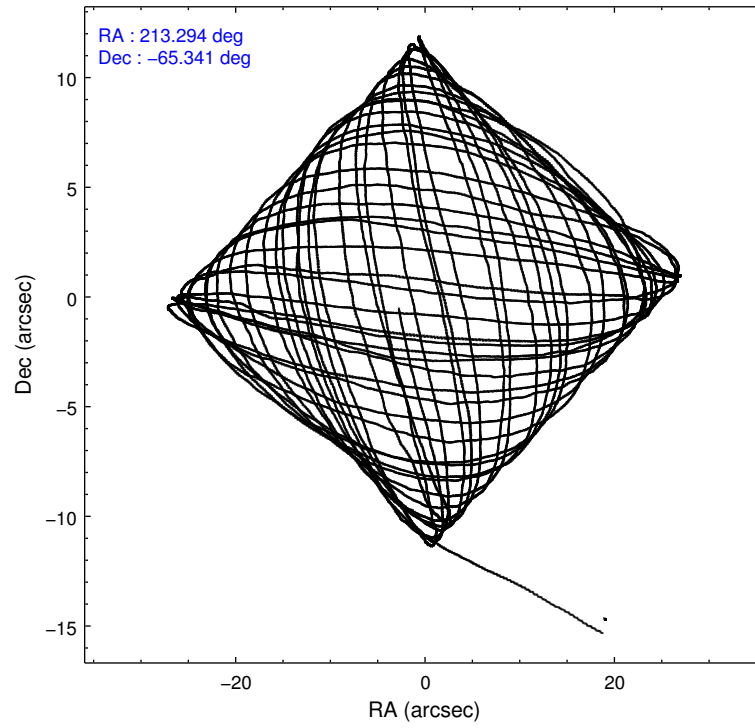
2.1.4 Events

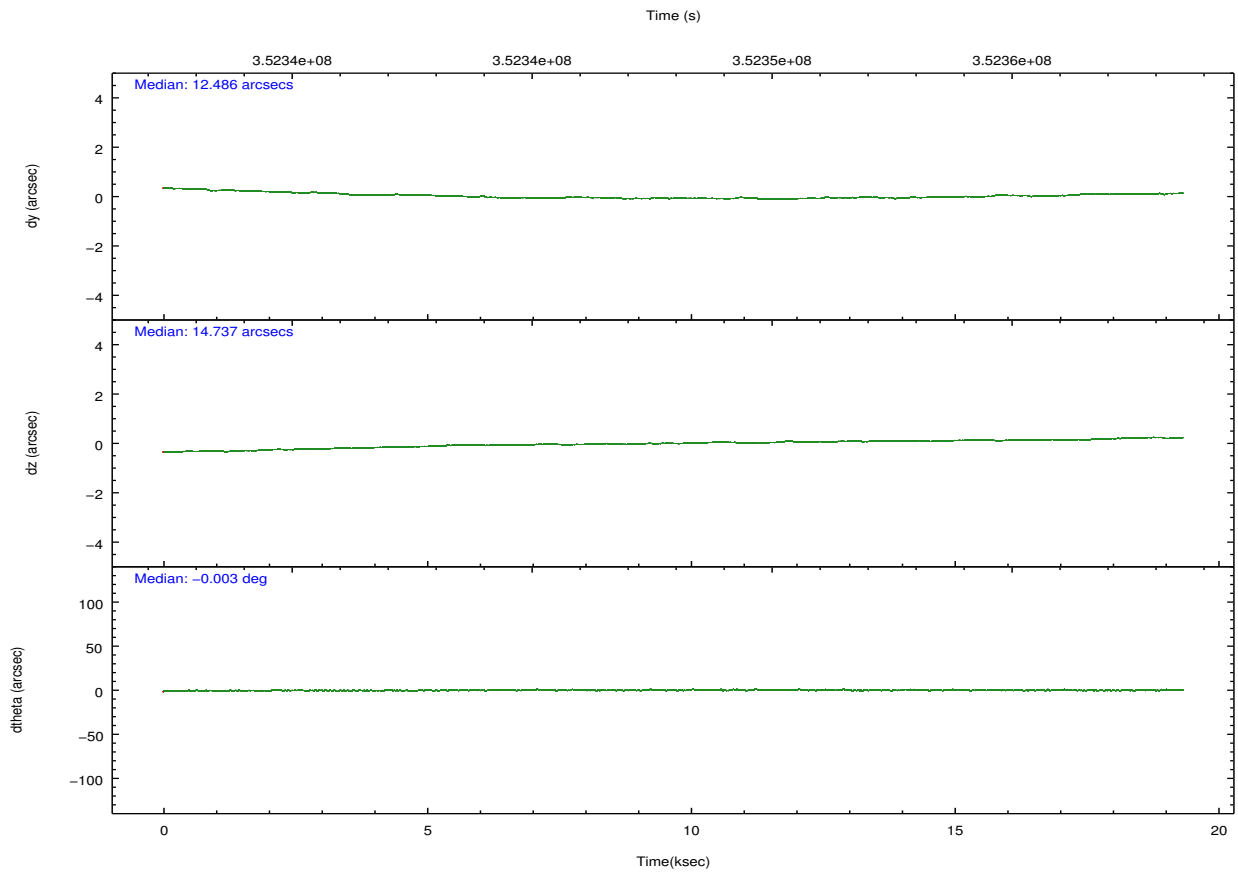
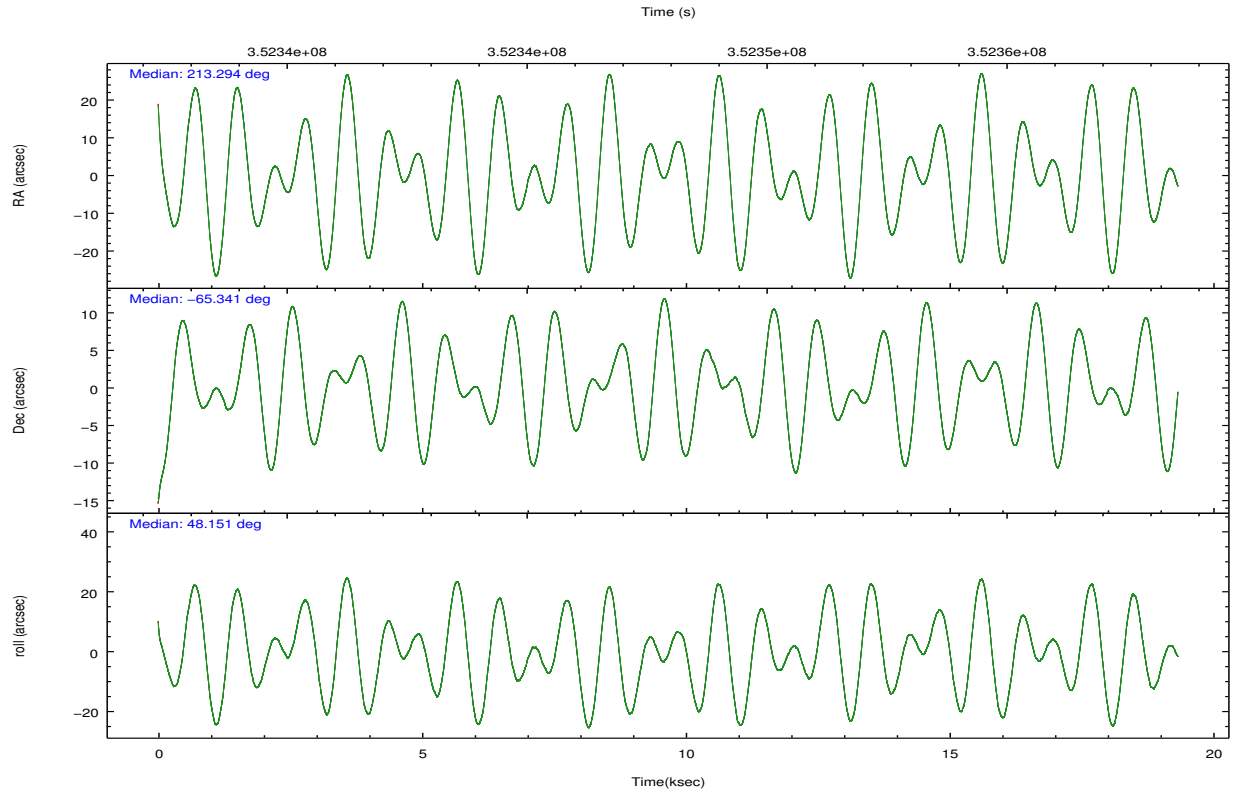
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	124932	171361	117068	163112	146236	111422	grade 0 events	6798	5363	6439	7367	11195	5916
rejected events	109420	92780	101316	89557	110932	96612		5%	3%	5%	4%	7%	5%
rejected %	87%	54%	86%	54%	75%	86%	grade 1 events	86	227	1918	166	118	59
								0%	0%	1%	0%	0%	0%
							grade 2 events	3184	23757	3218	15451	7862	3018
								2%	13%	2%	9%	5%	2%
							grade 3 events	1582	3741	1574	6685	3651	1520
								1%	2%	1%	4%	2%	1%
							grade 4 events	1559	3645	1566	6767	3359	1513
								1%	2%	1%	4%	2%	1%
							grade 5 events	5079	13117	5316	14741	6970	5685
								4%	7%	4%	9%	4%	5%
							grade 6 events	2391	42087	2957	37305	9238	2844
								1%	24%	2%	22%	6%	2%
							grade 7 events	104253	79424	94080	74630	103843	90867
								83%	46%	80%	45%	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	213.281137	213.2937117344428	CCD I2 on	N	N
[deg] Pointing Dec	-65.367748	-65.34095712124001	CCD I3 on	N	N
[deg] Pointing Roll	47.990430	48.1584789402594	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	-186.1372760897884	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-4	-3.99524649321944	CCD S4 on	Y	Y
[s] Observation start time (MET)	352339189.184000	352337381.36692	CCD S5 on	Y	Y
Observation start date	2009-03-01T23:58:43	2009-03-01T23:29:41	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	352357589.184000	352358357.99296	On-chip summing requested	N	N
Observation end date	2009-03-02T05:05:23	2009-03-02T05:19:17	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



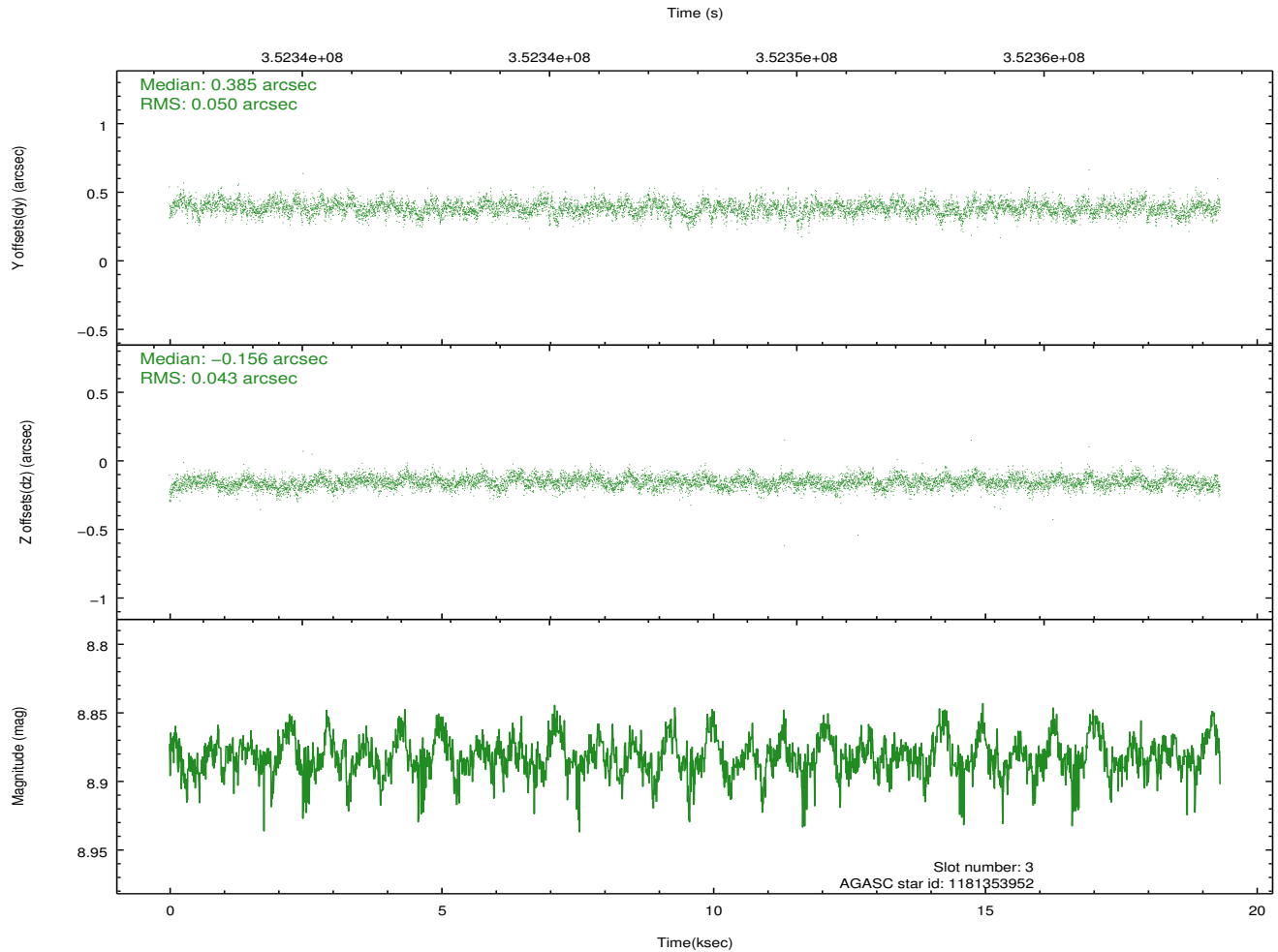
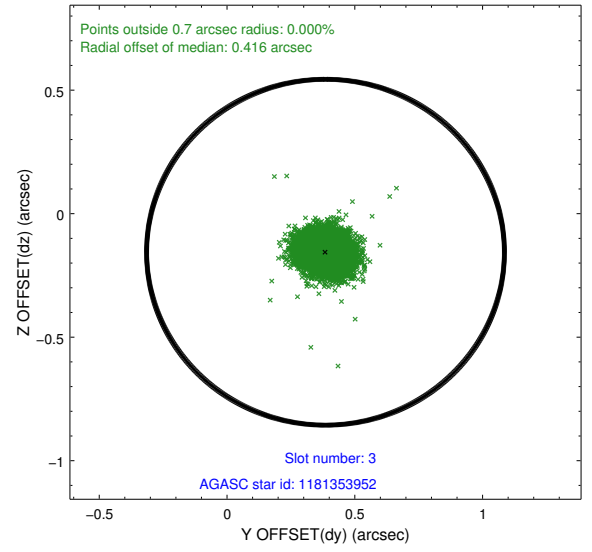
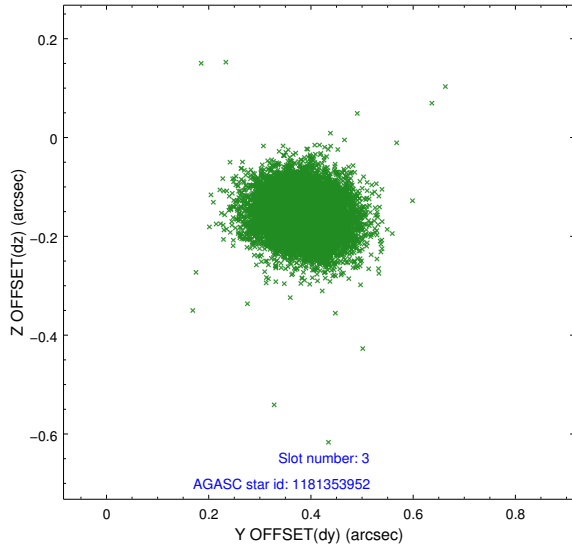


Slot Statistics

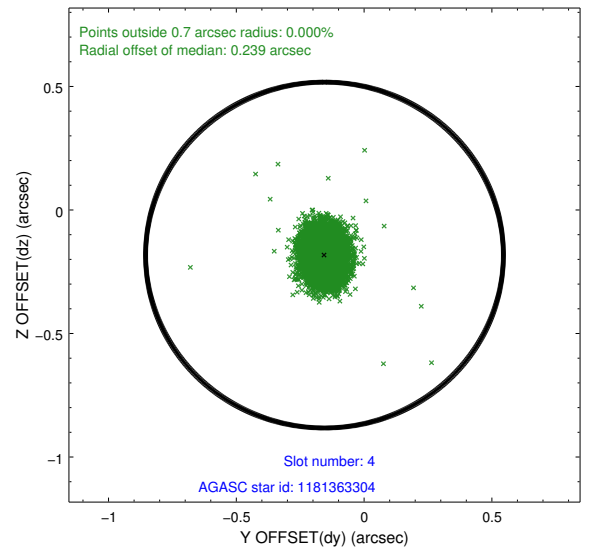
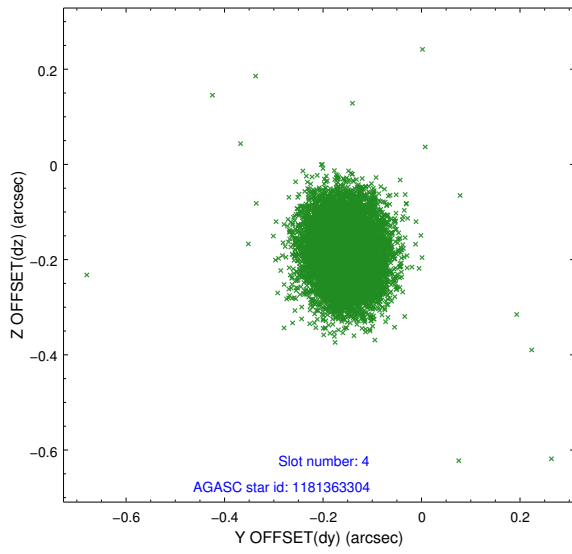
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.93	4716	-0.049	-0.088	0.009	0.027	0.000000	0.000000	-765.22	-1818.59
1	FID	ACIS-S-4	7.01	4716	0.146	0.047	0.010	0.020	0.000000	0.000000	2148.19	89.76
2	FID	ACIS-S-5	7.05	4715	-0.127	0.049	0.011	0.020	0.000000	0.000000	-1817.86	83.71
3	GUIDE	1181353952	8.88	9417	0.385	-0.156	0.069	0.113	211.658427	-65.506998	-2015.77	1442.80
4	GUIDE	1181363304	8.76	9425	-0.155	-0.183	0.077	0.122	212.741873	-65.071033	242.95	1321.01
5	GUIDE	1181492872	9.09	9420	-0.024	0.182	0.112	0.175	214.965330	-65.517798	1255.67	-2250.05
6	GUIDE	1181356824	8.91	9421	-0.233	-0.095	0.092	0.142	213.100076	-64.682630	1645.89	1857.63
7	GUIDE	1181880992	9.07	9426	0.027	0.251	0.102	0.165	213.720648	-66.170562	-1720.75	-2410.29

2.4 Star Slots

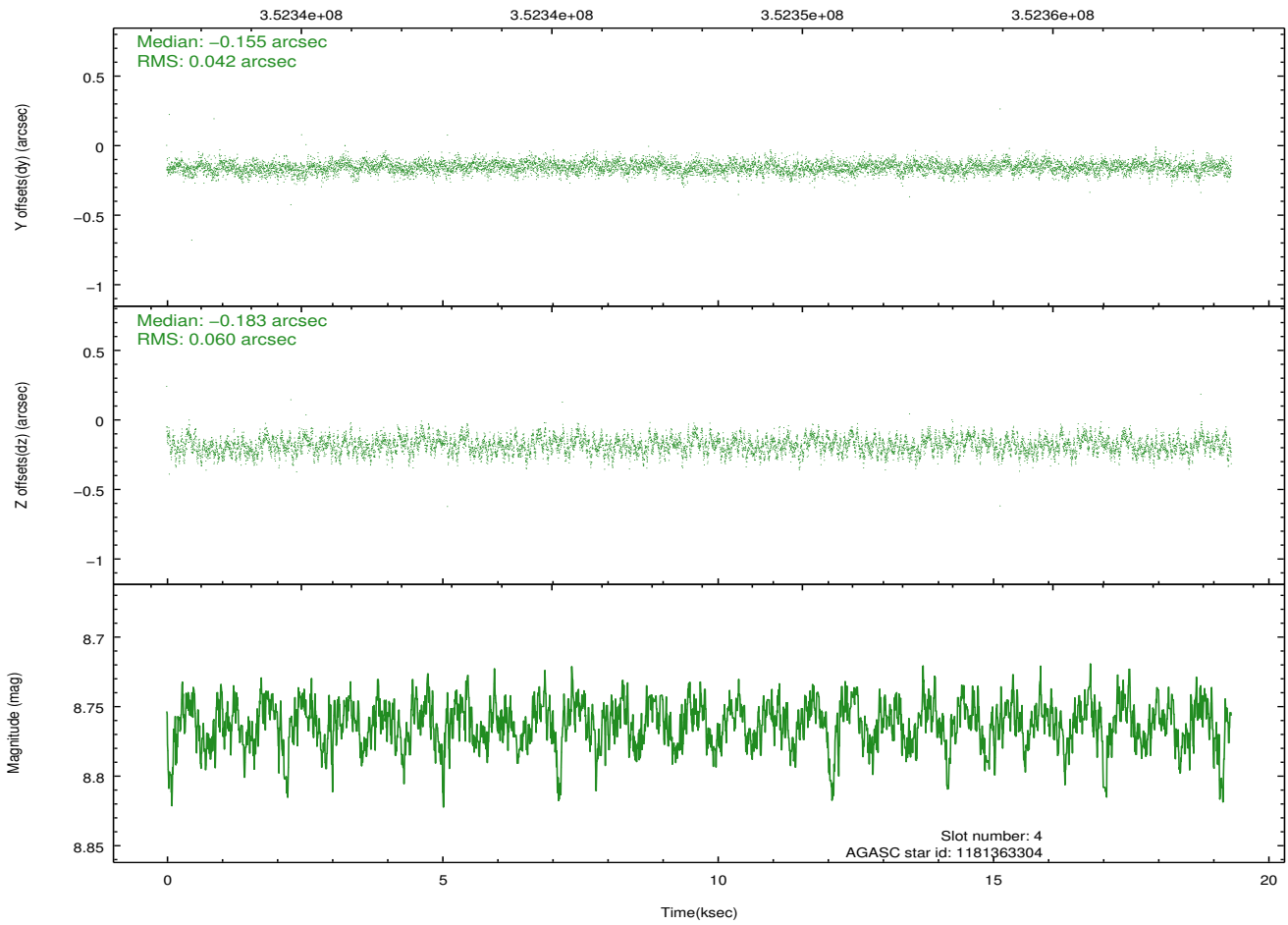
2.4.1 Slot 3



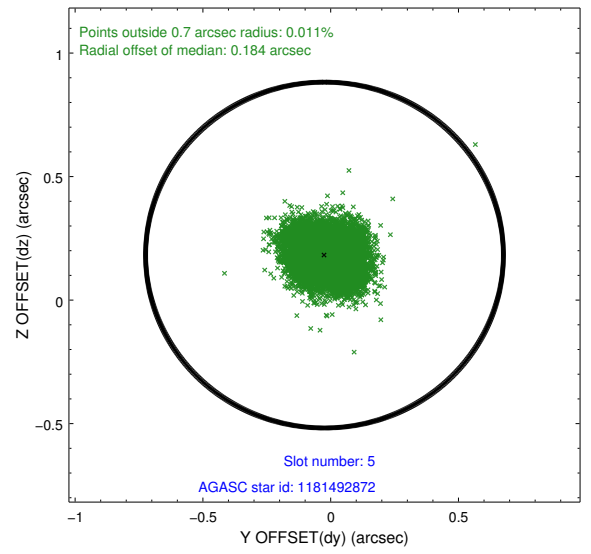
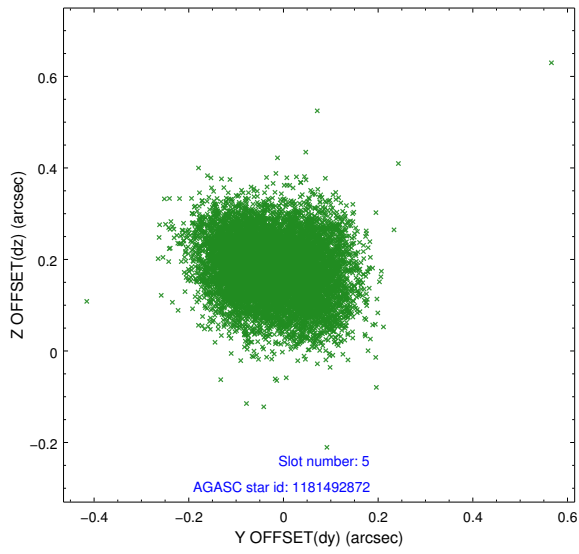
2.4.2 Slot 4



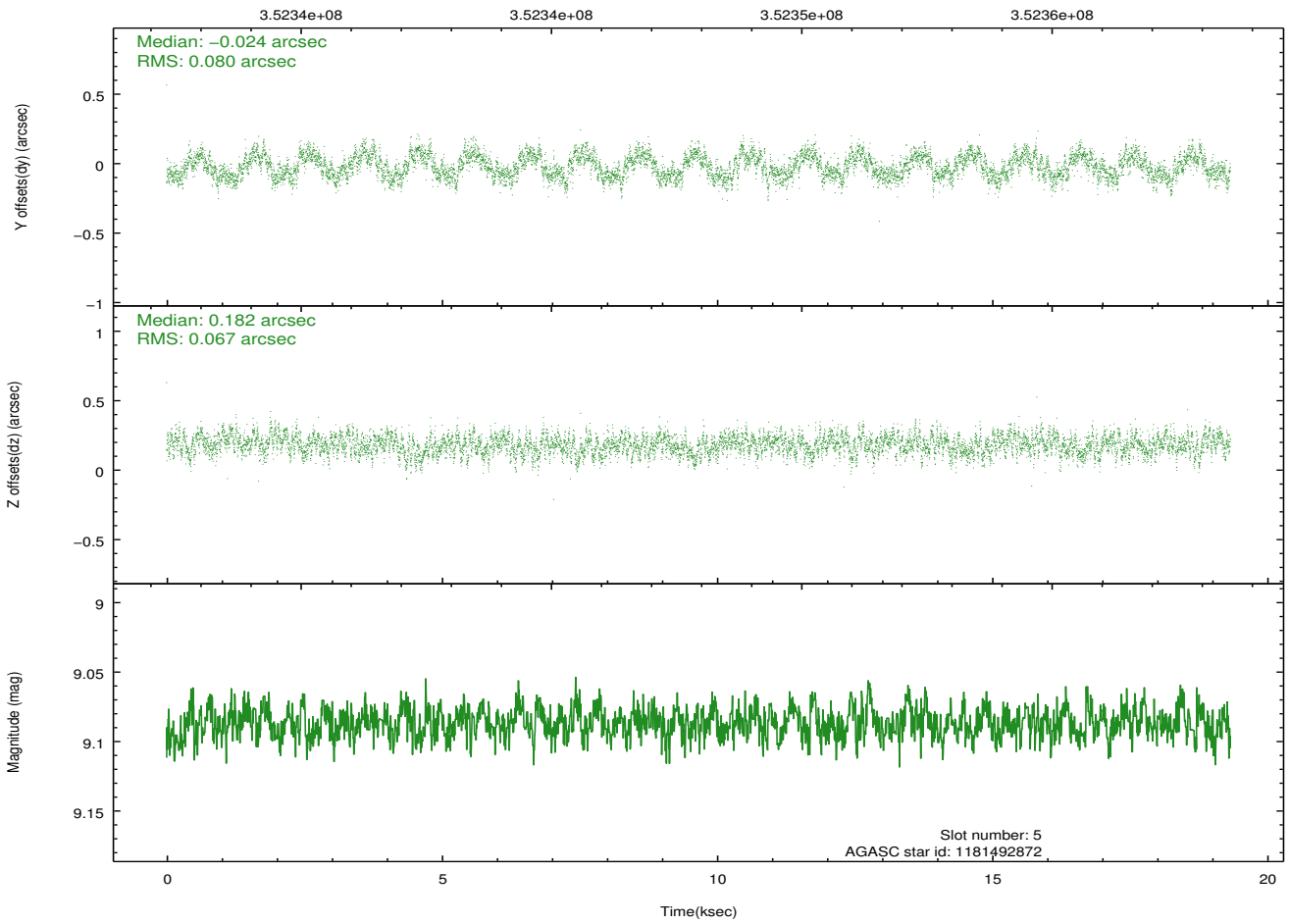
Time (s)



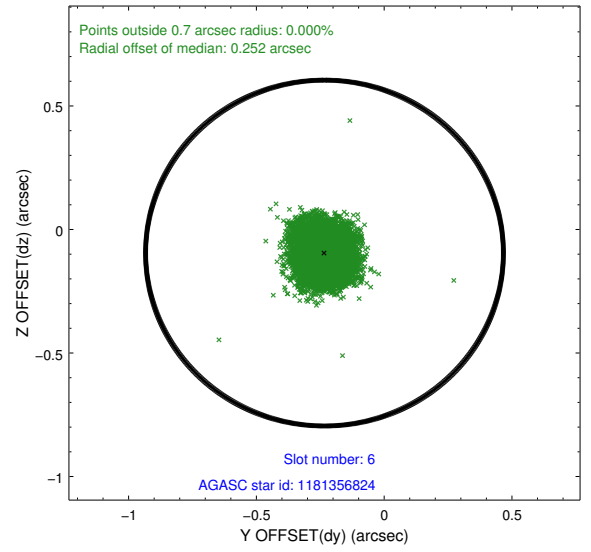
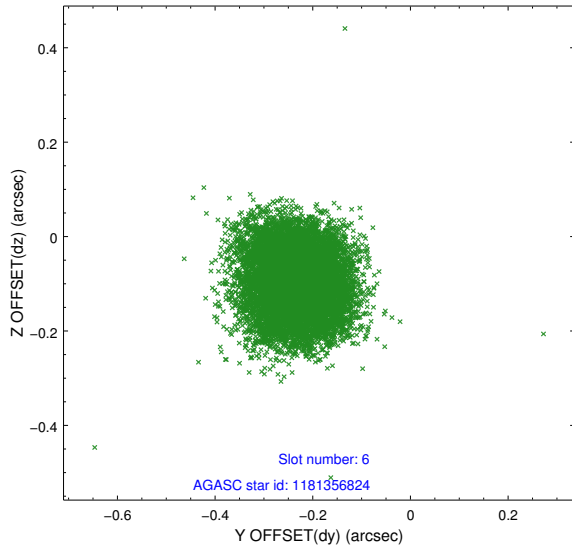
2.4.3 Slot 5



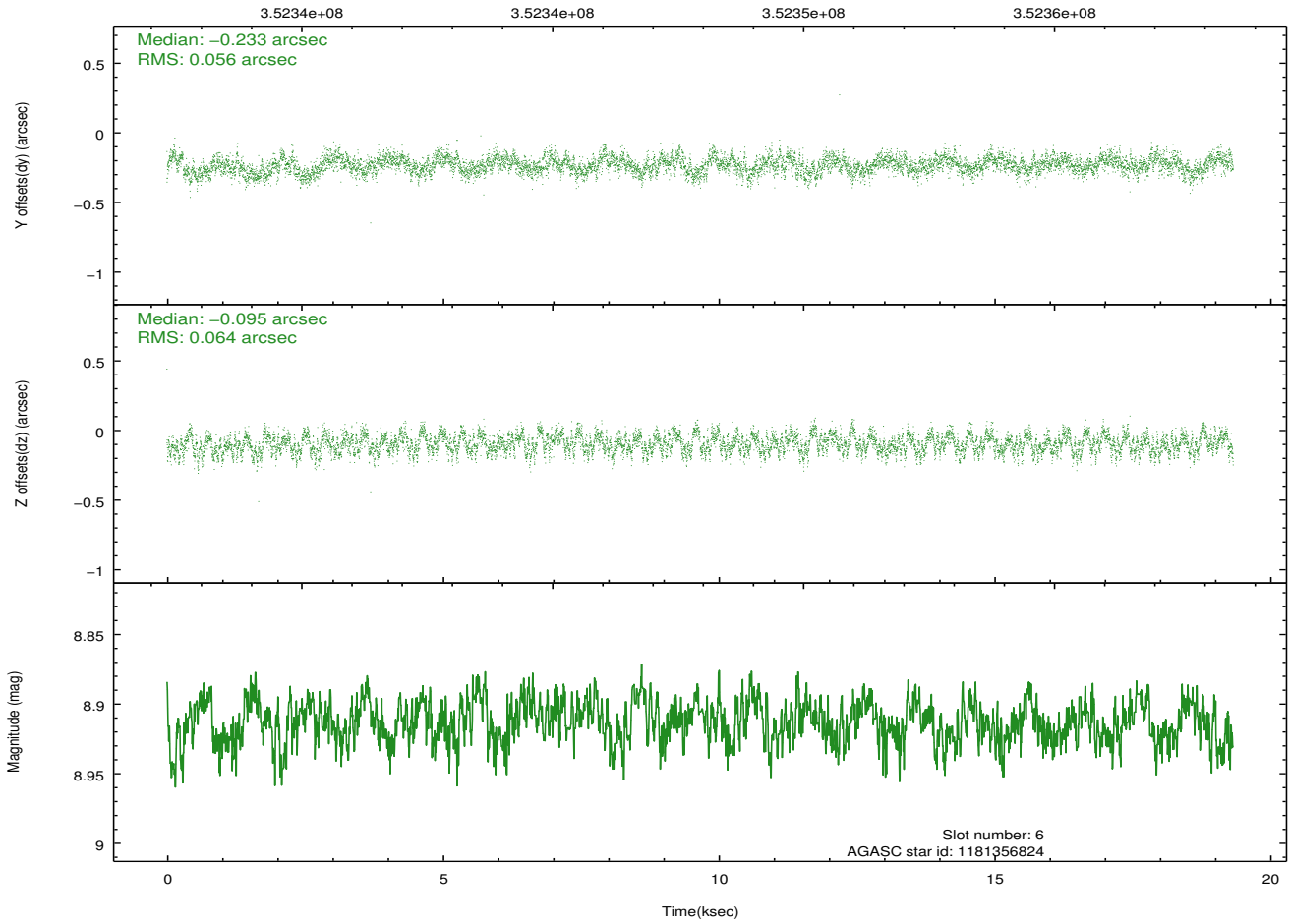
Time (s)



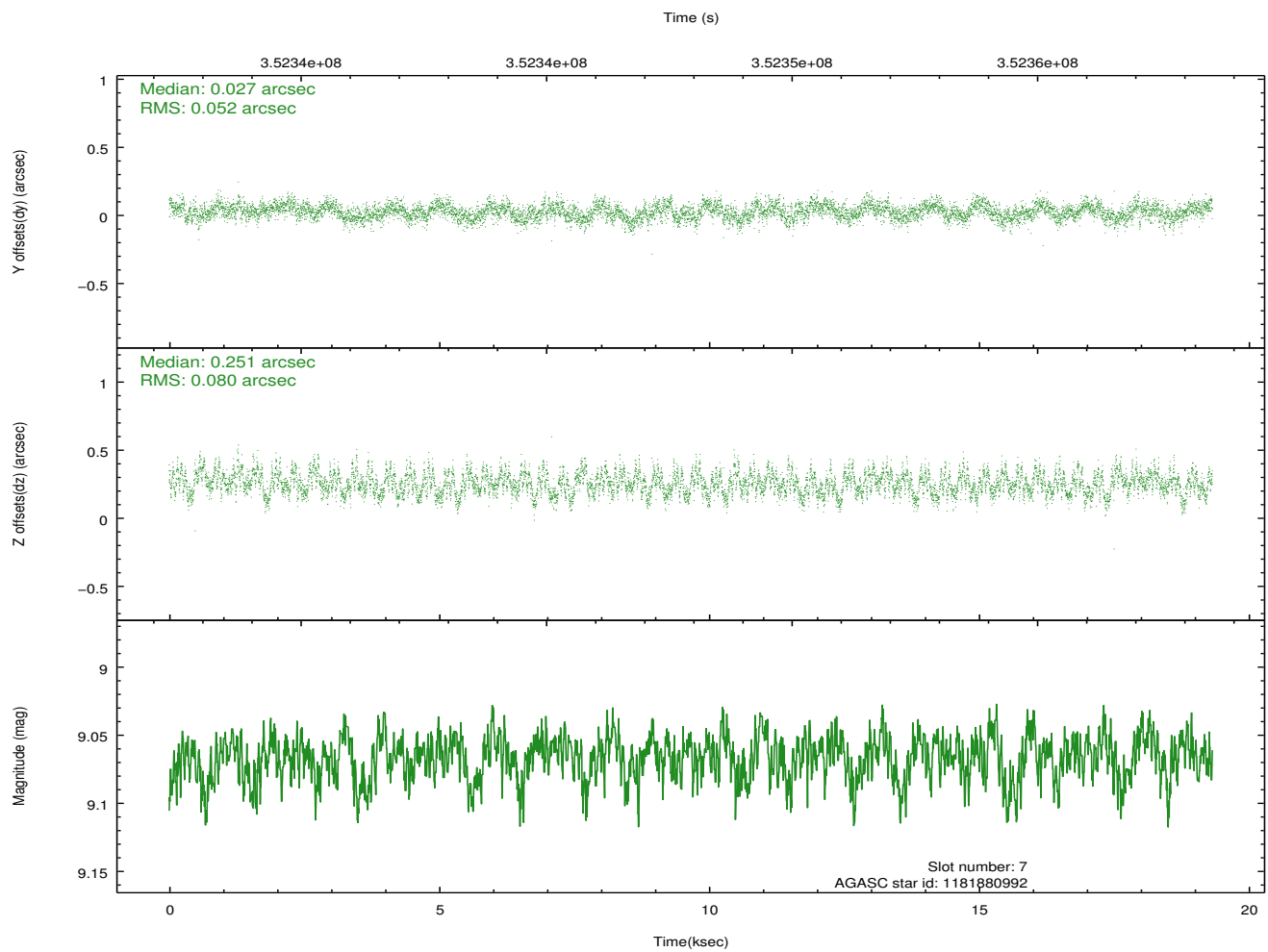
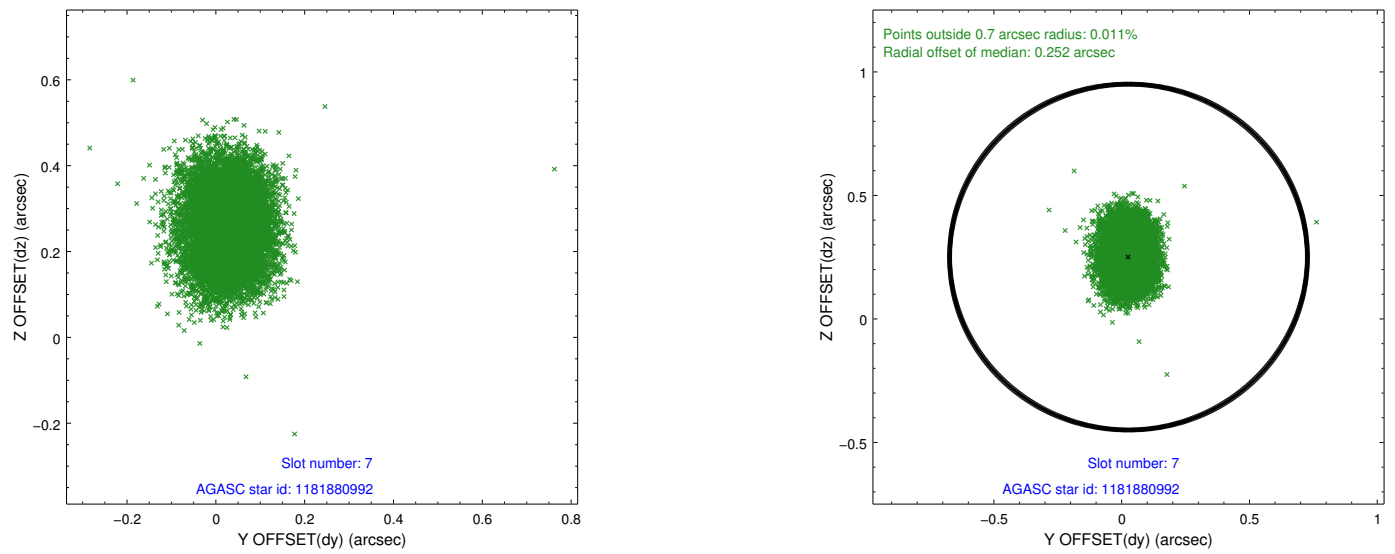
2.4.4 Slot 6



Time (s)

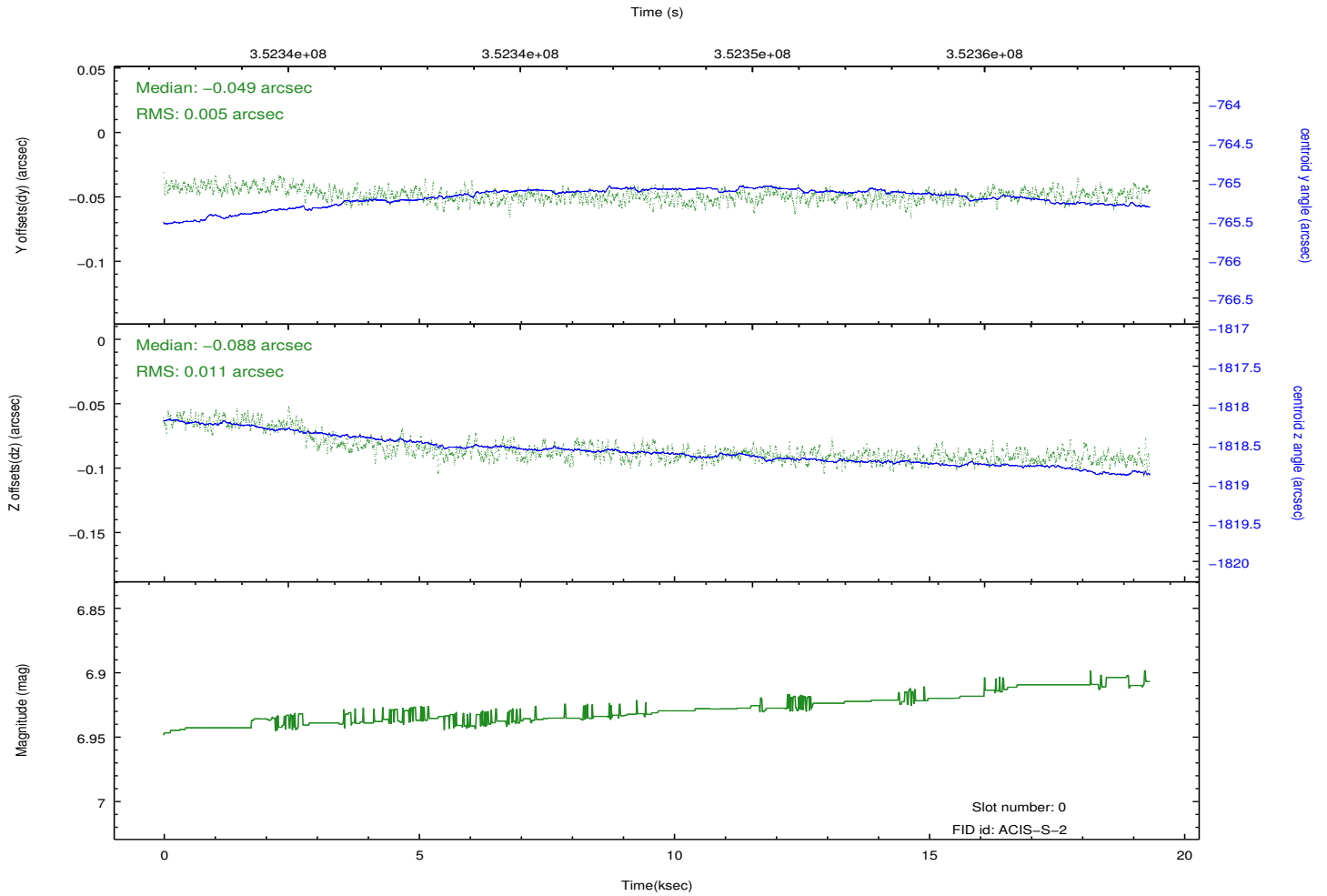
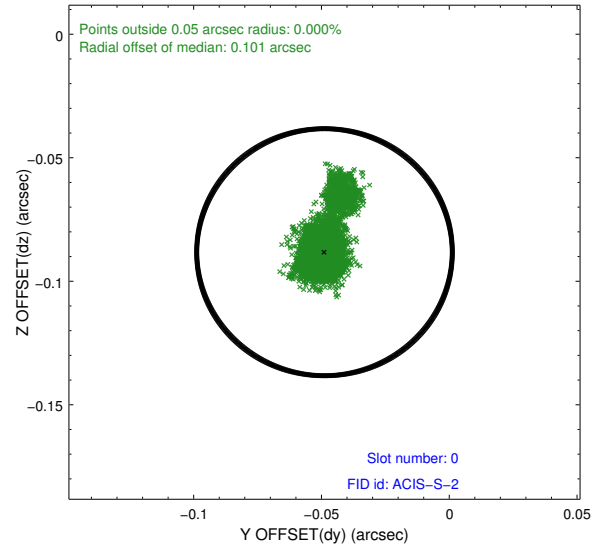
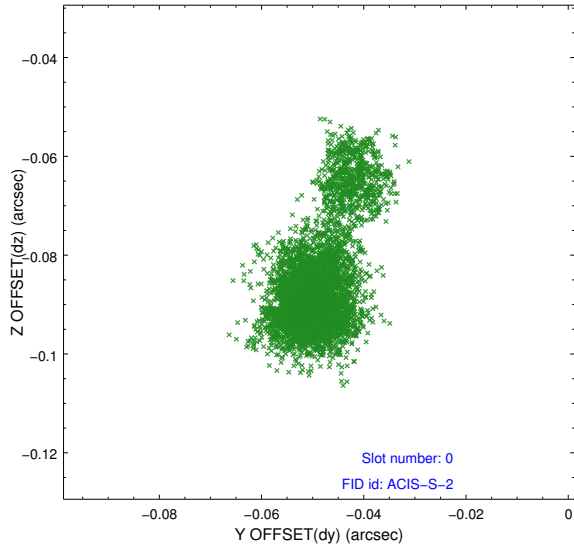


2.4.5 Slot 7

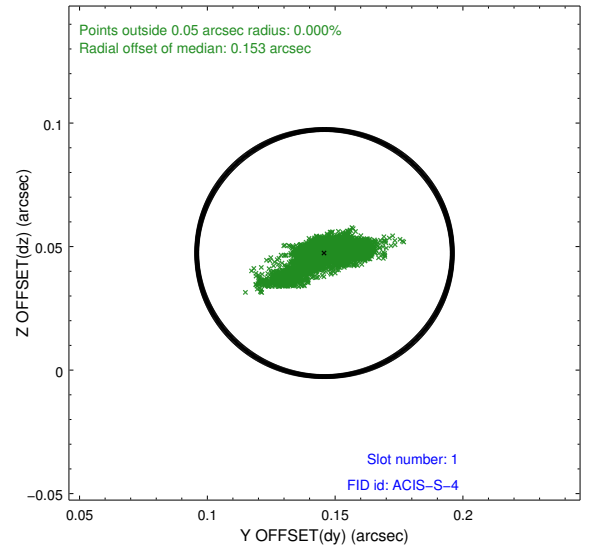
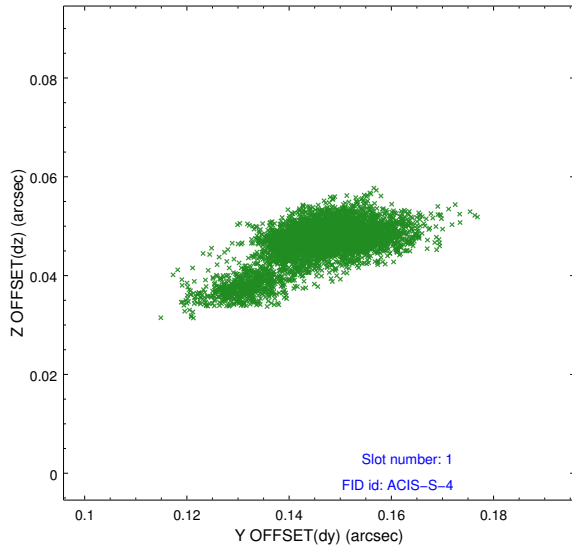


2.5 FID Slots

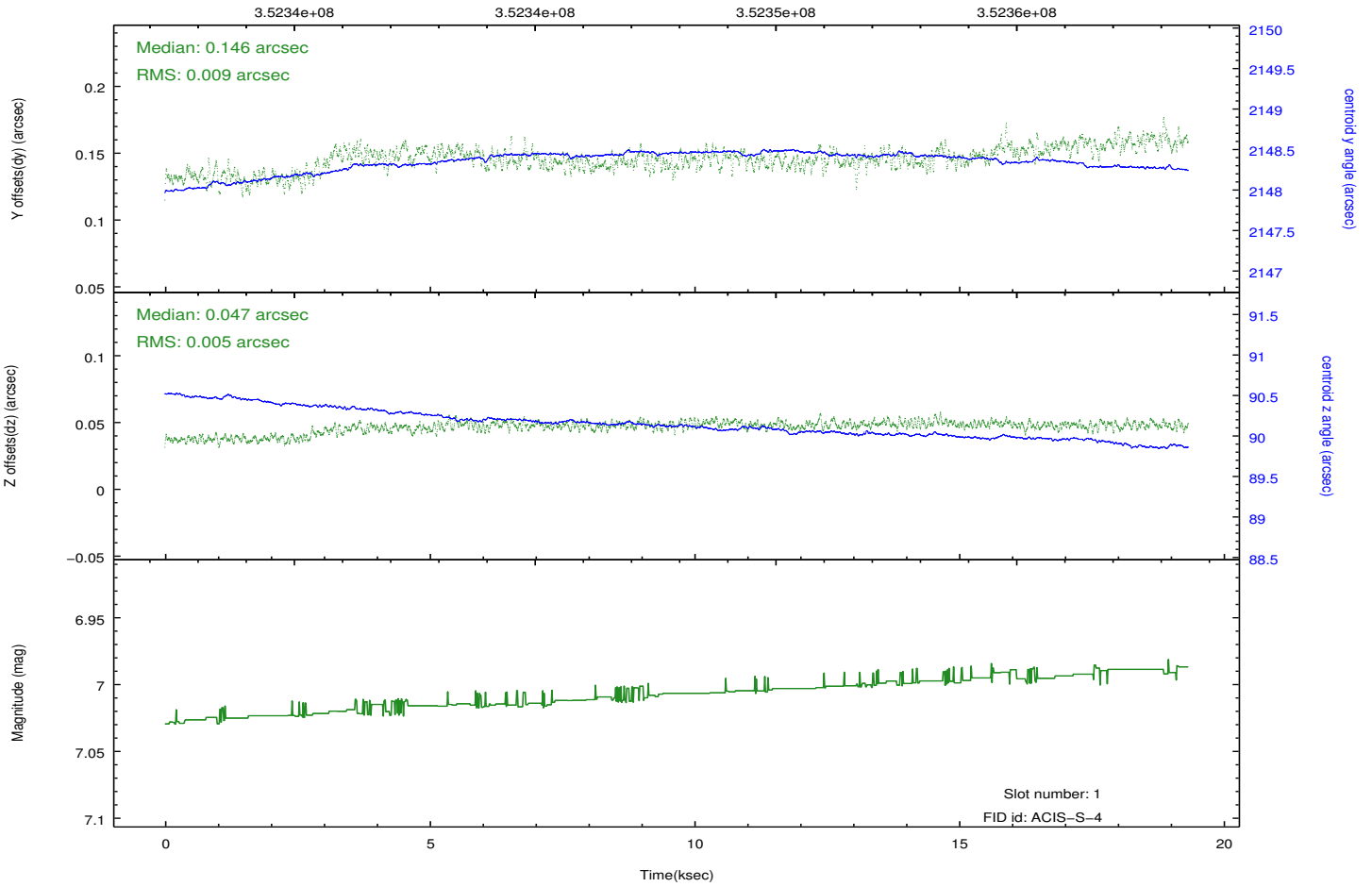
2.5.1 Slot 0



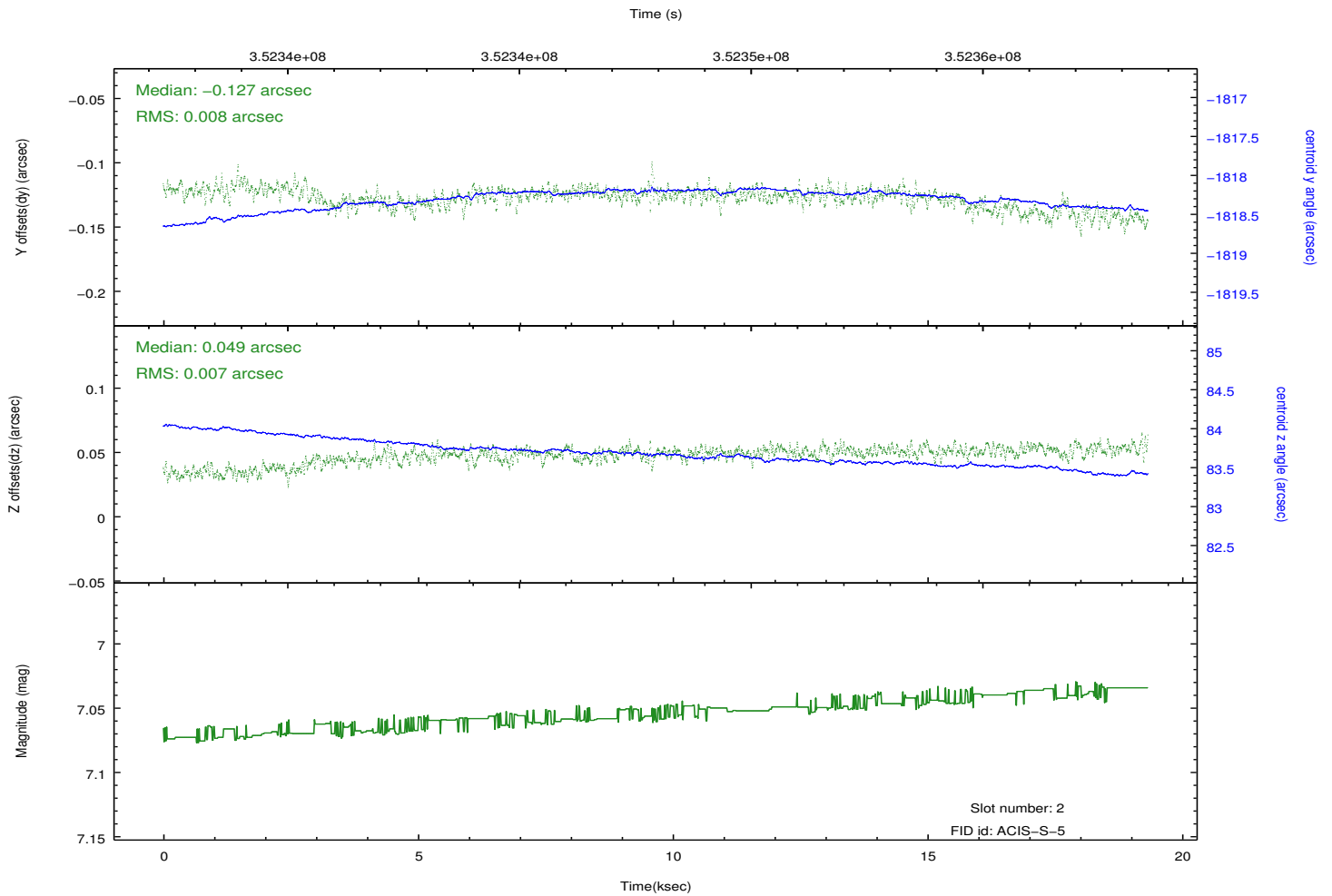
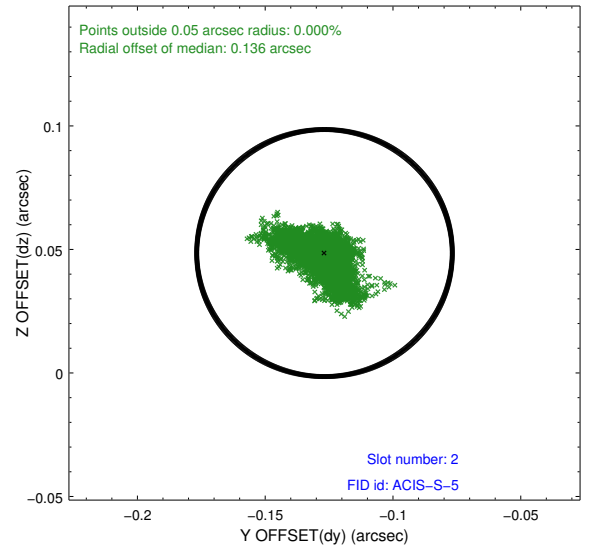
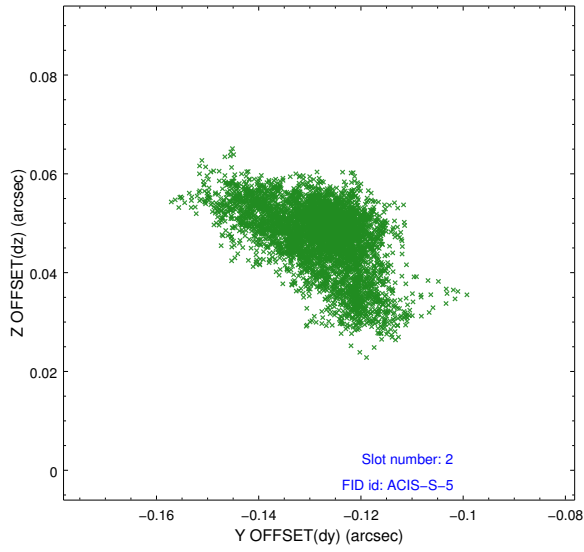
2.5.2 Slot 1



Time (s)

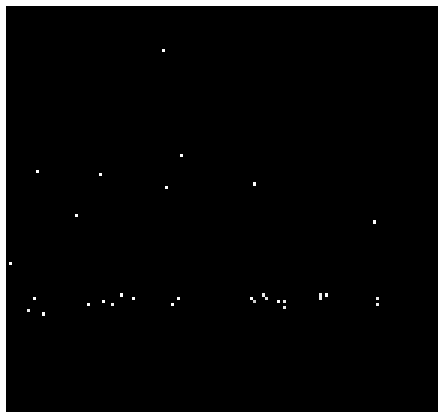


2.5.3 Slot 2

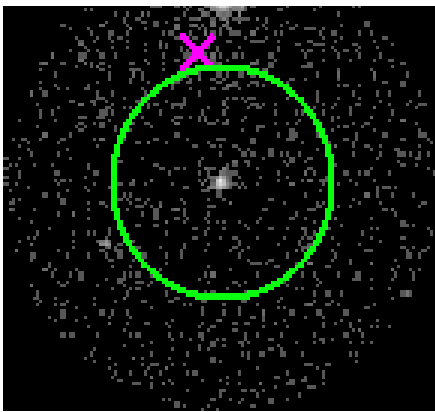


3 Gratings

3.1 HEG Arm



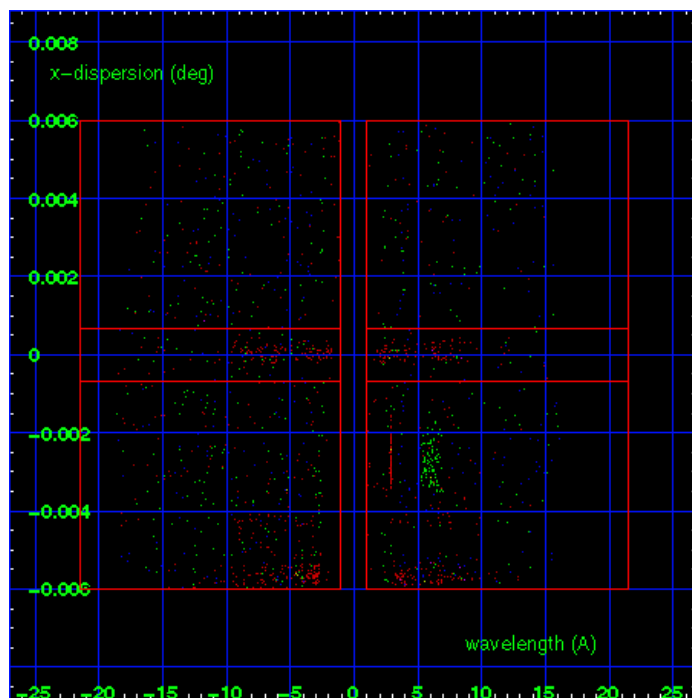
HEG Order Sort 123



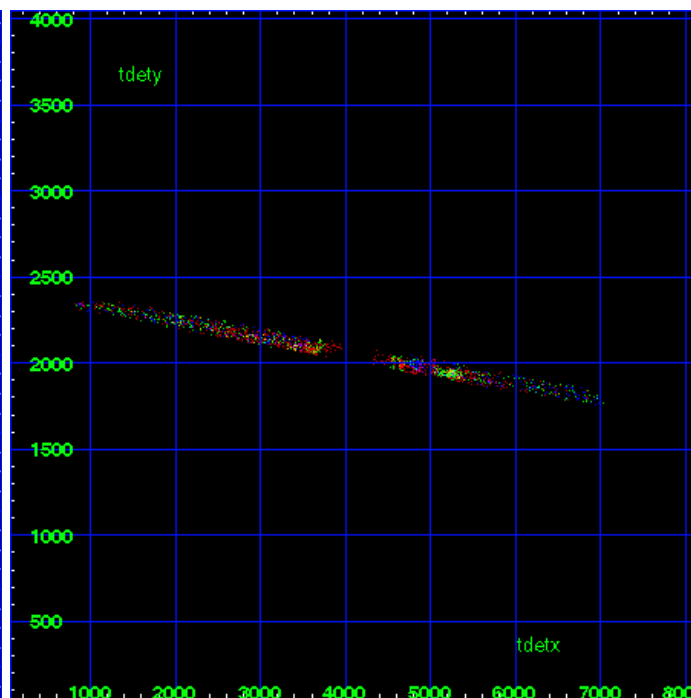
HEG Zero Order



HEG Order Sort ALL

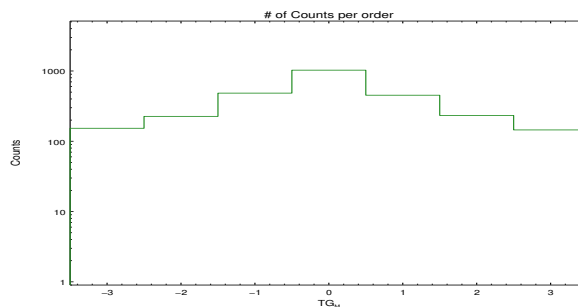


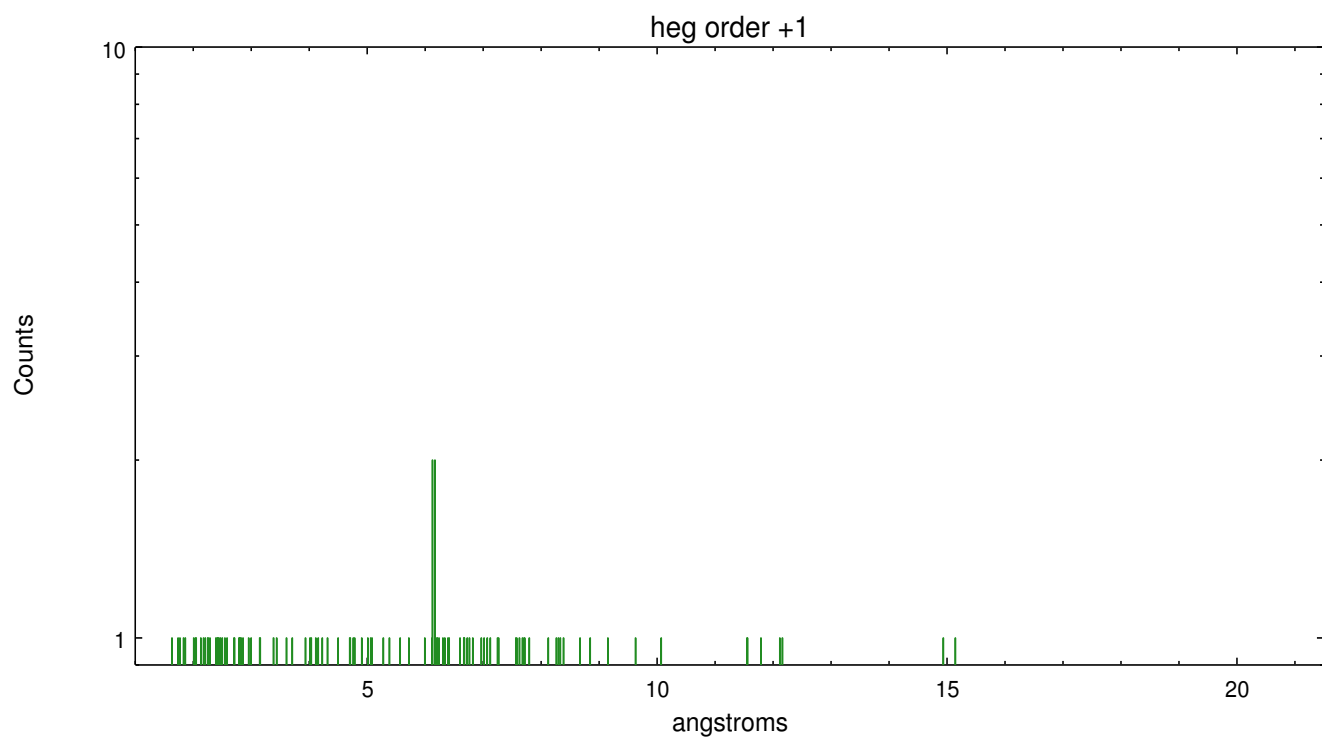
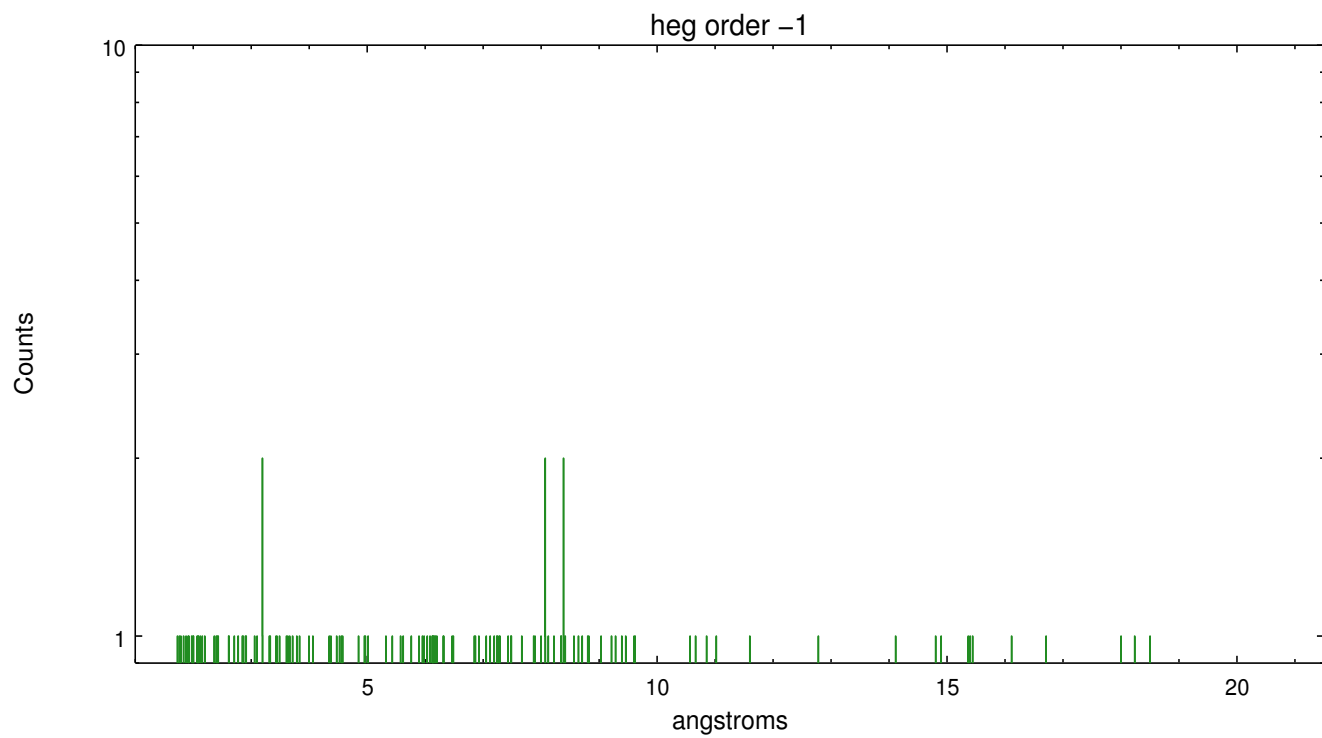
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	153	226	484	1027	452	233	145

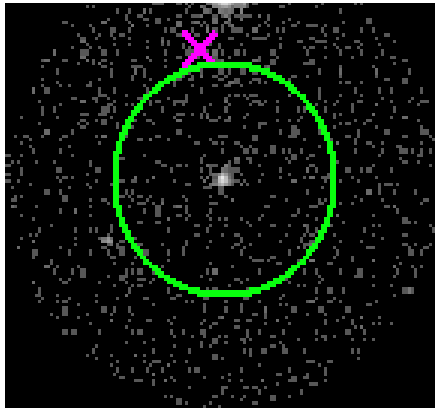




3.2 MEG Arm



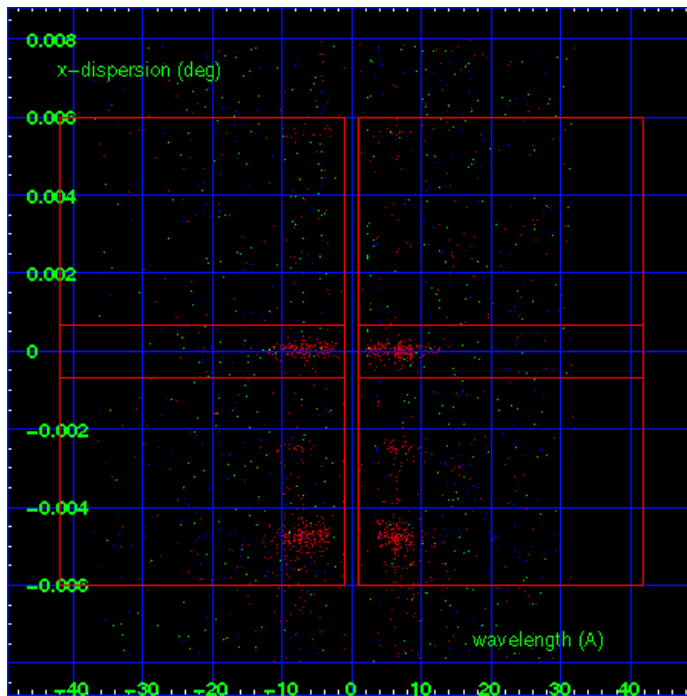
MEG Order Sort 123



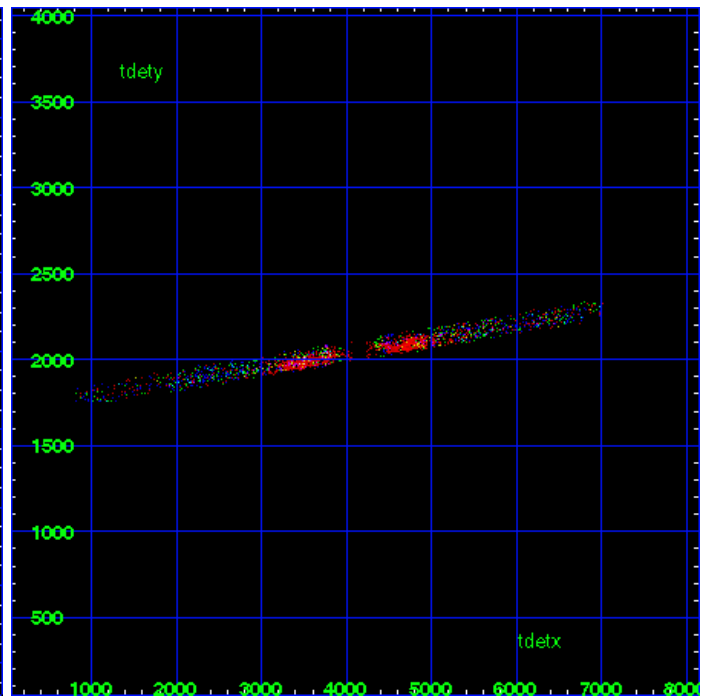
MEG Zero Order



MEG Order Sort ALL

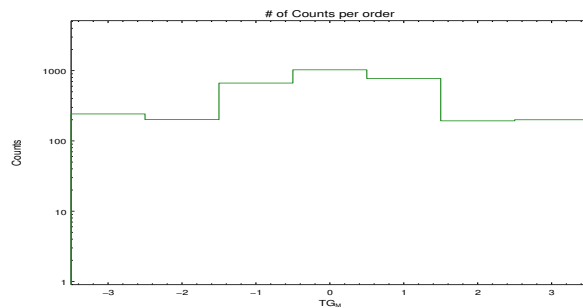


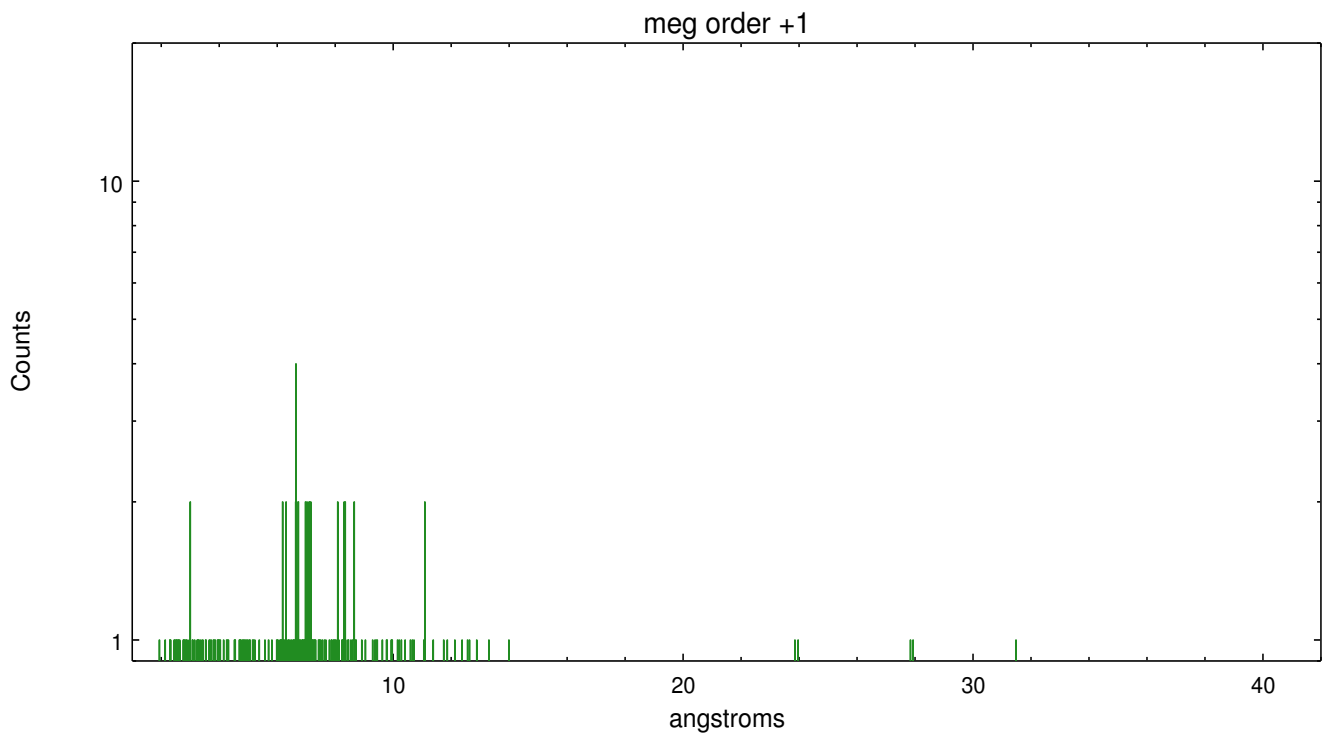
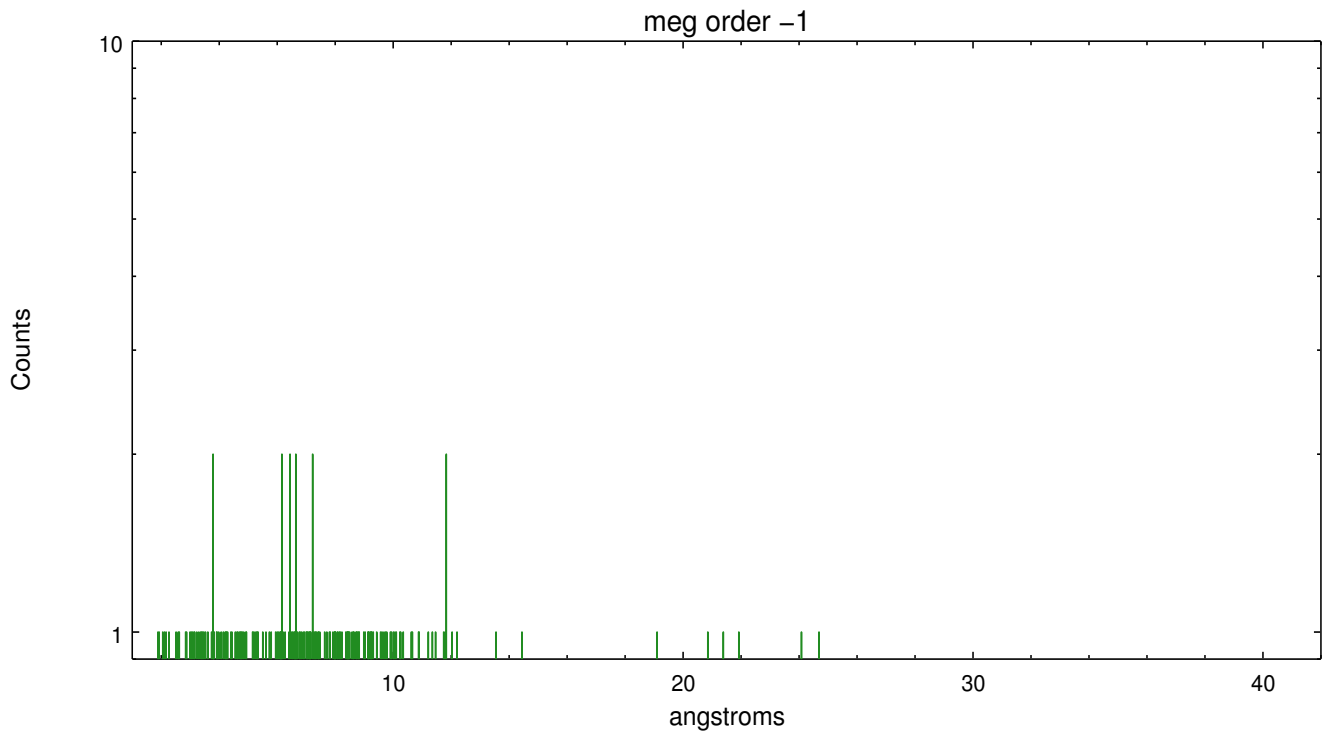
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	242	201	665	1027	772	193	200





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.06.05
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	18.474

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 $x=4102.76$, $y=4061.84$ 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.