

V&V Reference Report

L2 ASCDS Version : 8.1.2

Observation 170 - L2 Version 4
Chandra X-Ray Center

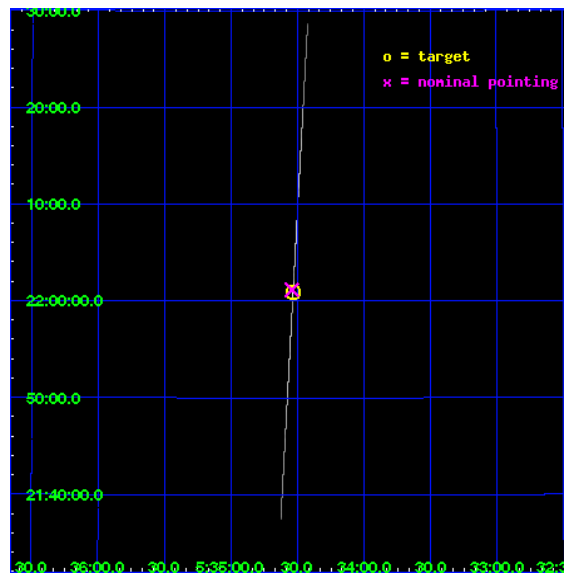
L2 Processing Date : Dec 17 2009

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1 Front

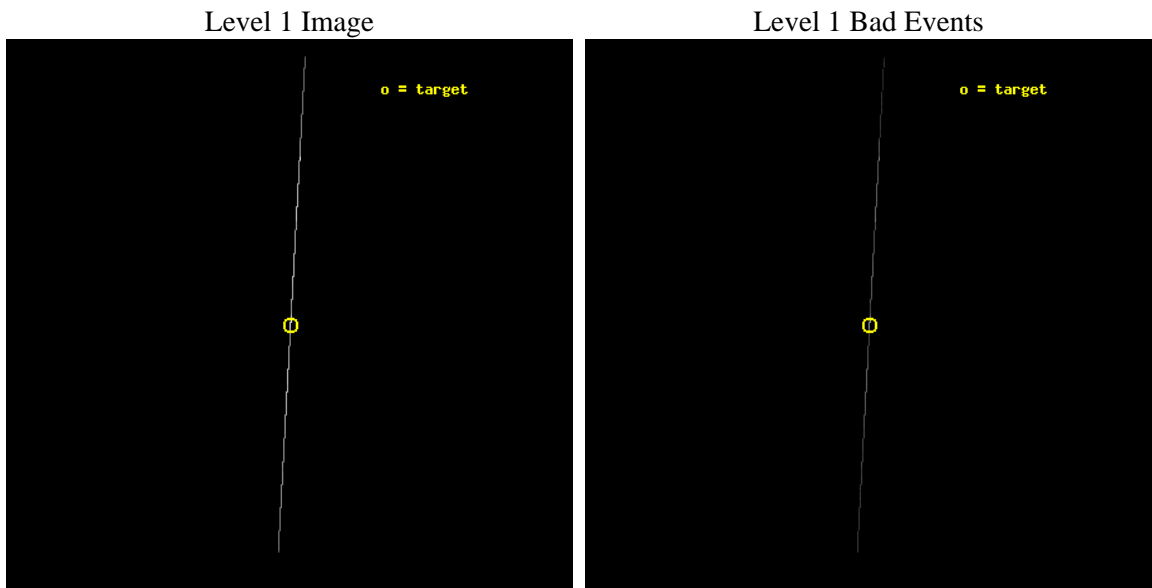
seq_num	590038	Sequence number
obs_id	170	Observation id
title	CALIBRATION OF HETGS USING THE CRAB PULSAR AND NEBULA	Proposal tit
observer	Dr. CXC Calibration	Principal investigator
object	CRAB PULSAR-CC	Source name
ra_targ	83.633333	Observer's specified target RA
dec_targ	22.014472	Observer's specified target Dec
ra_nom	83.635445182528	Nominal RA
dec_nom	22.019275733589	Nominal Dec
roll_nom	93.107135966156	Nominal Roll
revision	4	Processing version of data
ontime	825.45623096079	Sum of GTIs [s]
livetime	822.2317925586	Livetime [s]
ontime4	1702.3103613555	Sum of GTIs [s]
ontime5	3215.605533272	Sum of GTIs [s]
ontime6	1124.5906496719	Sum of GTIs [s]
ontime7	825.45623096079	Sum of GTIs [s]
ontime8	1482.0897446498	Sum of GTIs [s]
ontime9	1995.7154964283	Sum of GTIs [s]
l2events	1568684	Number of level 2 events



2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Parameters

obi_num	1	Obi number	sched_exp_time	1000.000000	Scheduled observation exposure time
ascdsver	8.1.2	ASCDS version number	ontime	825.45623096079	Sum of GTIs [s]
caldbver	4.1.4	 	ontime4	1702.3103613555	Sum of GTIs [s]
date	2009-12-17T13:38:18	Date and time of file creation	ontime5	3215.605533272	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	1124.5906496719	Sum of GTIs [s]
			ontime7	825.45623096079	Sum of GTIs [s]
			ontime8	1482.0897446498	Sum of GTIs [s]
			ontime9	1995.7154964283	Sum of GTIs [s]
			l1events	1827297	Number of level 1 events

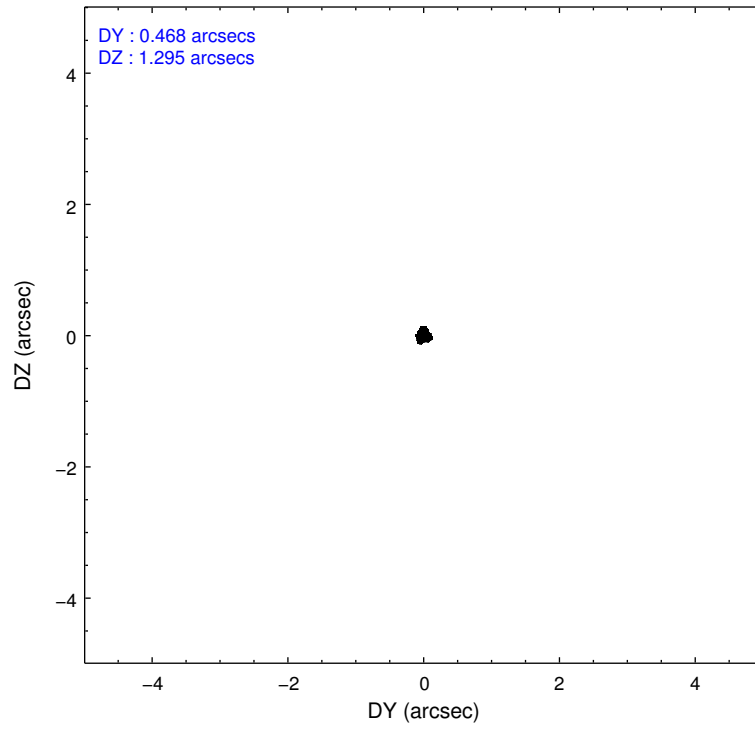
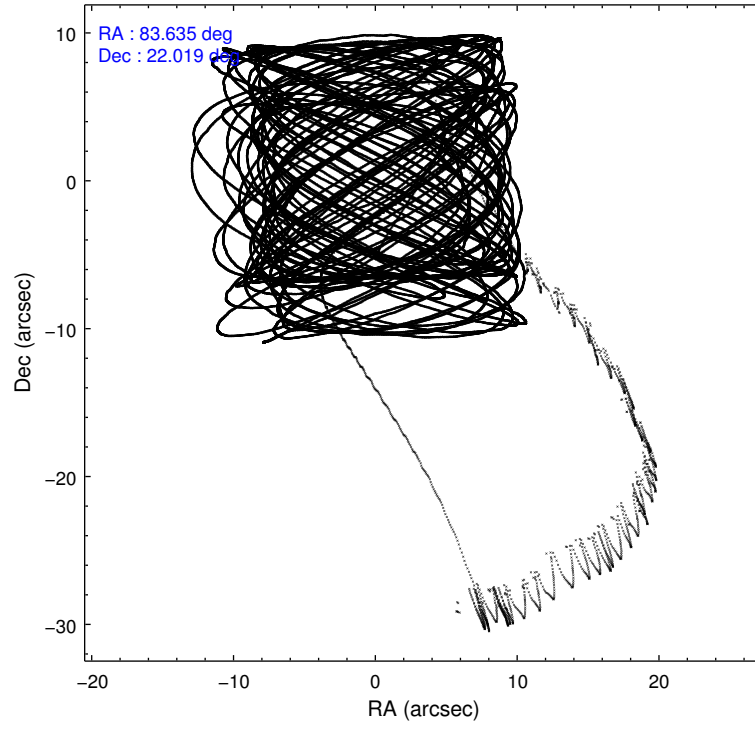
2.1.3 Events

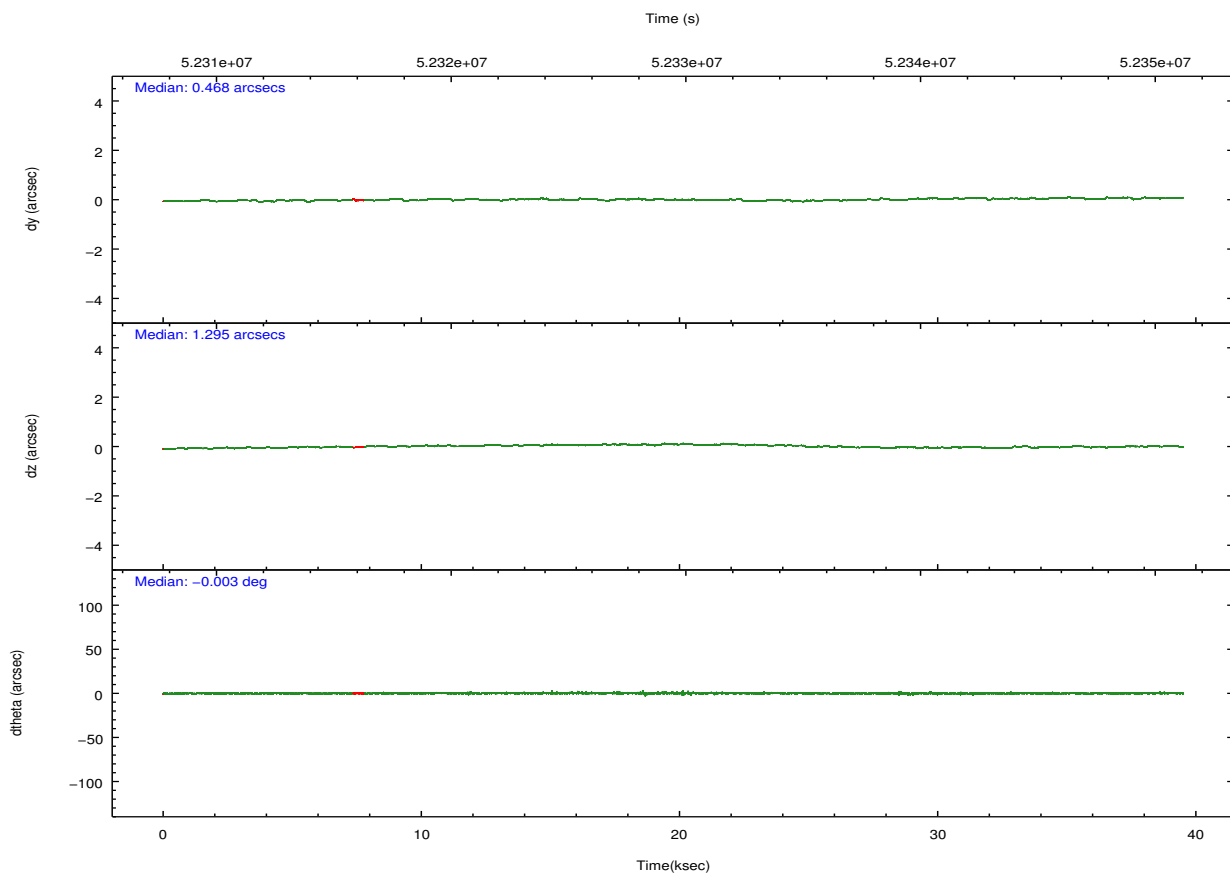
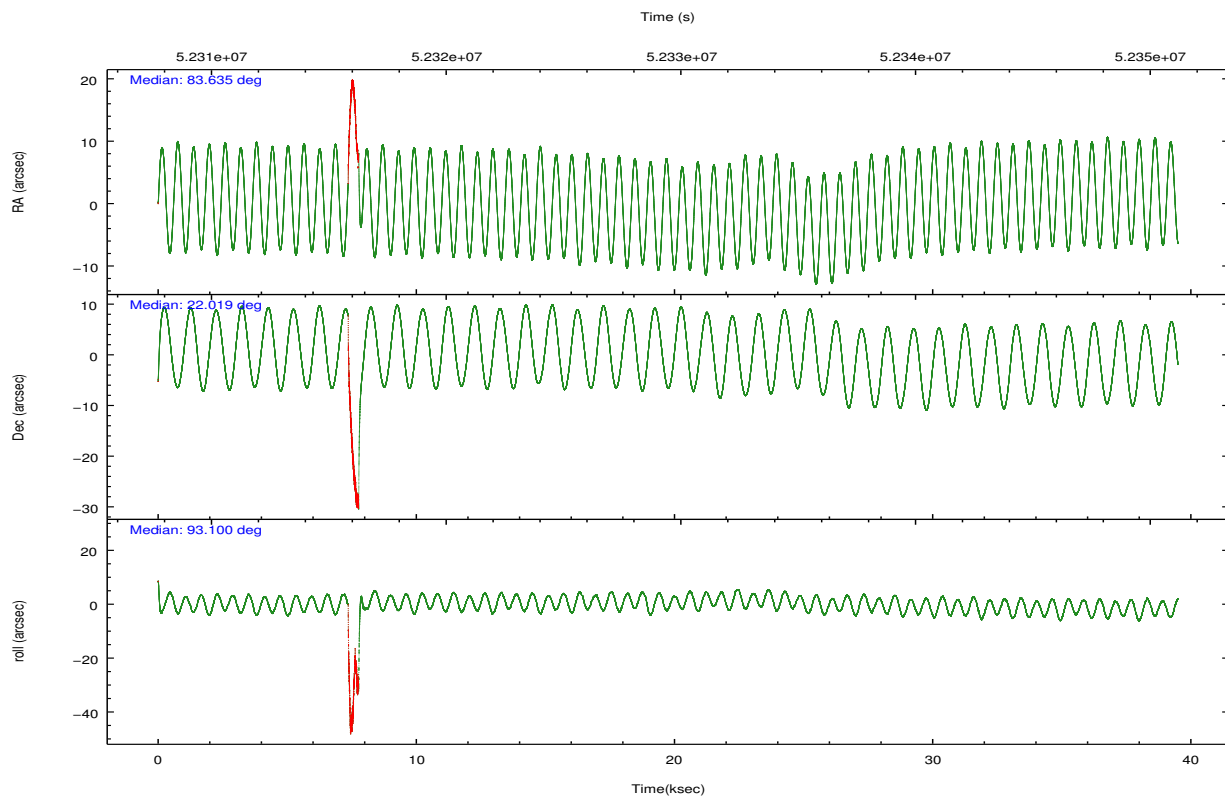
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	39027	515263	327652	642308	234610	68437	grade 0 events	26315	223432	197625	141266	180850	47190
rejected events	611	5809	3684	14716	2713	921		67%	43%	60%	21%	77%	68%
rejected %	1%	1%	1%	2%	1%	1%	grade 1 events	95	714	948	2877	678	116
								0%	0%	0%	0%	0%	0%
							grade 2 events	8188	146668	94856	147872	34293	14243
								20%	28%	28%	23%	14%	20%
							grade 3 events	1350	44170	8555	84373	6225	2075
								3%	8%	2%	13%	2%	3%
							grade 4 events	1369	40024	8624	76127	6120	2139
								3%	7%	2%	11%	2%	3%
							grade 5 events	442	3831	2178	10441	1345	670
								1%	0%	0%	1%	0%	0%
							grade 6 events	1268	56424	14866	179352	5099	2004
								3%	10%	4%	27%	2%	2%
							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	6	6
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
Pointing RA	83.651279	83.63544518252758	Subarray requested	NONE	NONE
Pointing Dec	21.995970	22.01927573358852	Alternating exposures requested	N	N
Pointing Roll	92.944668	93.10713596615636	Primary exposure time	0.000000	0
SIM focus pos (mm)	-0.684267	-0.7362356599963374			
SIM defocus (mm)	0	-0.0519681986964412			
SIM translation stage pos (mm)	-190.132523	-190.1425803651734			
SIM translation stage offset (mm)	0	0.01005778216563158			
Observation start time	52310186.184000	52309158.24185			
Observation start date	1999-08-29T10:35:22	1999-08-29T10:19:18			
Observation end time	52314544.184000	52349337.730793			
Observation end date	1999-08-29T11:48:00	1999-08-29T21:28:57			
Read mode	CONTINUOUS	CONTINUOUS			

2.3 Aspect



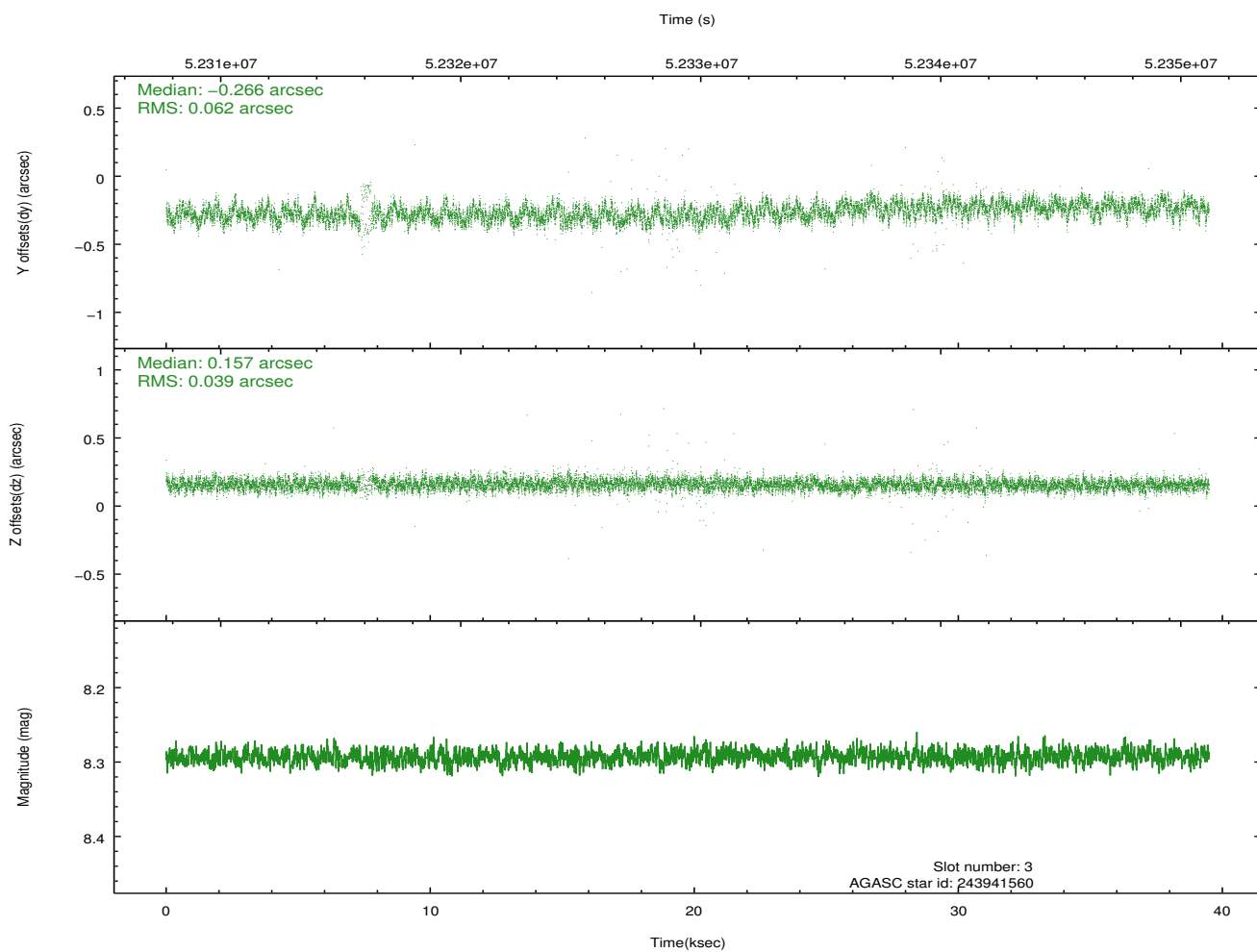
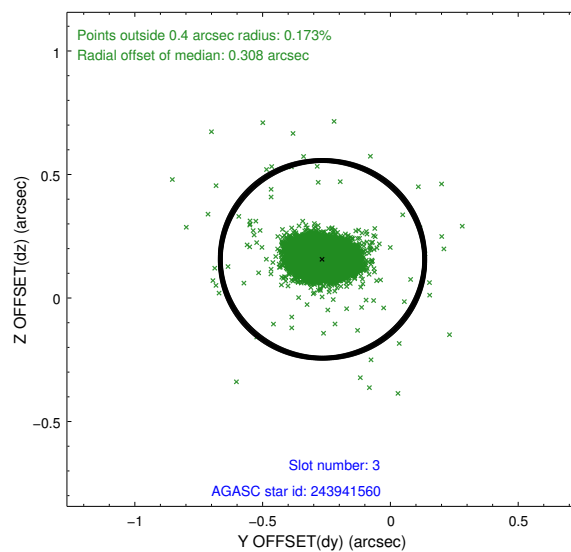
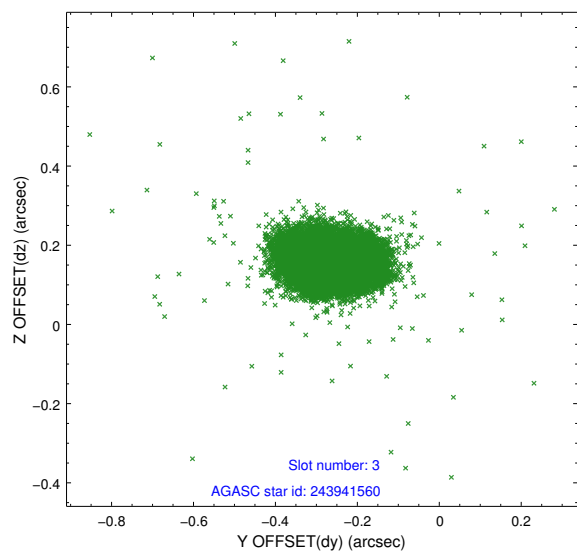


Slot Statistics

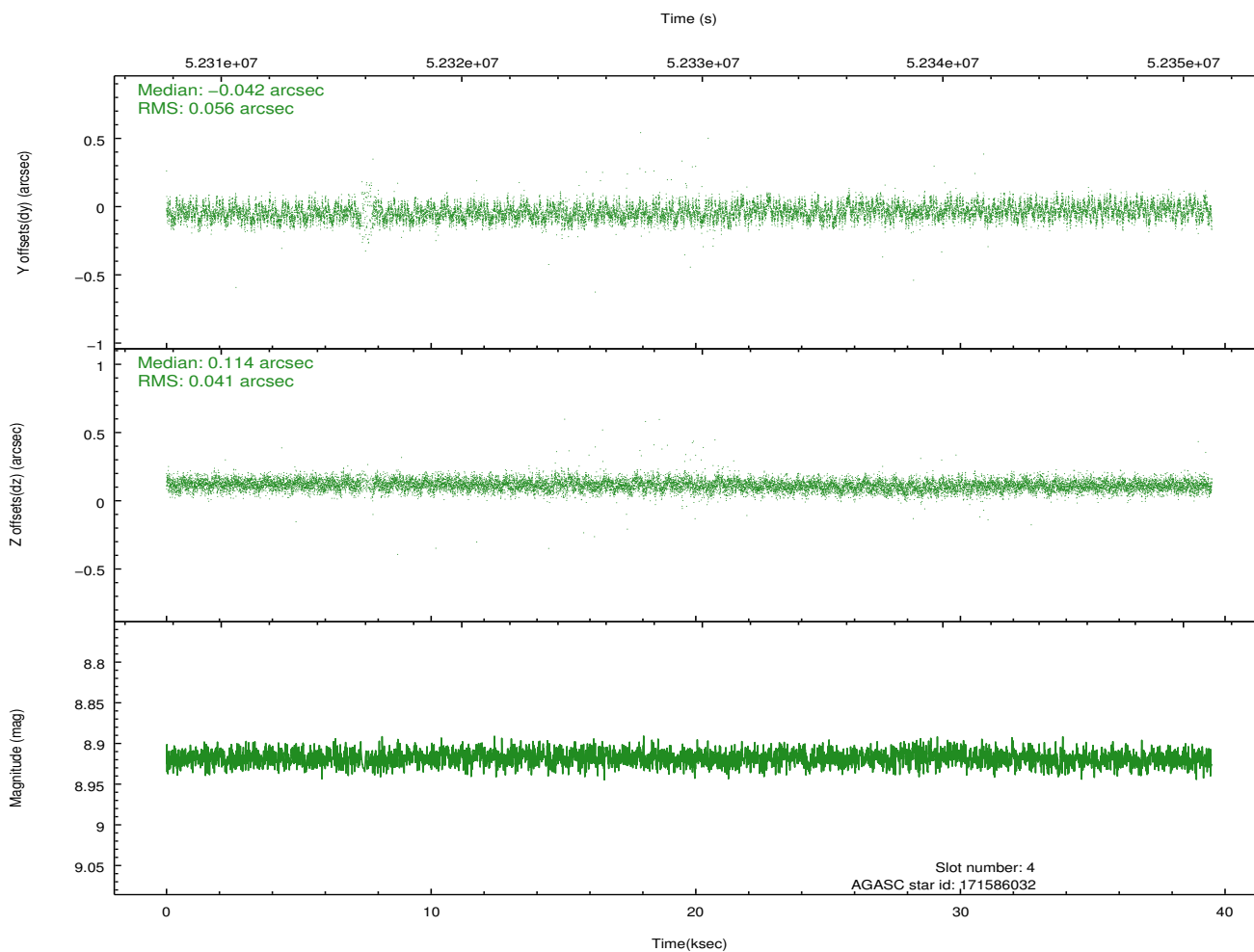
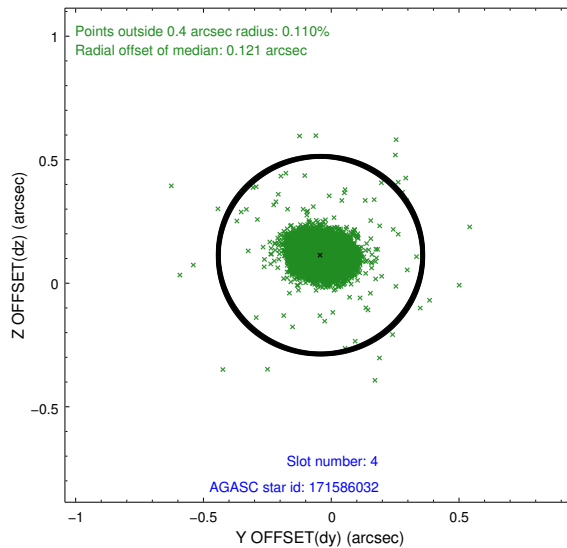
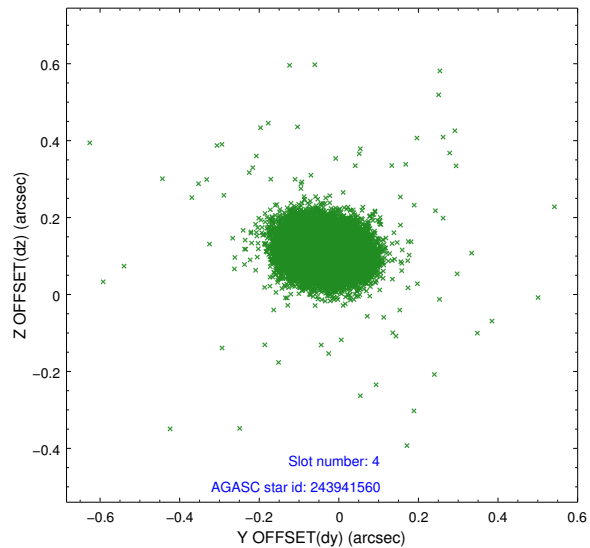
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.12	19267	-0.019	0.001	0.008	0.014	0.000000	0.000000	-753.09	-1722.23
1	FID	ACIS-S-4	7.22	19264	0.073	0.009	0.007	0.012	0.000000	0.000000	2160.33	186.26
2	FID	ACIS-S-5	7.25	19260	-0.086	-0.001	0.008	0.014	0.000000	0.000000	-1806.05	179.92
3	GUIDE	243941560	8.29	19084	-0.266	0.157	0.073	0.121	83.733264	22.568598	2044.68	-379.18
4	GUIDE	171586032	8.92	19045	-0.042	0.114	0.071	0.115	83.950197	22.083225	263.73	-1013.39
5	GUIDE	171597832	9.16	19034	0.282	-0.145	0.094	0.149	83.183230	21.366702	-2179.28	1681.46
6	GUIDE	171721904	9.19	19017	-0.074	0.151	0.088	0.143	84.272676	22.116922	332.78	-2093.47
7	GUIDE	171598712	9.42	19025	0.100	-0.276	0.104	0.161	82.978369	21.681417	-1010.47	2304.06

2.4 Star Slots

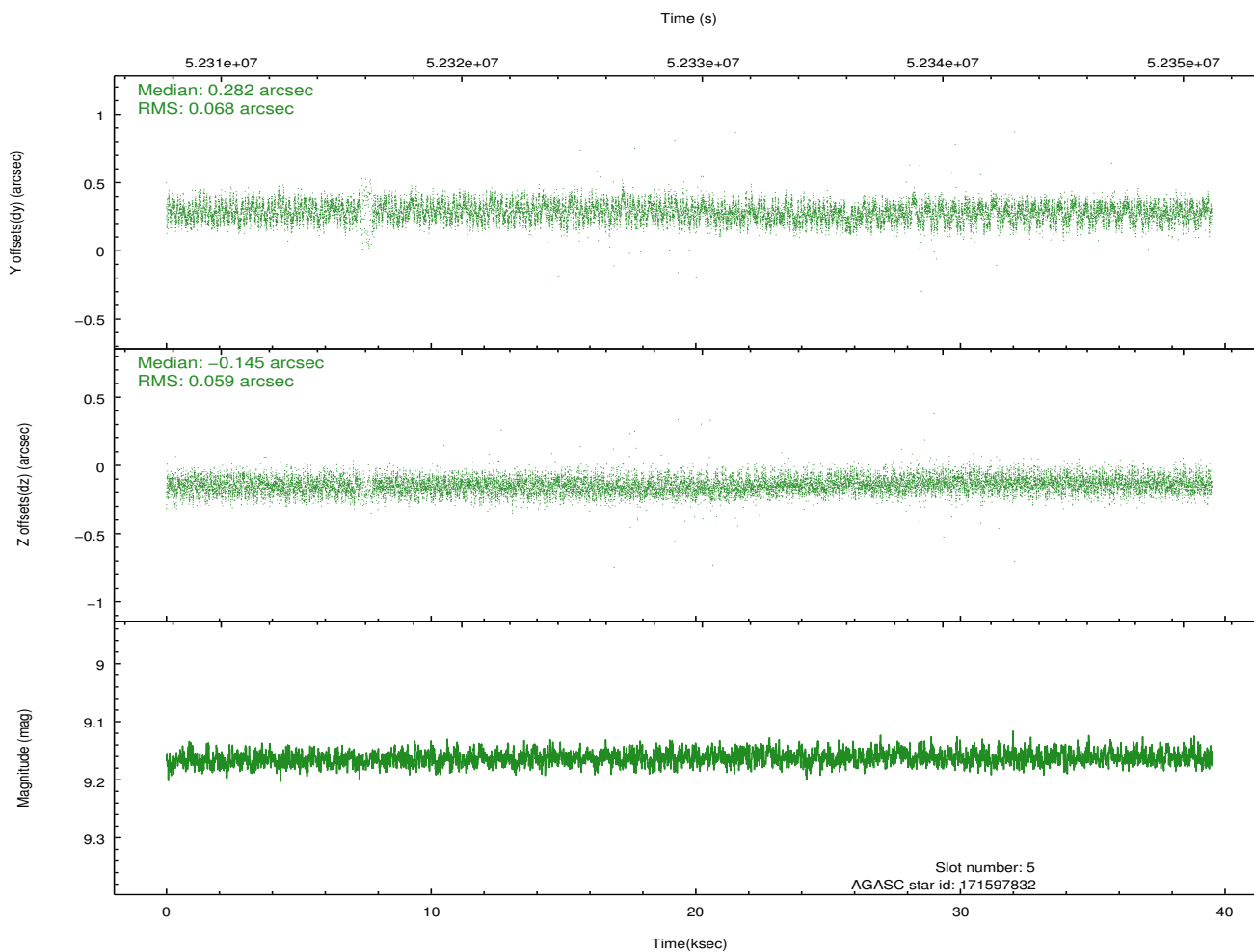
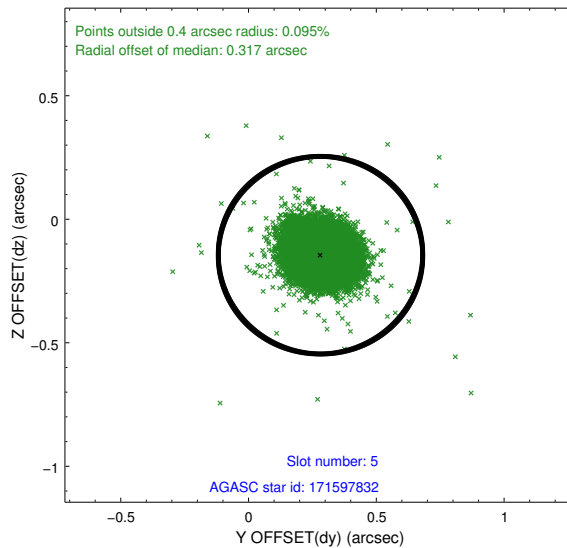
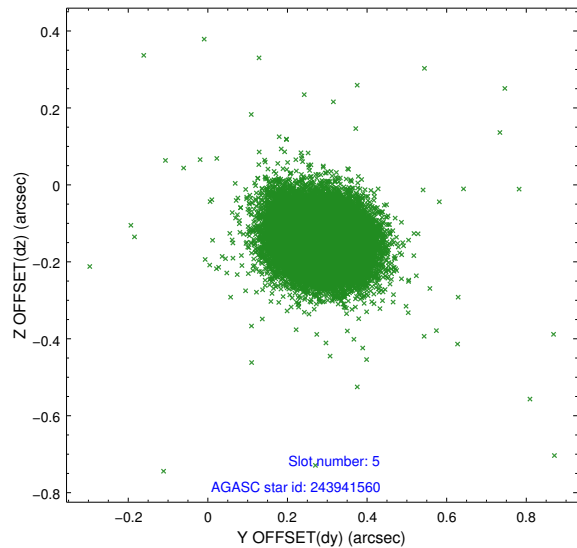
2.4.1 Slot 3



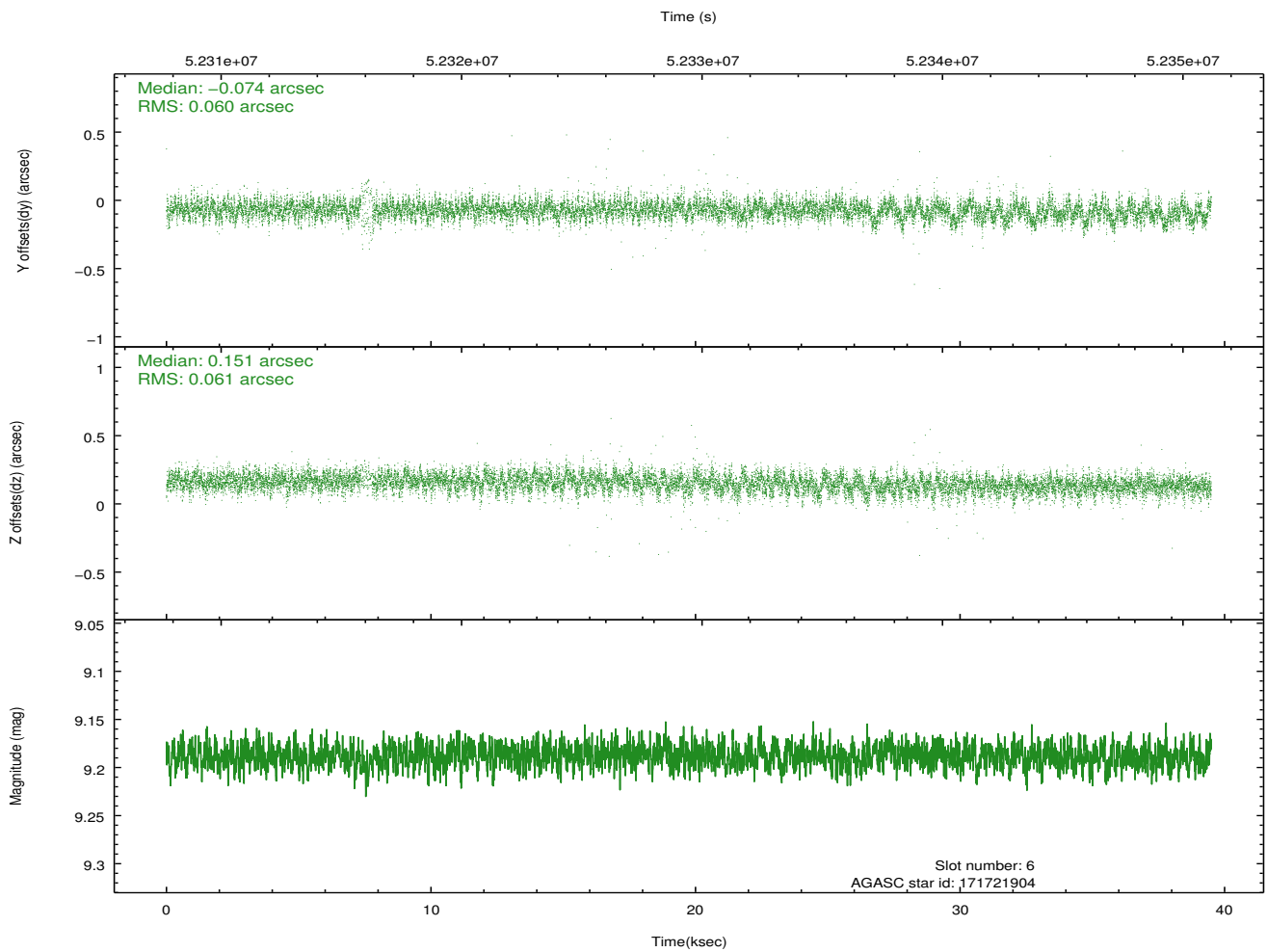
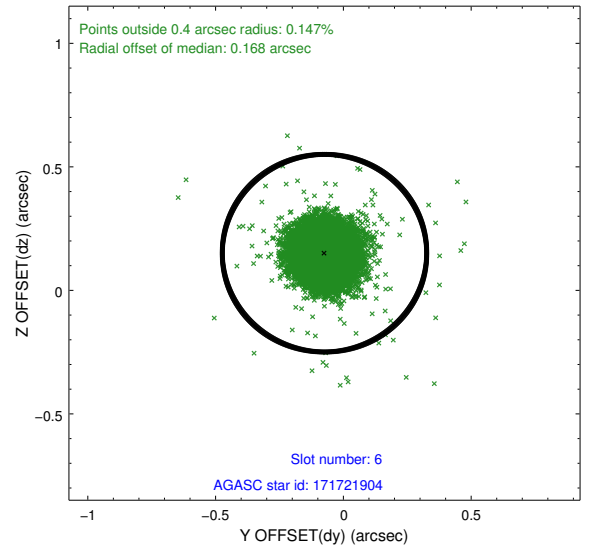
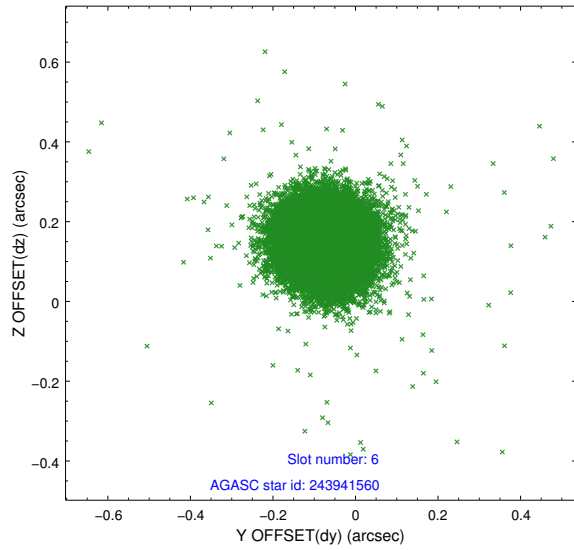
2.4.2 Slot 4



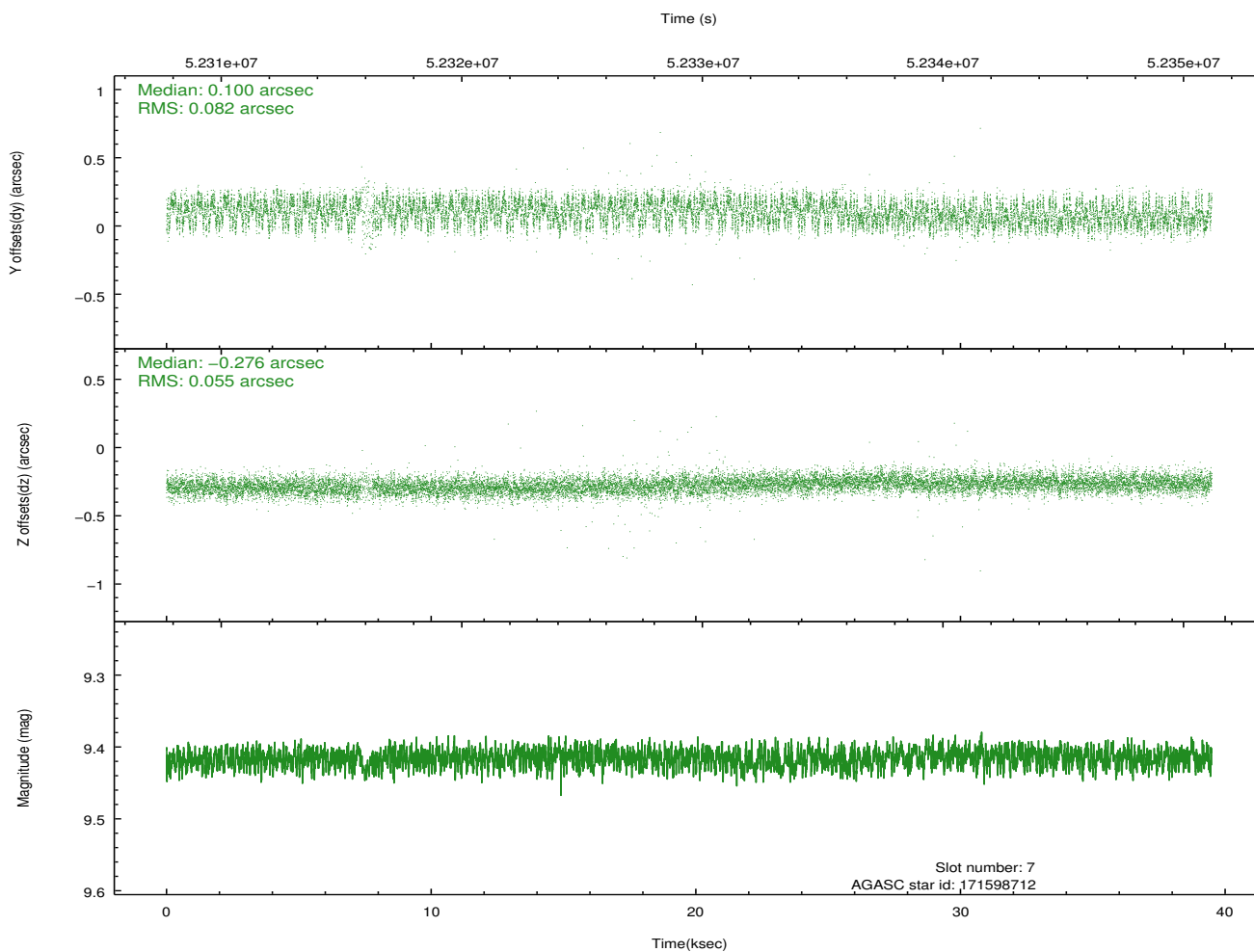
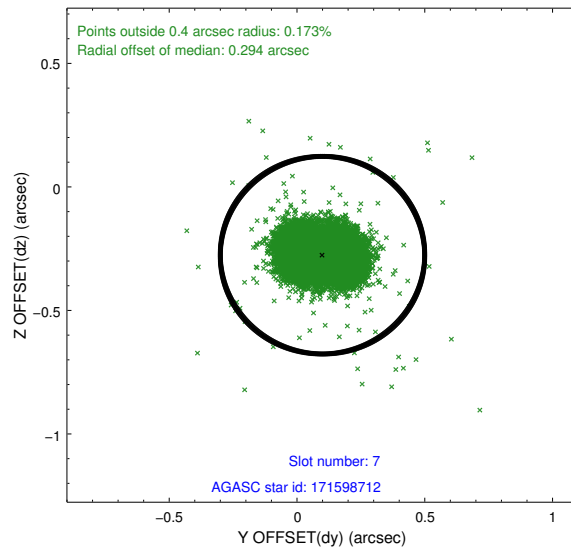
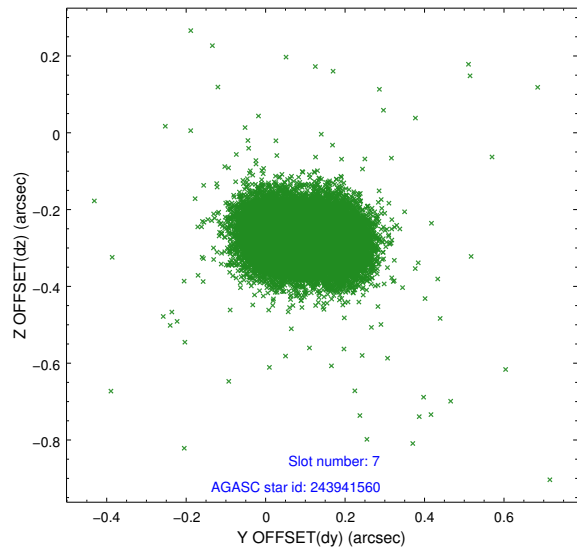
2.4.3 Slot 5



2.4.4 Slot 6

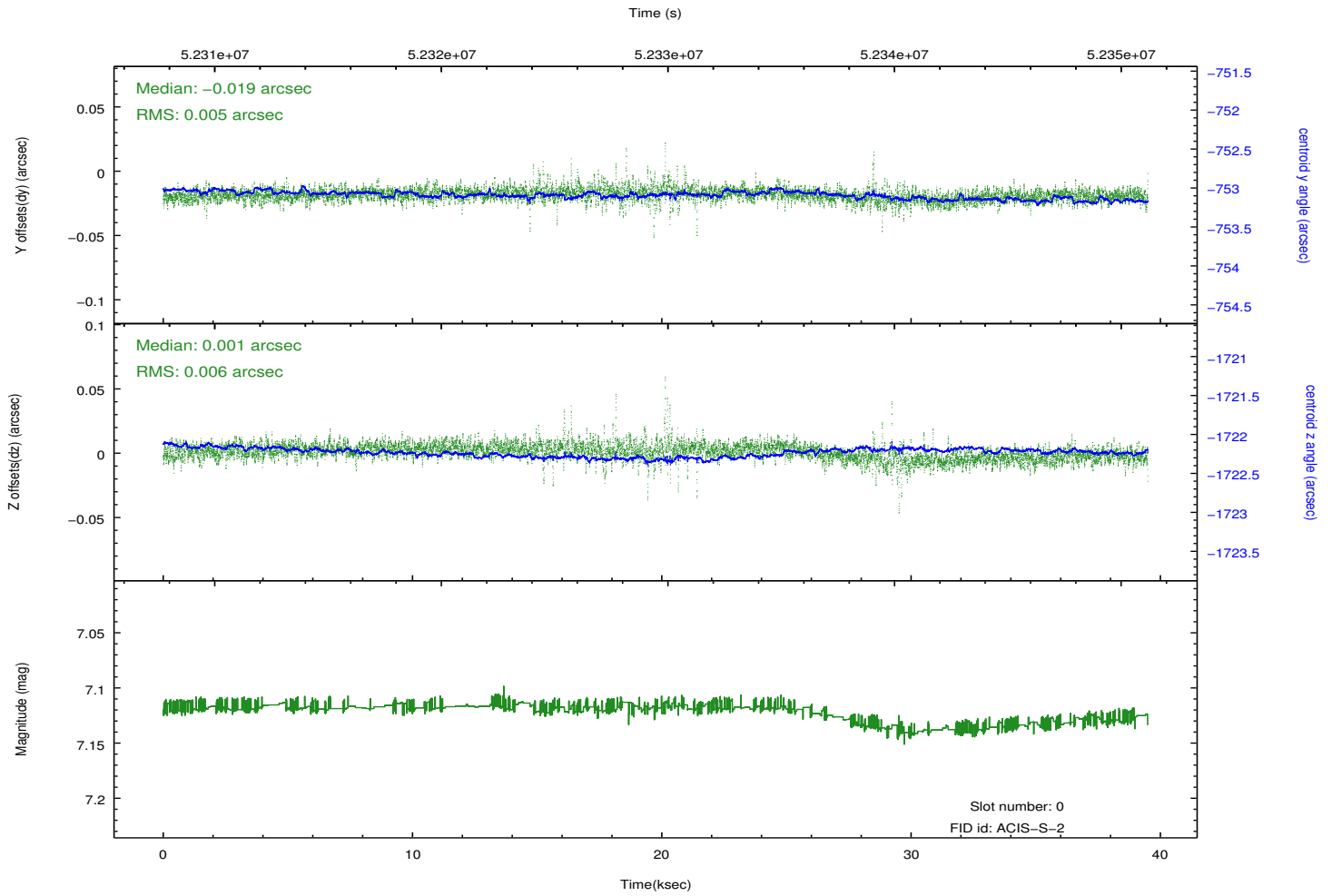
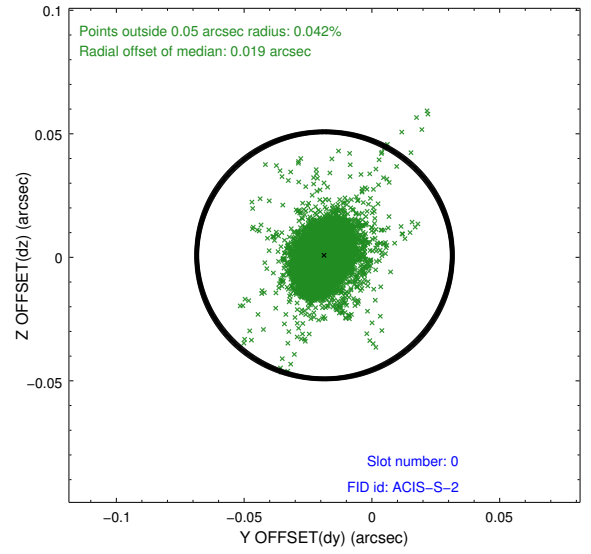
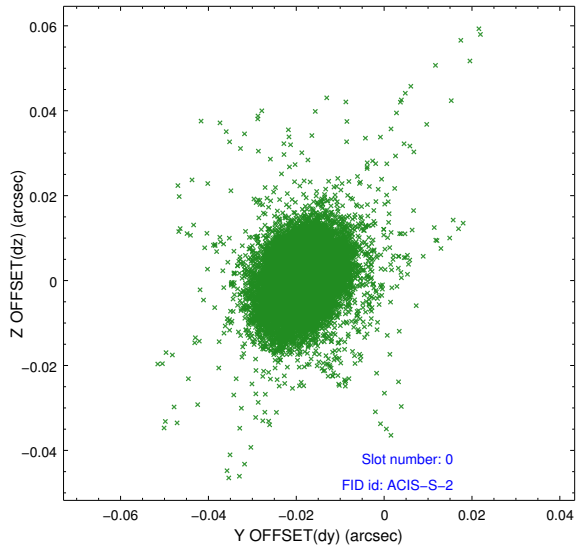


2.4.5 Slot 7

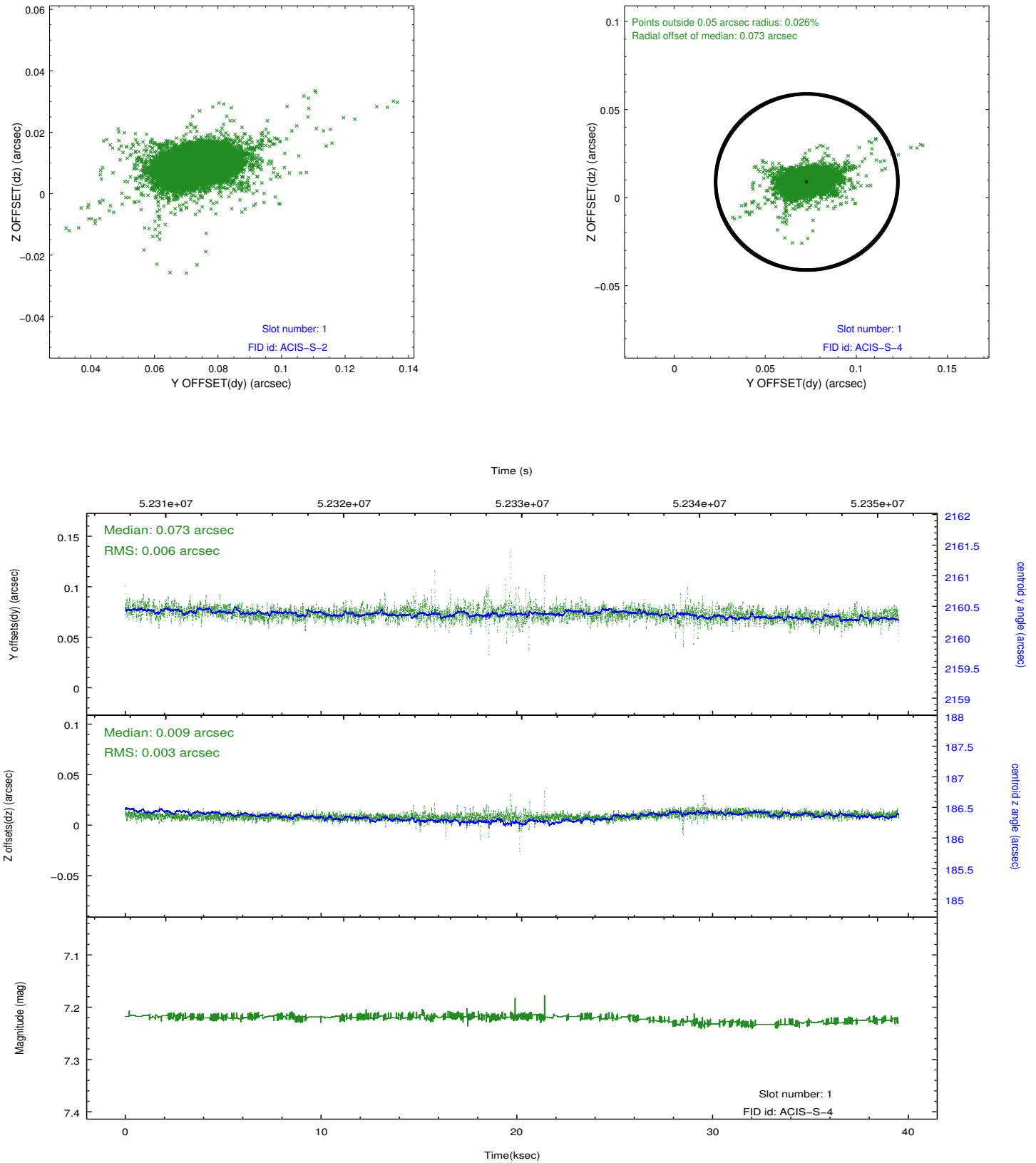


2.5 FID Slots

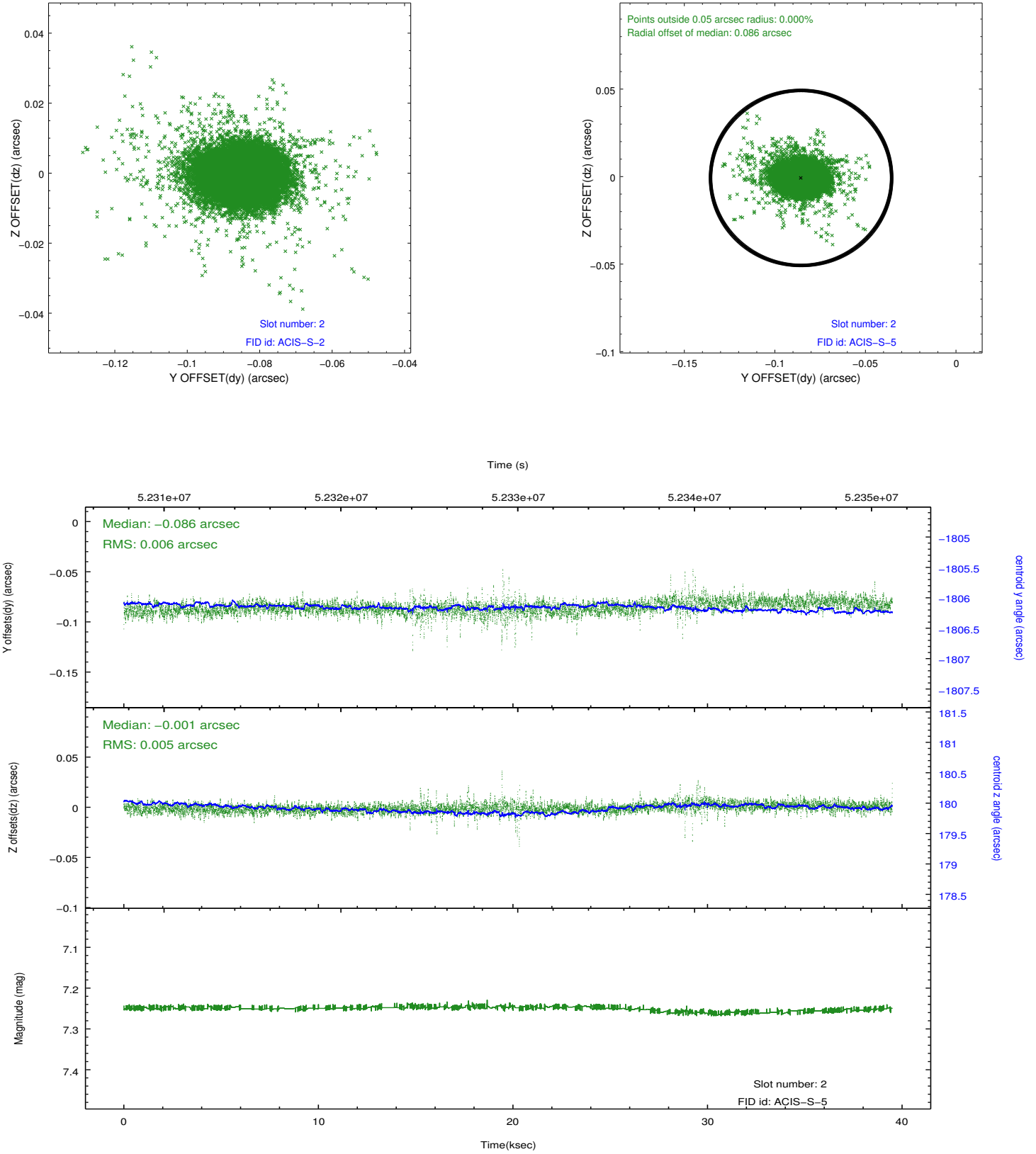
2.5.1 Slot 0



2.5.2 Slot 1

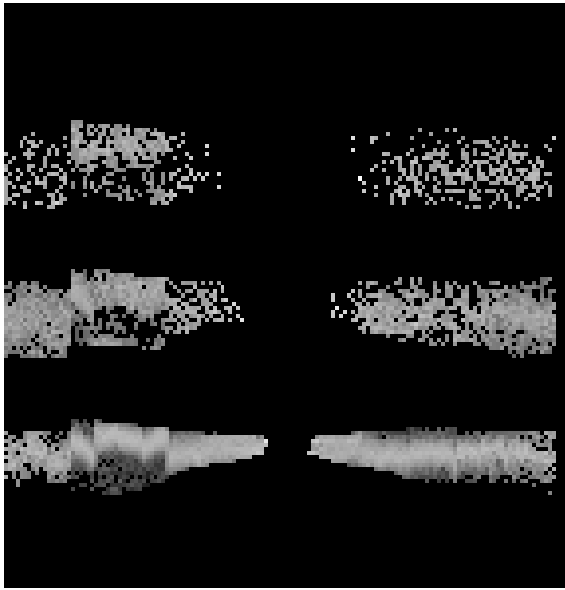


2.5.3 Slot 2

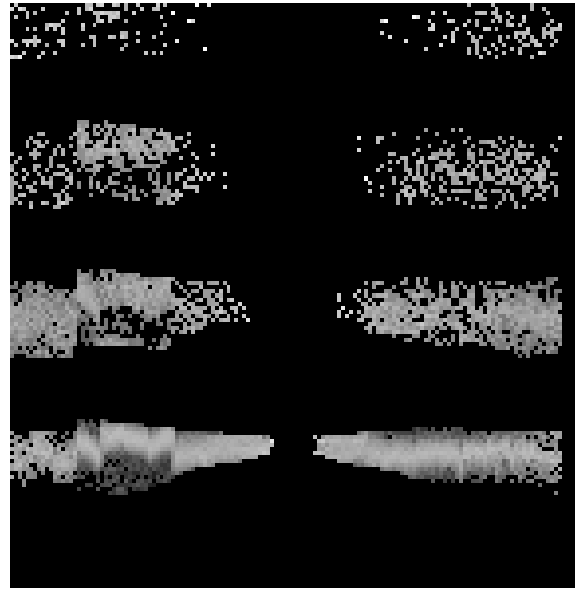


3 Gratings

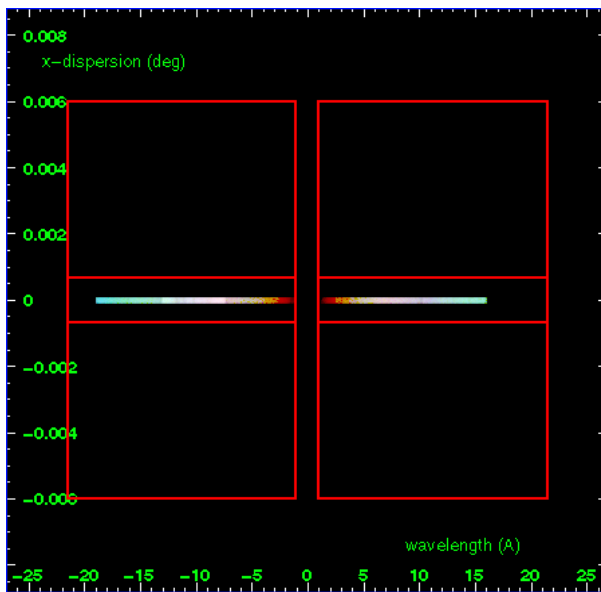
3.1 HEG Arm



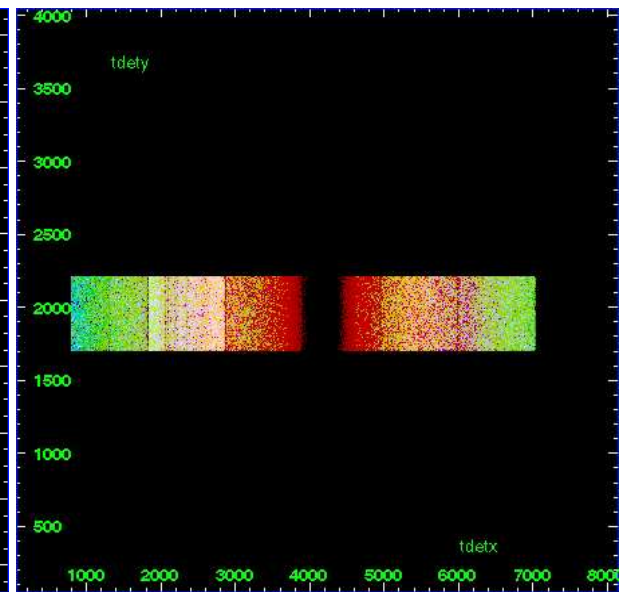
HEG Order Sort 123



HEG Order Sort ALL

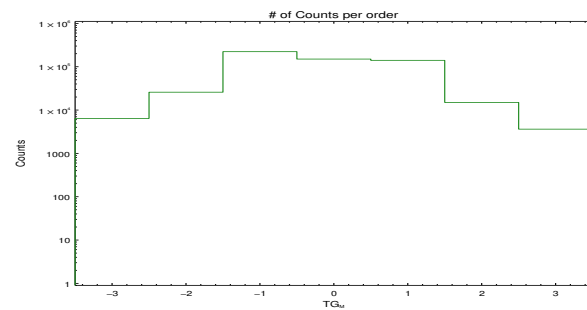


Spot Image HEG

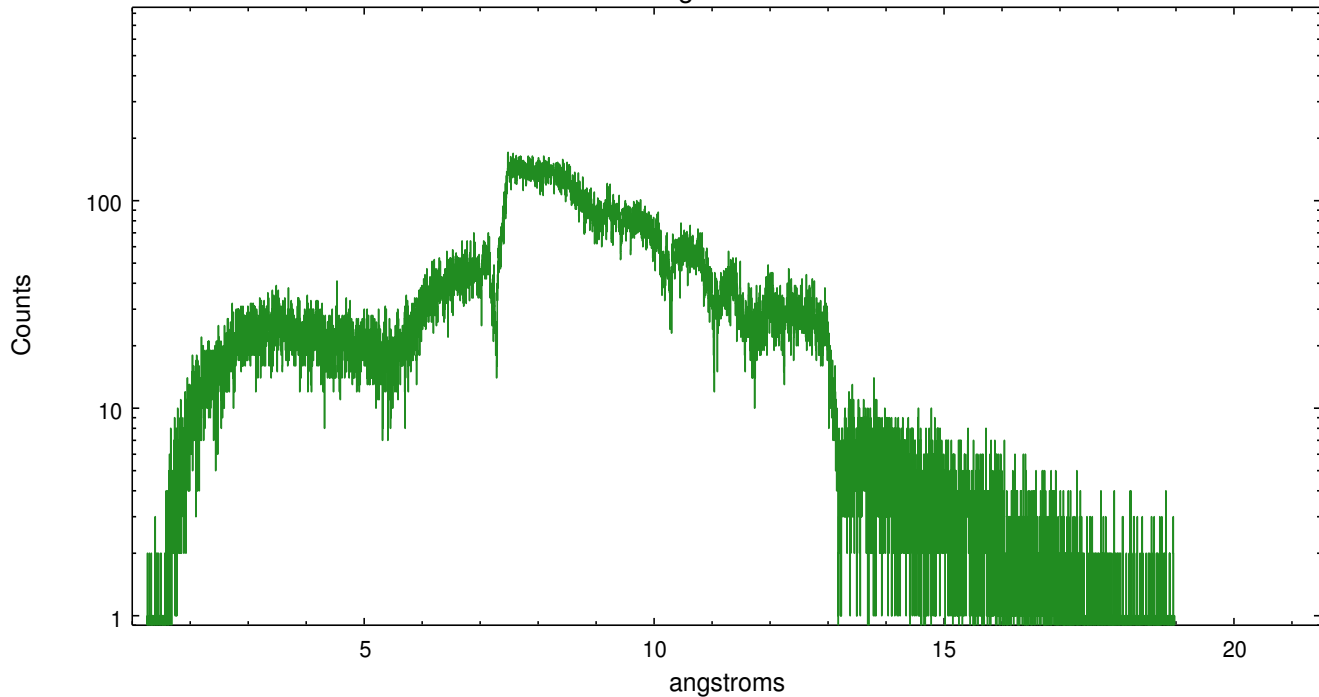


Full Detector HEG

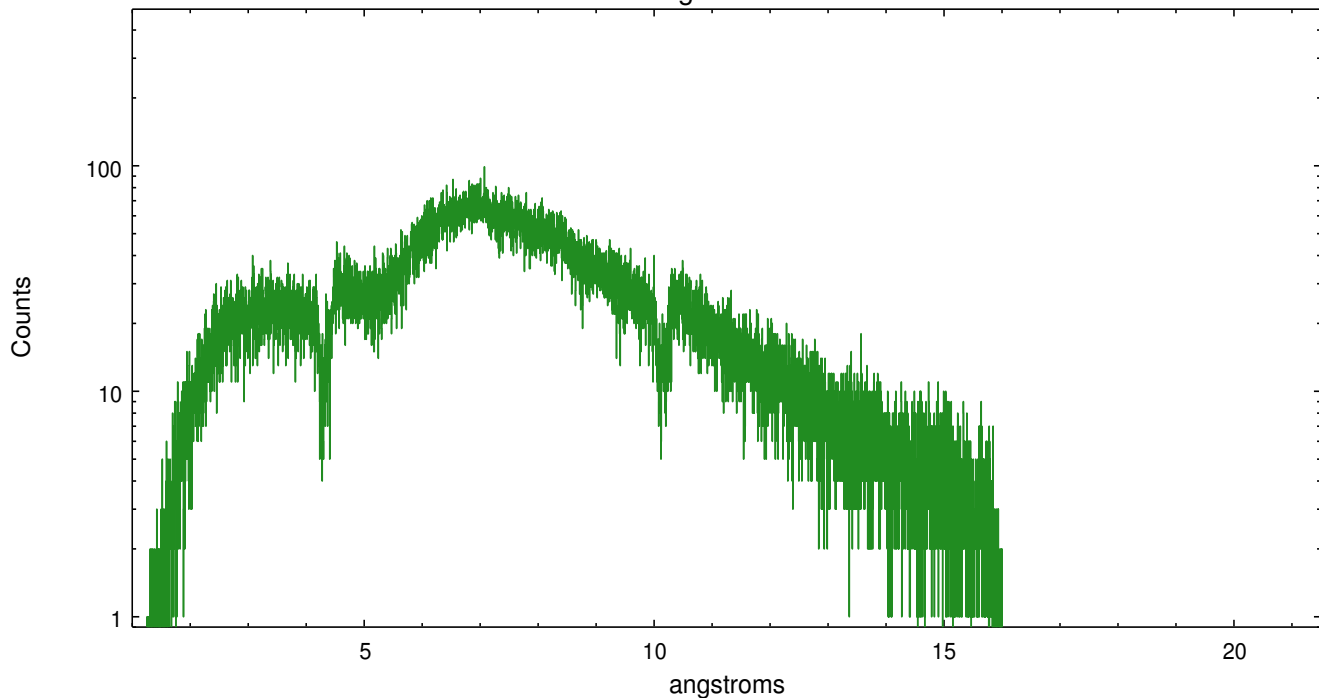
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	6412	25822	222818	150204	140330	14996	3624



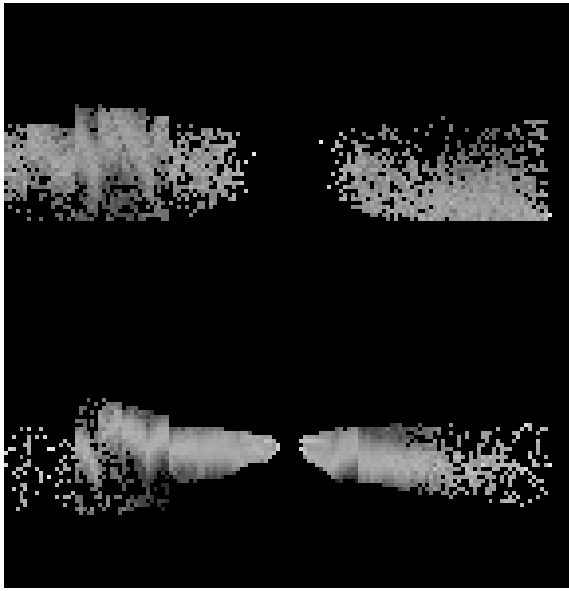
heg order -1



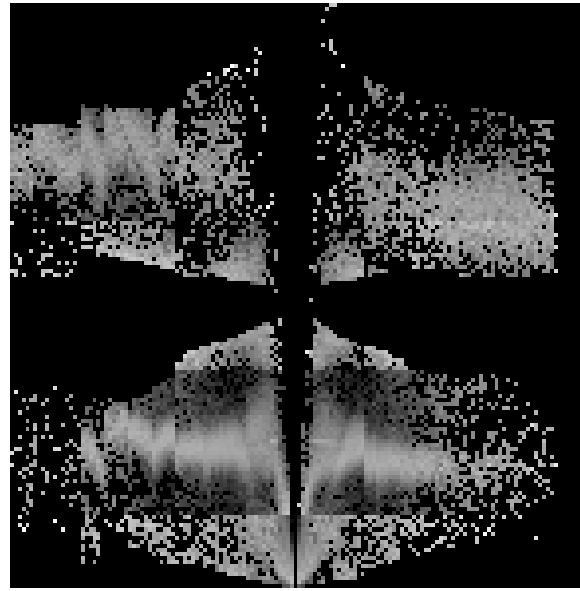
heg order +1



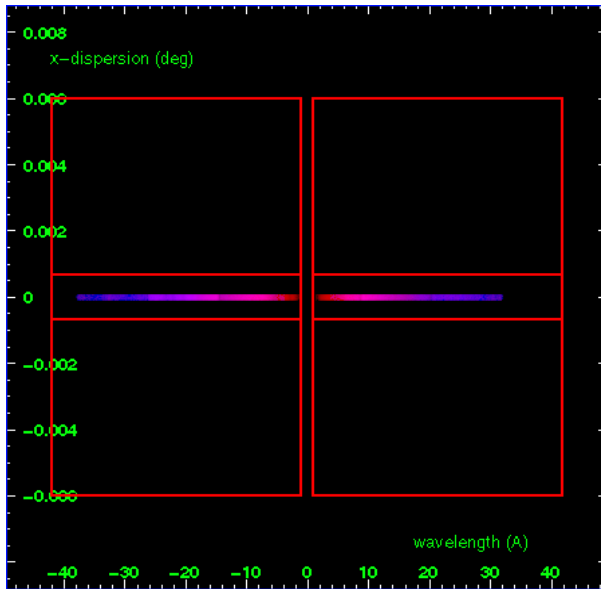
3.2 MEG Arm



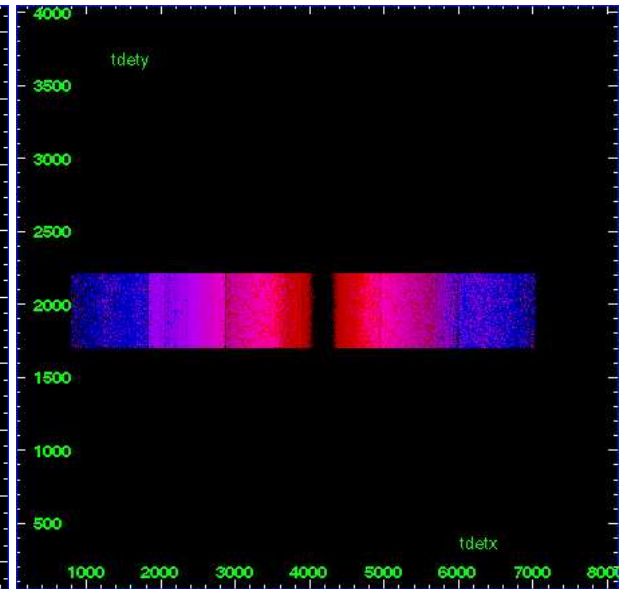
MEG Order Sort 123



MEG Order Sort ALL

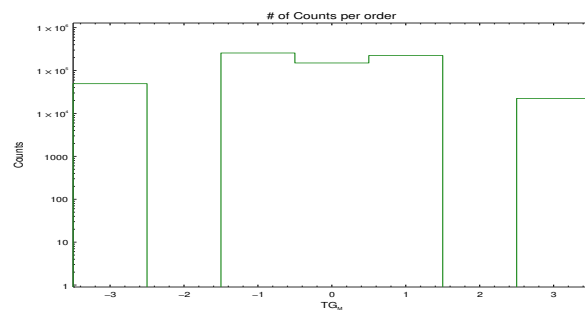


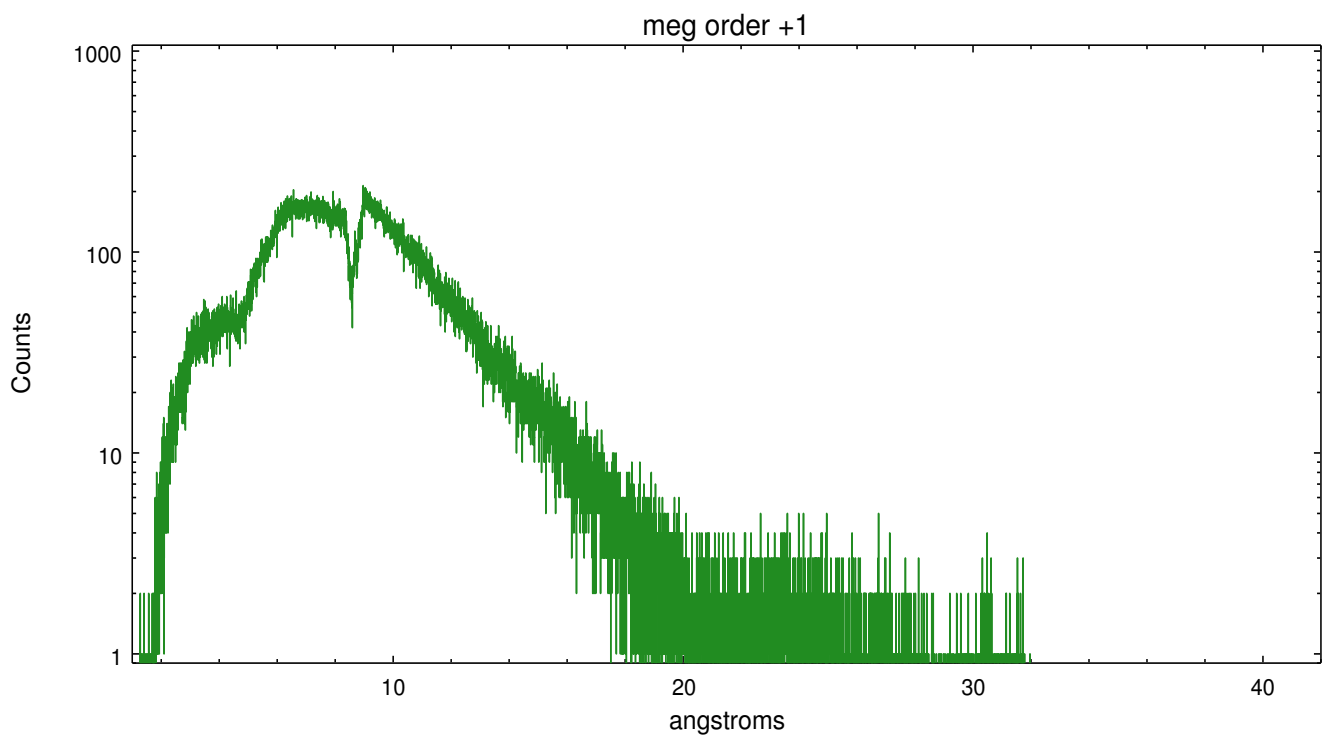
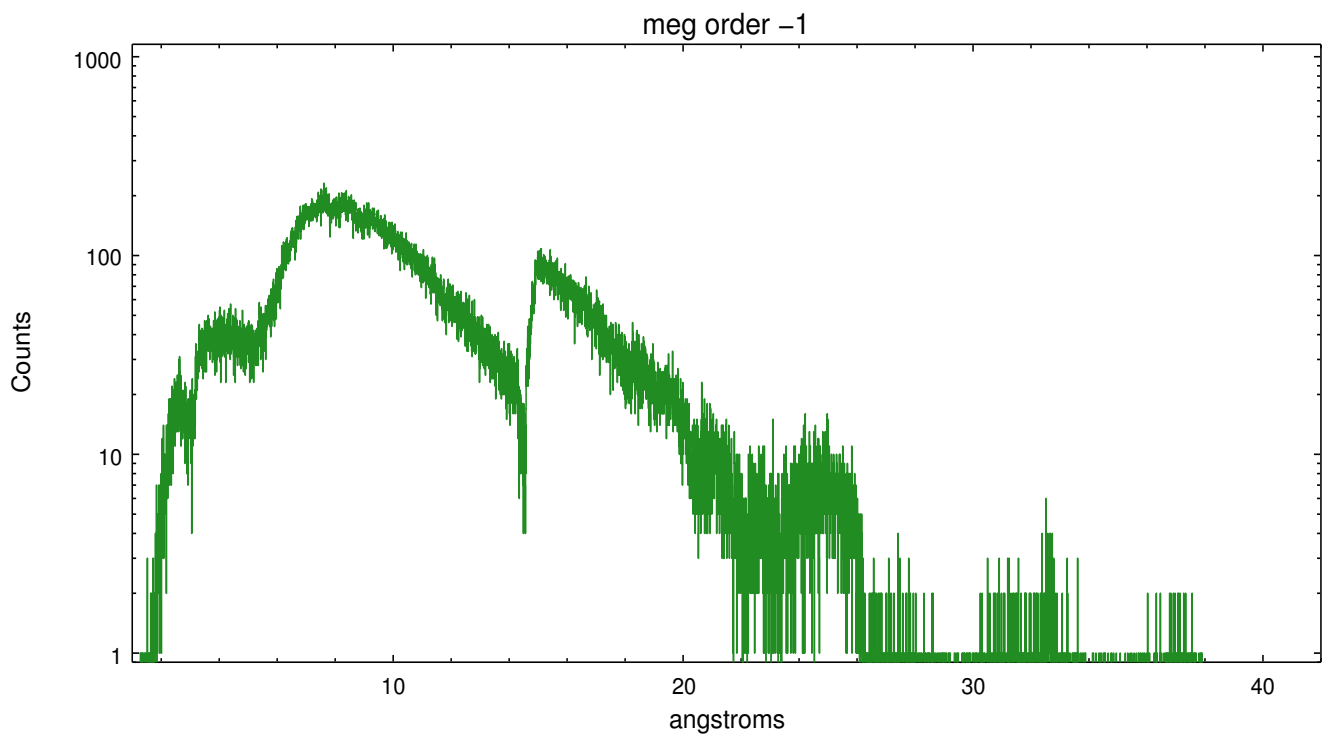
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	49467	0	256569	150204	223571	0	22390





A Summary

A.1 Status

V&V Scientist	John Houck
V&V Date (YYYY-MM-DD)	2010.03.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	0.82545623

A.2 Comments

Charge time:

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

NEW CHARGE TIME = 0.825456 ks, 1 Obis

EXISTING CHARGE TIME = 5.000000 ks, 1 Obis.