

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 3407 - L2 Version 4
Chandra X-Ray Center

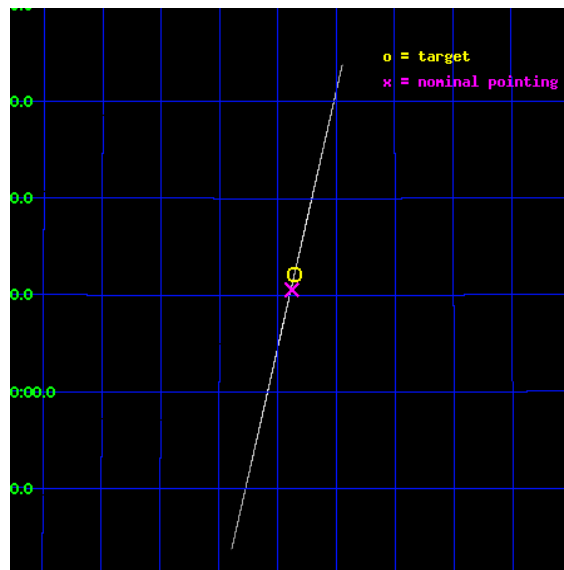
L2 Processing Date : Sep 28 2012

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1 Front

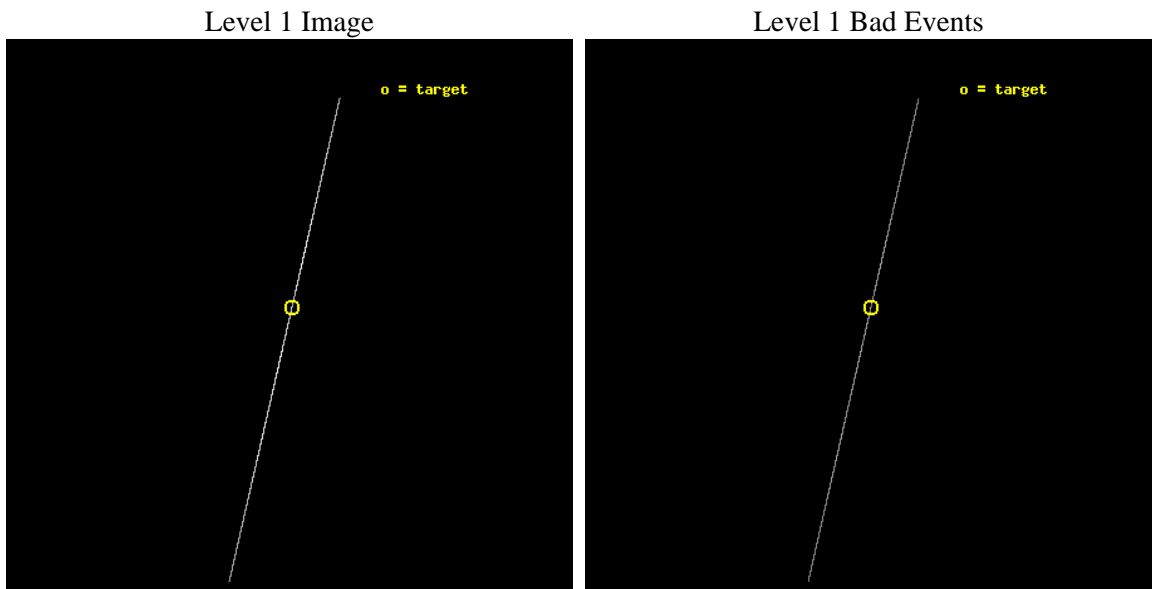
seq_num	400234	Sequence number
obs_id	3407	Observation id
title	CYGNUS X-1 IN THE HIGH STATE	Proposal title
observer	Dr. Wei Cui	Principal investigator
object	CYG X-1	Source name
ra_targ	299.59	Observer's specified target RA [deg]
dec_targ	35.202	Observer's specified target Dec [deg]
ra_nom	299.59512594528	Nominal RA [deg]
dec_nom	35.176022386443	Nominal Dec [deg]
roll_nom	282.98879502832	Nominal Roll [deg]
revision	4	Processing version of data
ontime	16130.711361632	Sum of GTIs [s]
livetime	16067.700770375	Livetime [s]
ontime4	25425.664110154	Sum of GTIs [s]
ontime5	30076.0	Sum of GTIs [s]
ontime6	12822.721581757	Sum of GTIs [s]
ontime7	16130.711361632	Sum of GTIs [s]
ontime8	14636.494212821	Sum of GTIs [s]
ontime9	25768.571356565	Sum of GTIs [s]
l2events	10406821	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	16130.711361632	Sum of GTIs [s]
caldbver	4.5.1.1	 	ontime4	25425.664110154	Sum of GTIs [s]
date	2012-09-26T04:30:21	Date and time of file creation	ontime5	30076.0	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	12822.721581757	Sum of GTIs [s]
			ontime7	16130.711361632	Sum of GTIs [s]
			ontime8	14636.494212821	Sum of GTIs [s]
			ontime9	25768.571356565	Sum of GTIs [s]
			l1events	11600827	Number of level 1 events

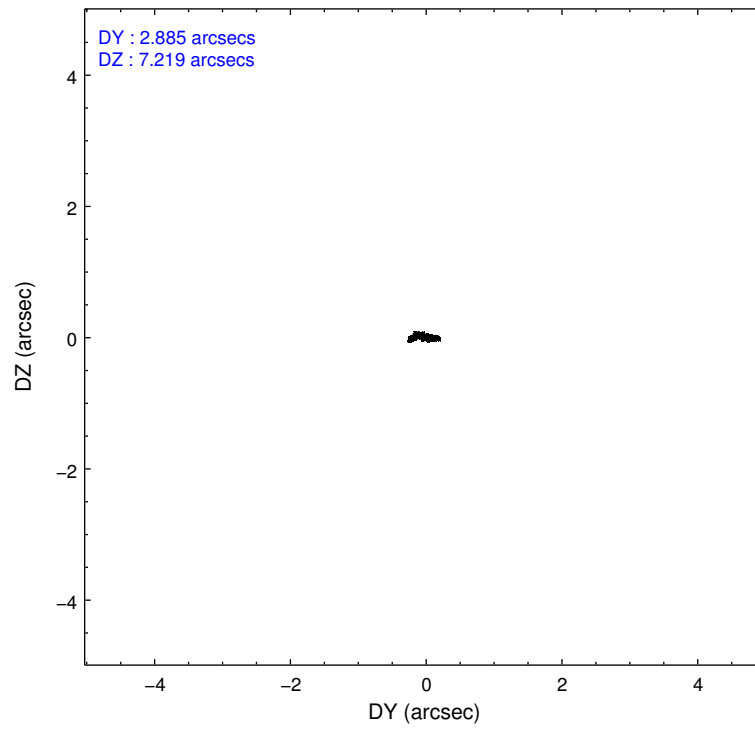
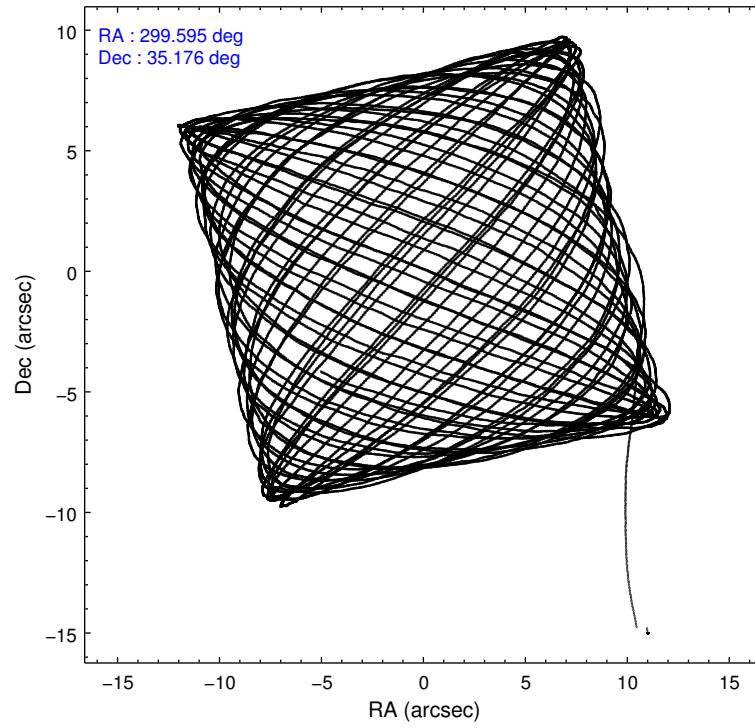
2.1.3 Events

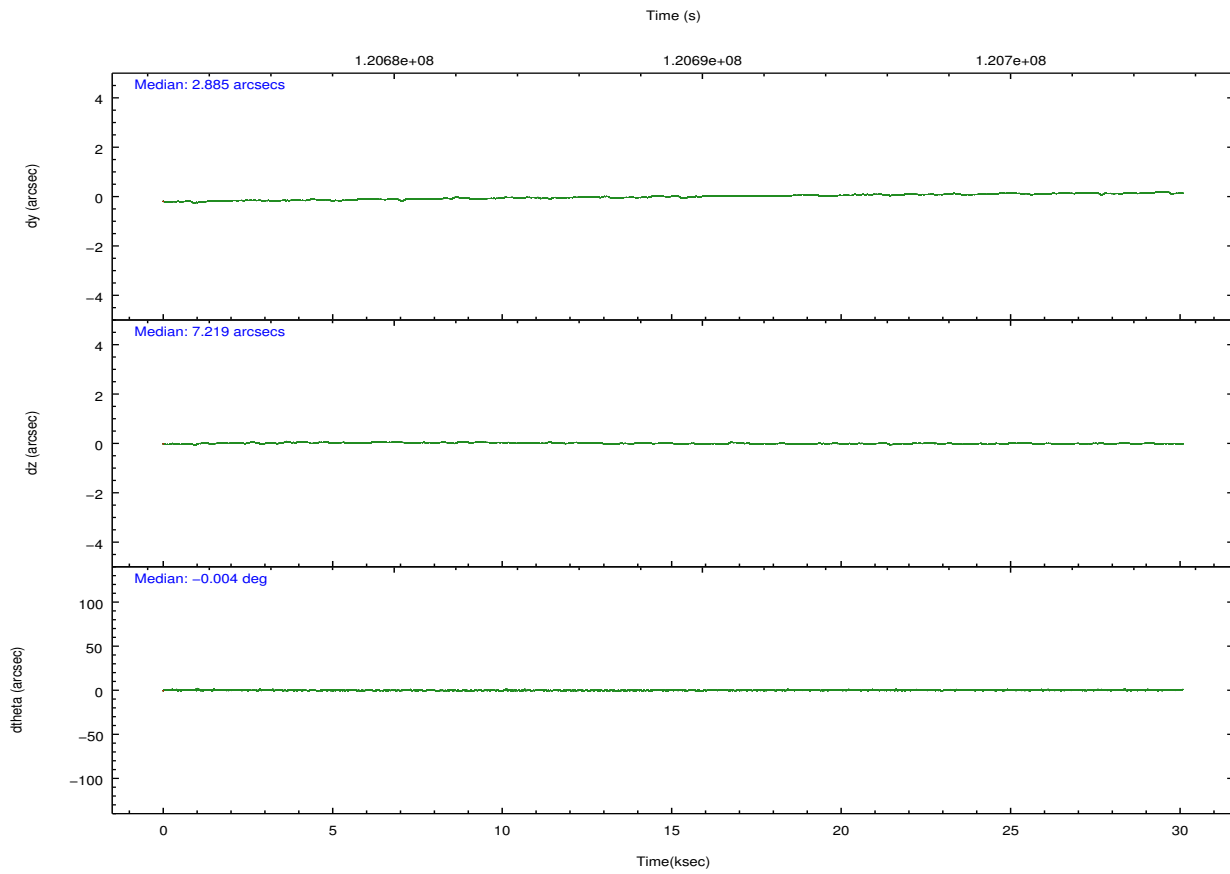
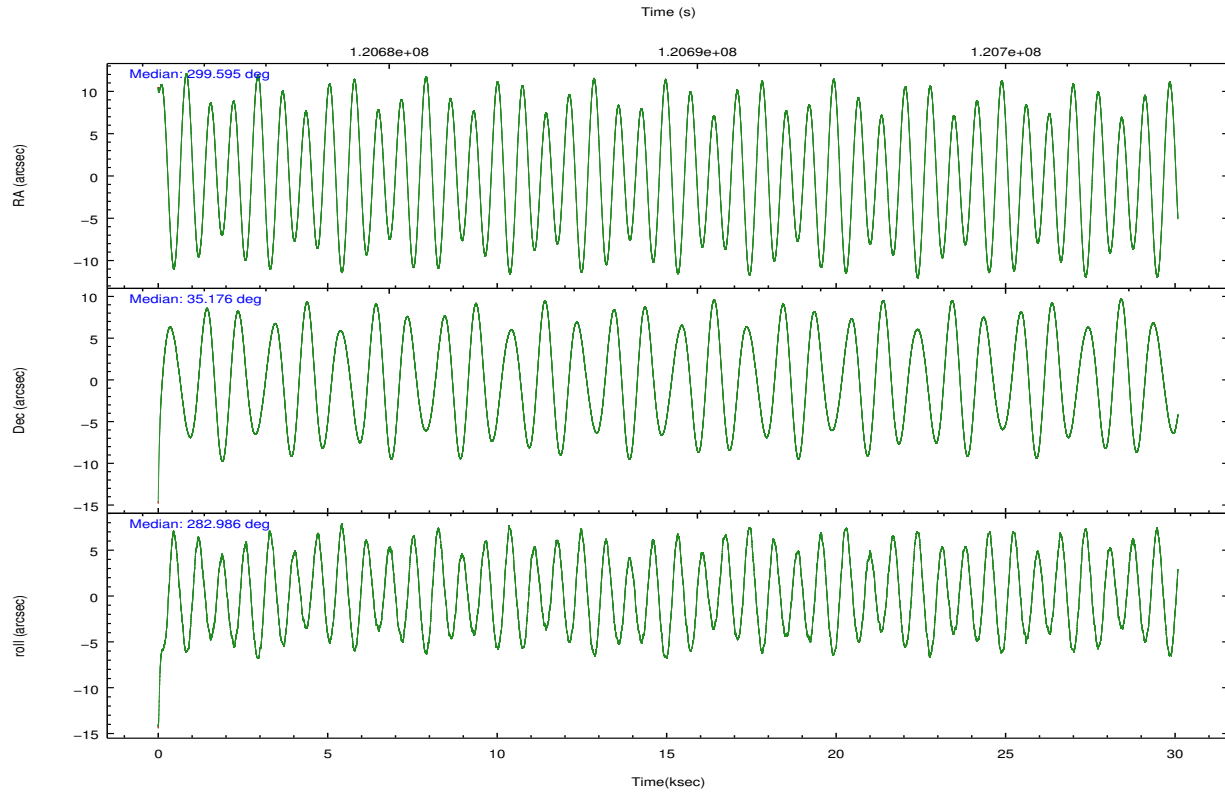
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	477292	1888583	3038496	2346282	2907448	942726	grade 0 events	7979	209648	17252	258501	51152	29564
rejected events	42344	86947	77746	115118	77320	49595		1%	11%	0%	11%	1%	3%
rejected %	8%	4%	2%	4%	2%	5%	grade 1 events	117	408	103	3448	311	142
								0%	0%	0%	0%	0%	0%
							grade 2 events	420275	1008270	2782334	851694	2639933	833440
								88%	53%	91%	36%	90%	88%
							grade 3 events	4405	59043	2826	135574	10756	4928
								0%	3%	0%	5%	0%	0%
							grade 4 events	4507	57894	2735	133388	10135	5032
								0%	3%	0%	5%	0%	0%
							grade 5 events	7294	41892	15826	55528	16838	9681
								1%	2%	0%	2%	0%	1%
							grade 6 events	32715	511428	217420	908149	178323	59939
								6%	27%	7%	38%	6%	6%
							grade 7 events	0	0	0	0	0	0
								0%	0%	0%	0%	0%	0%

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	CC33_GRADED	CC33_GRADED	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	299.572083	299.5951259452793	Subarray requested	NONE	NONE
[deg] Pointing Dec	35.195754	35.17602238644287	Alternating exposures requested	N	N
[deg] Pointing Roll	282.845449	282.988795028319	[s] Primary exposure time	0.000000	0
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-194.132523	-194.1227414875429			
[mm] SIM translation stage offset	4	3.990218904535112			
[s] Observation start time (MET)	120674092.184000	120672896.56462			
Observation start date	2001-10-28T16:33:48	2001-10-28T16:14:56			
[s] Observation end time (MET)	120704092.184000	120705107.1909			
Observation end date	2001-10-29T00:53:48	2001-10-29T01:11:47			
Read mode	CONTINUOUS	CONTINUOUS			

2.3 Aspect



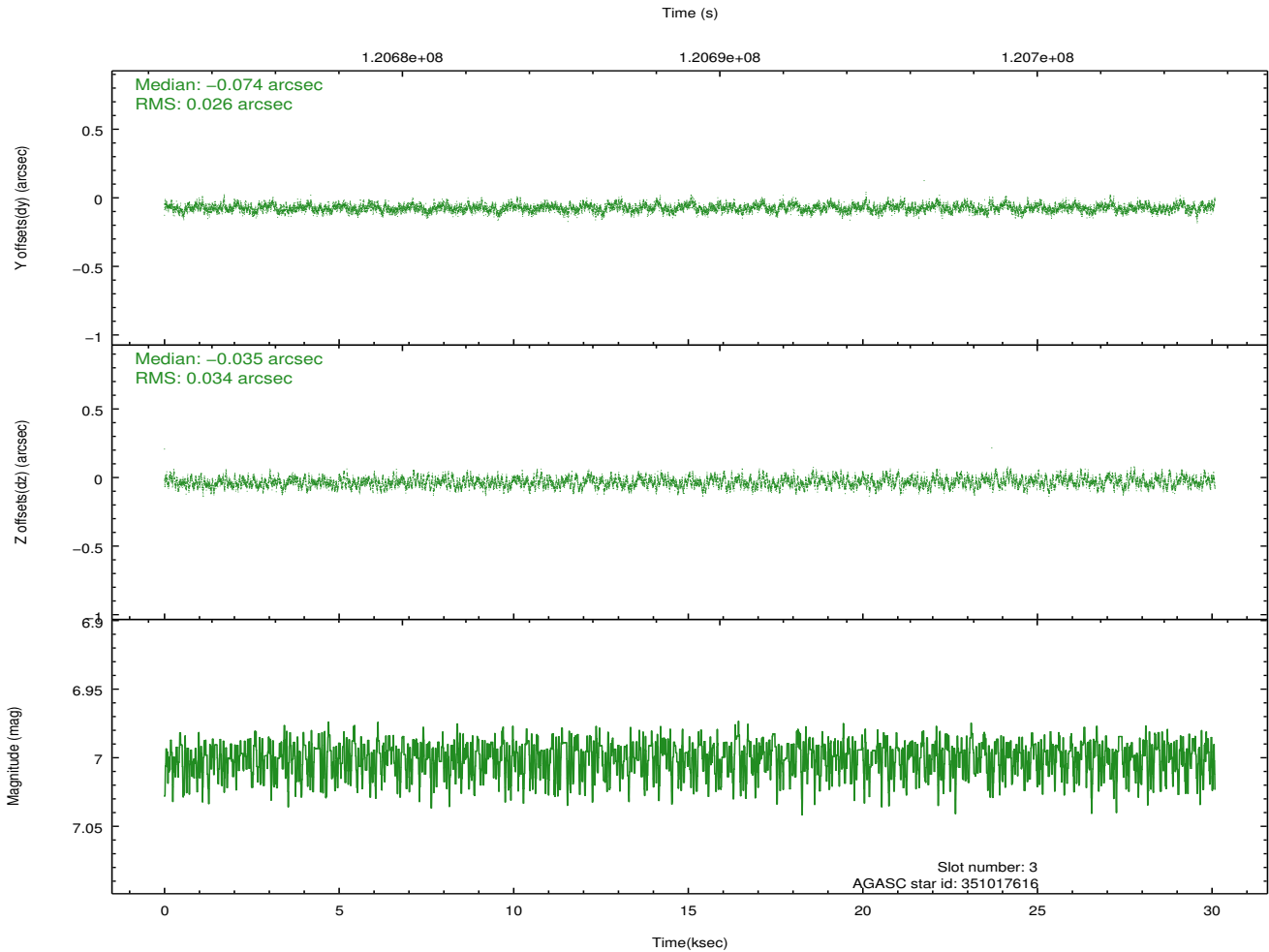
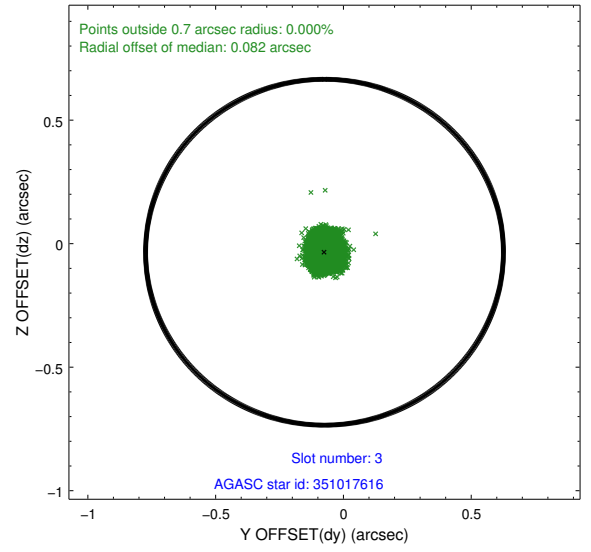
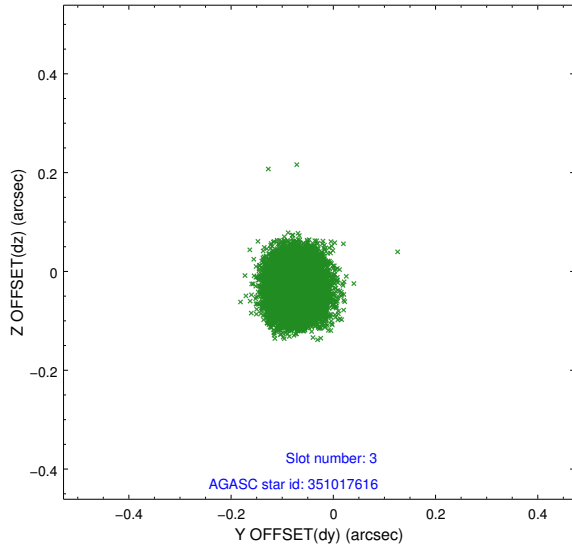


Slot Statistics

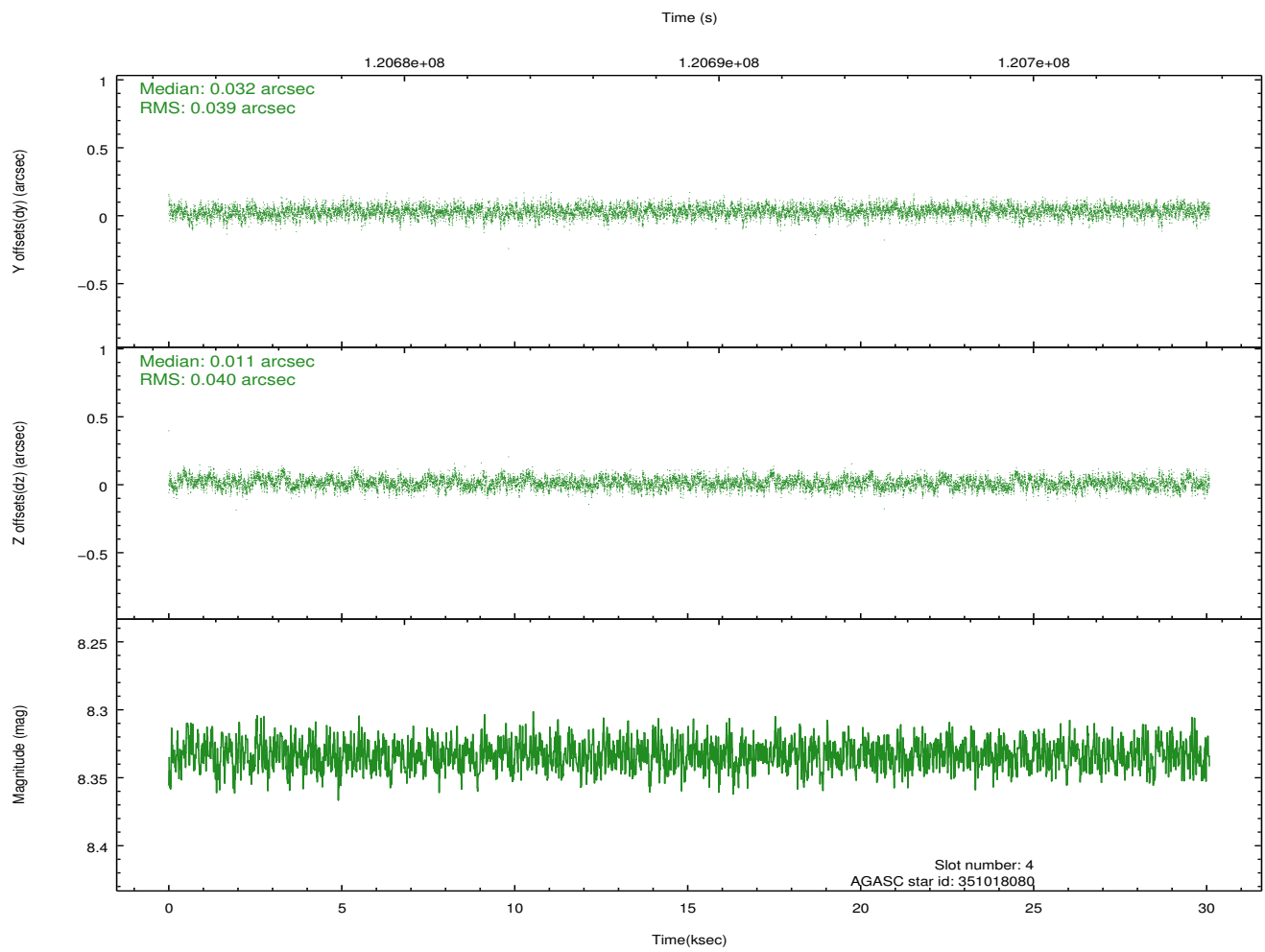
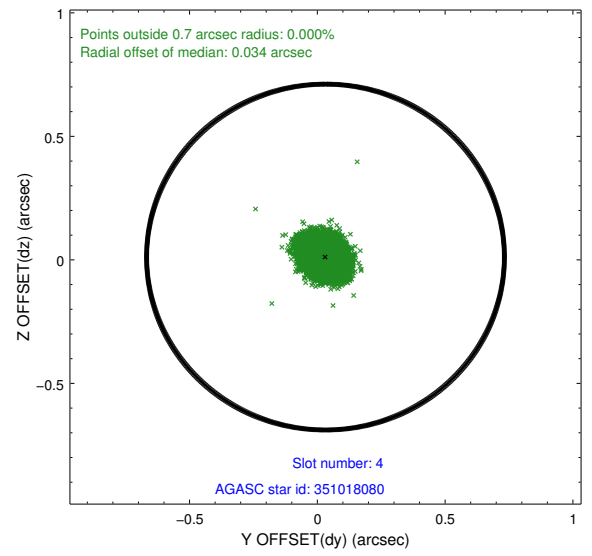
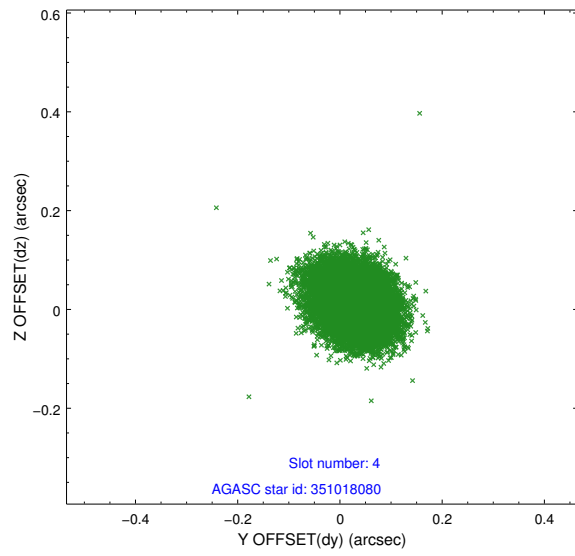
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.12	7339	-0.018	0.042	0.007	0.012	0.000000	0.000000	-755.78	-1646.26
1	FID	ACIS-S-4	7.20	7339	0.010	-0.003	0.009	0.017	0.000000	0.000000	2157.49	262.13
2	FID	ACIS-S-5	7.24	7339	-0.023	-0.031	0.009	0.015	0.000000	0.000000	-1808.54	255.84
3	GUIDE	351017616	7.00	14676	-0.074	-0.035	0.046	0.074	300.079295	35.358356	-243.07	1582.35
4	GUIDE	351018080	8.33	14671	0.032	0.011	0.059	0.096	299.327312	34.581247	1995.25	-1199.26
5	GUIDE	351016136	8.58	14677	0.082	0.009	0.054	0.089	300.302636	34.786391	1909.94	1779.64
6	GUIDE	351406096	8.88	14672	-0.025	-0.035	0.069	0.113	299.076637	35.711249	-2134.26	-999.15
7	GUIDE	351406432	8.84	14670	-0.013	0.046	0.059	0.095	299.163921	35.698316	-2031.30	-761.31

2.4 Star Slots

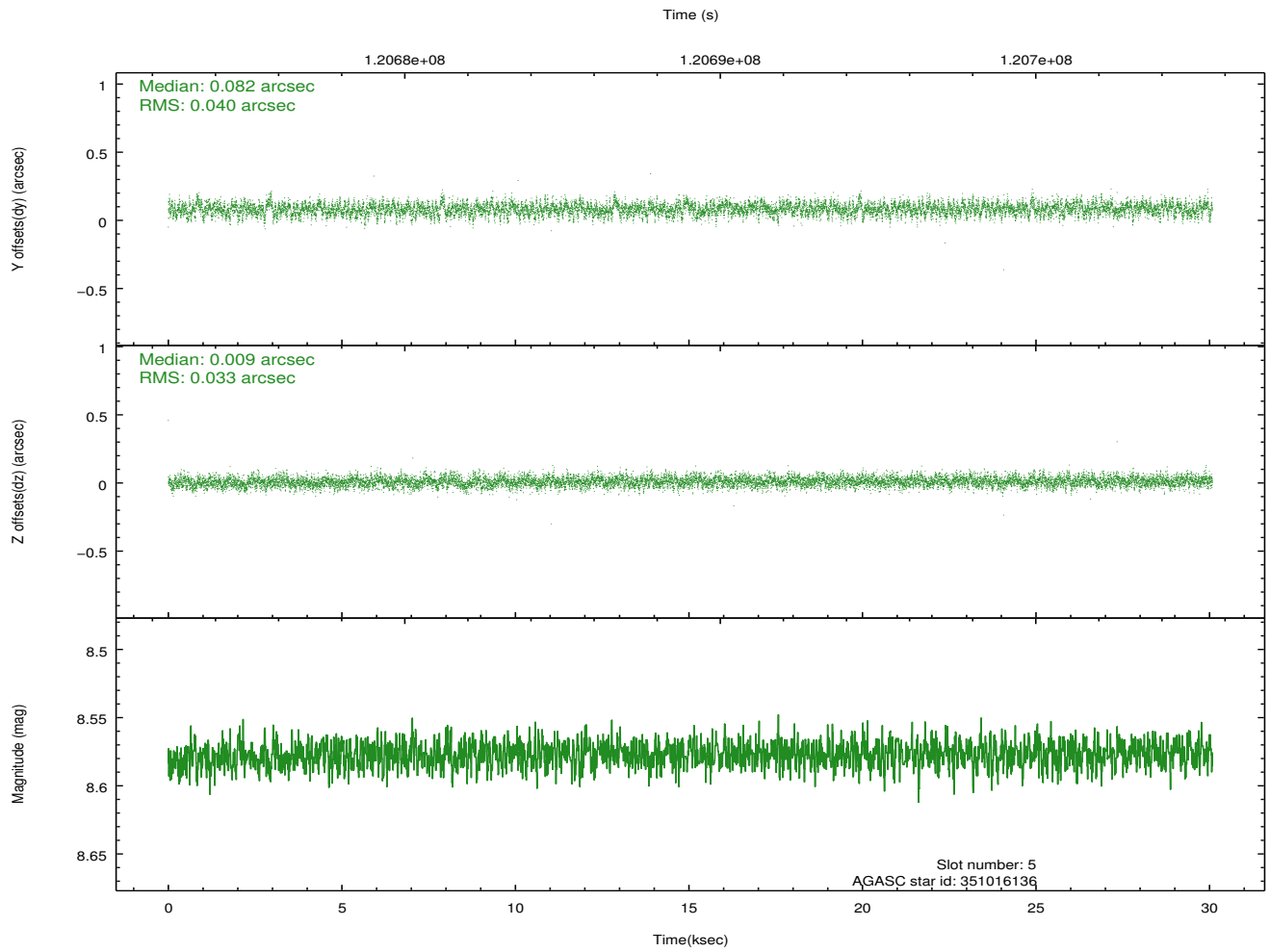
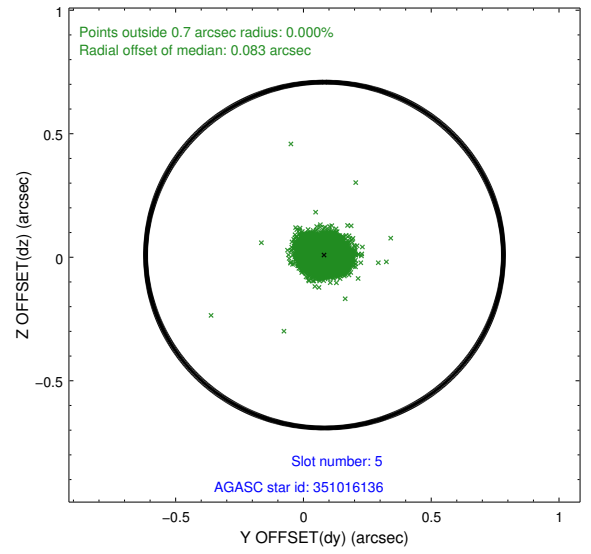
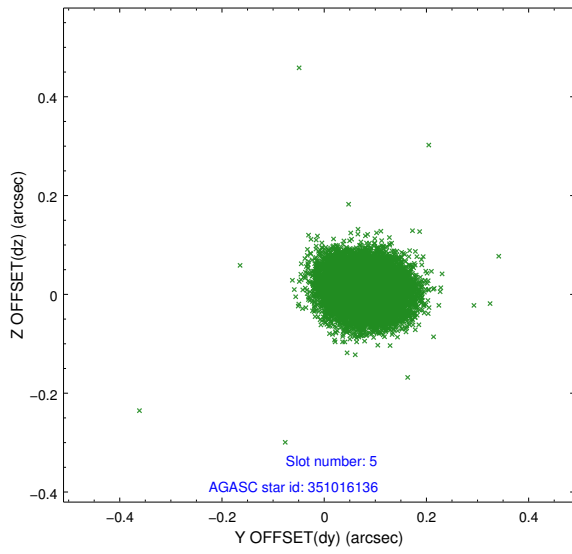
2.4.1 Slot 3



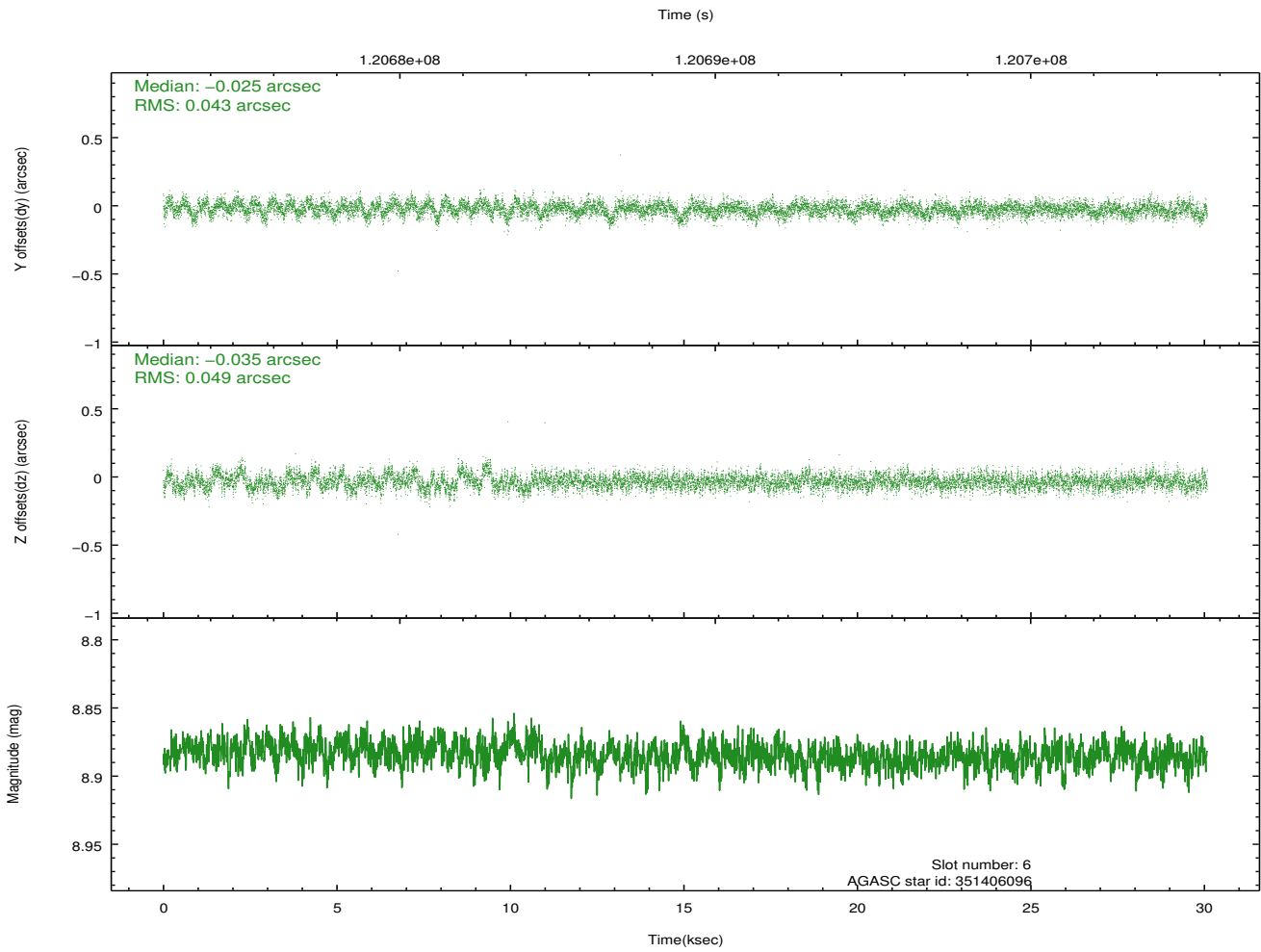
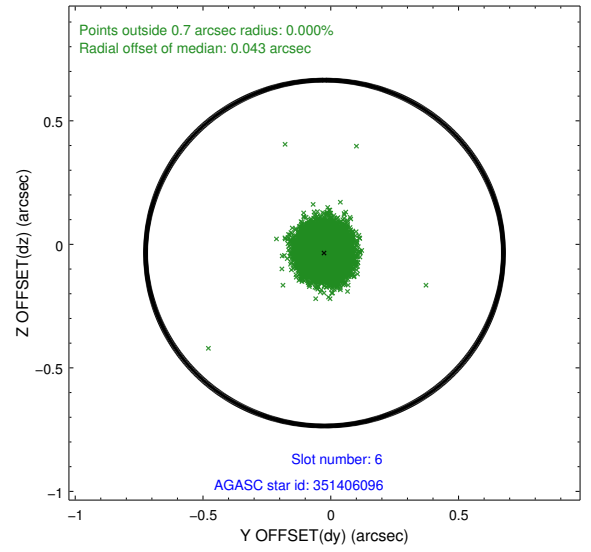
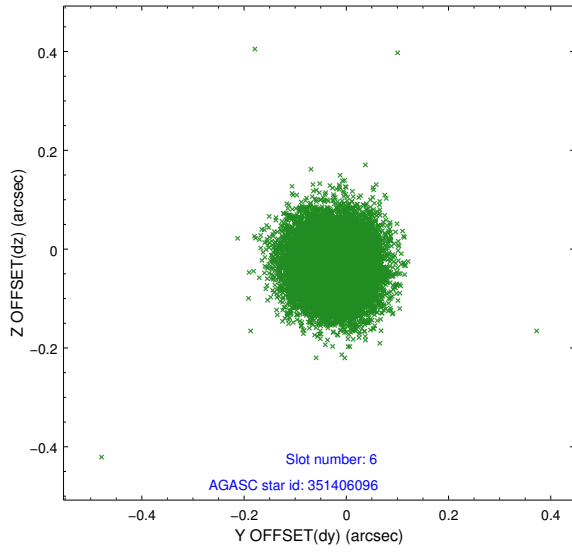
2.4.2 Slot 4



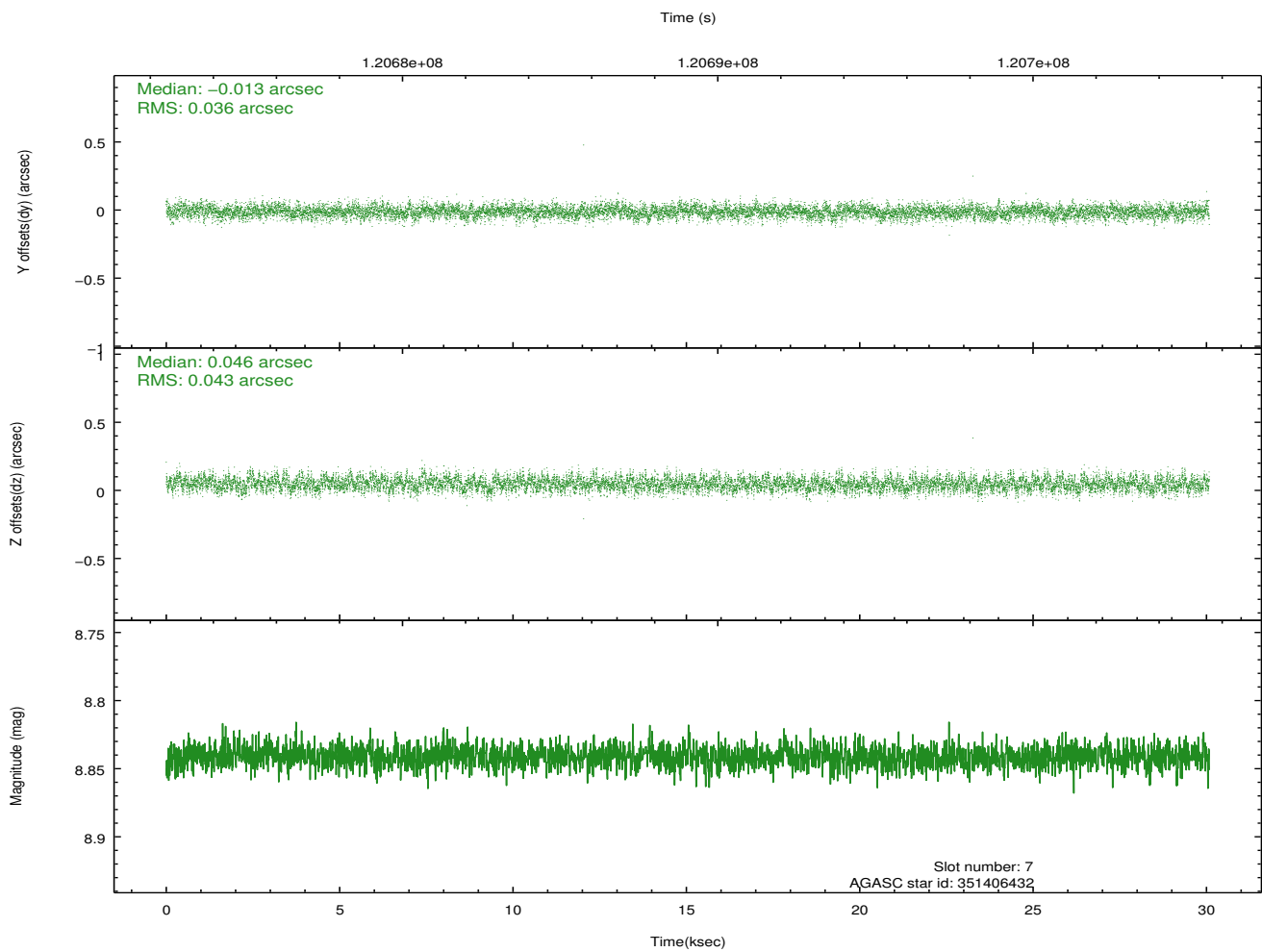
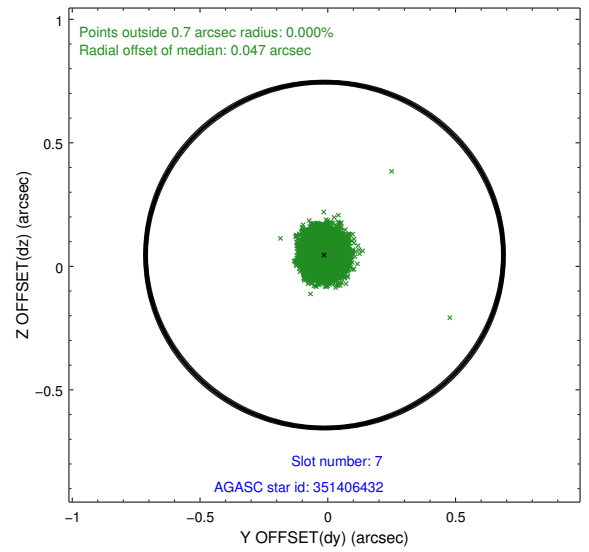
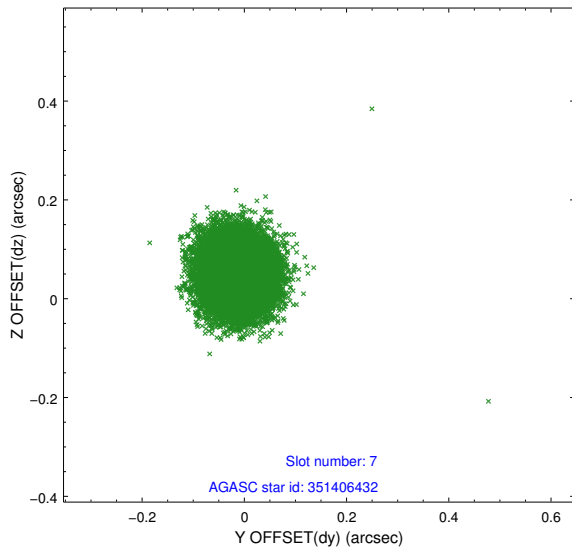
2.4.3 Slot 5



2.4.4 Slot 6

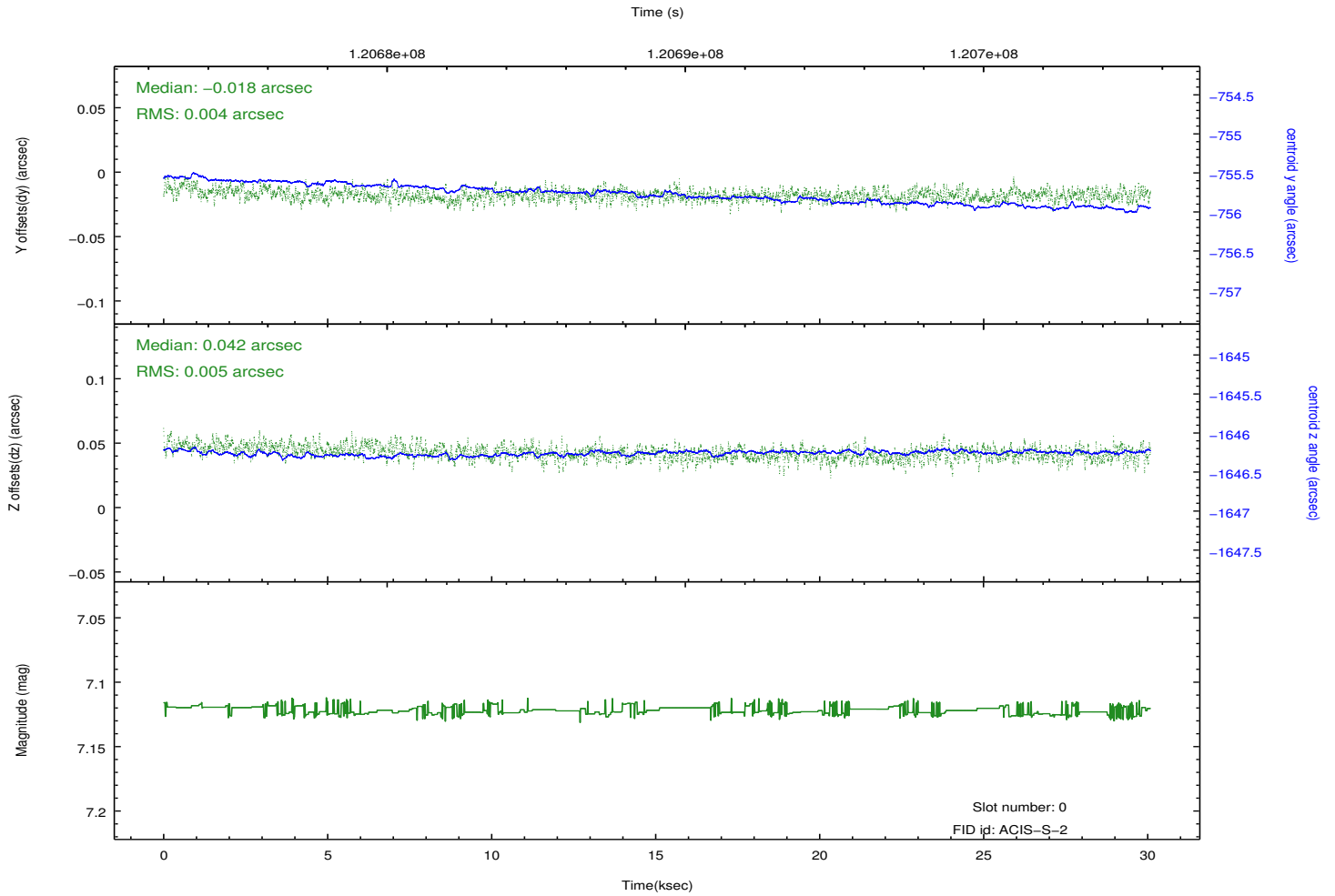
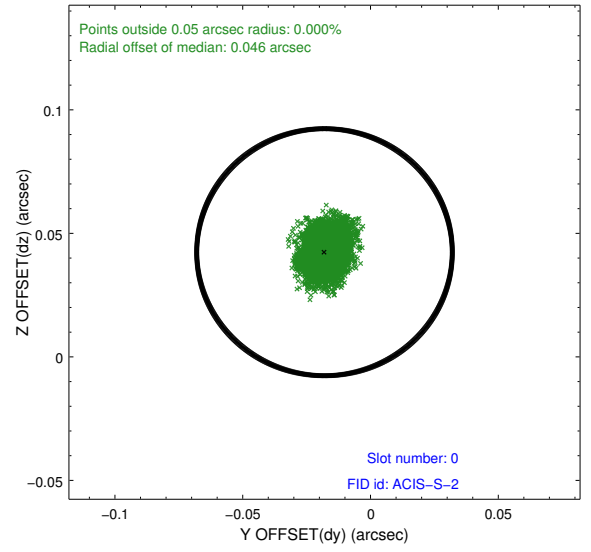
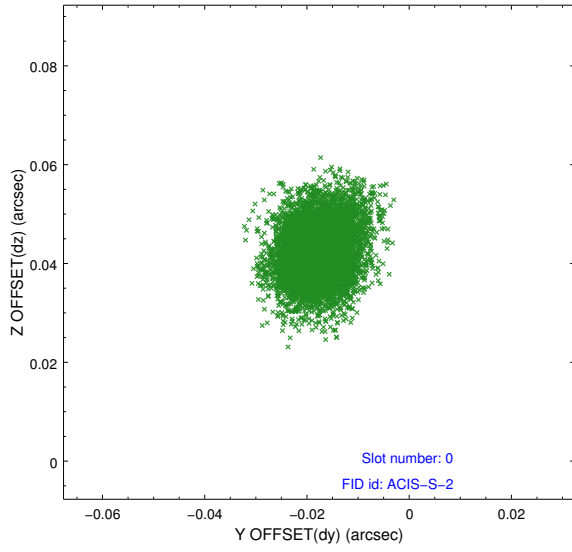


2.4.5 Slot 7

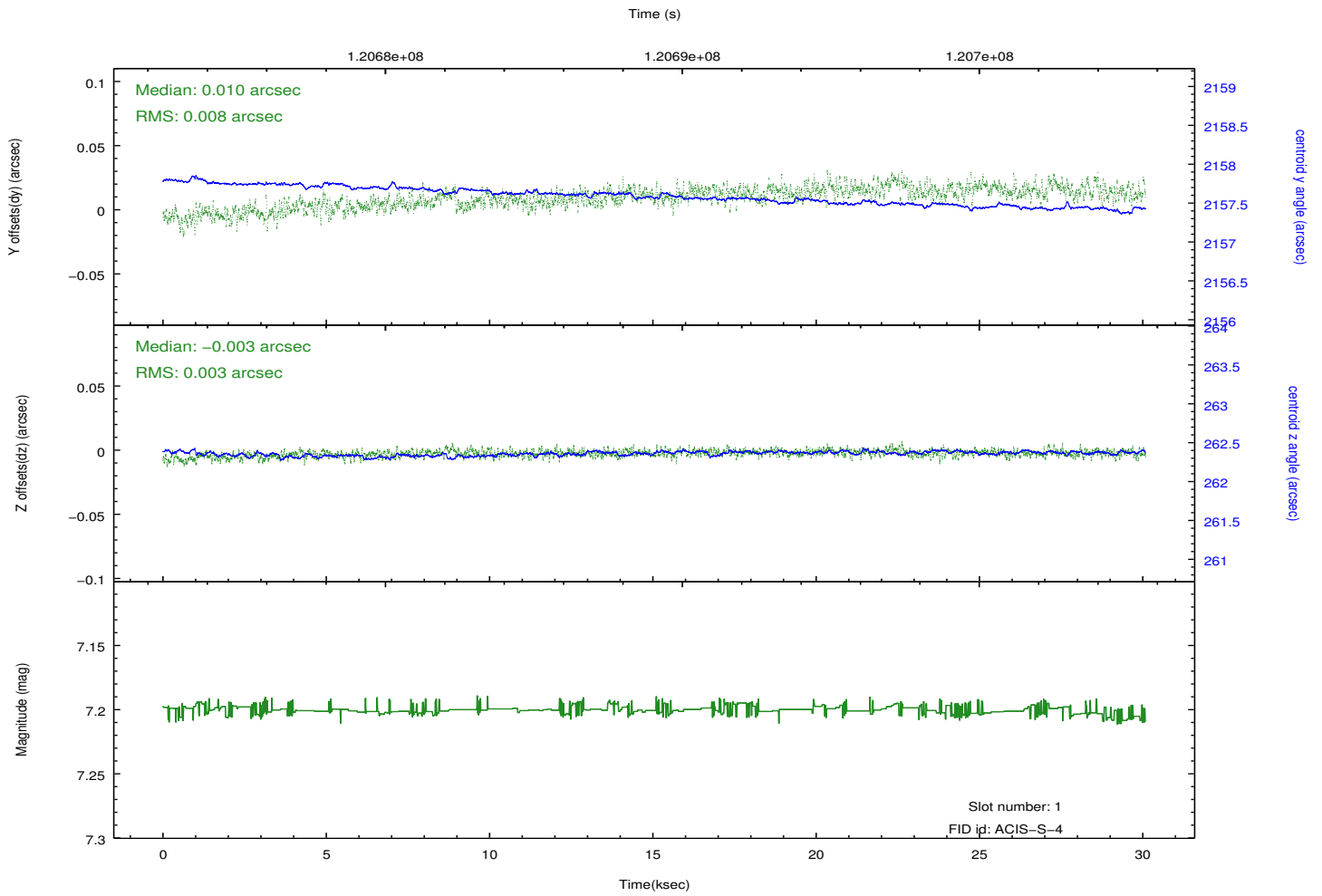
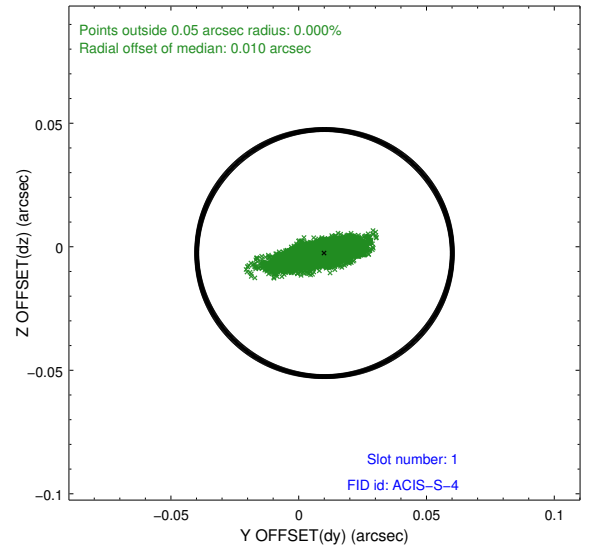
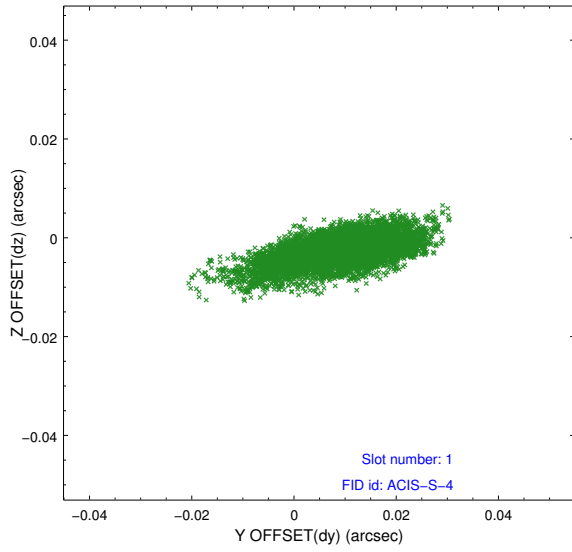


2.5 FID Slots

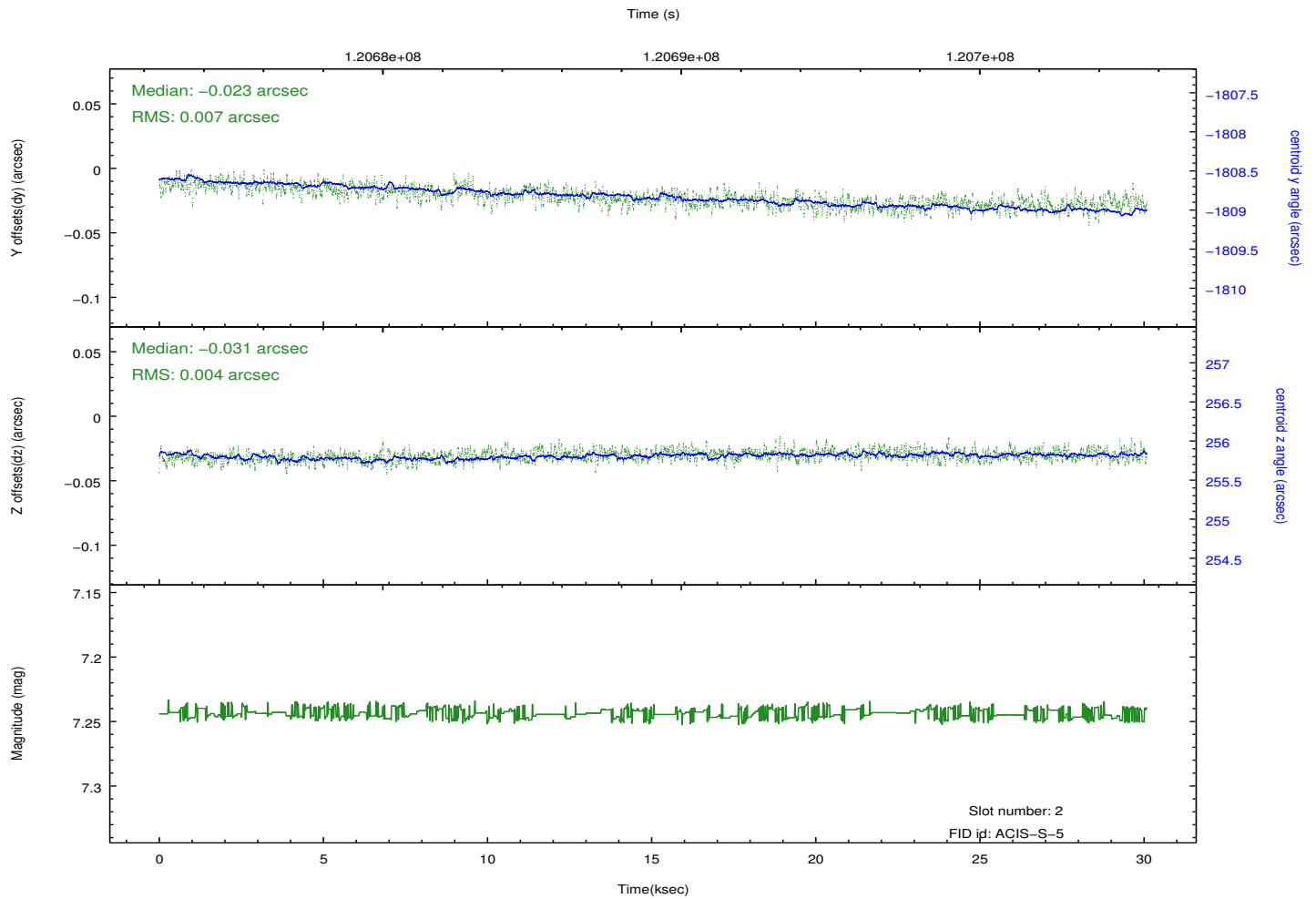
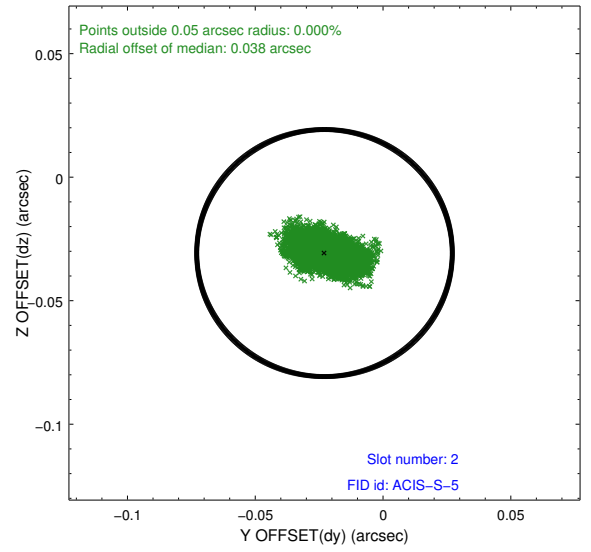
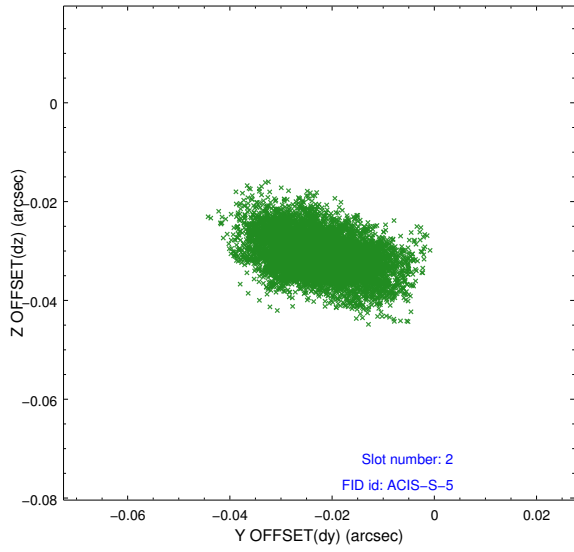
2.5.1 Slot 0



2.5.2 Slot 1

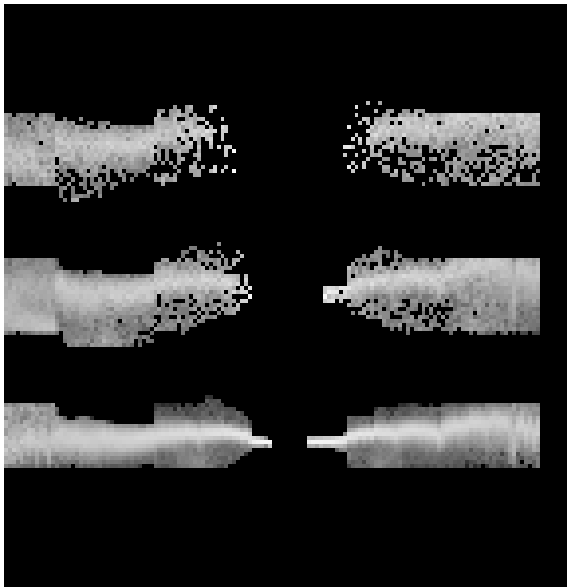


2.5.3 Slot 2

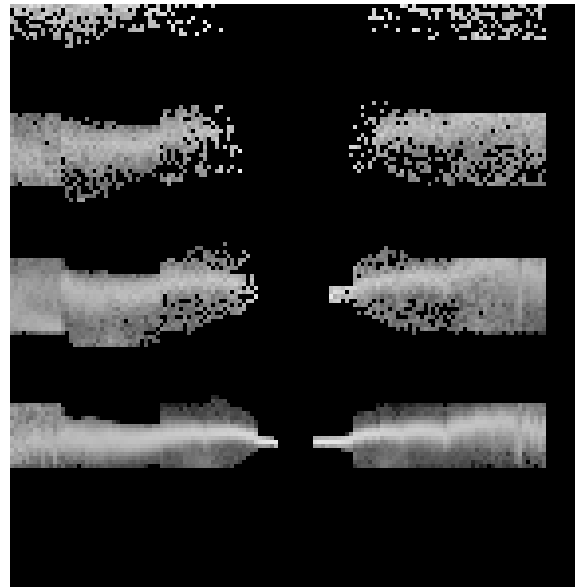


3 Gratings

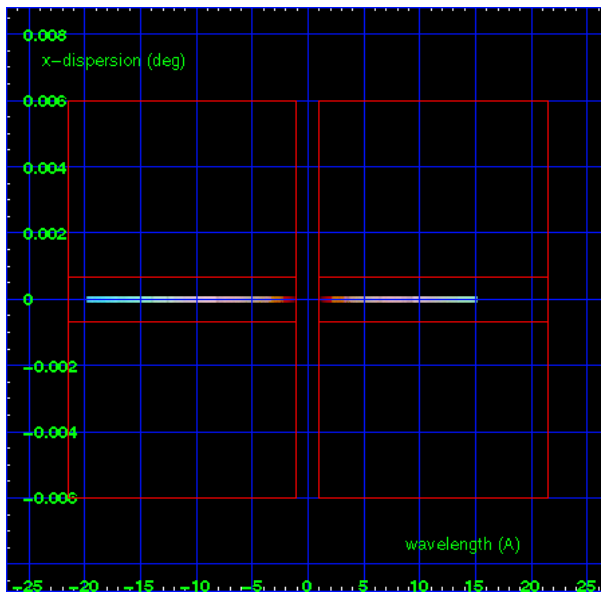
3.1 HEG Arm



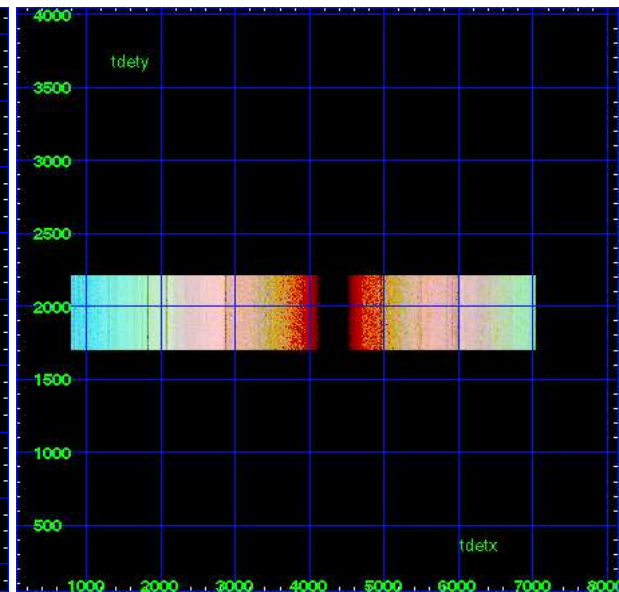
HEG Order Sort 123



HEG Order Sort ALL

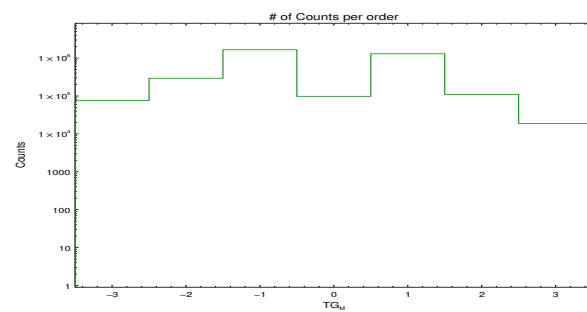


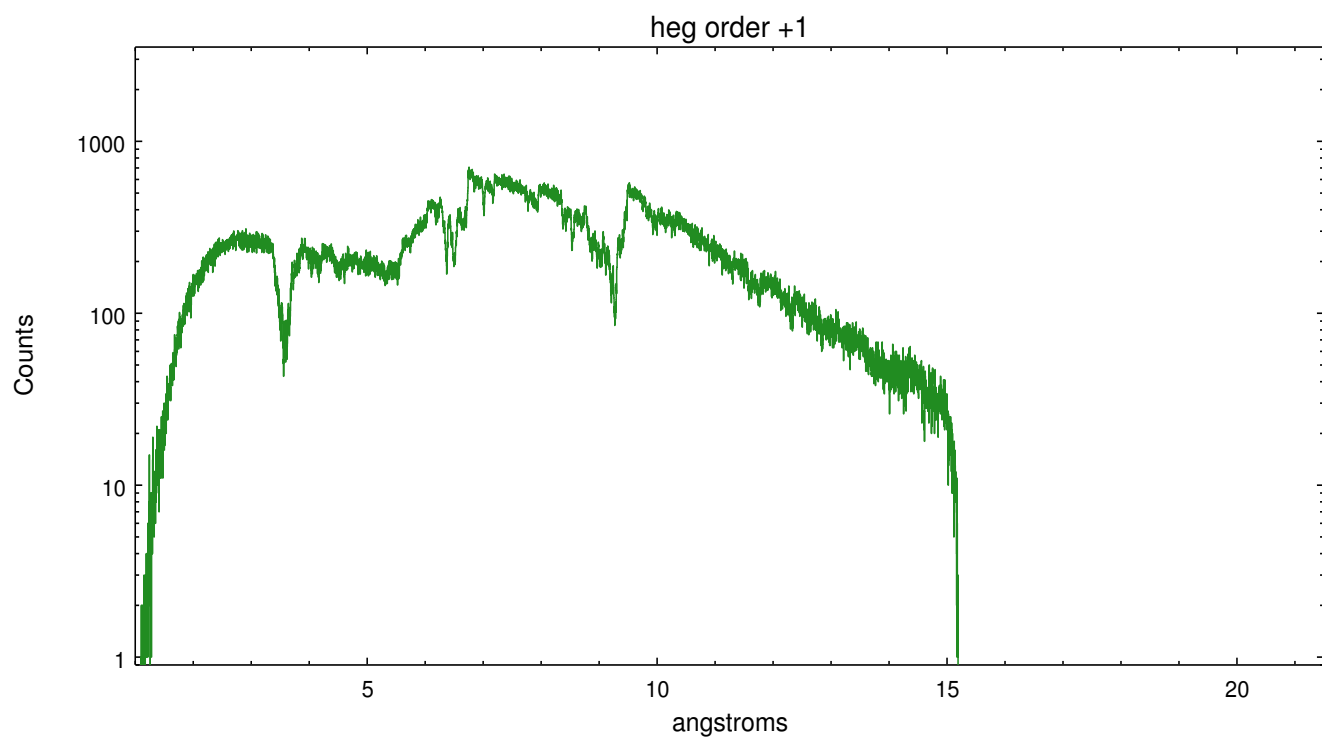
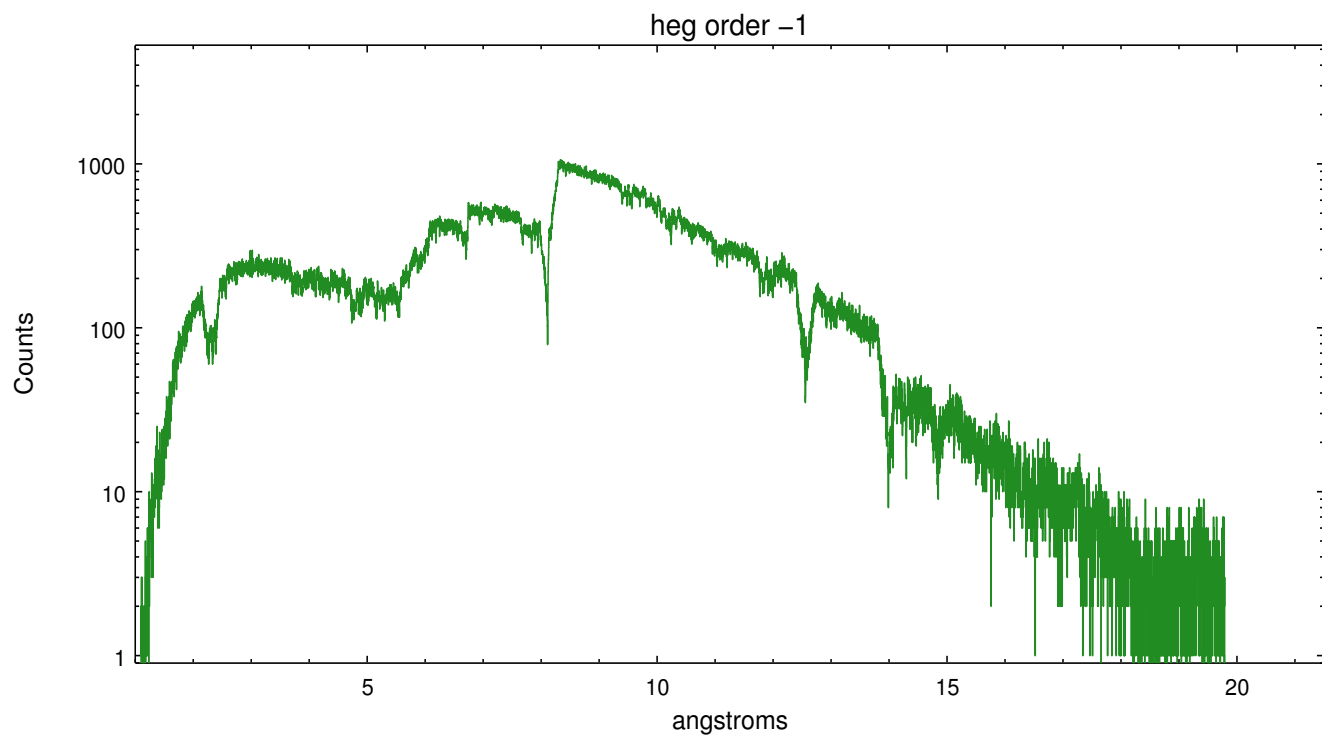
Spot Image HEG



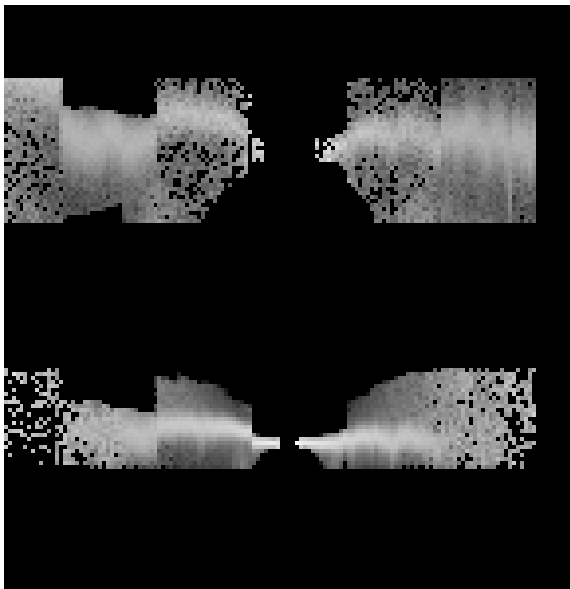
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	75486	293488	1660414	97990	1300016	110238	18839





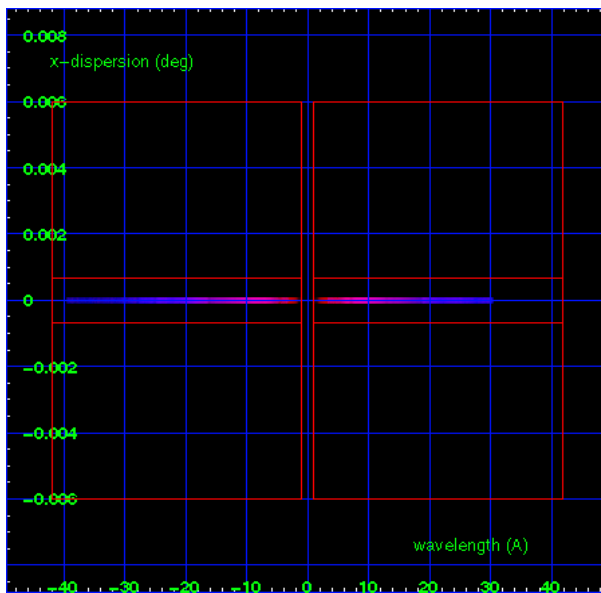
3.2 MEG Arm



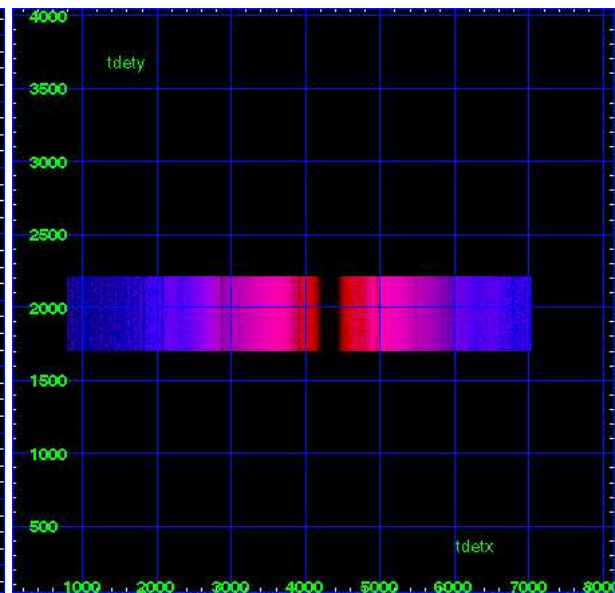
MEG Order Sort 123



MEG Order Sort ALL

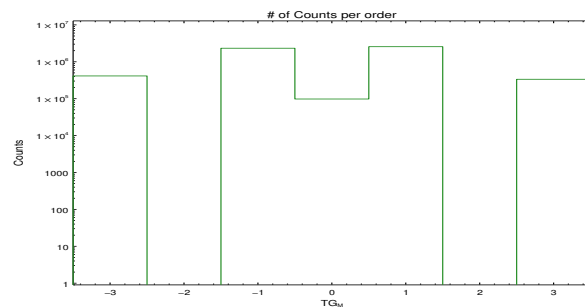


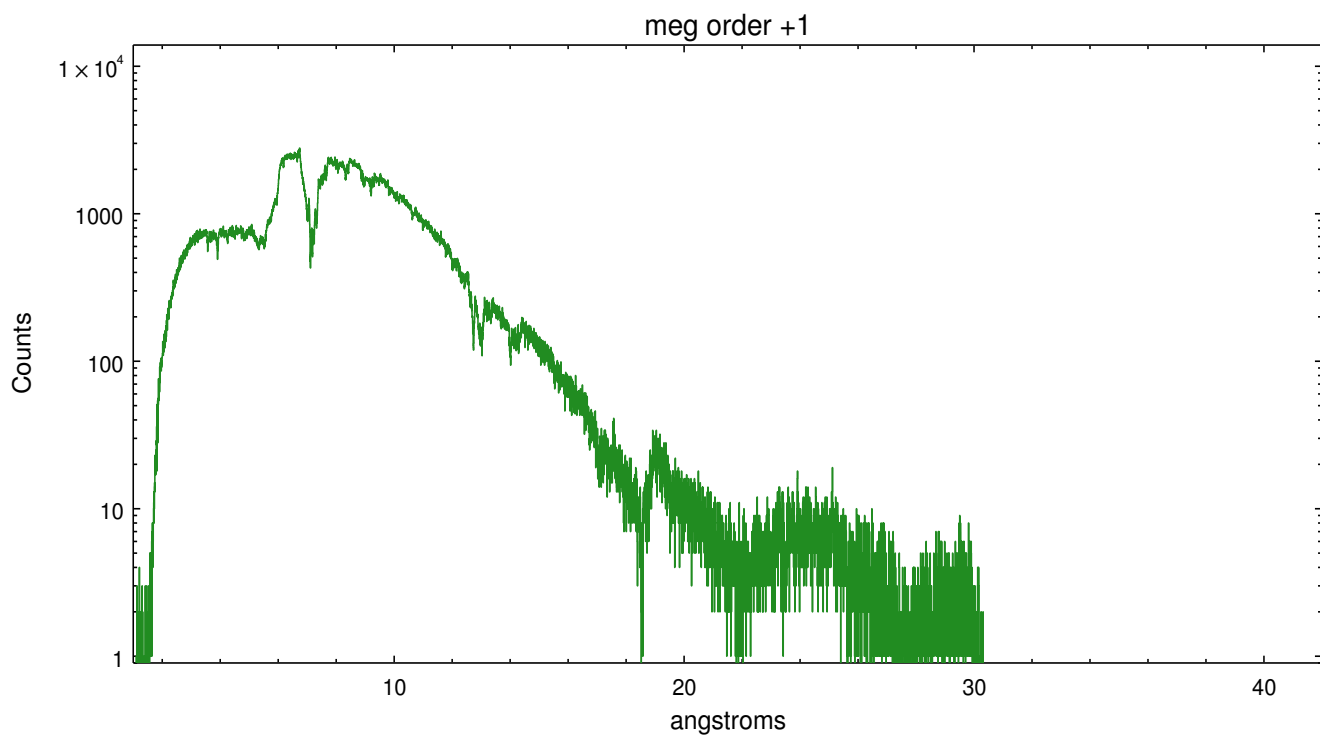
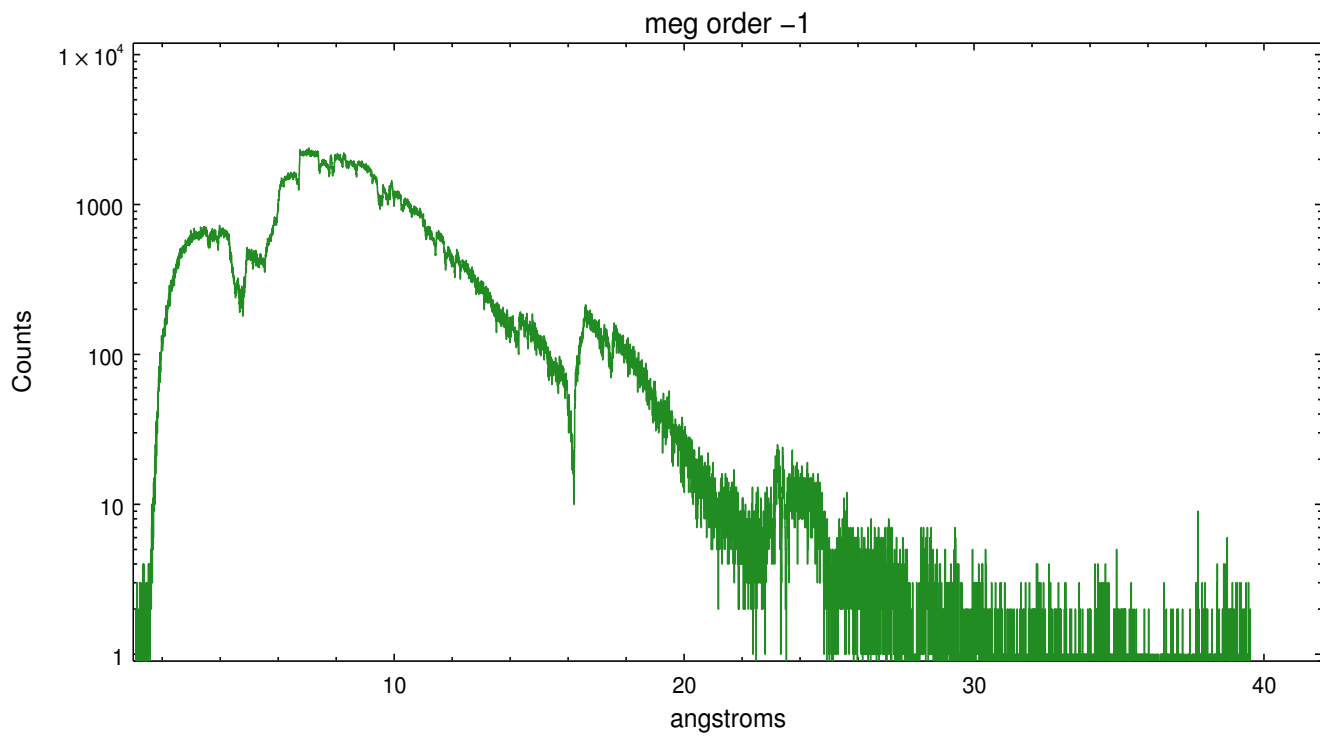
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	413428	0	2327375	97990	2565012	0	335344





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2012.10.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.07

A.2 Comments

Charge time:

Using time from longest-exposed chip; telemetry saturation reduces effective exposure on other chips; observation was done for planned duration.

New charge time is less than existing charge time used in previously distributed version

NEW CHARGE TIME = 16.130711 ks, 1 Obis

EXISTING CHARGE TIME = 30.000000 ks, 1 Obis.

Variation in Chips > 15% threshold.

Low Chip 6, ONTIME=12822.721582 seconds

High Chip 5, ONTIME=30076.000000 seconds

Chip 8, ONTIME=14636.494213 seconds is less than 80% of scheduled time=30000.000000 seconds

Chip 7, ONTIME=16130.711362 seconds is less than 80% of scheduled time=30000.000000 seconds

Chip 6, ONTIME=12822.721582 seconds is less than 80% of scheduled time=30000.000000 seconds

ONTIME of 16130.711361632 seconds is less than 85% of expected scheduled time of 30000 seconds