

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 660 - L2 Version 7
Chandra X-Ray Center

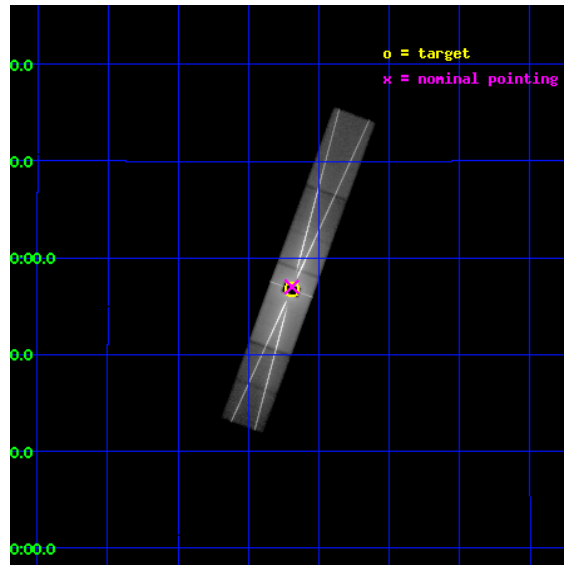
L2 Processing Date : Sep 11 2012

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1 Front

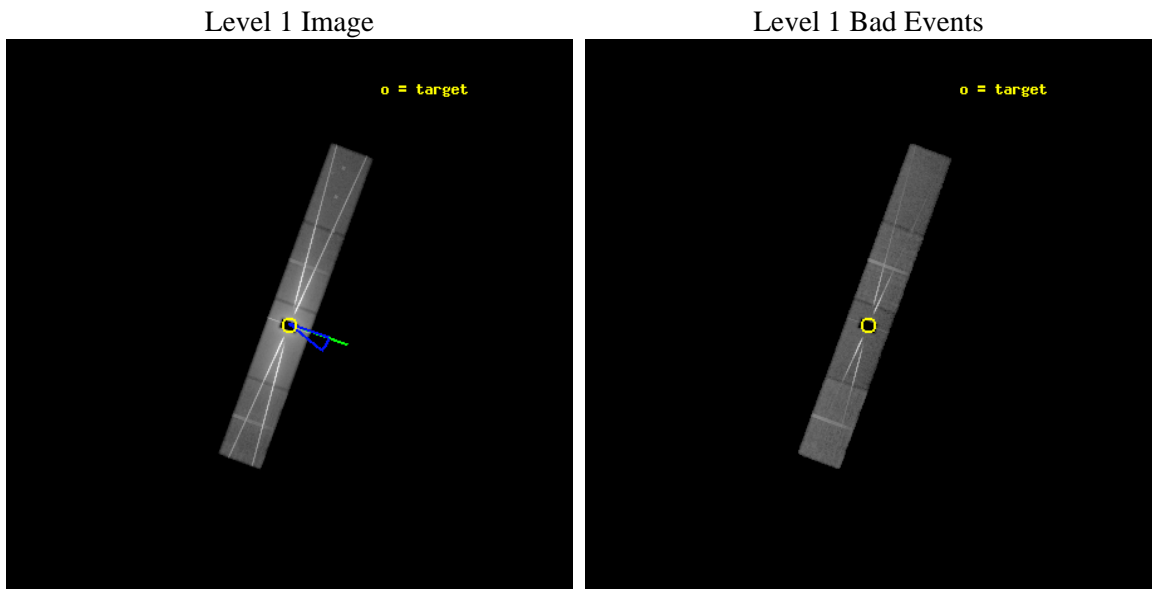
seq_num	400027	Sequence number
obs_id	660	Observation id
title	ACIS-HETG OBSERVATIONS OF GRS1915+105: A MICRO BAL-QUASAR ?	Propos
observer	Prof. Julia Lee	Principal investigator
object	GRS 1915+105	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	288.7975	Observer's specified target RA [deg]
dec_targ	10.945556	Observer's specified target Dec [deg]
ra_nom	288.79771978969	Nominal RA [deg]
dec_nom	10.9502884731	Nominal Dec [deg]
roll_nom	110.15210170834	Nominal Roll [deg]
revision	7	Processing version of data
ontime	30472.336033016	Sum of GTIs [s]
livetime	29754.038537959	Livetime [s]
ontime5	30479.300053418	Sum of GTIs [s]
ontime6	30477.559063256	Sum of GTIs [s]
ontime7	30472.336033016	Sum of GTIs [s]
ontime8	30477.559063271	Sum of GTIs [s]
l2events	3784670	Number of level 2 events



2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	30472.336033016	Sum of GTIs [s]
caldsver	4.5.1.1	 	ontime5	30479.300053418	Sum of GTIs [s]
date	2012-08-25T23:22:10	Date and time of file creation	ontime6	30477.559063256	Sum of GTIs [s]
revision	5	Processing version of data	ontime7	30472.336033016	Sum of GTIs [s]
			ontime8	30477.559063271	Sum of GTIs [s]
			l1events	4660044	Number of level 1 events

2.1.3 Events

	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	311324	1615942	2188723	544055
rejected events	108916	216551	236636	173338
rejected %	34%	13%	10%	31%

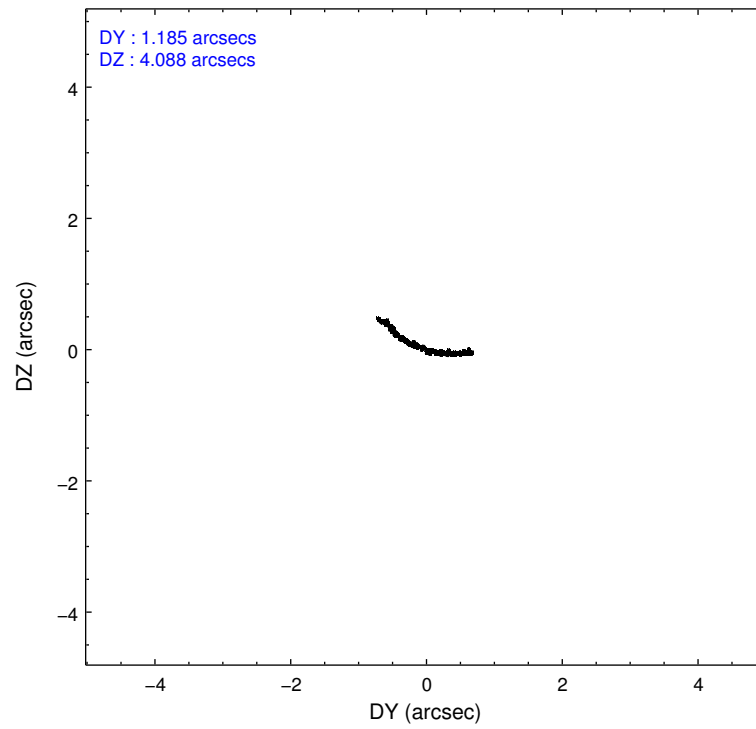
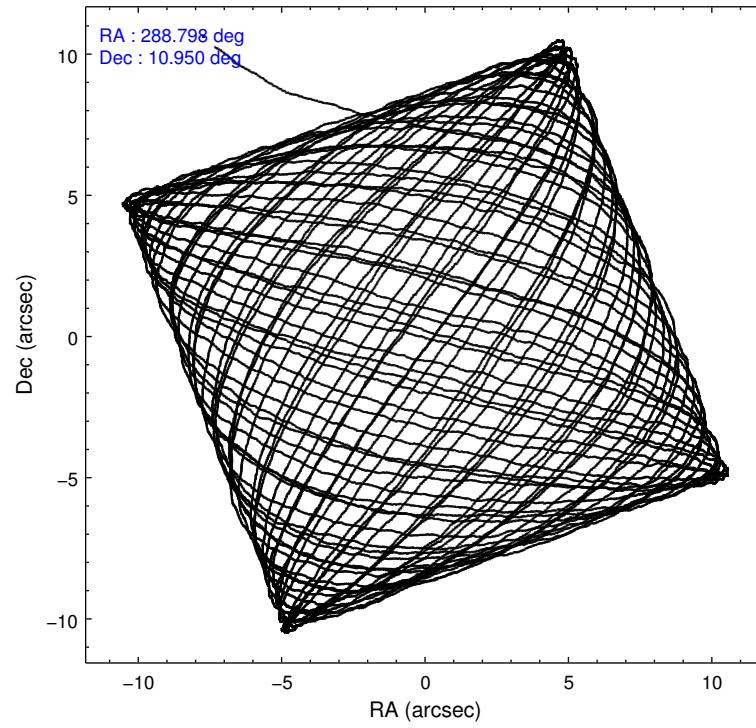
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	37472	986460	324658	281261
	12%	61%	14%	51%
grade 1 events	393	24617	7945	1921
	0%	1%	0%	0%
grade 2 events	76652	201516	512279	51363
	24%	12%	23%	9%
grade 3 events	13198	70909	189342	18576
	4%	4%	8%	3%
grade 4 events	13102	69557	188628	18255
	4%	4%	8%	3%
grade 5 events	10524	26606	55379	6791
	3%	1%	2%	1%
grade 6 events	78147	93142	764224	24108
	25%	5%	34%	4%
grade 7 events	81836	143135	146268	141780
	26%	8%	6%	26%

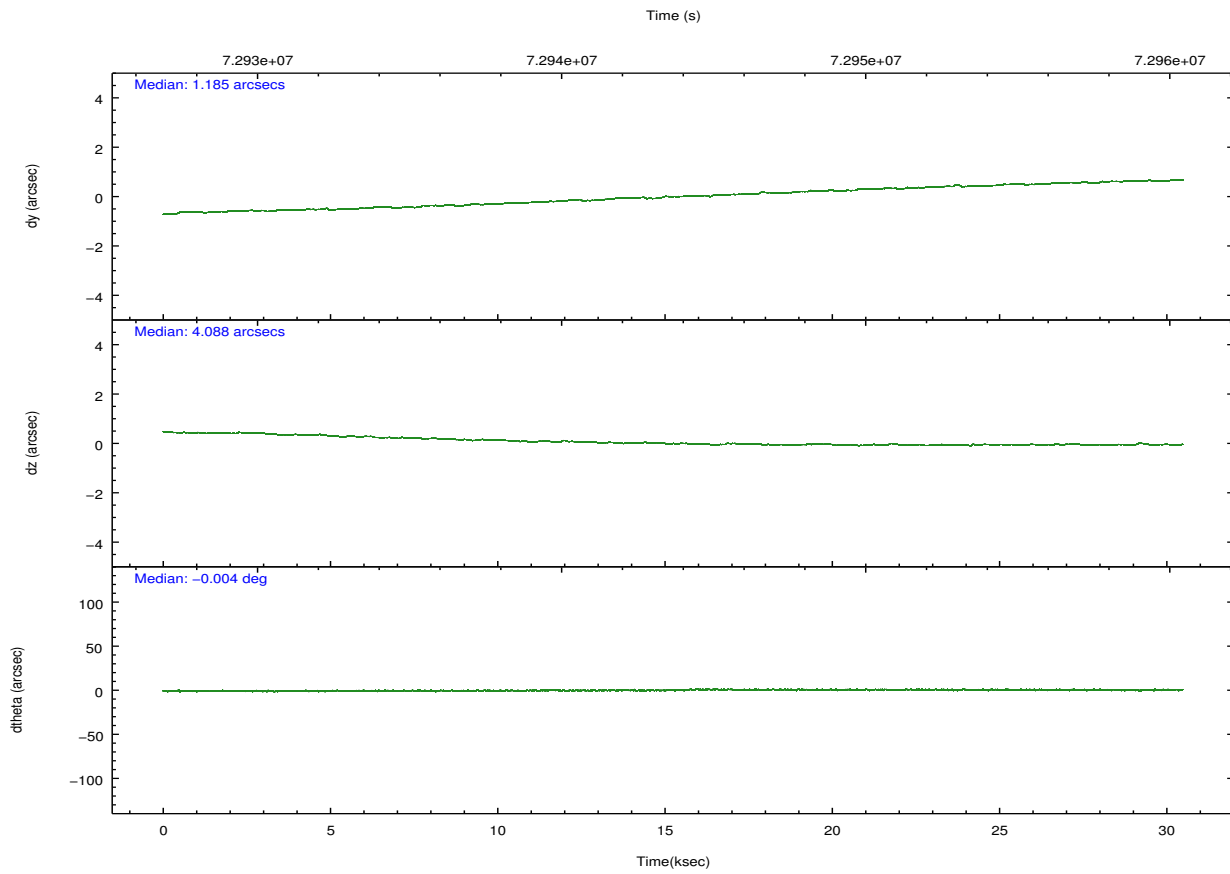
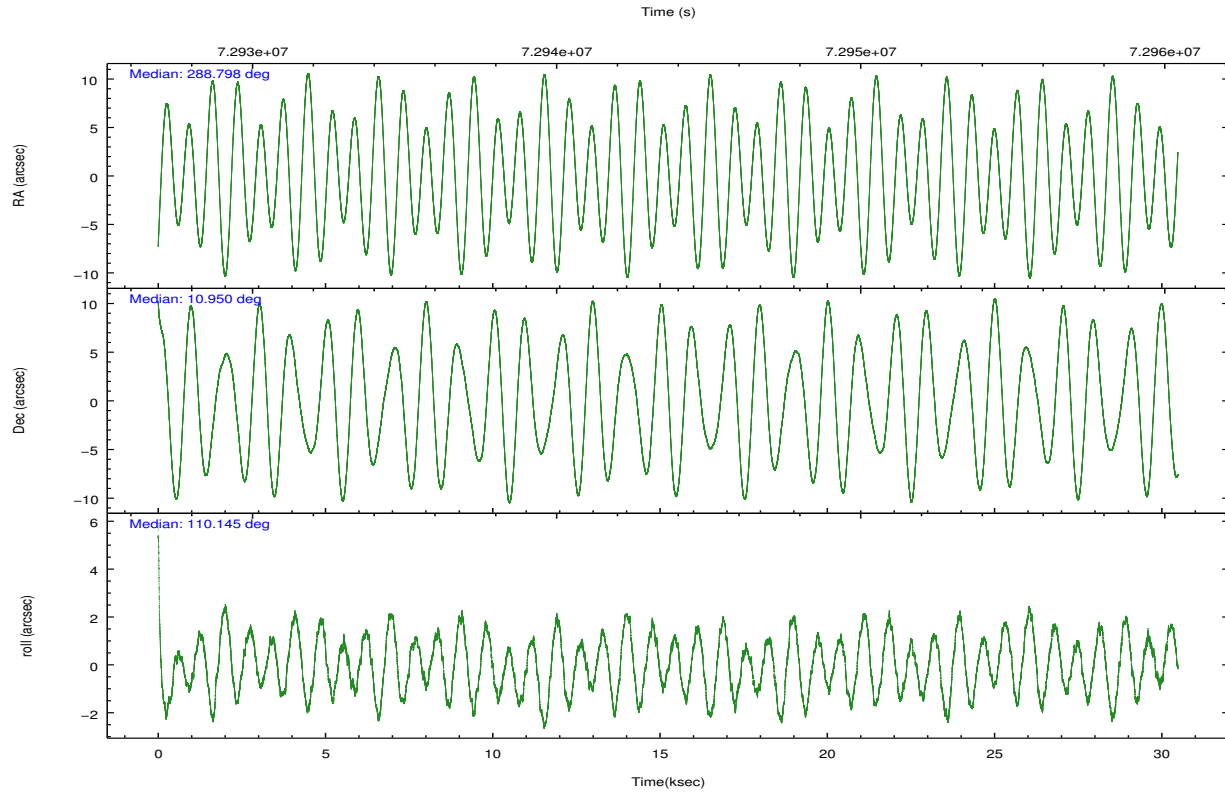
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-5678	ACIS-5678
Grating	HETG	HETG
Data mode	GRADED	GRADED
Observation mode	POINTING	POINTING
[deg] Pointing RA	288.819226	288.7977197896946
[deg] Pointing Dec	10.932744	10.95028847309989
[deg] Pointing Roll	109.991397	110.1521017083423
[deg] Roll angle	120.000000	120.000000
[deg] Roll tolerance	10.000000	10.000000
Roll constraint allows 180D rotation	N	N
[s] Window start time (MET)	72403264.184000	72403264.184000
[s] Window stop time (MET)	73954864.184000	73954864.184000
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-184.532523	-184.52811429679
[mm] SIM translation stage offset	-5.6	-5.604408286217847
[s] Observation start time (MET)	72928904.184000	72927349.74886499
Observation start date	2000-04-24T02:00:40	2000-04-24T01:35:49
[s] Observation end time (MET)	72958904.184000	72959566.012547
Observation end date	2000-04-24T10:20:40	2000-04-24T10:32:46
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	CUSTOM	CUSTOM
Subarray start row	15	15
Subarray row count	542	542
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	1.7

2.3 Aspect



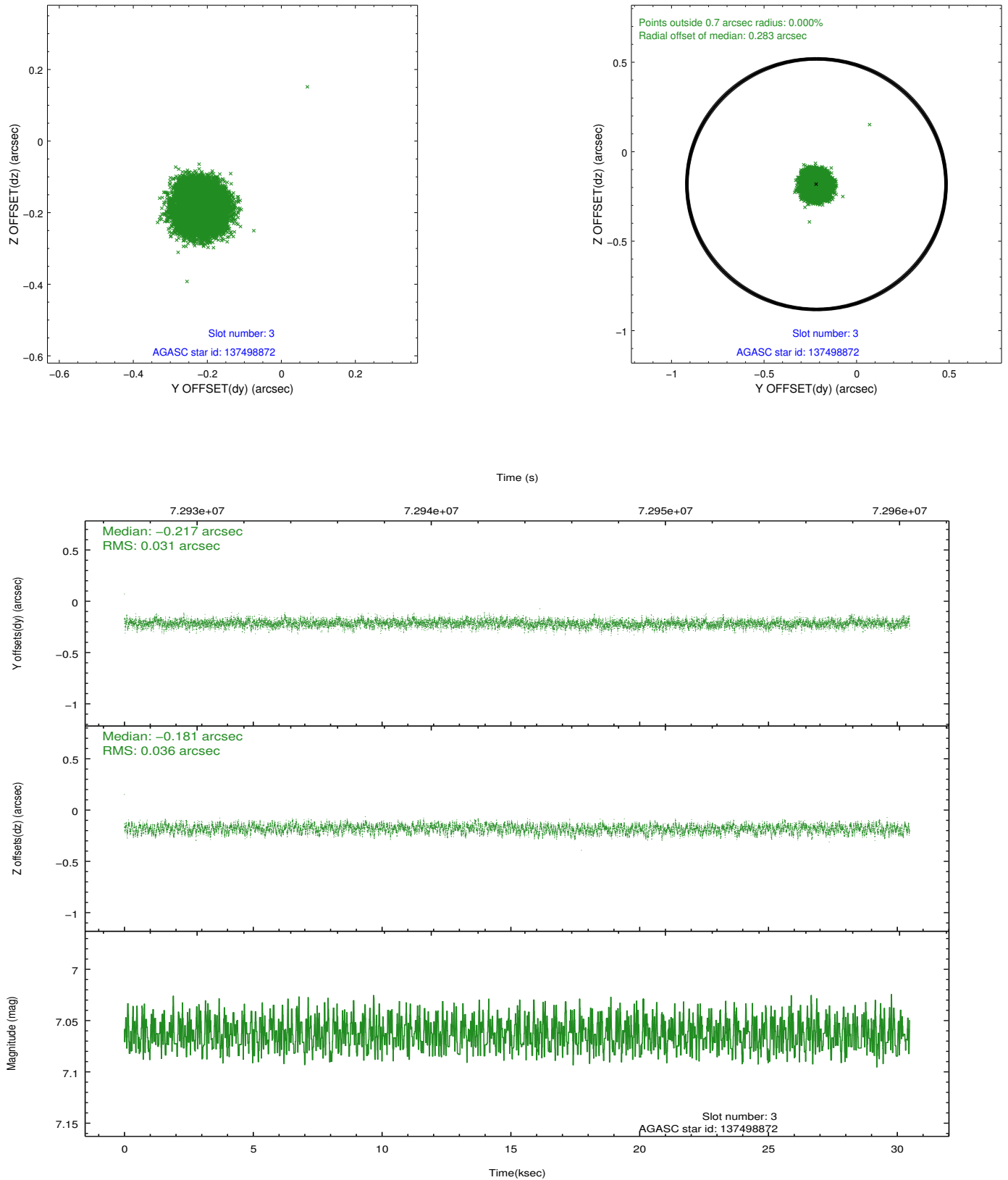


Slot Statistics

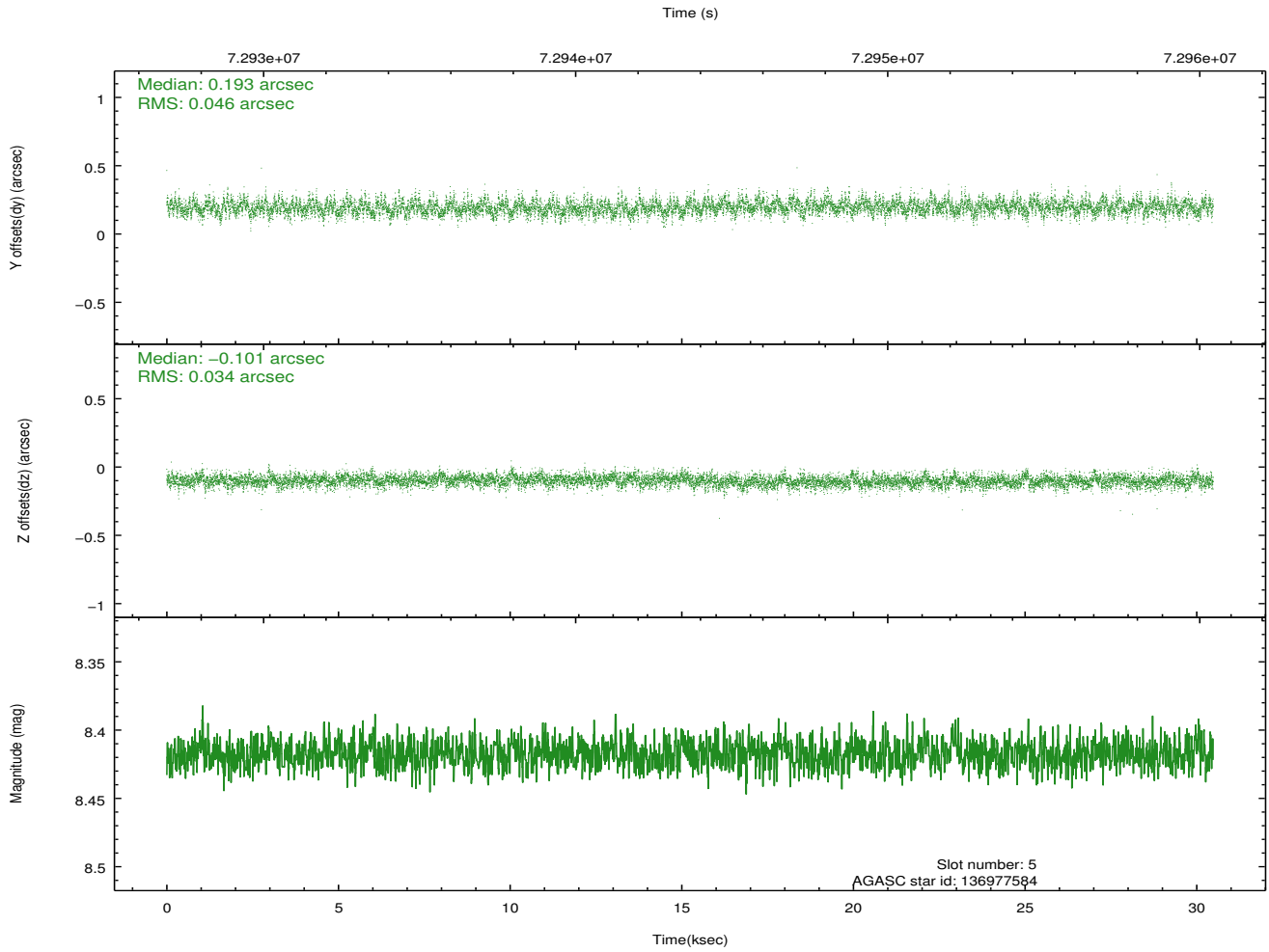
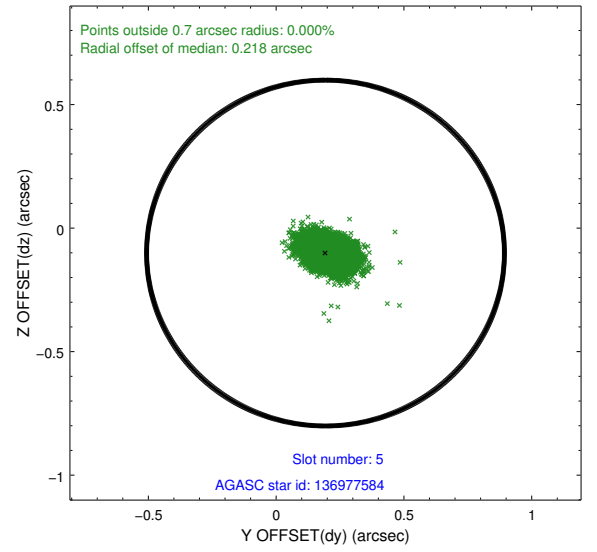
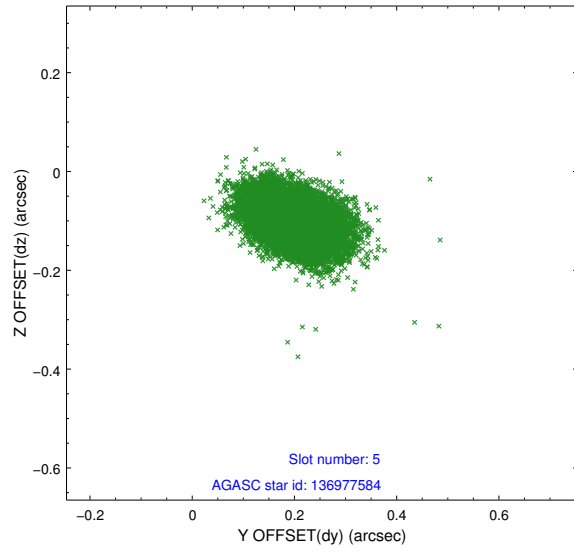
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	7432	-0.063	-0.063	0.011	0.016	0.000000	0.000000	-753.44	-1840.86
1	FID	ACIS-S-4	7.19	7432	0.058	0.047	0.028	0.037	0.000000	0.000000	2159.92	67.63
2	FID	ACIS-S-5	7.23	7434	-0.022	0.025	0.019	0.027	0.000000	0.000000	-1806.14	61.37
3	GUIDE	137498872	7.06	14869	-0.217	-0.181	0.052	0.081	288.350862	11.344926	1960.92	1045.81
4	UNUSED		0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
5	GUIDE	136977584	8.42	14866	0.193	-0.101	0.059	0.103	288.635599	10.555283	-1054.03	1074.93
6	GUIDE	137628936	9.35	14860	-0.083	0.121	0.089	0.143	289.169859	11.656925	2028.59	-2053.06
7	GUIDE	137105808	9.74	14858	0.105	0.160	0.111	0.176	289.431212	11.030909	-404.20	-2153.87

2.4 Star Slots

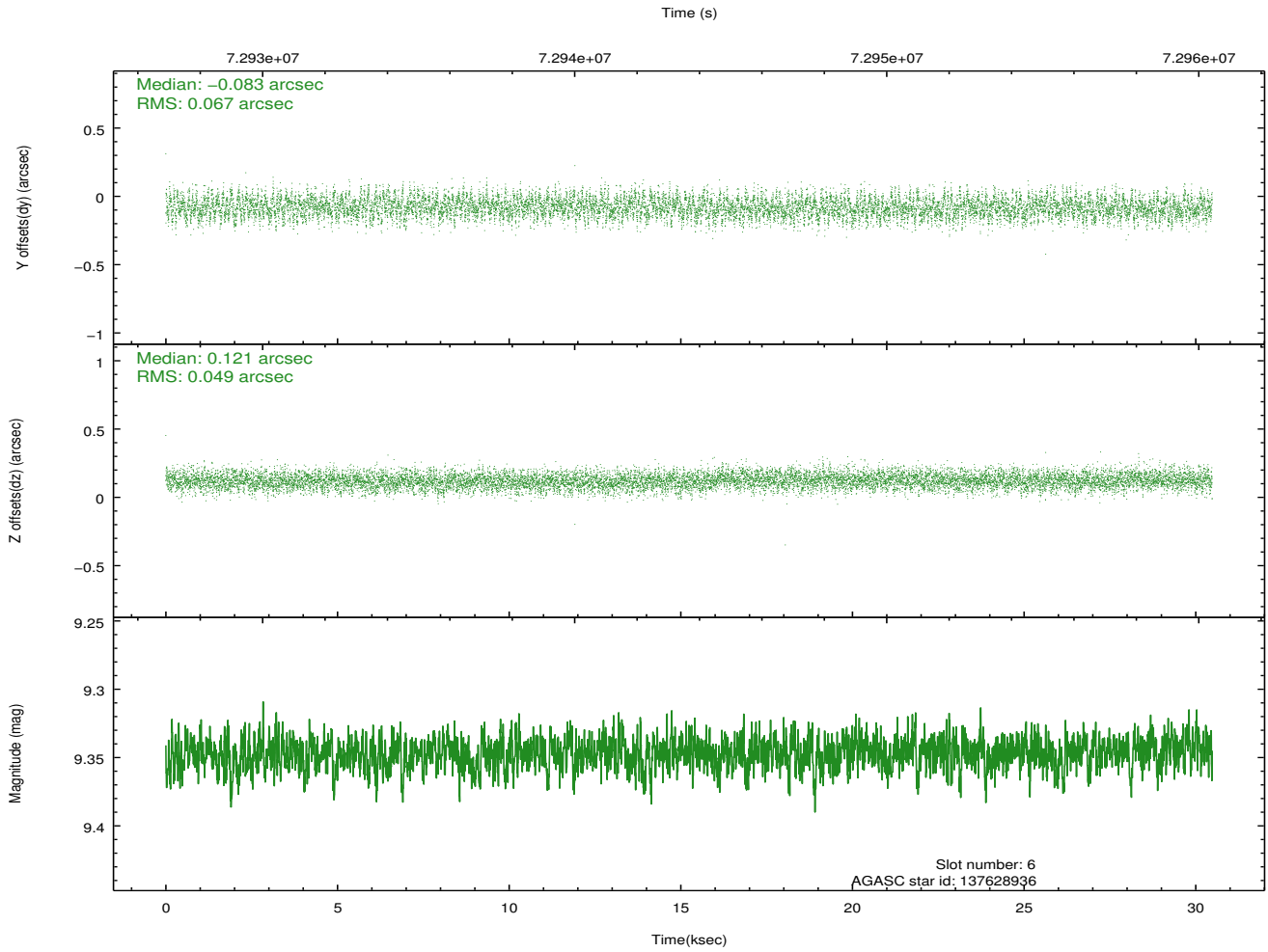
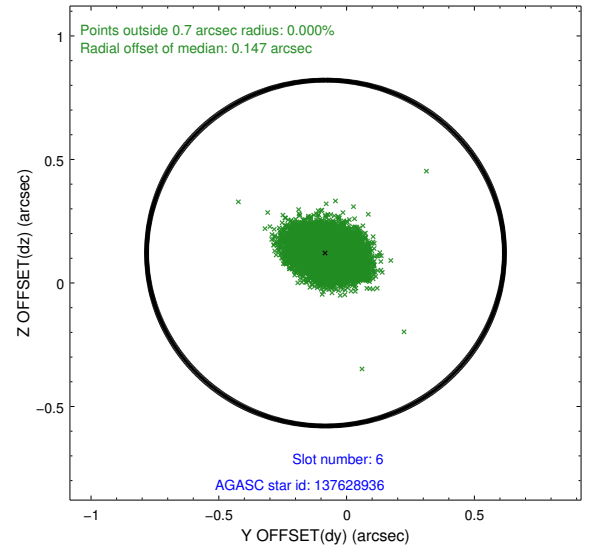
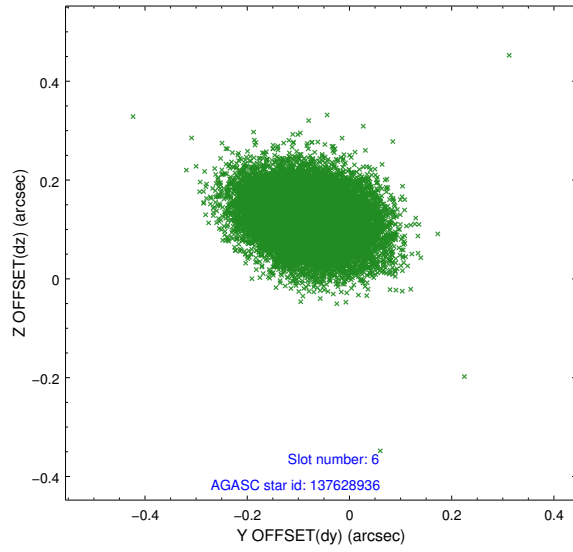
2.4.1 Slot 3



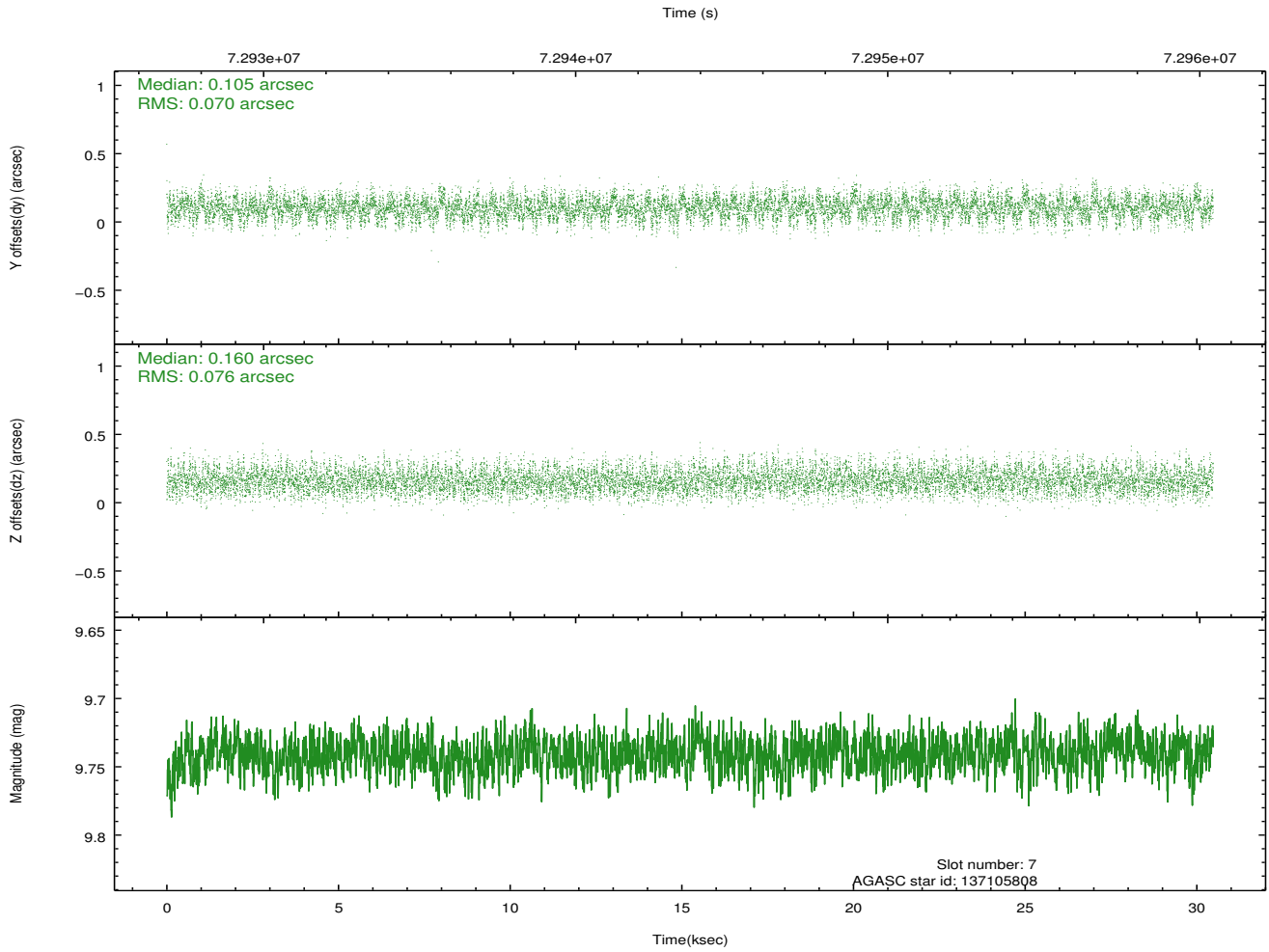
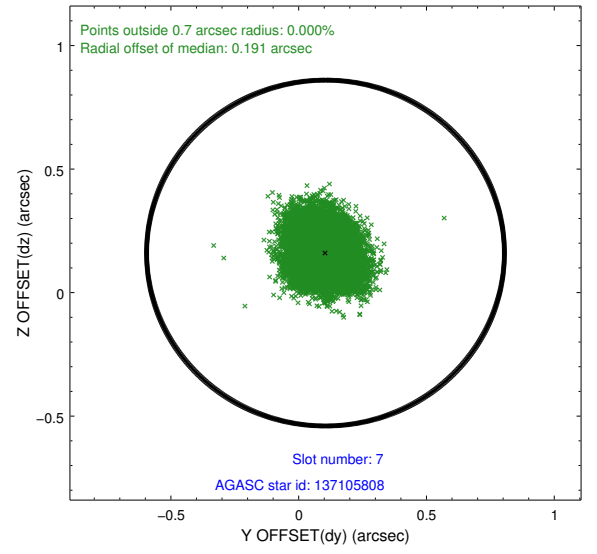
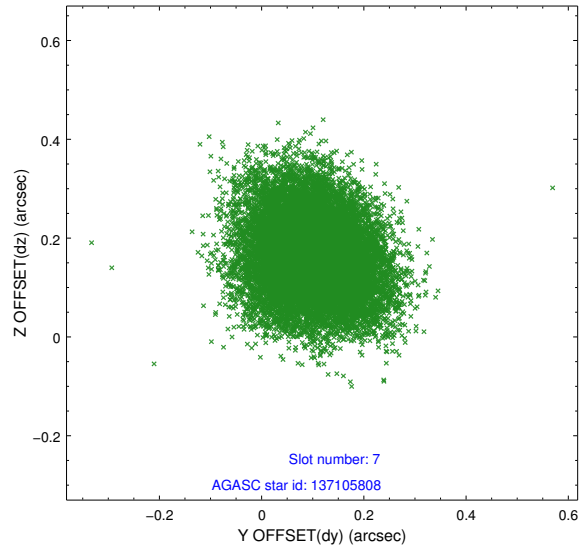
2.4.2 Slot 5



2.4.3 Slot 6

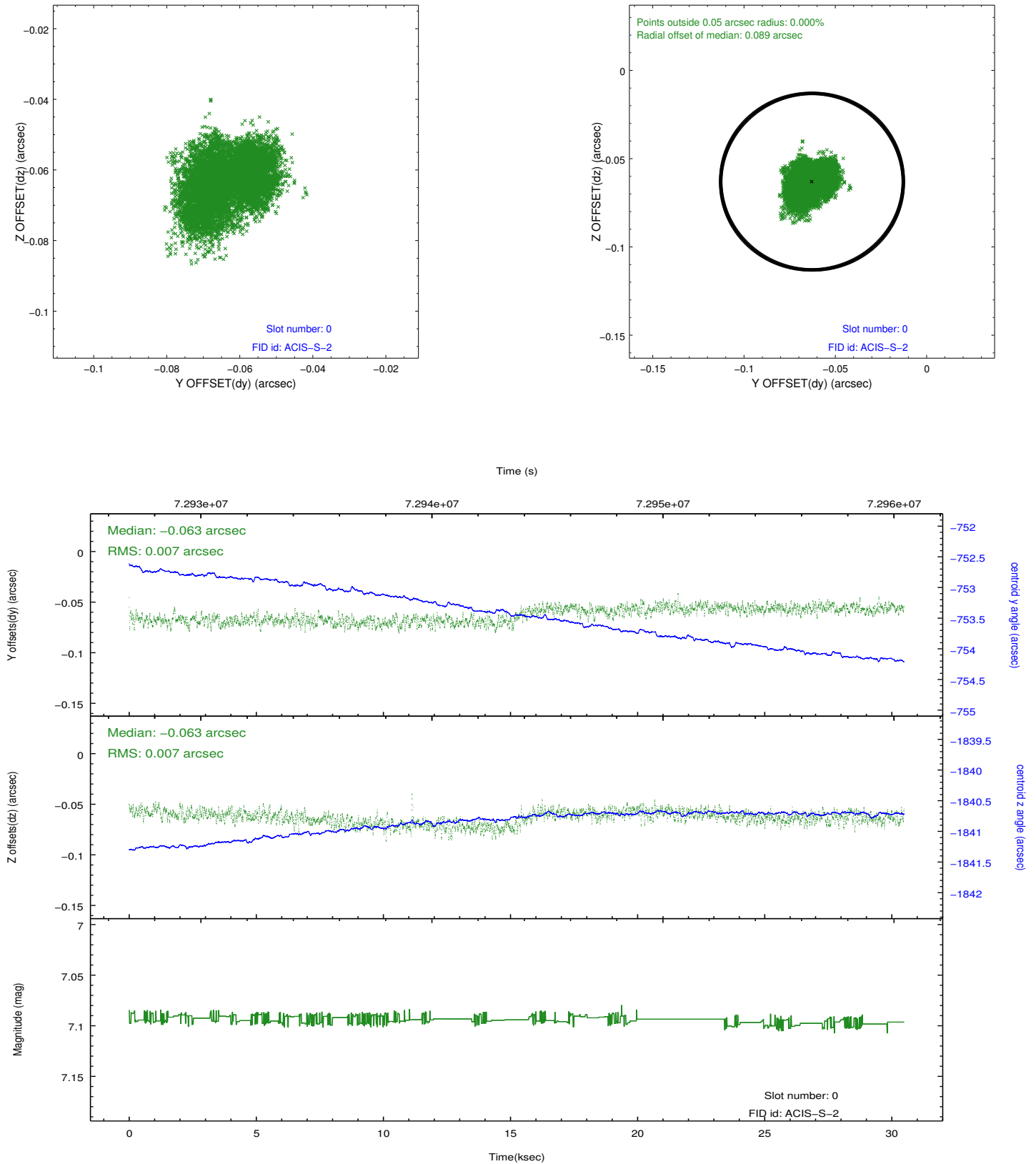


2.4.4 Slot 7

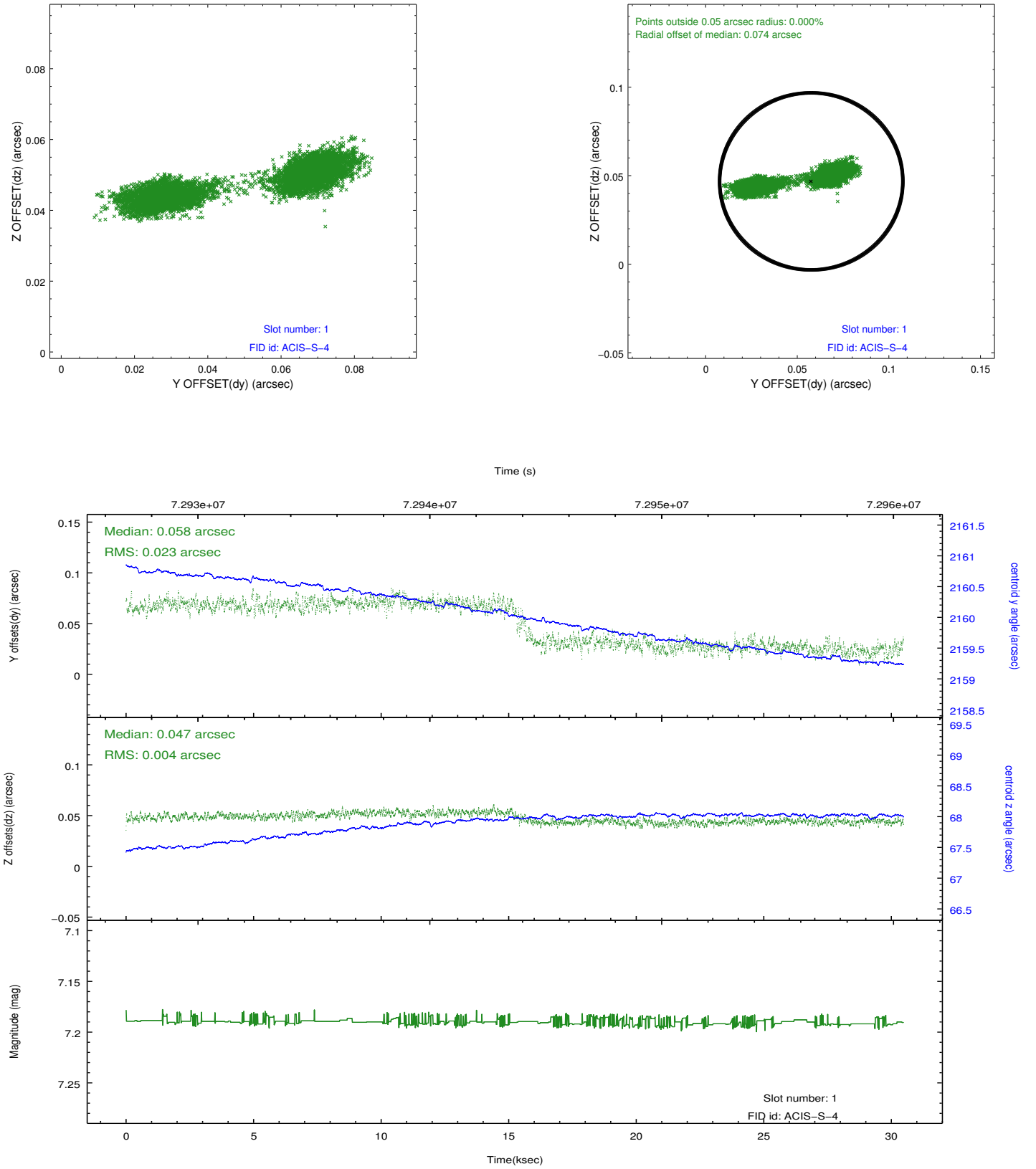


2.5 FID Slots

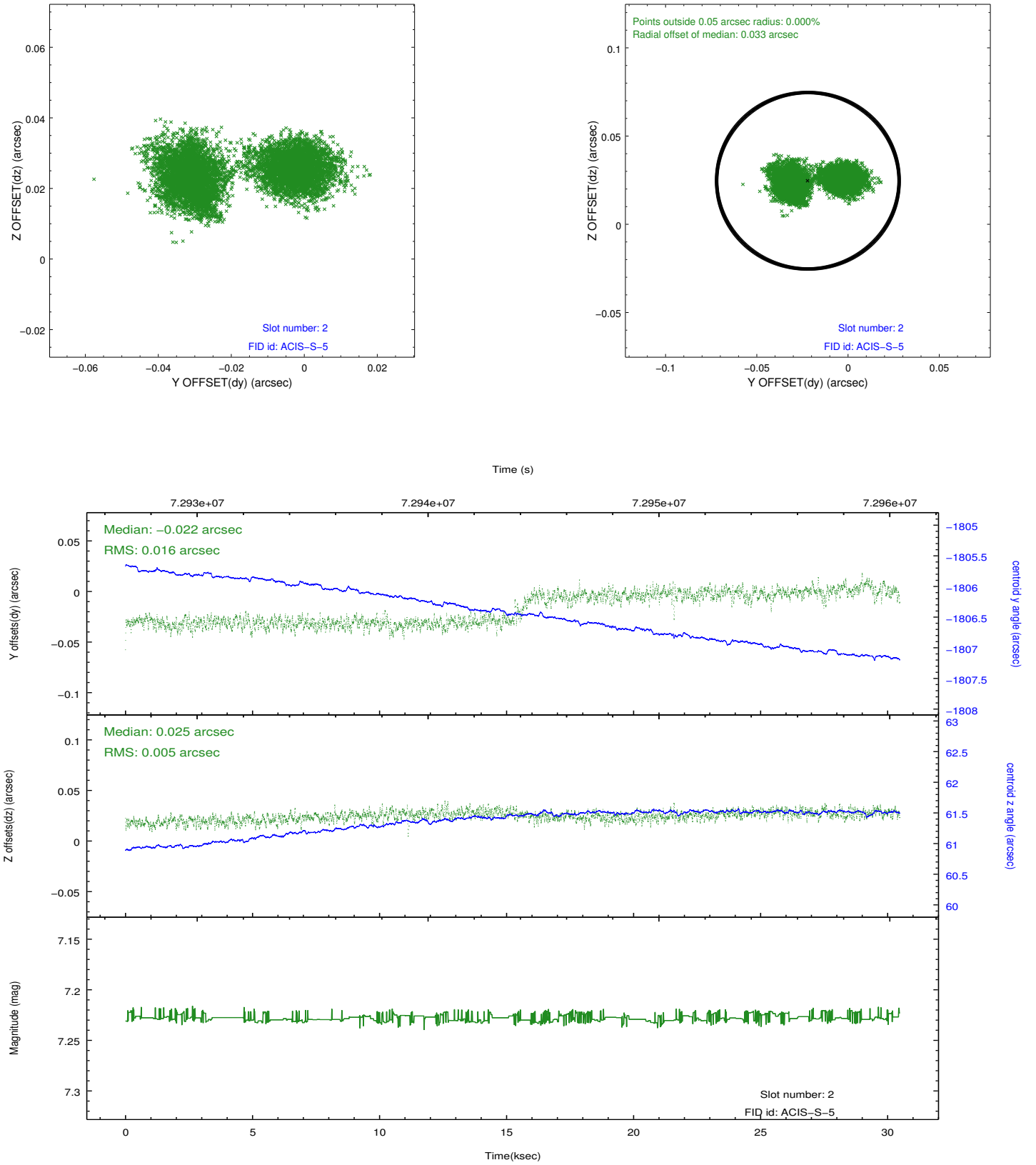
2.5.1 Slot 0



2.5.2 Slot 1

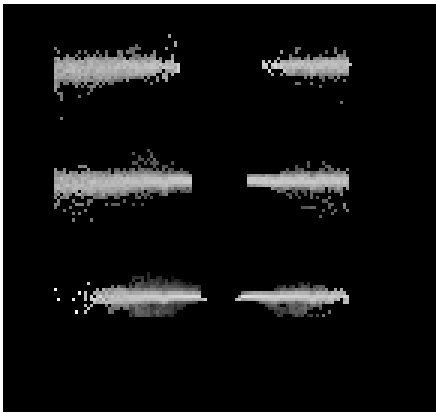


2.5.3 Slot 2

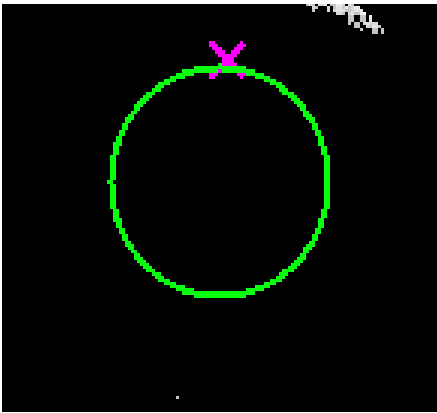


3 Gratings

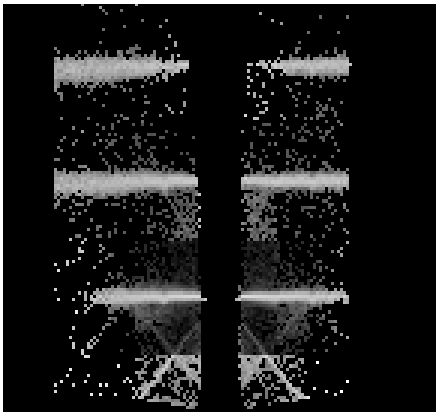
3.1 HEG Arm



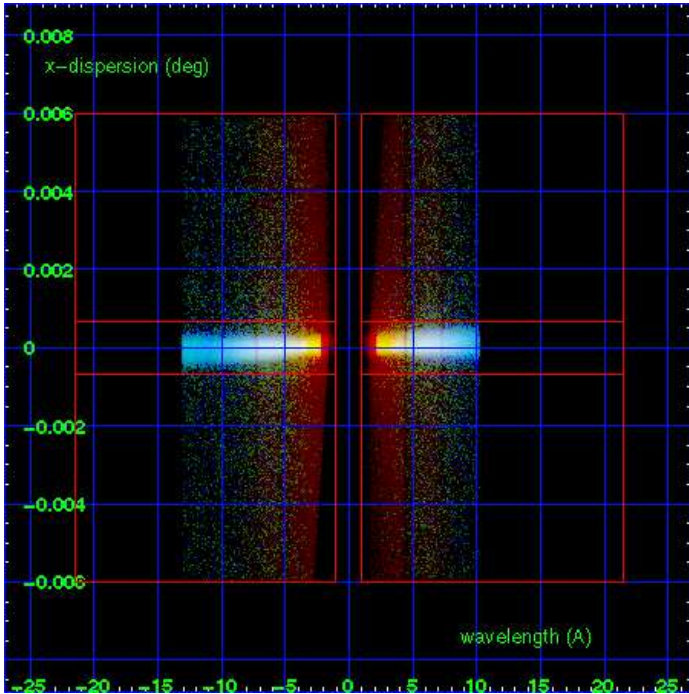
HEG Order Sort 123



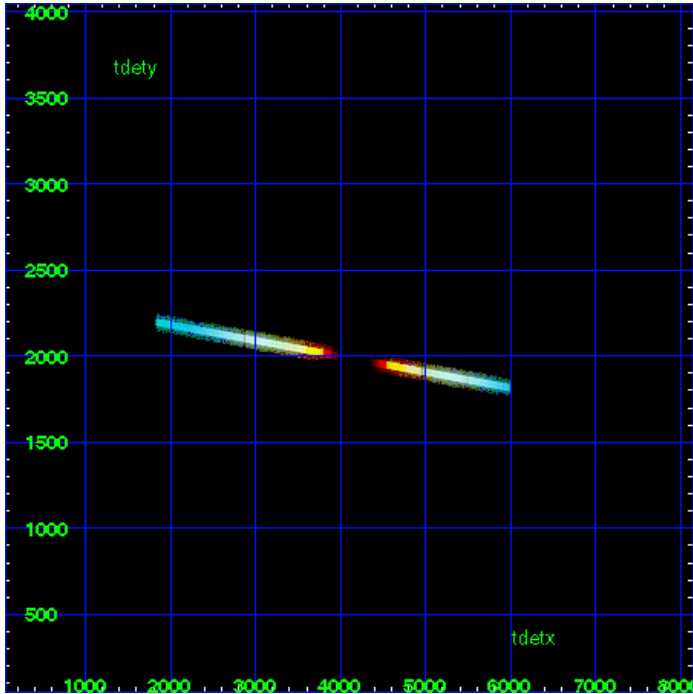
HEG Zero Order



HEG Order Sort ALL

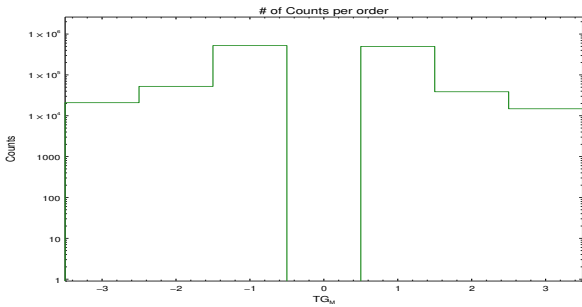


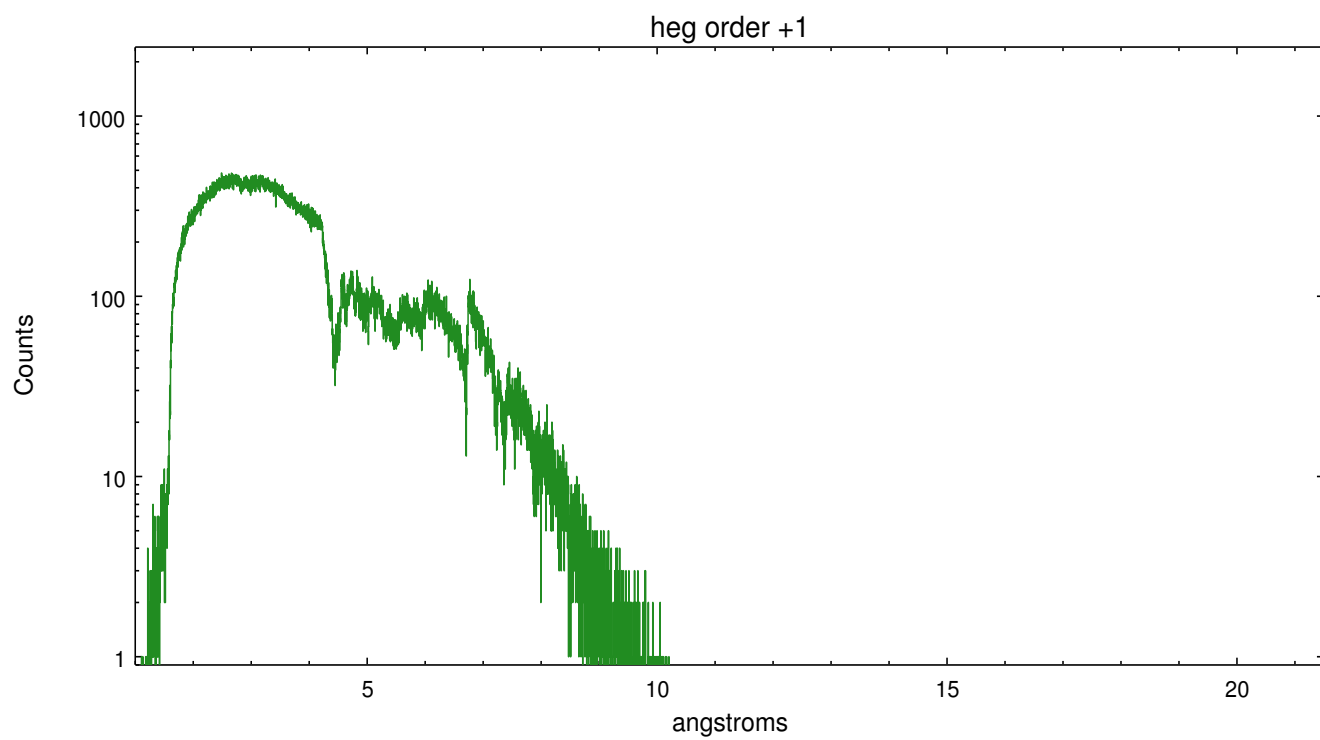
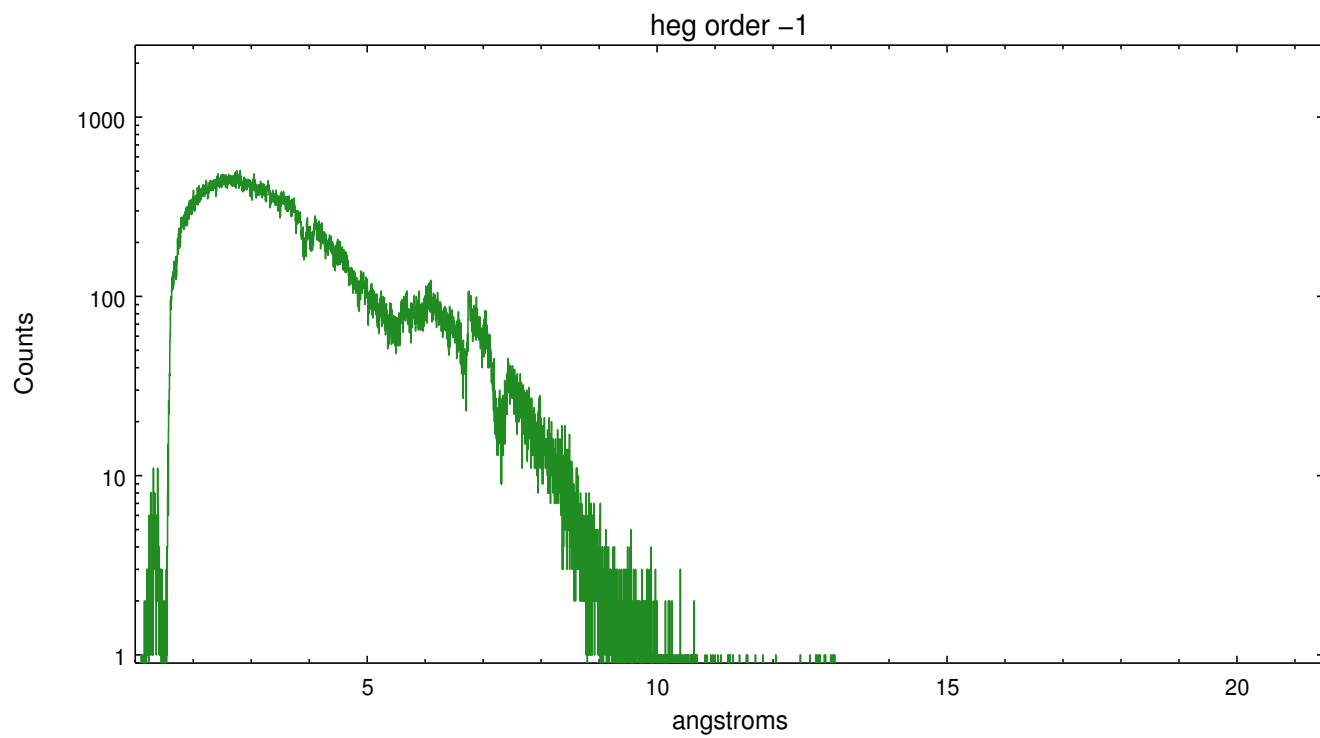
Spot Image HEG



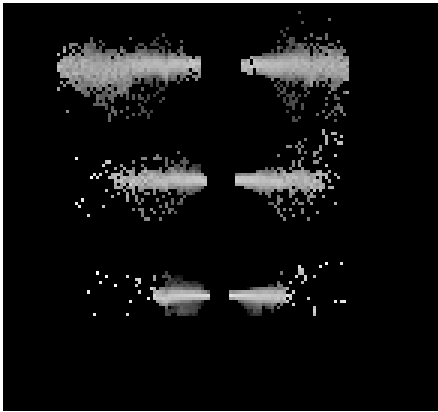
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	20913	52368	521507	0	497355	38717	14833

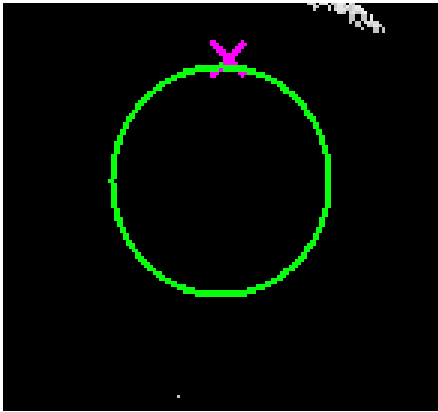




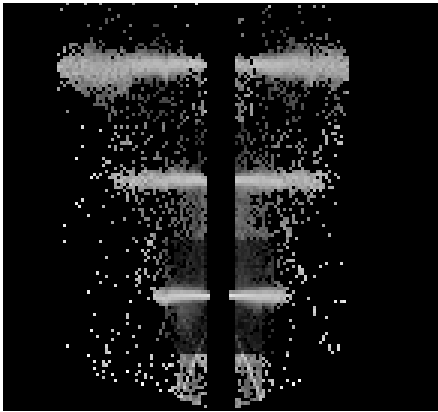
3.2 MEG Arm



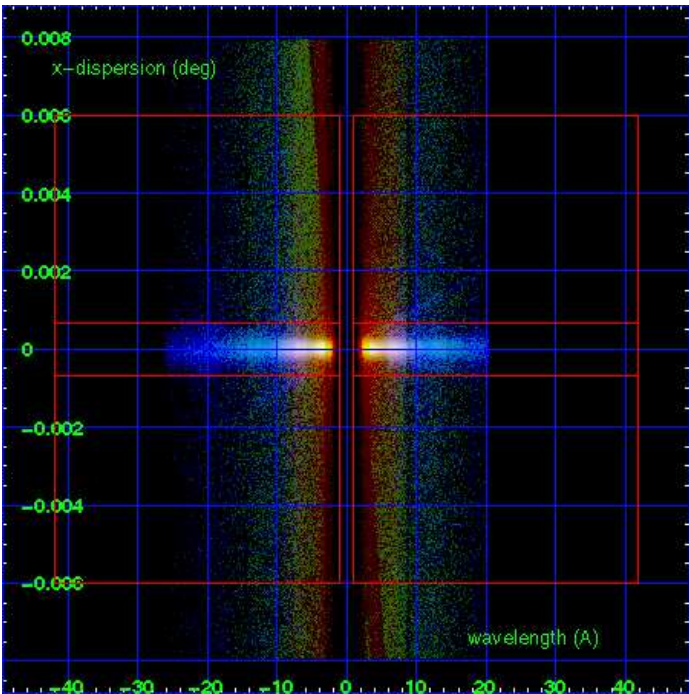
MEG Order Sort 123



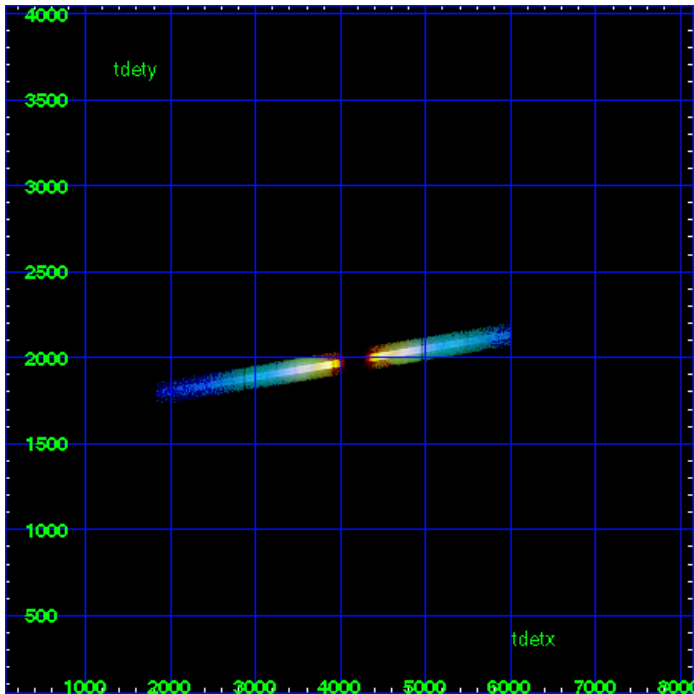
MEG Zero Order



MEG Order Sort ALL

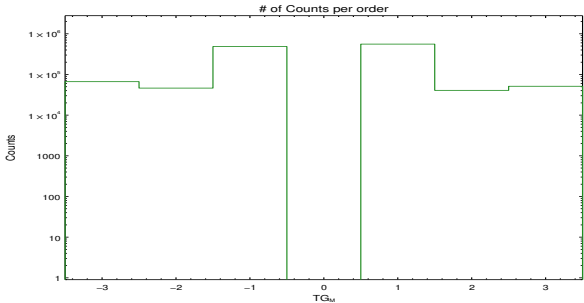


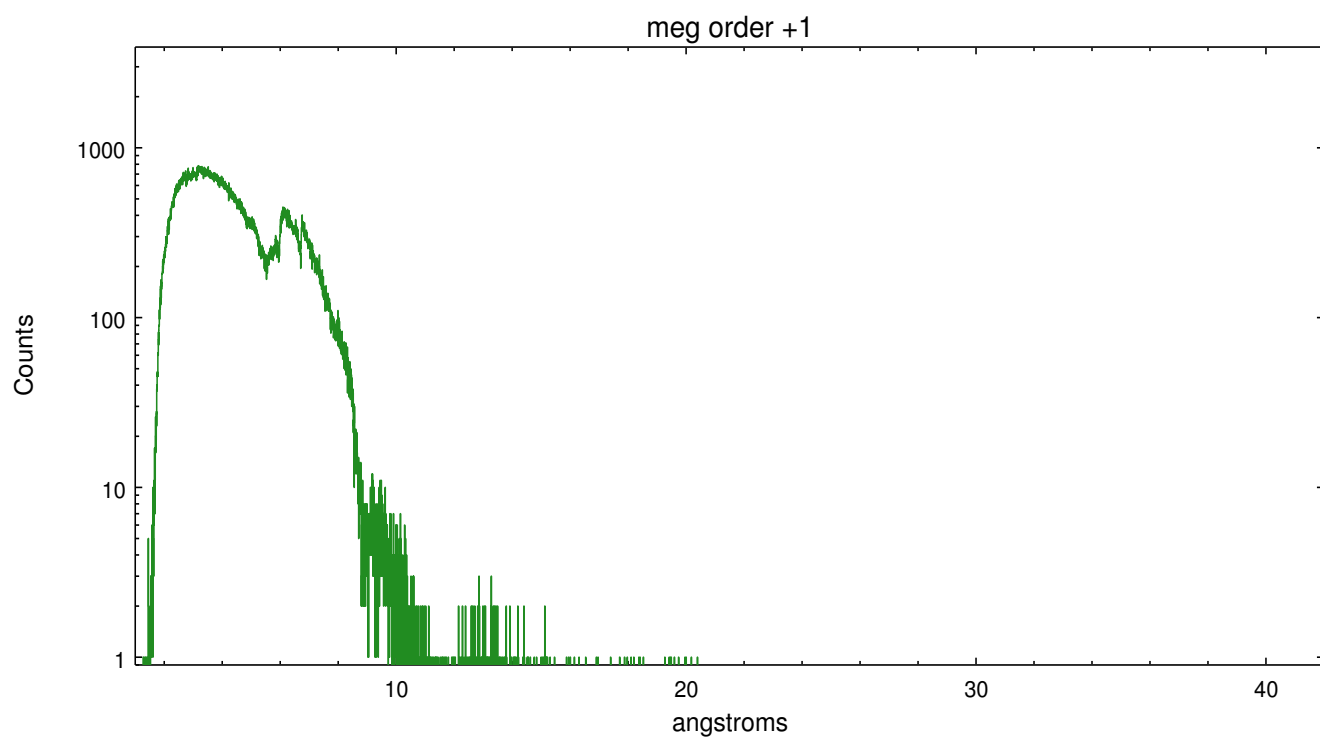
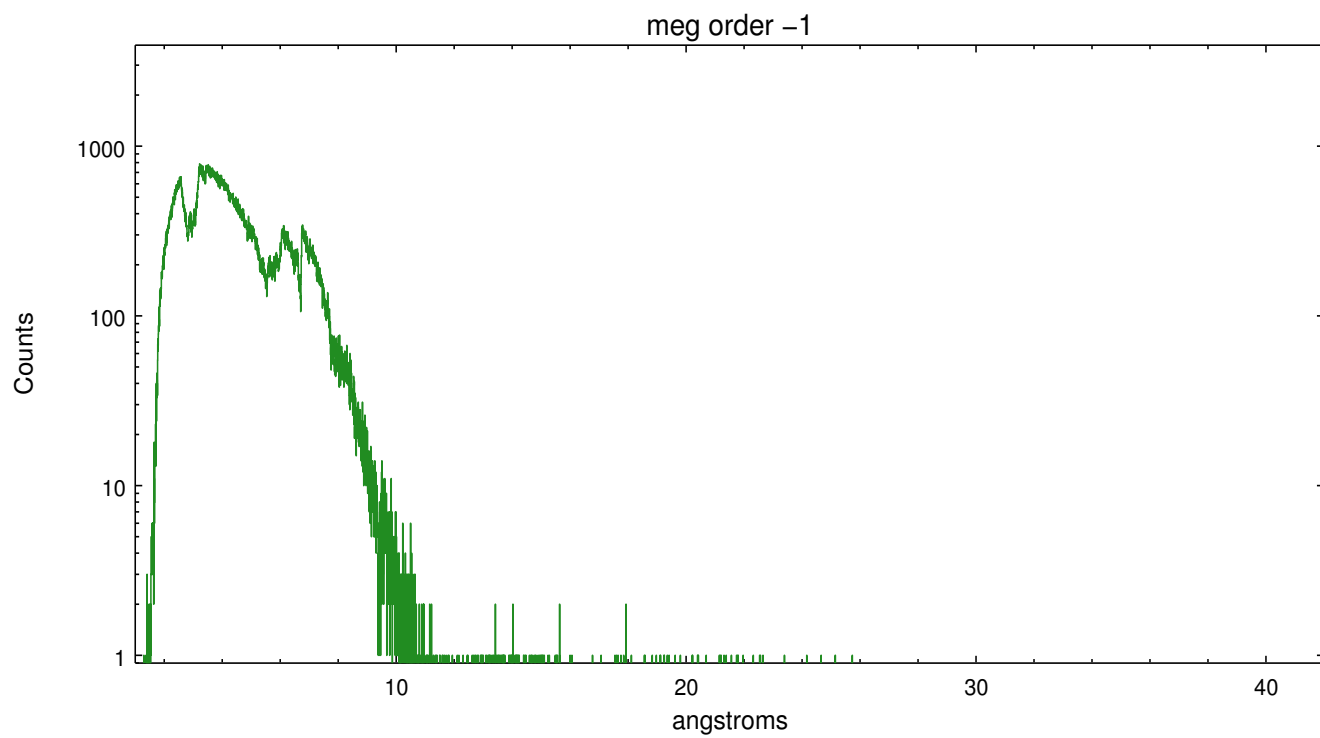
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	66526	46182	485350	0	557385	40649	51240





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.372

A.2 Comments

Charge time for this ObsId remains at original value of 30.372 ks, although with the current processing the charge time would have been 30.472 ksec. === Roll constraint of 120 +/- 10 degrees used in order to align jet axis. Coordinated with XTE.

===

Both meg and heg spectral arms are piled up. ===

Standard data processing software did not correctly locate the zeroth order because a spatial exclusion window was used to block the zeroth order image. Manual intervention was used to input the correct sky coordinates (x=4093.63, y=4063.52) into the *src1a.fits file table. These corrected coordinates were determined using a software tool developed by CXC, 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.

===

The guide star in slot 4 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this guide star from the solution.