

V&V Reference Report

L2 ASCDS Version : 10.2.1

Observation 15636 - L2 Version 2
Chandra X-Ray Center

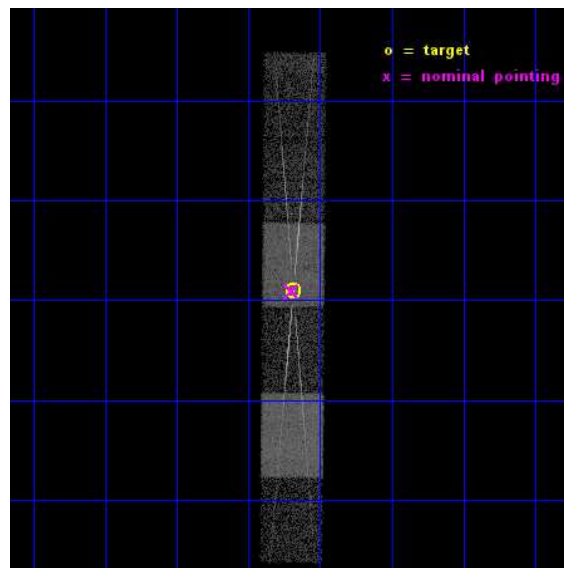
L2 Processing Date : Dec 10 2014

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1 Front

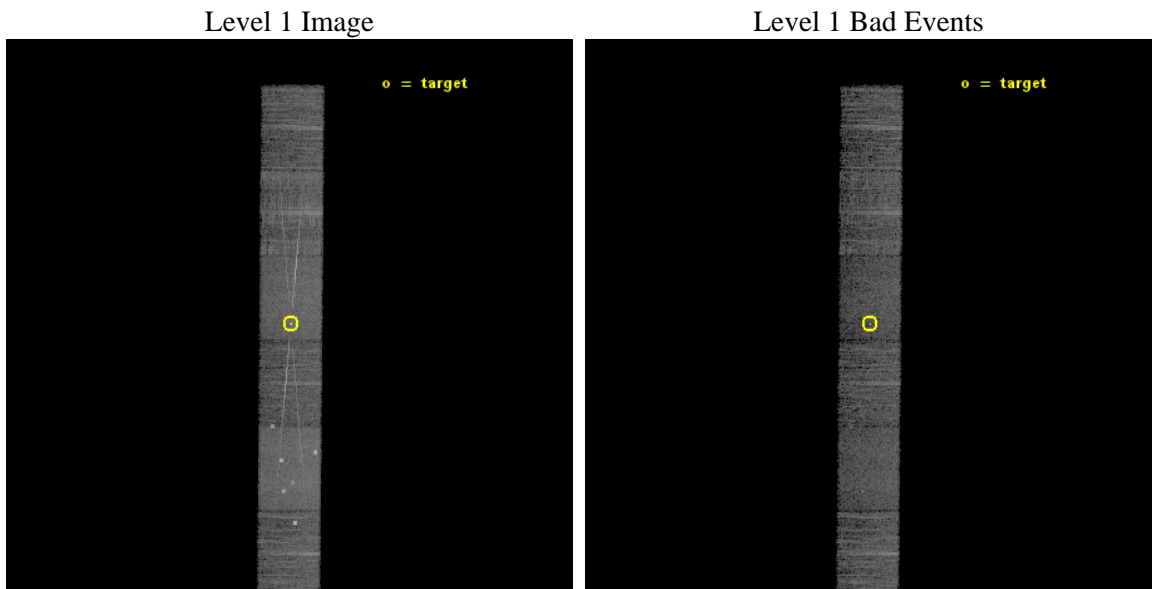
seq_num	702921	Sequence number
obs_id	15636	Observation id
title	Deep X-ray view of the bare nucleus Seyfert Ark120: unveiling the core of AGN	Proposal title
observer	Dr. Delphine Porquet	Principal investigator
object	Ark 120	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	79.0475	Observer's specified target RA [deg]
dec_targ	-0.149889	Observer's specified target Dec [deg]
ra_nom	79.050073778174	Nominal RA [deg]
dec_nom	-0.15154254422093	Nominal Dec [deg]
roll_nom	270.45668005279	Nominal Roll [deg]
revision	2	Processing version of data
ontime	10407.4479267	Sum of GTIs [s]
livetime	10239.358615665	Livetime [s]
ontime4	10407.488966703	Sum of GTIs [s]
ontime5	10407.406886697	Sum of GTIs [s]
ontime6	10407.365846694	Sum of GTIs [s]
ontime7	10407.4479267	Sum of GTIs [s]
ontime8	10407.32480669	Sum of GTIs [s]
ontime9	10407.283766687	Sum of GTIs [s]
l2events	81886	Number of level 2 events



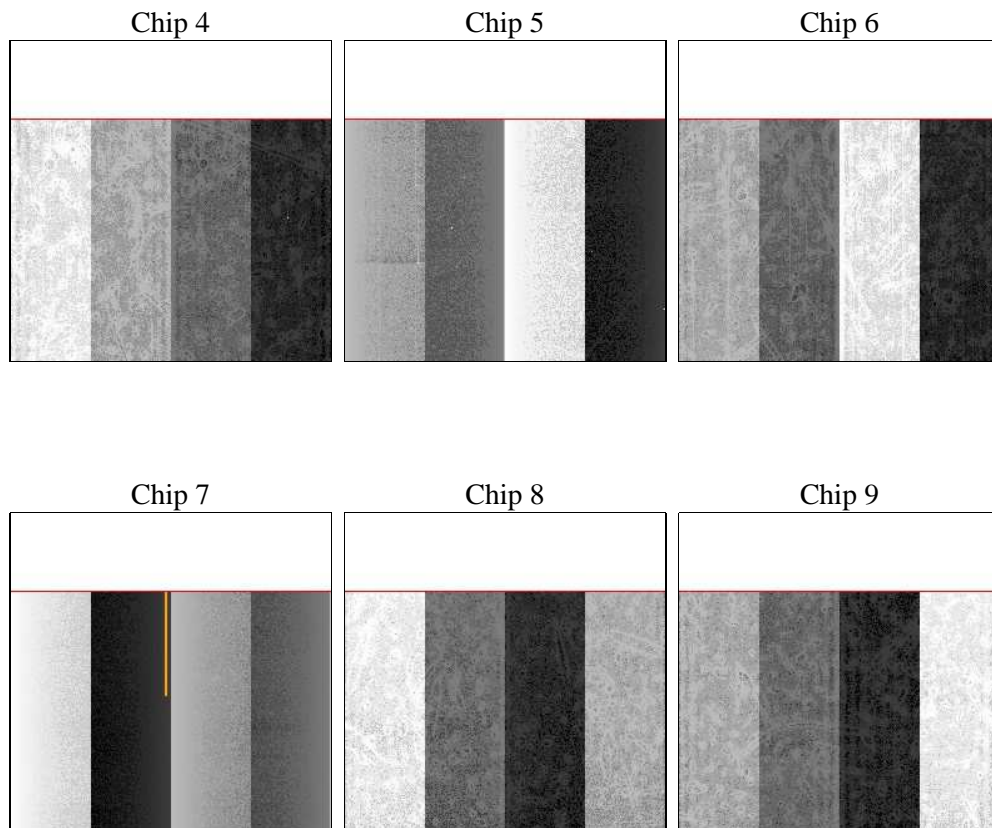
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	10372.800000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	10407.4479267	Sum of GTIs [s]
caldsver	4.6.4	 	ontime4	10407.488966703	Sum of GTIs [s]
date	2014-12-10T21:41:12	Date and time of file creation	ontime5	10407.406886697	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	10407.365846694	Sum of GTIs [s]
			ontime7	10407.4479267	Sum of GTIs [s]
			ontime8	10407.32480669	Sum of GTIs [s]
			ontime9	10407.283766687	Sum of GTIs [s]
			l1events	298990	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			ra_pos	(4114.80, 4100.21)	grade sky pixel position

2.1.4 Events

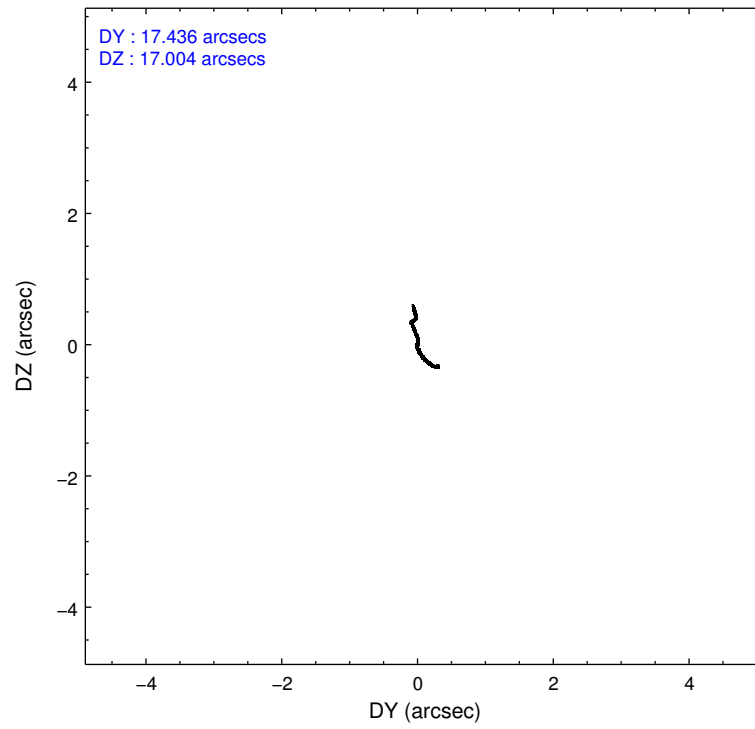
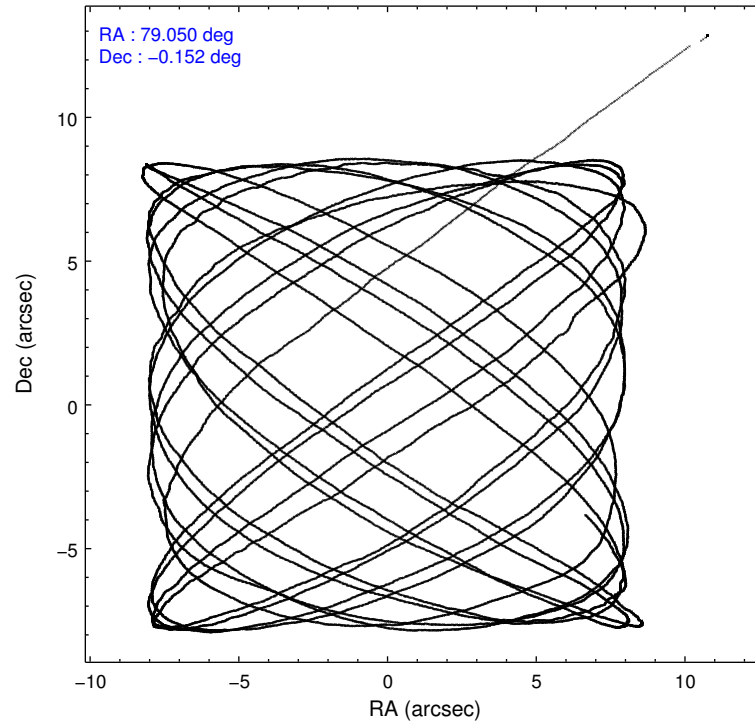
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	44696	65963	41967	59185	50795	36384
rejected events	37215	31698	32068	29751	35290	31079
rejected %	83%	48%	76%	50%	69%	85%

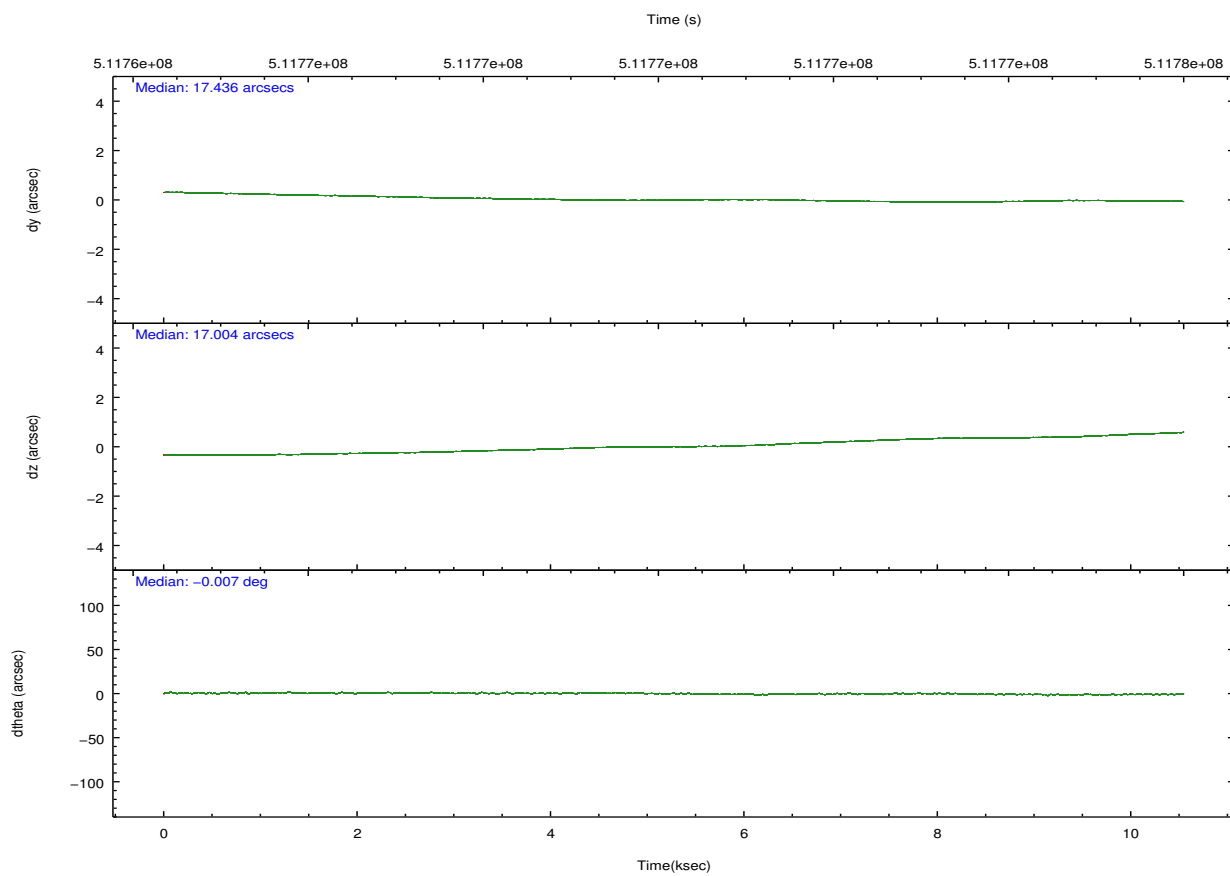
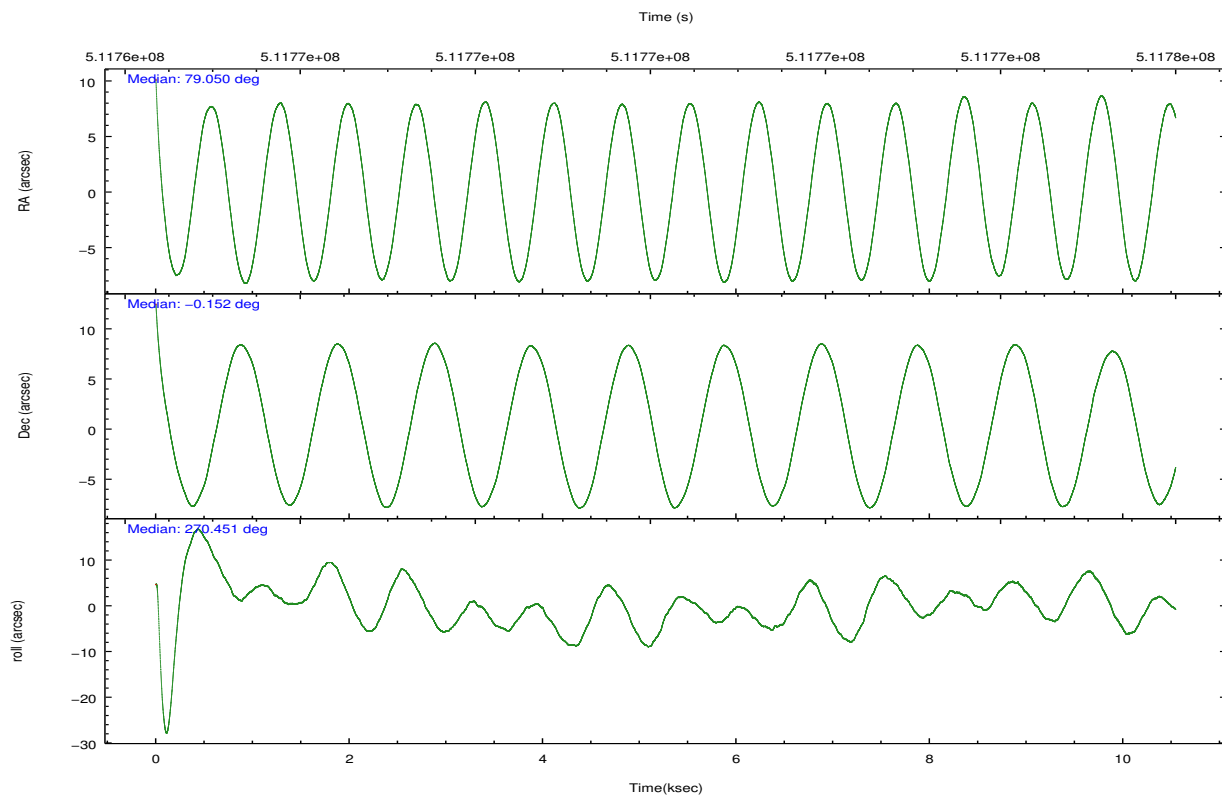
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	4404	6579	5667	3407	5782	2067
	9%	9%	13%	5%	11%	5%
grade 1 events	32	180	26	150	36	16
	0%	0%	0%	0%	0%	0%
grade 2 events	1178	9409	1624	6378	3380	1103
	2%	14%	3%	10%	6%	3%
grade 3 events	537	1247	670	2697	1480	546
	1%	1%	1%	4%	2%	1%
grade 4 events	527	1142	696	2611	1439	483
	1%	1%	1%	4%	2%	1%
grade 5 events	1809	4394	1890	5555	2754	2052
	4%	6%	4%	9%	5%	5%
grade 6 events	835	15893	1243	14349	3476	1106
	1%	24%	2%	24%	6%	3%
grade 7 events	35374	27119	30151	24038	32448	29011
	79%	41%	71%	40%	63%	79%

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	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	79.035886	79.05007377817414	CCD I2 on	N	N
[deg] Pointing Dec	-0.128120	-0.1515425442209324	CCD I3 on	N	N
[deg] Pointing Roll	270.299980	270.4566800527912	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	-187.132523	-187.1254020033014	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-3	-3.007120579706367	CCD S4 on	Y	Y
[s] Observation start time (MET)	511765071.184000	511763990.3205	CCD S5 on	O2	Y
Observation start date	2014-03-21T04:56:44	2014-03-21T04:39:50	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	511775444.184000	511775669.17114	On-chip summing requested	N	N
Observation end date	2014-03-21T07:49:37	2014-03-21T07:54:29	Subarray requested	CUSTOM	CUSTOM
Read mode	TIMED	TIMED	Subarray start row	1	1
			Subarray row count	774	774
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	2.5

2.3 Aspect



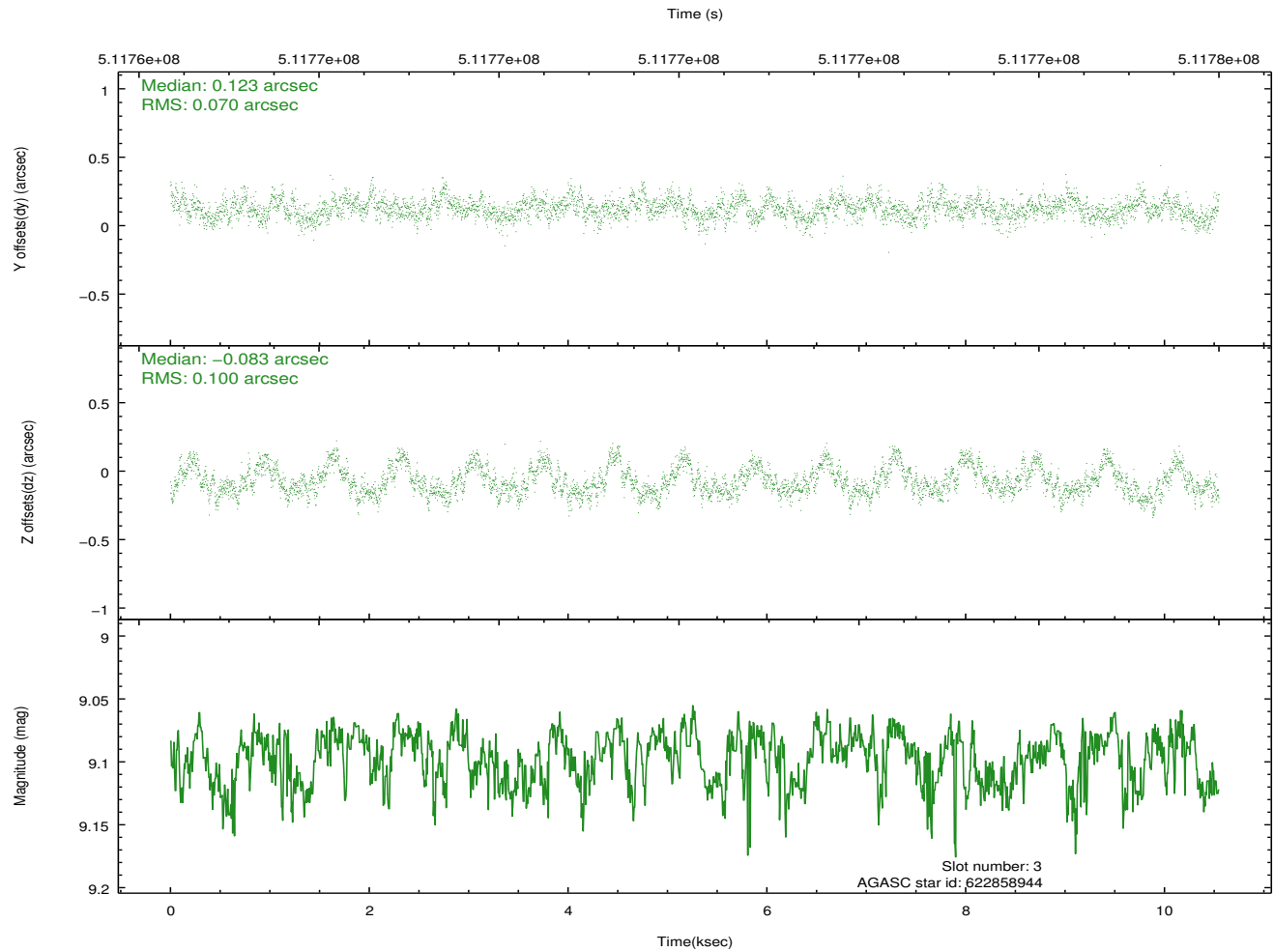
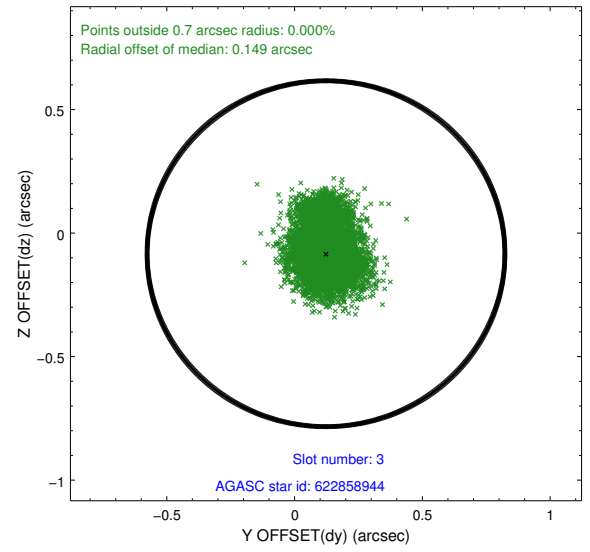
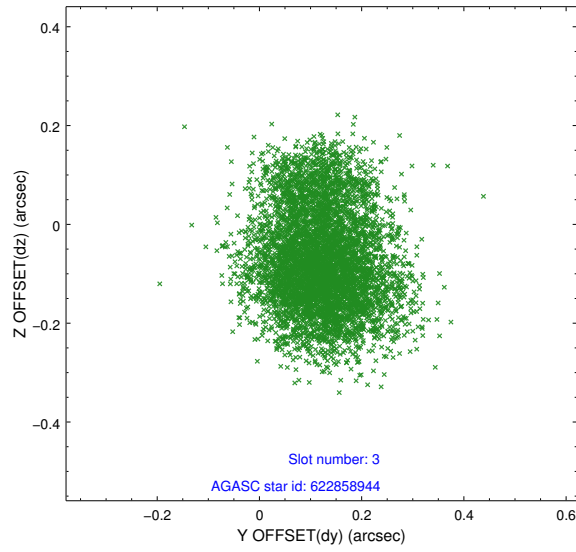


Slot Statistics

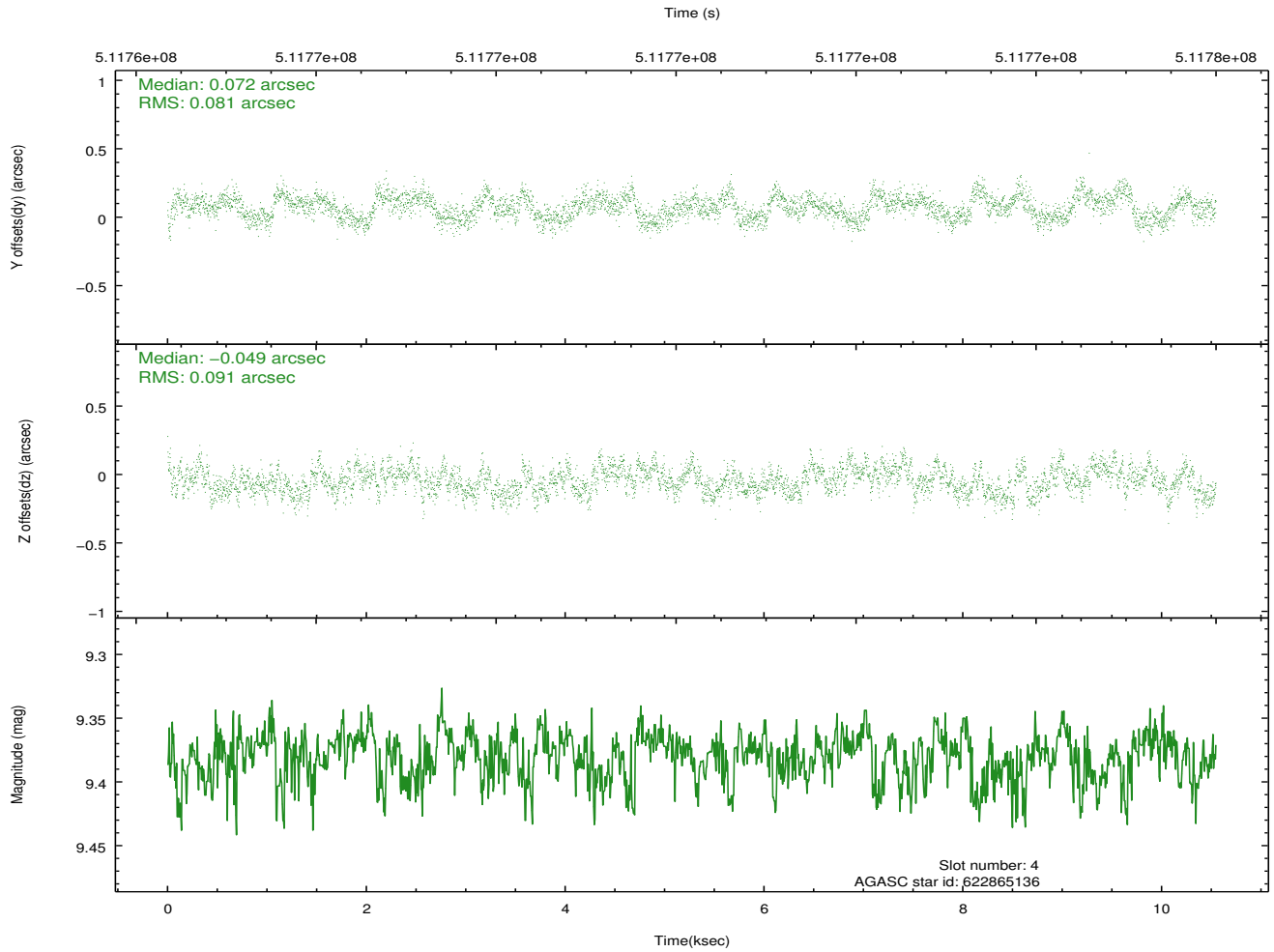
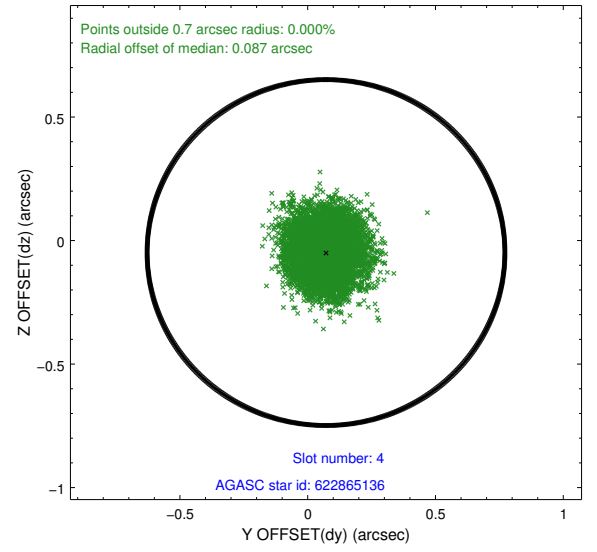
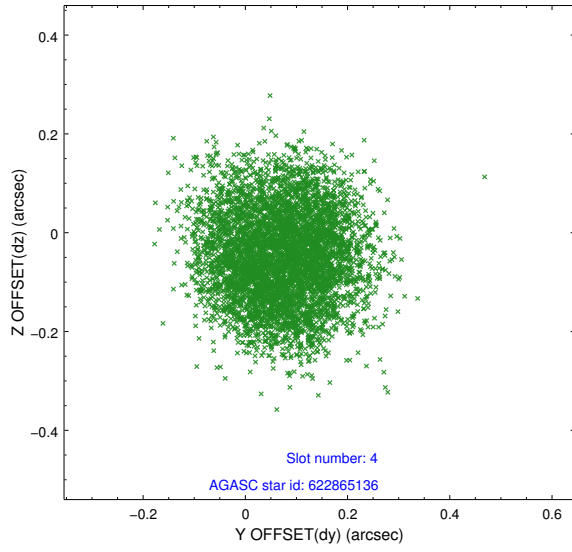
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-1	7.12	2573	0.083	-0.017	0.016	0.024	0.000000	0.000000	925.88	-1796.18
1	FID		ACIS-S-5	7.16	2573	-0.198	0.047	0.016	0.028	0.000000	0.000000	-1823.19	100.81
2	FID		ACIS-S-6	7.29	2573	0.093	-0.020	0.021	0.034	0.000000	0.000000	390.82	745.34
3	GUIDE	used	622858944	9.10	5143	0.123	-0.083	0.132	0.210	79.047245	-0.768681	2305.13	30.78
4	GUIDE	used	622865136	9.38	5144	0.072	-0.049	0.133	0.199	78.757490	-0.306389	637.39	-1005.52
5	GUIDE	used	622865280	9.37	5143	-0.009	-0.008	0.134	0.213	79.432455	-0.370100	878.82	1422.95
6	GUIDE	used	622865680	8.44	5142	-0.241	0.009	0.102	0.155	79.366255	-0.345462	789.83	1185.83
7	GUIDE	used	12981512	9.60	5139	0.054	0.110	0.181	0.272	78.741819	0.436531	-2037.72	-1047.86

2.4 Star Slots

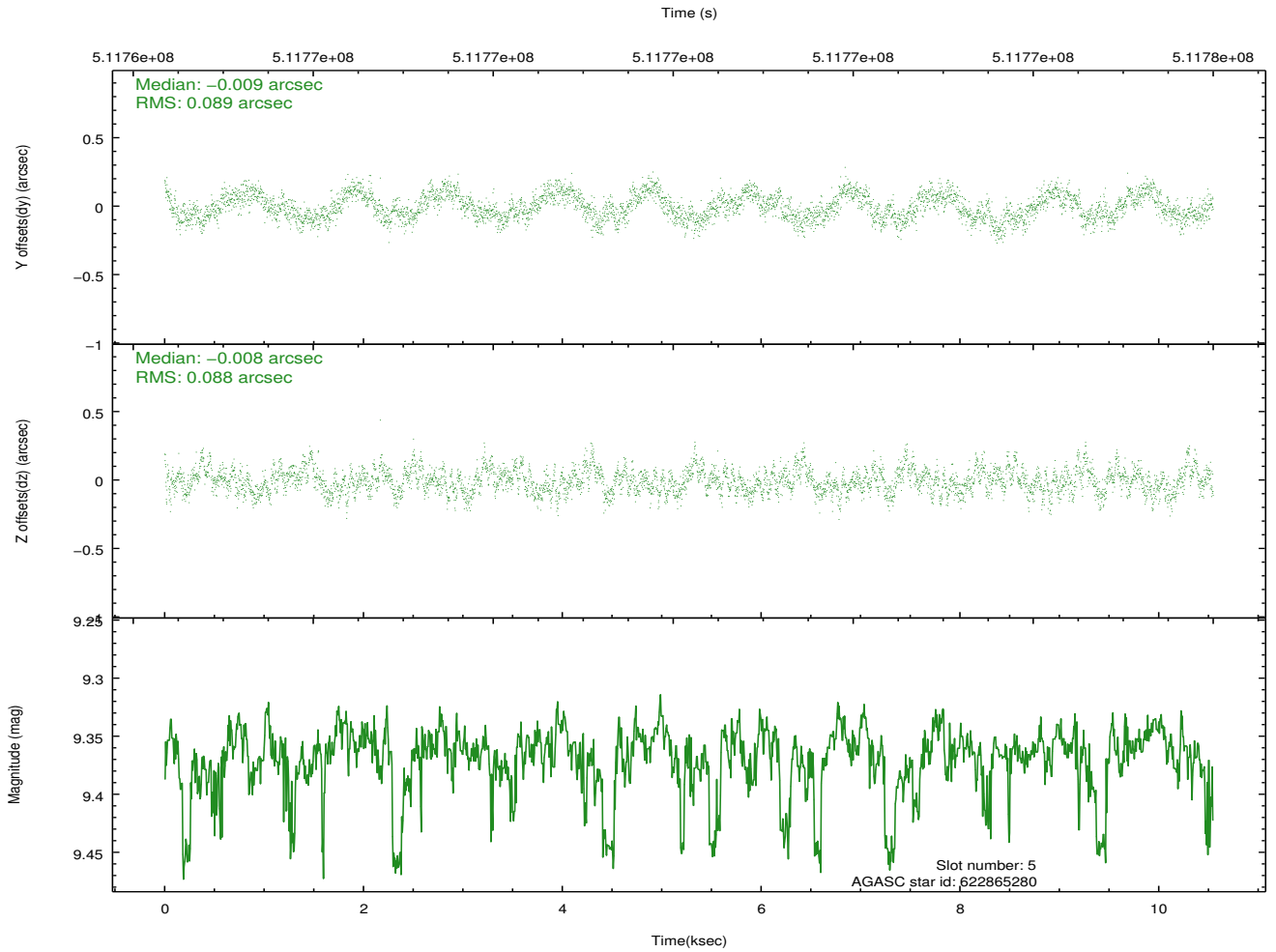
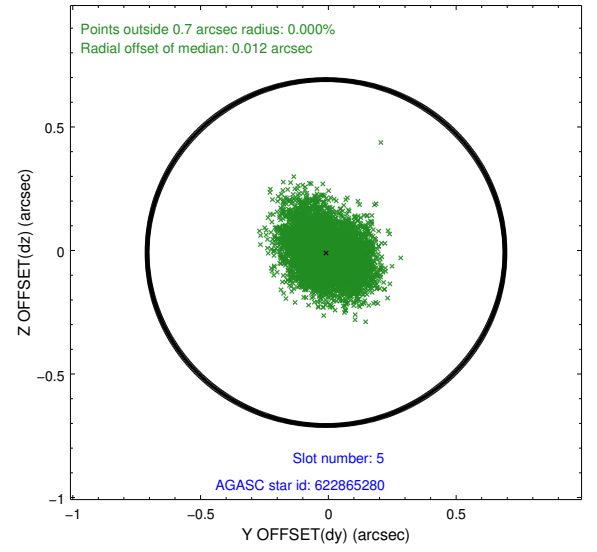
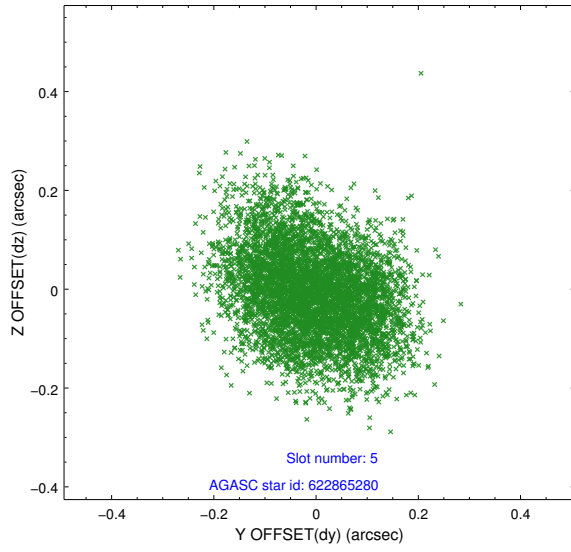
2.4.1 Slot 3



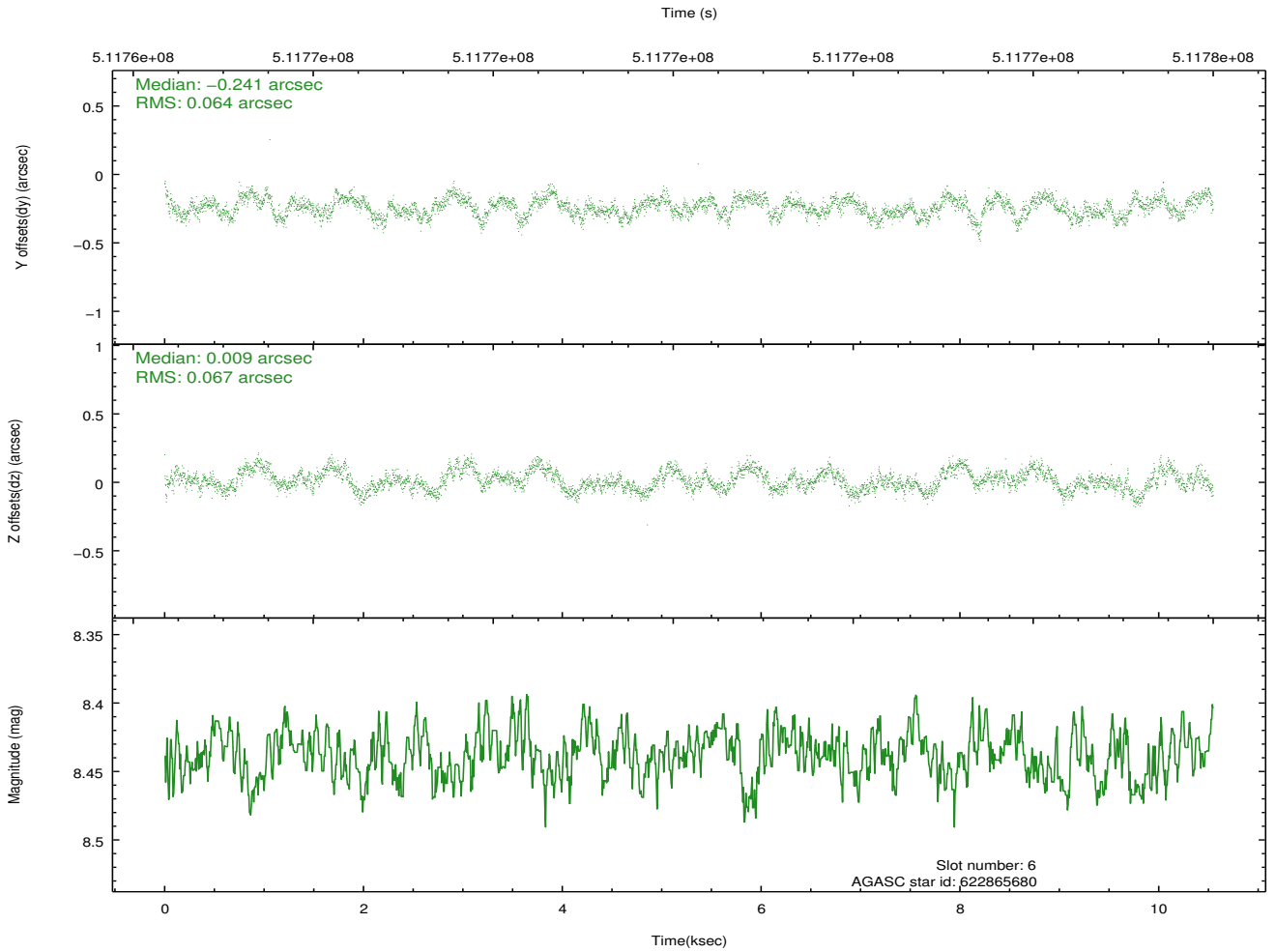
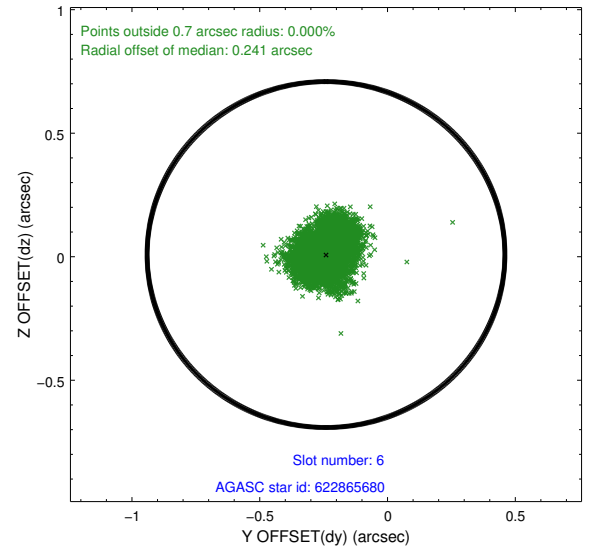
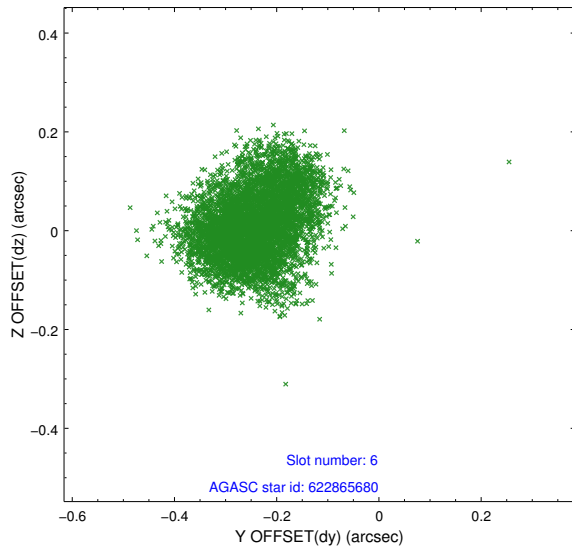
2.4.2 Slot 4



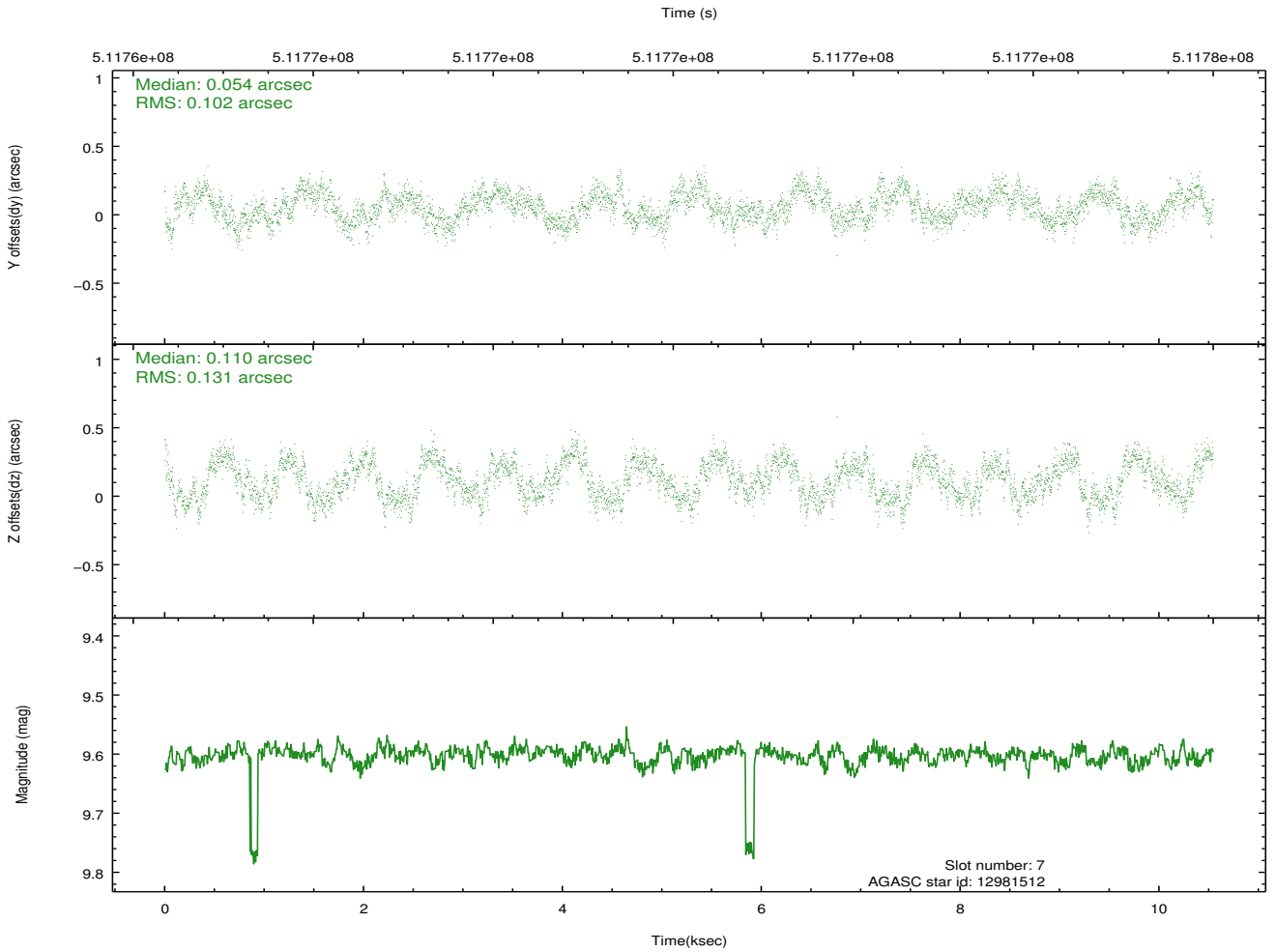
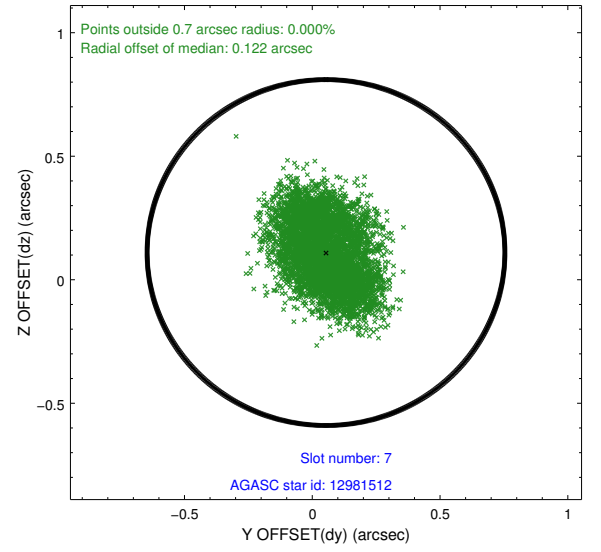
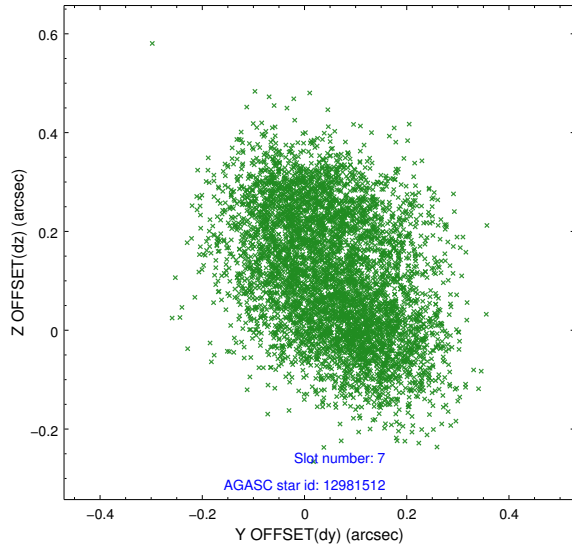
2.4.3 Slot 5



2.4.4 Slot 6

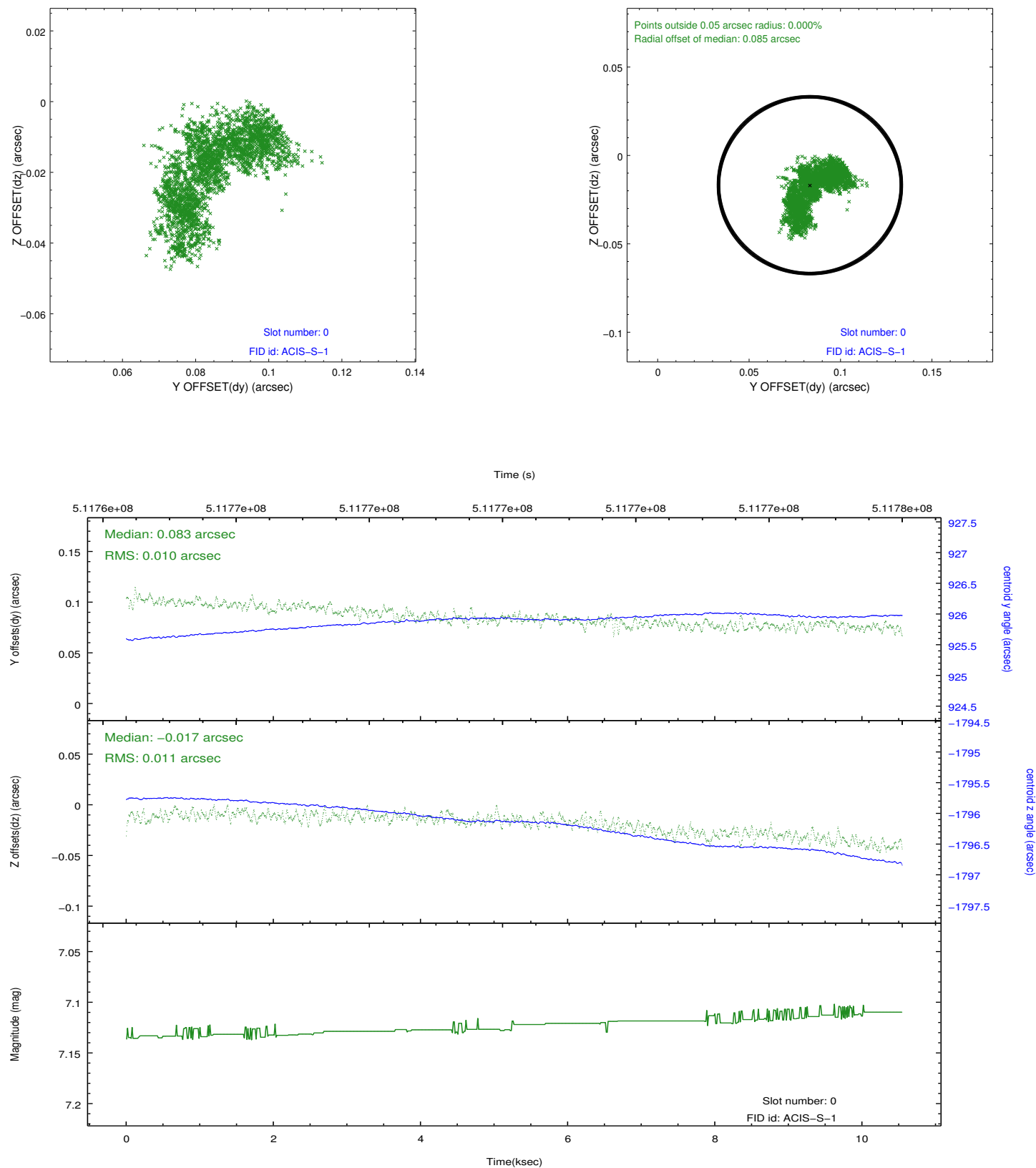


2.4.5 Slot 7

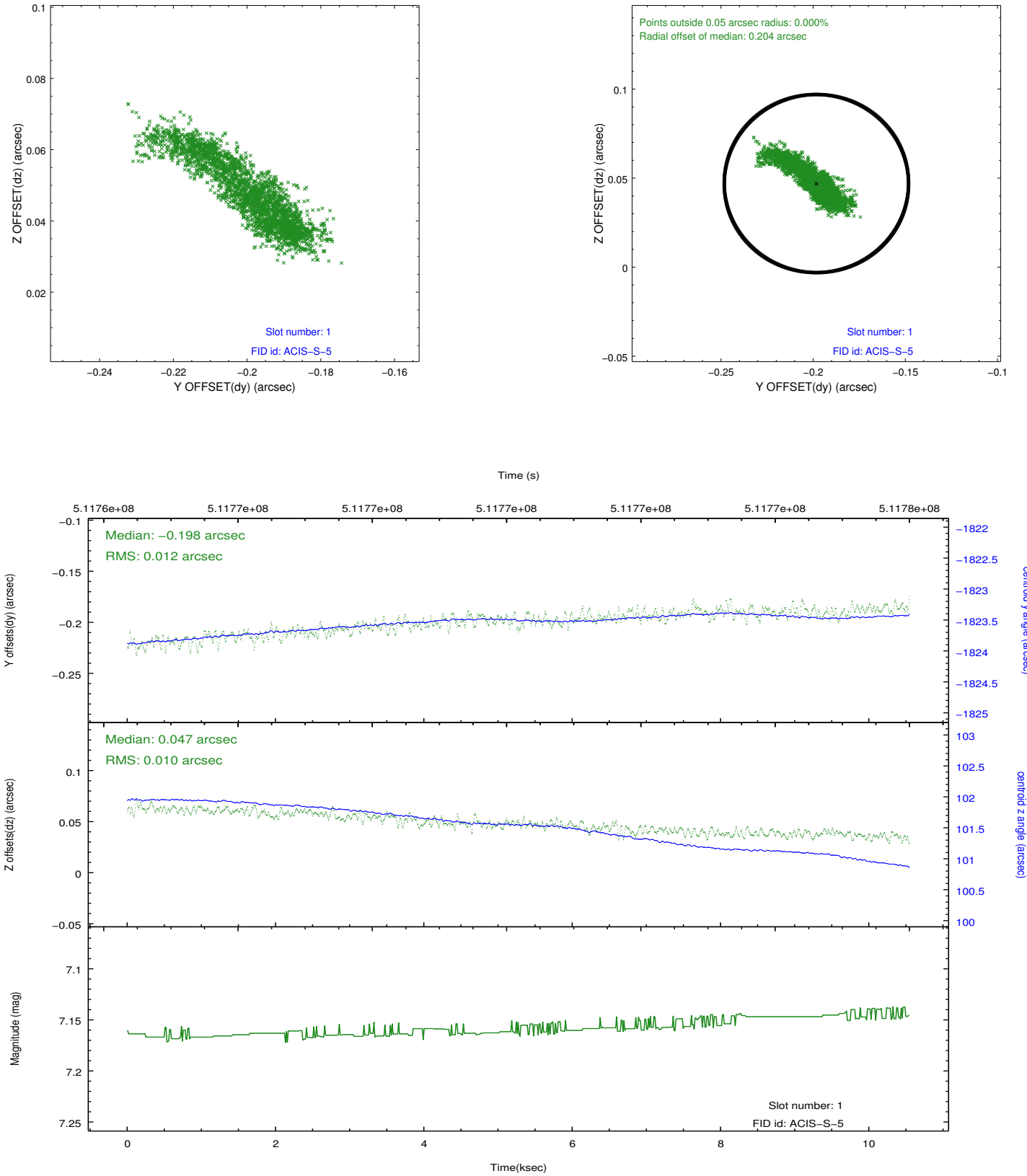


2.5 FID Slots

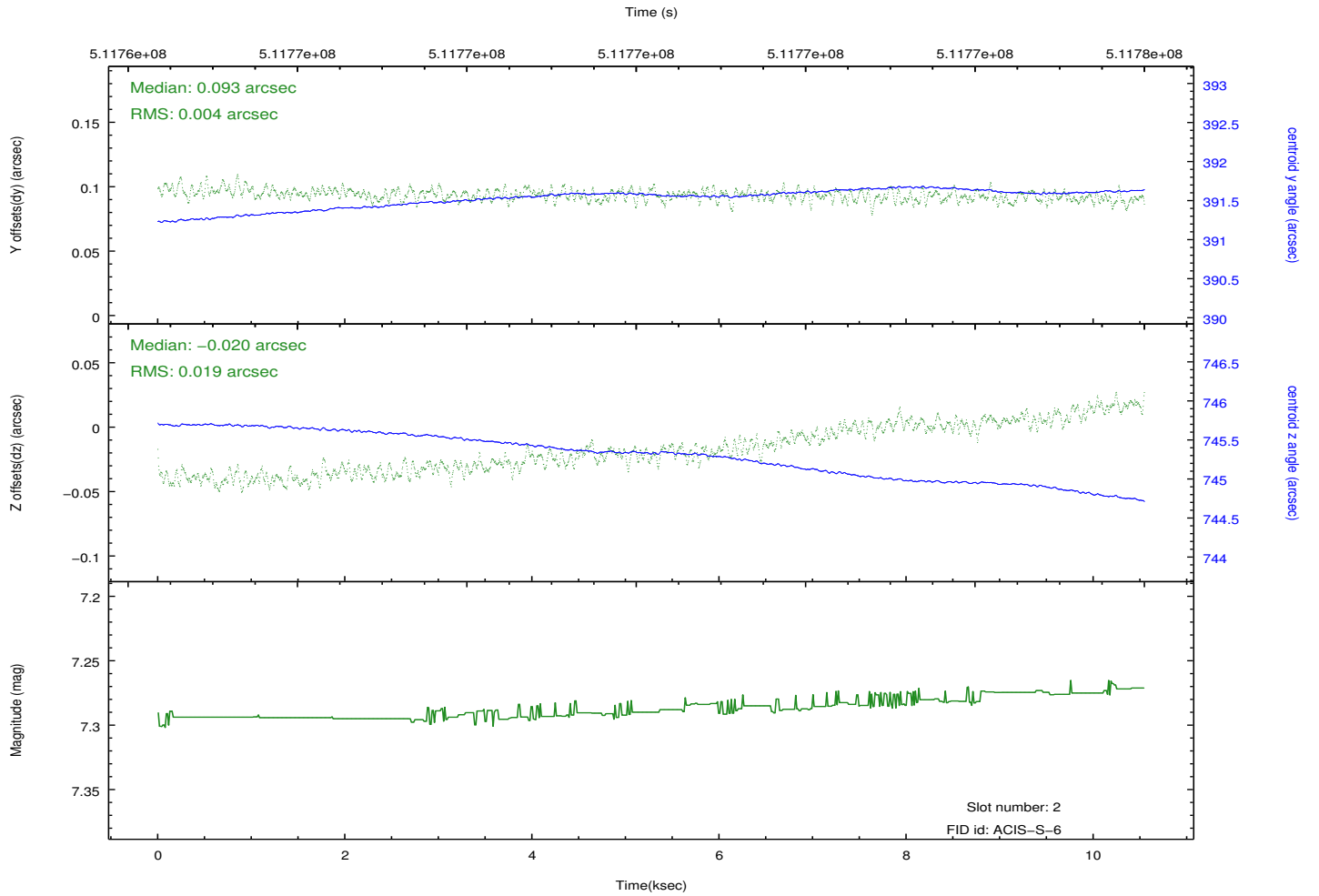
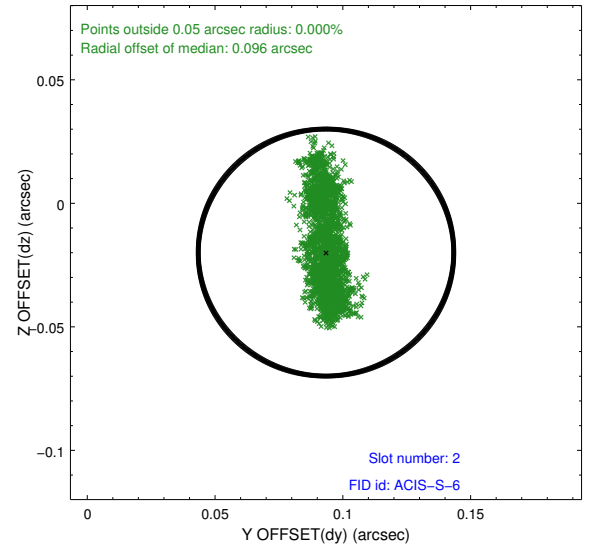
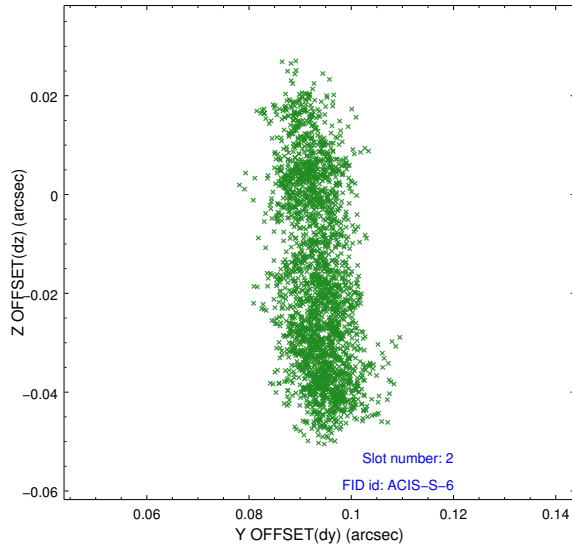
2.5.1 Slot 0



2.5.2 Slot 1

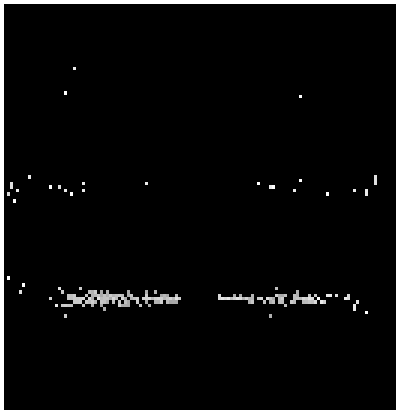


2.5.3 Slot 2

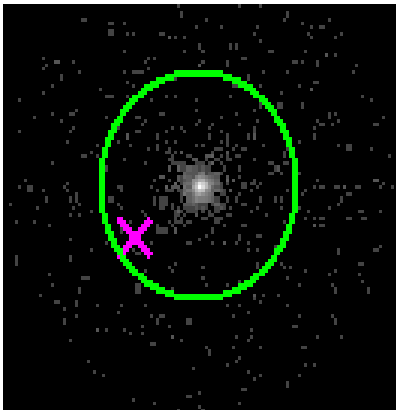


3 Gratings

3.1 HEG Arm



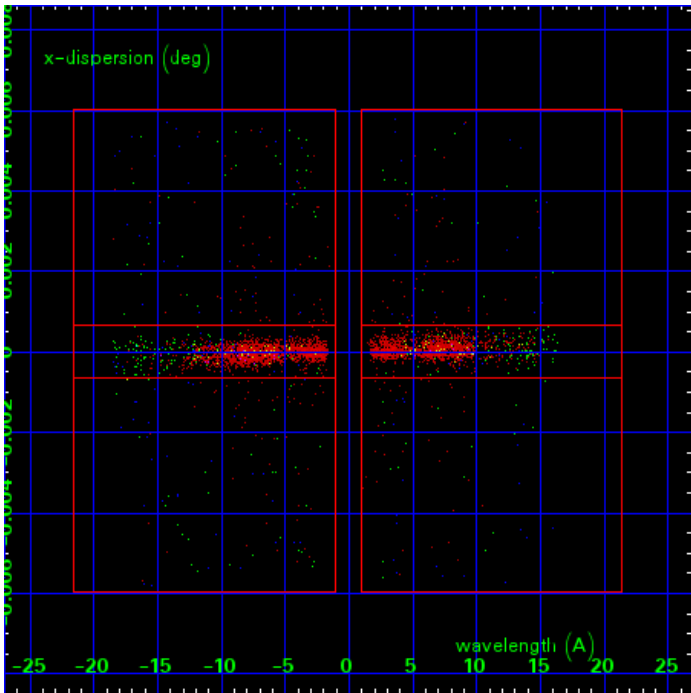
HEG Order Sort 123



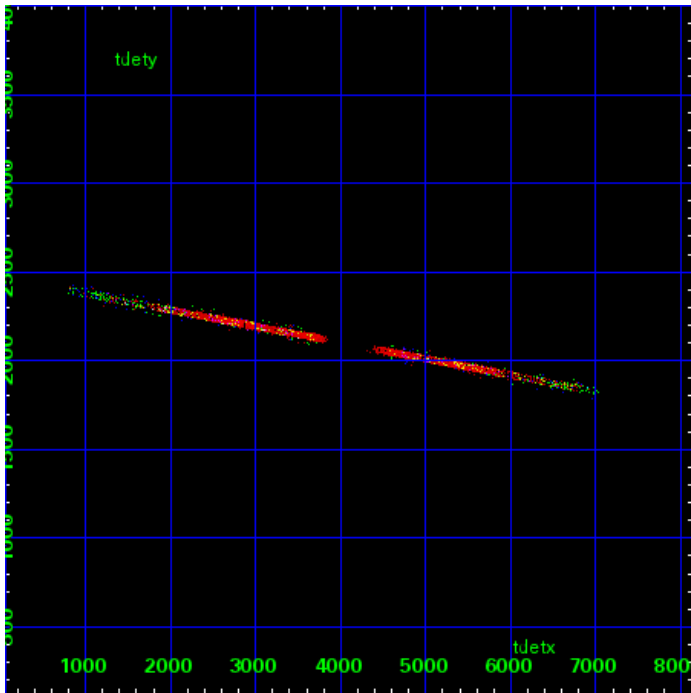
HEG Zero Order



HEG Order Sort ALL

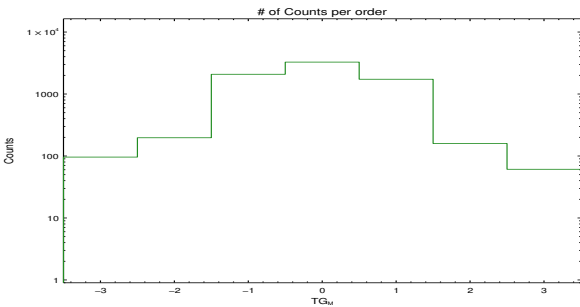


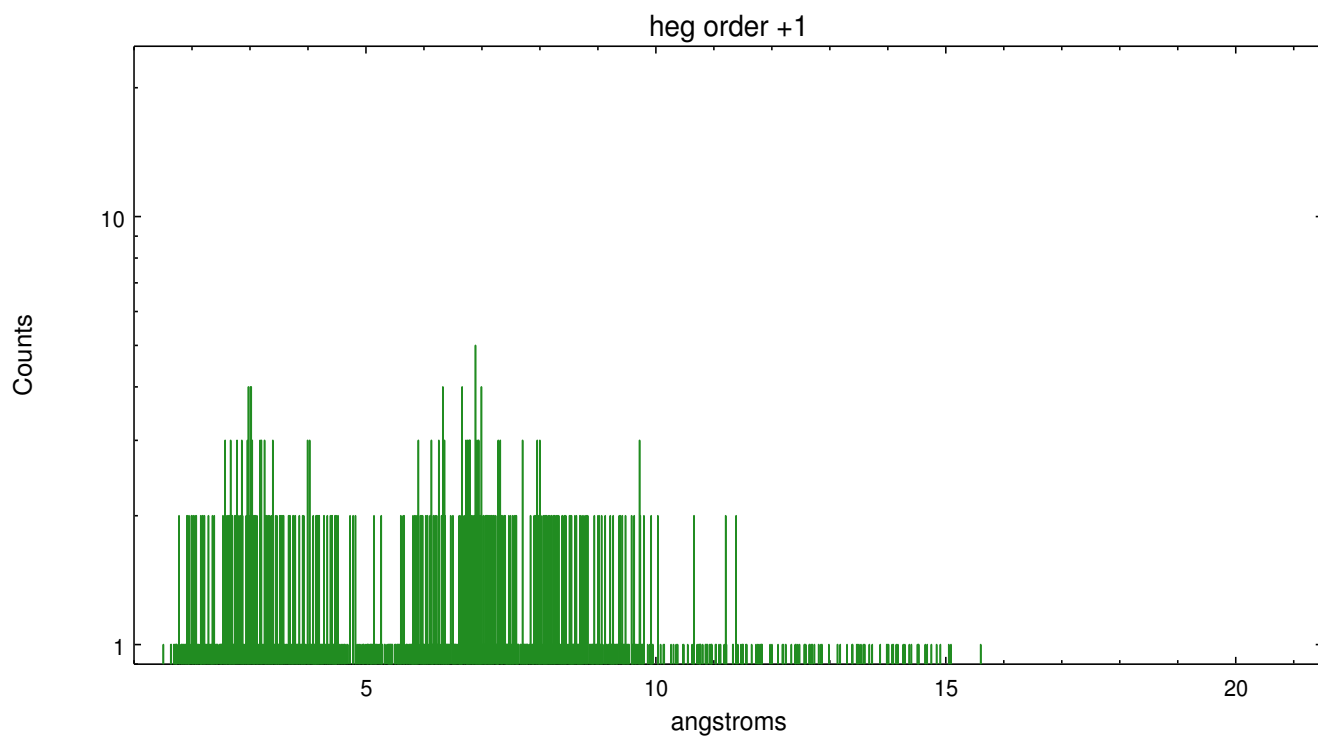
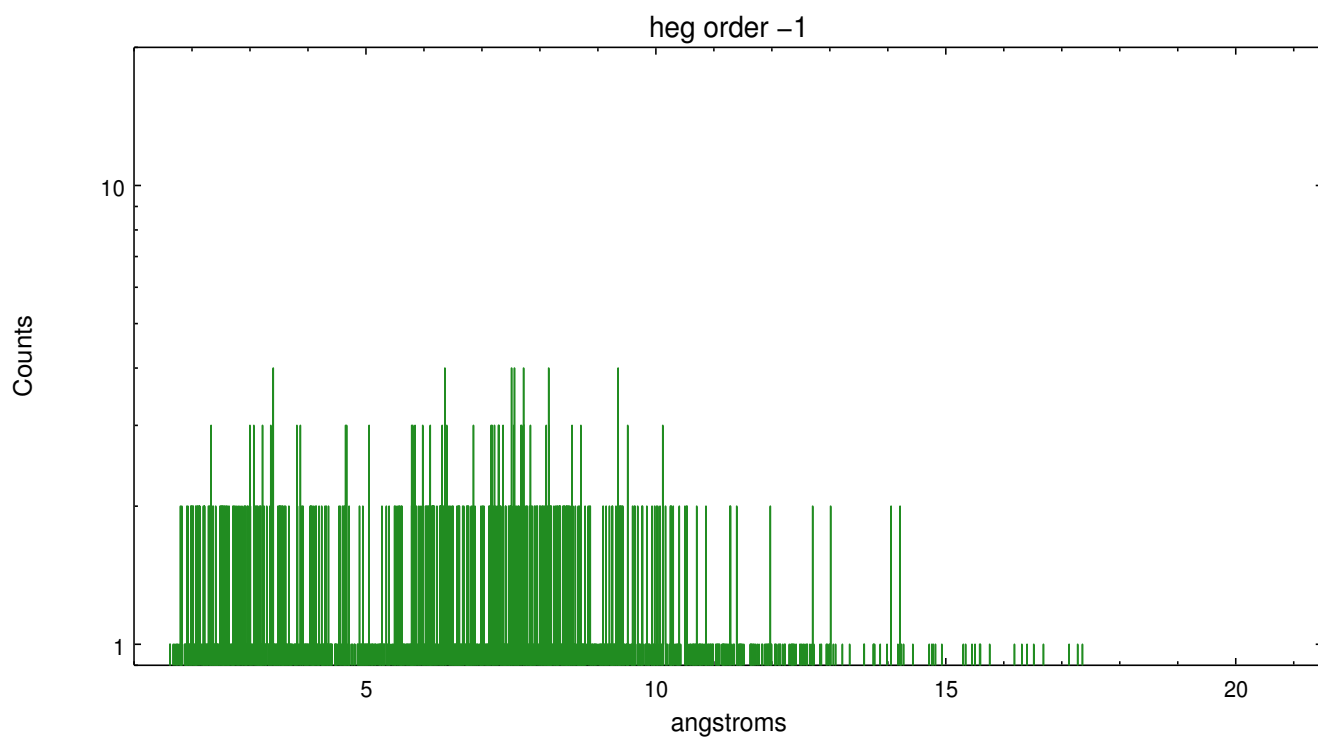
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	96	197	2081	3272	1730	159	61

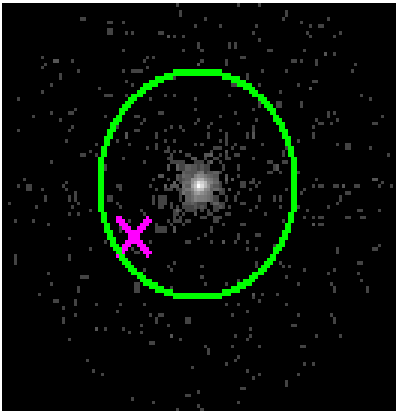




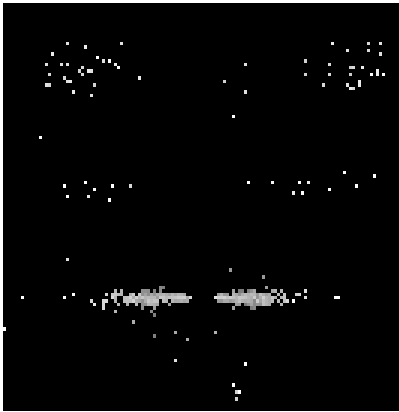
3.2 MEG Arm



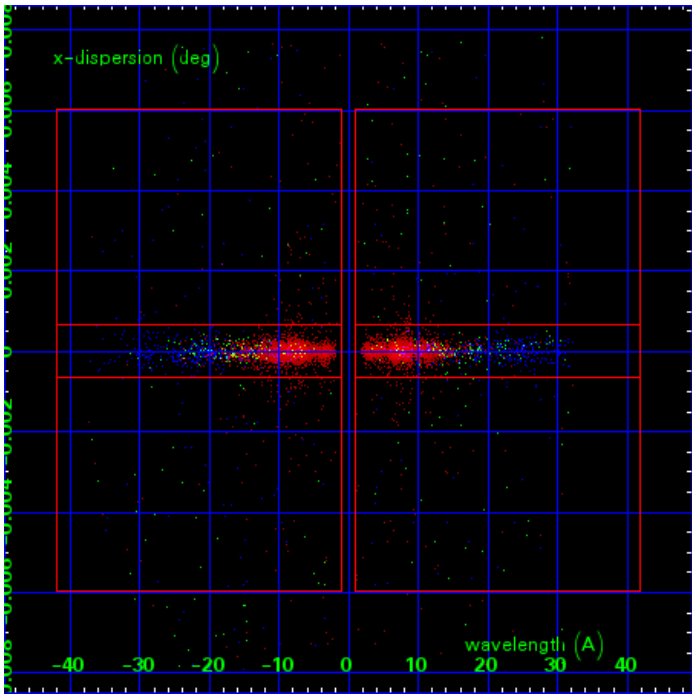
MEG Order Sort 123



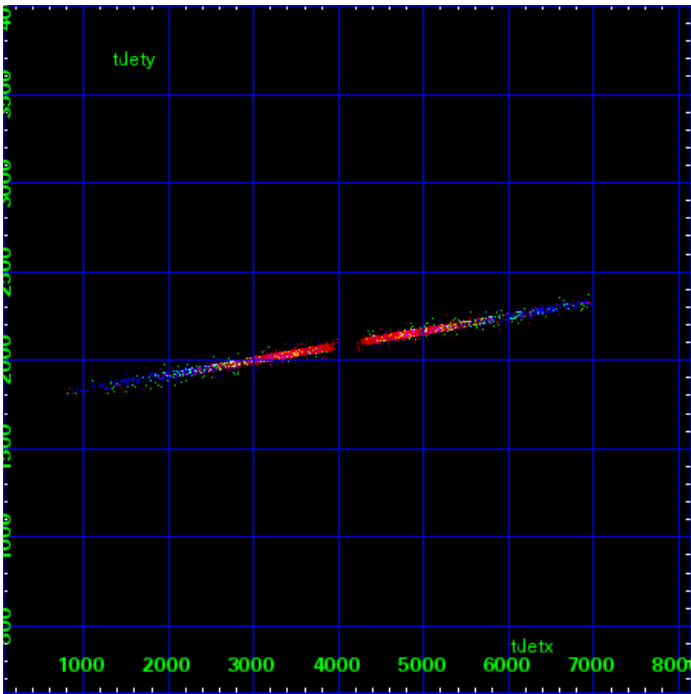
MEG Zero Order



MEG Order Sort ALL

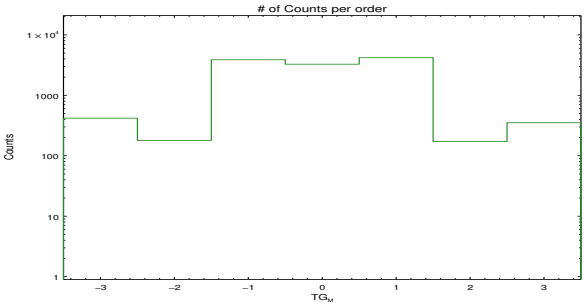


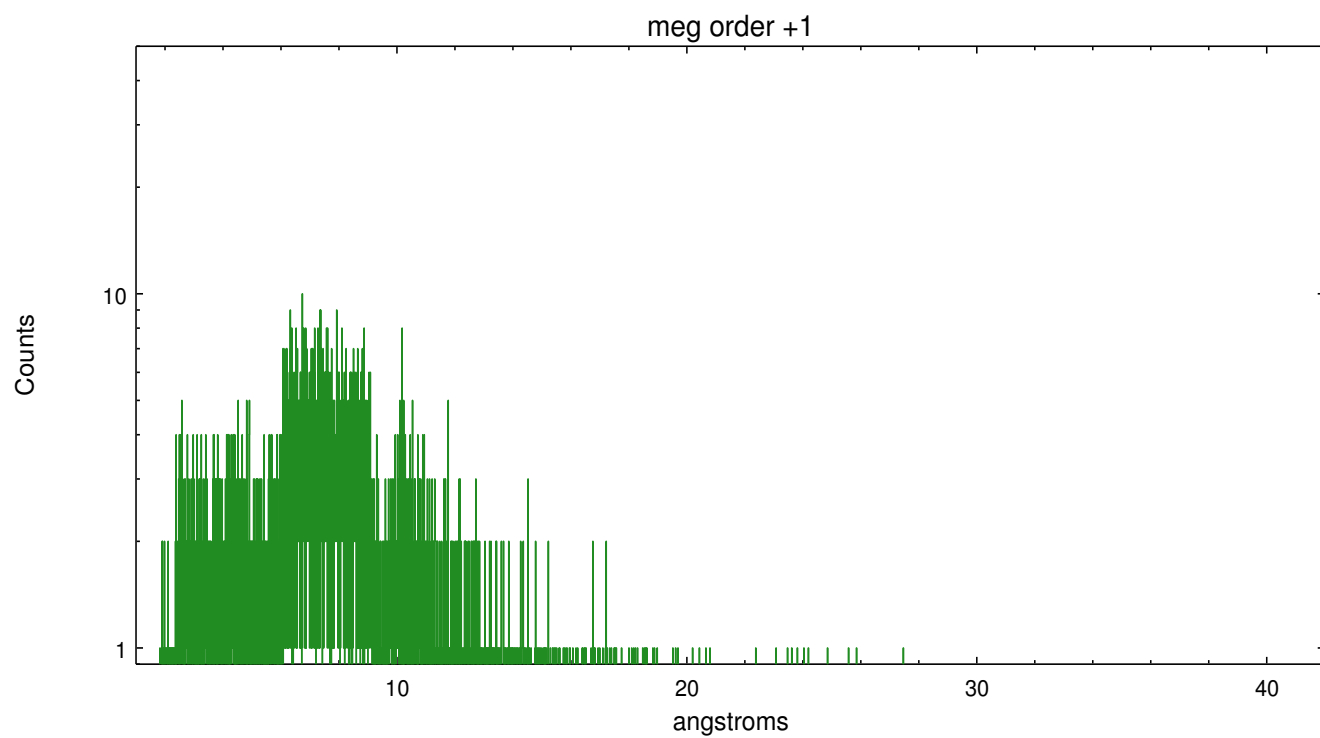
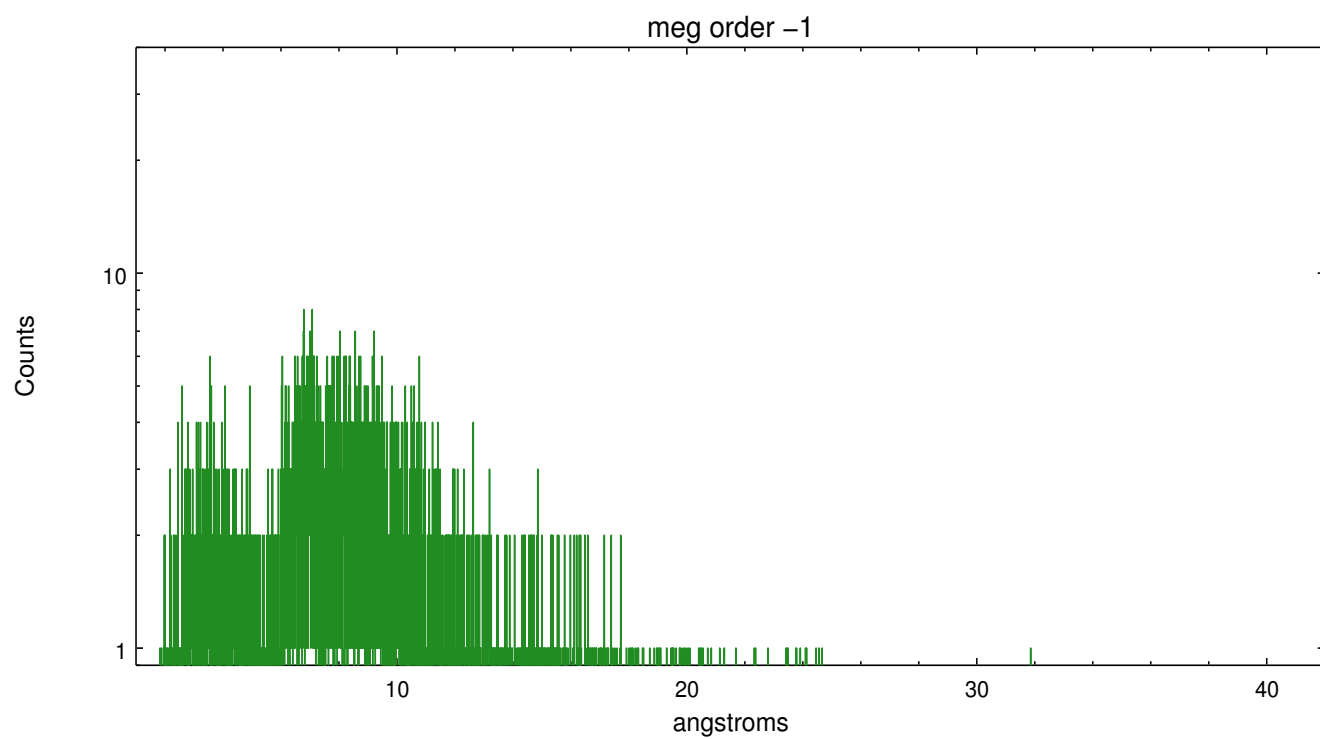
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	419	179	3872	3272	4196	172	352





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2015.10.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.4074479267

A.2 Comments

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.