

V&V Reference Report

L2 ASCDS Version : 10.5.1.1

Observation 18147 - L2 Version 2
Chandra X-Ray Center

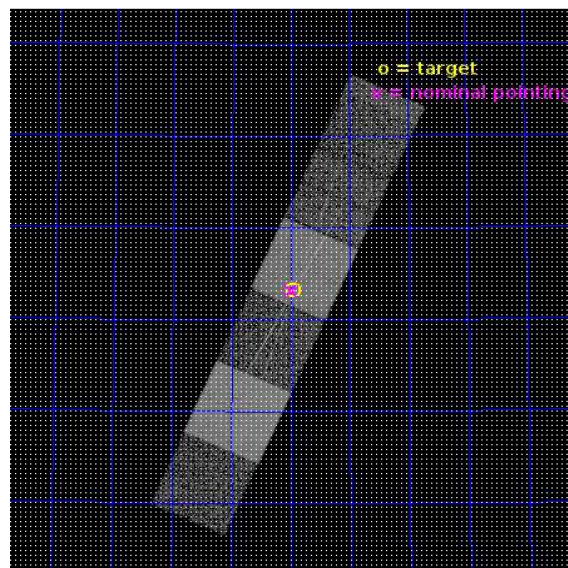
L2 Processing Date : Sep 26 2016

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1 Front

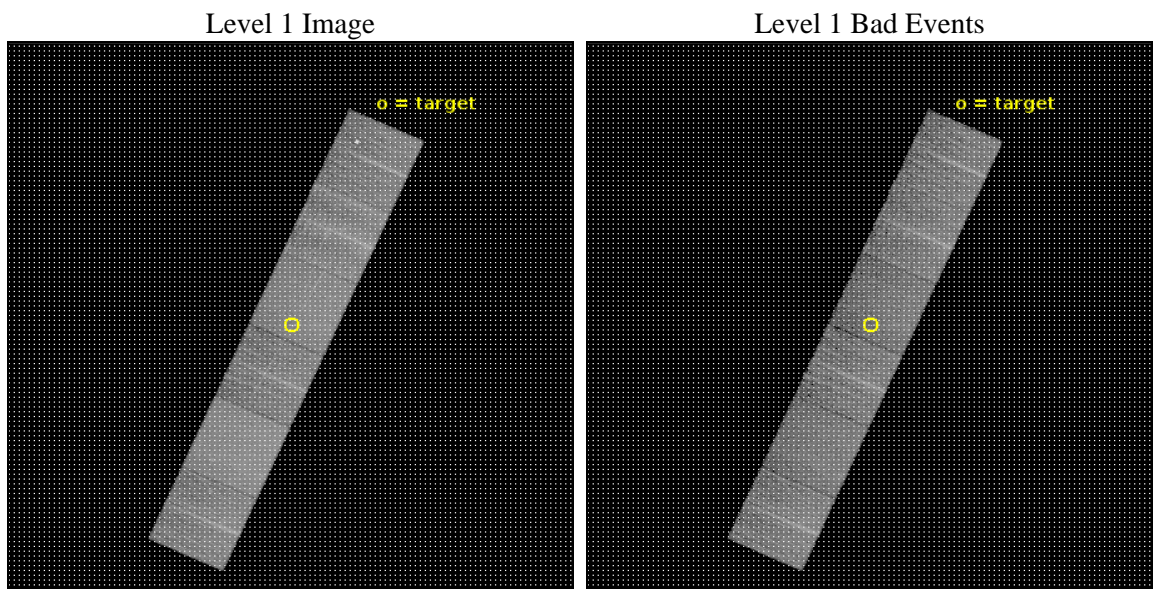
seq_num	703213	Sequence number
obs_id	18147	Observation id
title	Picturing Feedback in Action: from the innermost nuclear region to the Galaxy Scale	Proposal title
observer	Dr. Fabrizio Nicastro	Principal investigator
object	Mkn 876	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	243.488333	Observer's specified target RA [deg]
dec_targ	65.719444	Observer's specified target Dec [deg]
ra_nom	243.49726355557	Nominal RA [deg]
dec_nom	65.718869015986	Nominal Dec [deg]
roll_nom	294.14847618377	Nominal Roll [deg]
revision	2	Processing version of data
ontime	11947.52586329	Sum of GTIs [s]
livetime	11796.239096872	Livetime [s]
ontime4	11947.566903234	Sum of GTIs [s]
ontime5	11947.484823227	Sum of GTIs [s]
ontime6	11947.443783283	Sum of GTIs [s]
ontime7	11947.52586329	Sum of GTIs [s]
ontime8	11947.40274322	Sum of GTIs [s]
ontime9	11947.361703277	Sum of GTIs [s]
l2events	137817	Number of level 2 events



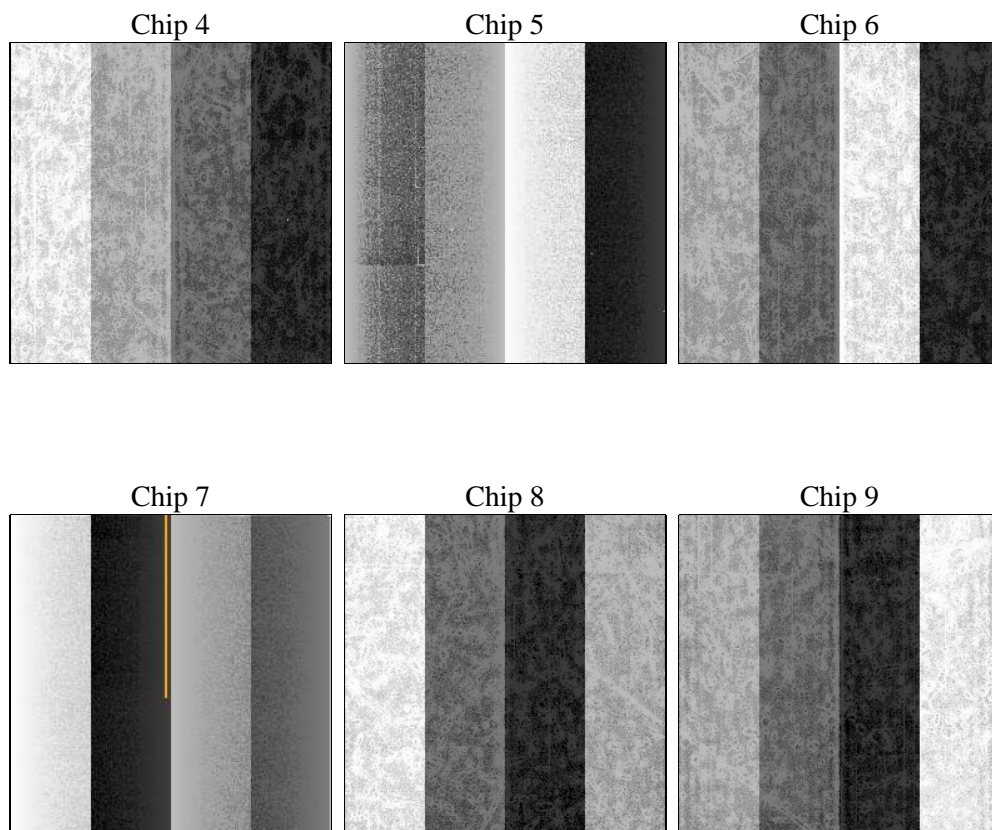
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	3	Obi number	sched_exp_time	12000.000000	[s] Scheduled observation exposure time
ascdsver	10.5.1.1	Processing system revision	ontime	11947.52586329	Sum of GTIs [s]
caldsver	4.7.2	 	ontime4	11947.566903234	Sum of GTIs [s]
date	2016-09-26T16:56:56	Date and time of file creation	ontime5	11947.484823227	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	11947.443783283	Sum of GTIs [s]
			ontime7	11947.52586329	Sum of GTIs [s]
			ontime8	11947.40274322	Sum of GTIs [s]
			ontime9	11947.361703277	Sum of GTIs [s]
			l1events	585052	Number of level 1 events
			tgmetho	TGDETECT	Method used to create src1a file
			ra_pos	(4123.77, 4101.07)	Grade 0 sky pixel position

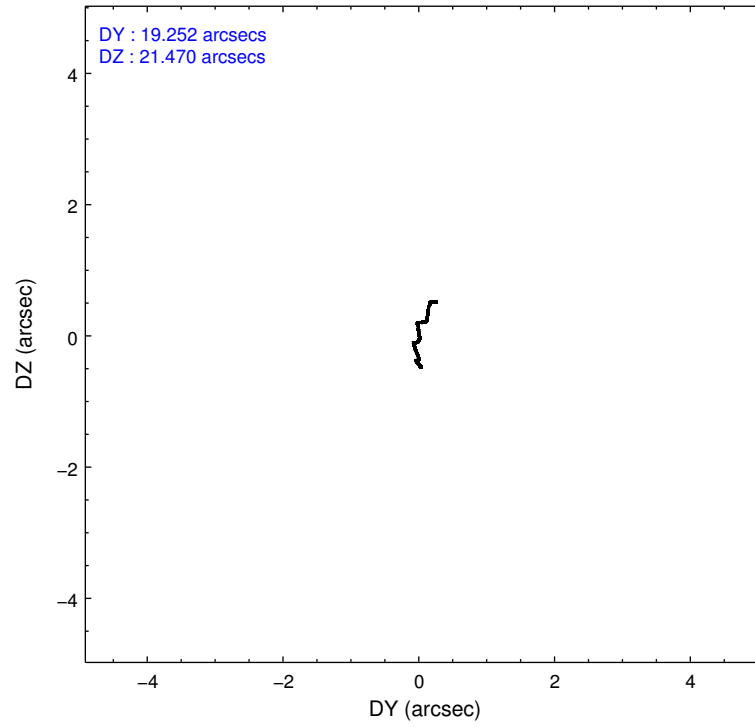
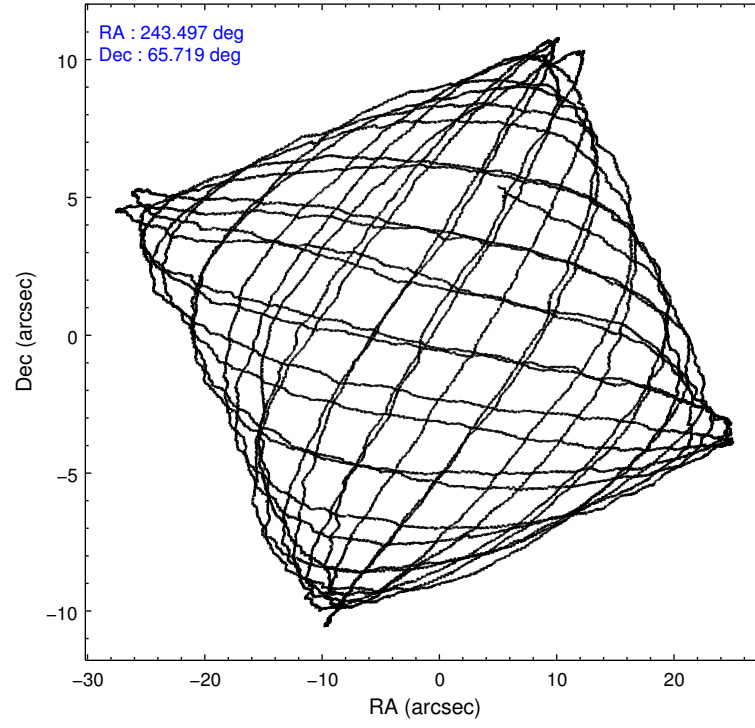
2.1.4 Events

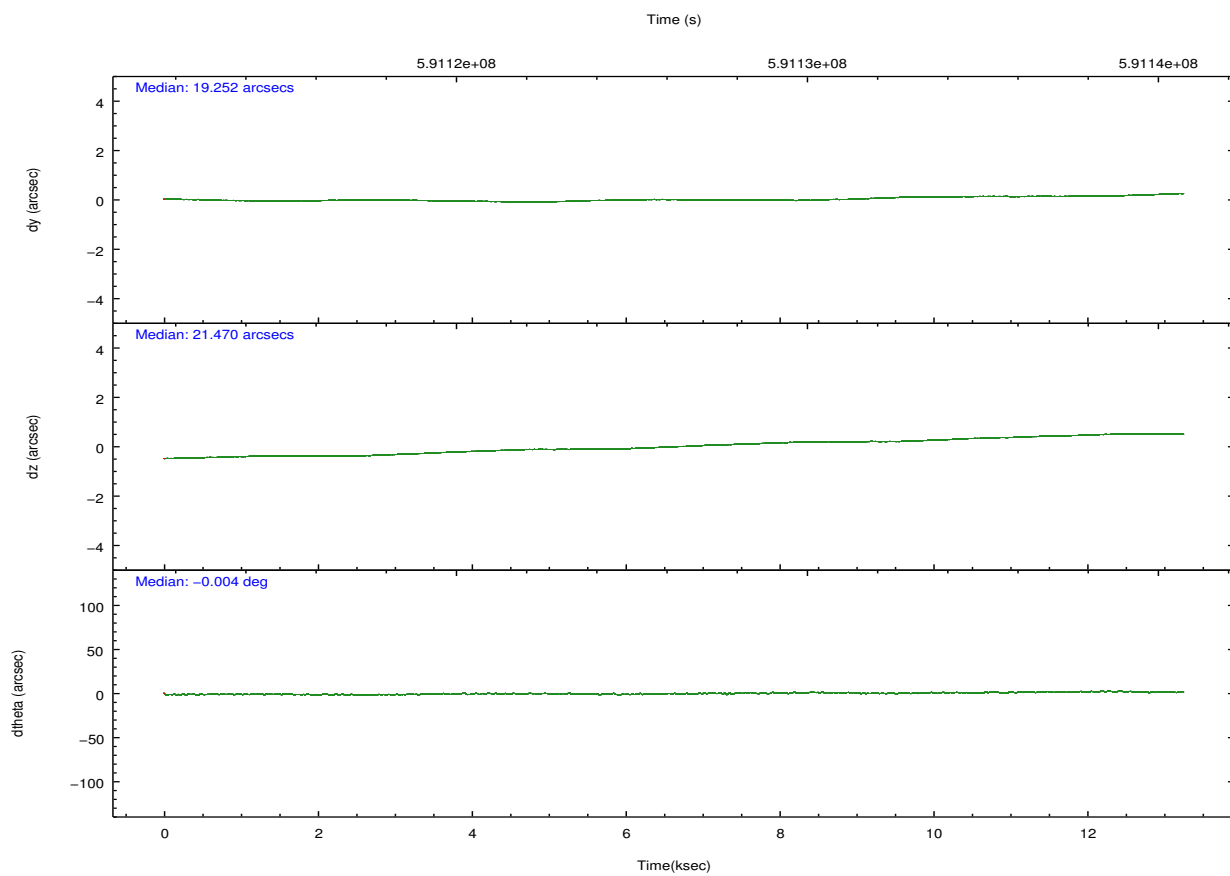
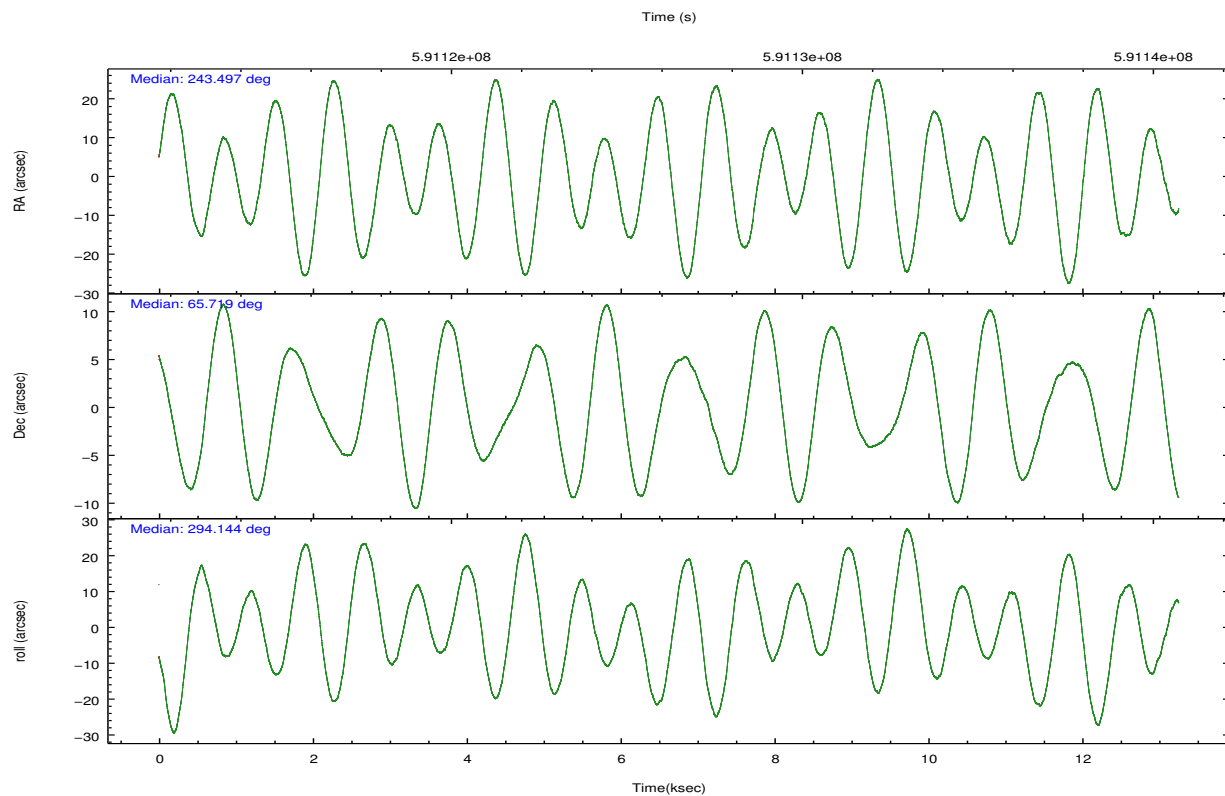
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	90489	123268	79412	104189	103337	84357	grade 0 events	3888	3601	3899	4426	8783	6913
rejected events	80619	63995	69275	57433	74494	71132		4%	2%	4%	4%	8%	8%
rejected %	89%	51%	87%	55%	72%	84%	grade 1 events	81	254	45	162	80	83
								0%	0%	0%	0%	0%	0%
							grade 2 events	2371	18869	2240	10005	6764	2264
								2%	15%	2%	9%	6%	2%
							grade 3 events	977	2152	948	3803	2890	1033
								1%	1%	1%	3%	2%	1%
							grade 4 events	951	1975	931	3824	2670	1003
								1%	1%	1%	3%	2%	1%
							grade 5 events	3999	9022	3811	10132	5607	4305
								4%	7%	4%	9%	5%	5%
							grade 6 events	1692	32709	2125	24730	7741	2021
								1%	26%	2%	23%	7%	2%
							grade 7 events	76530	54686	65413	47107	68802	66735
								84%	44%	82%	45%	66%	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	243.442564	243.4972635555702	CCD I2 on	N	N
[deg] Pointing Dec	65.734658	65.7188690159859	CCD I3 on	N	N
[deg] Pointing Roll	294.041719	294.148476183771	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	-190.132523	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	Y	Y
[s] Observation start time (MET)	591122717.184000	591121079.13555	CCD S5 on	Y	Y
Observation start date	2016-09-24T16:44:09	2016-09-24T16:17:59	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	591134717.184000	591135700.76139	On-chip summing requested	N	N
Observation end date	2016-09-24T20:04:09	2016-09-24T20:21:40	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

2.3 Aspect



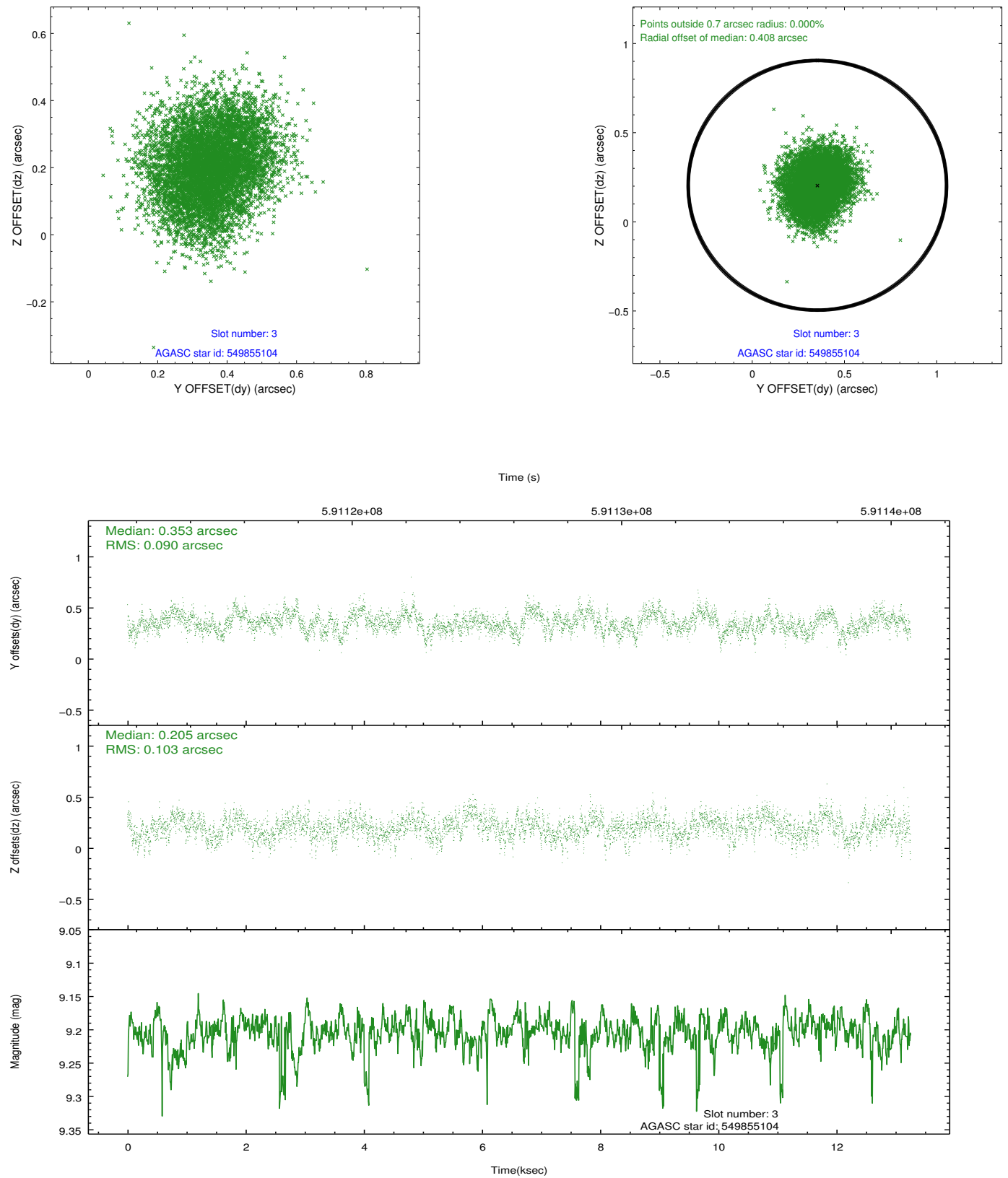


Slot Statistics

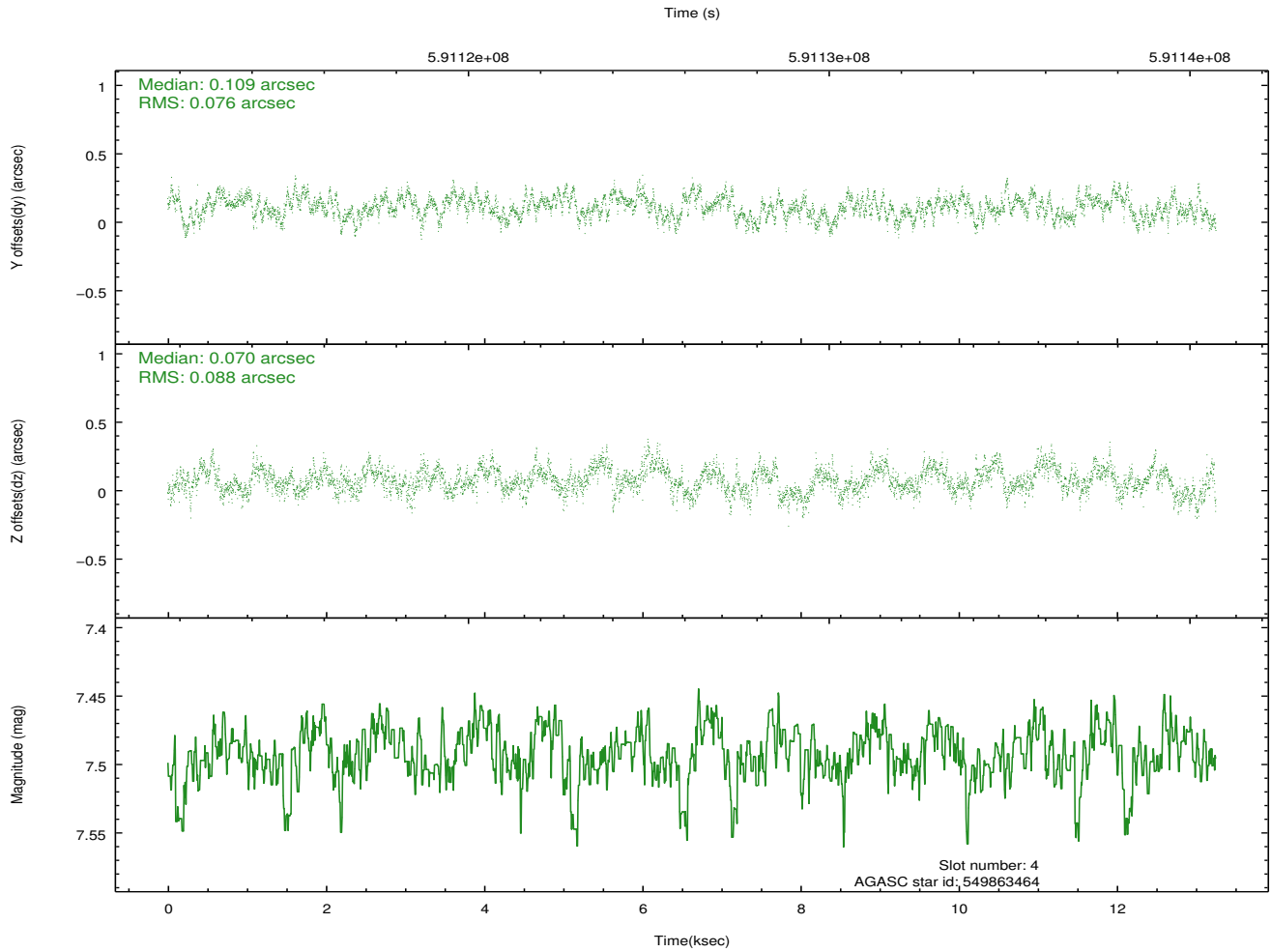
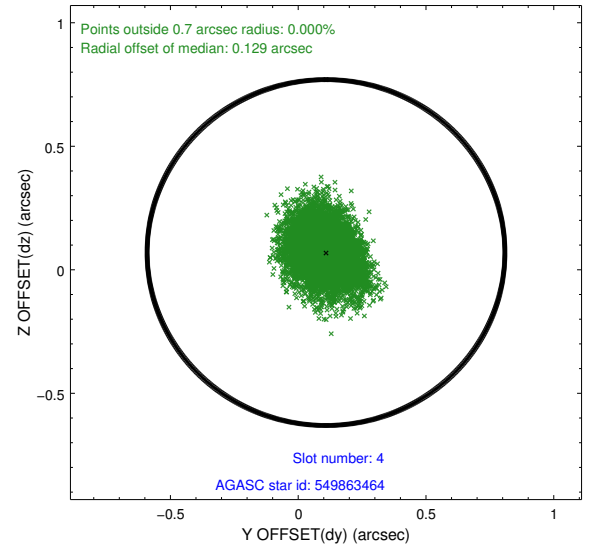
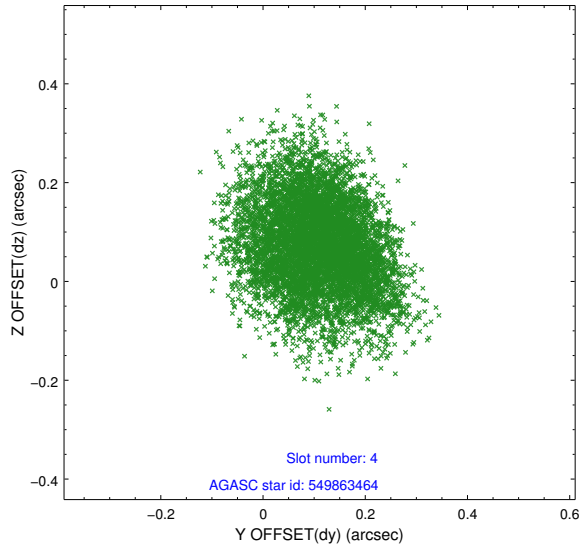
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.99	3233	-0.229	-0.126	0.014	0.022	0.000000	0.000000	-772.60	-1743.11
1	FID		ACIS-S-4	7.10	3233	0.494	0.144	0.009	0.017	0.000000	0.000000	2141.23	165.26
2	FID		ACIS-S-5	7.10	3233	-0.297	-0.010	0.013	0.019	0.000000	0.000000	-1825.05	159.19
3	GUIDE	used	549855104	9.20	6454	0.353	0.205	0.147	0.232	242.414078	65.829144	-934.36	-1241.10
4	GUIDE	used	549863464	7.49	6466	0.109	0.070	0.125	0.198	243.630740	66.376841	-2000.94	1189.58
5	GUIDE	used	549864184	9.07	6461	0.005	-0.002	0.134	0.221	243.727034	65.246202	1779.79	-324.26
6	GUIDE	used	549864952	8.90	6461	-0.319	-0.173	0.150	0.240	244.861755	65.614211	1233.61	1759.24
7	GUIDE	used	549859024	7.84	6463	-0.153	-0.096	0.098	0.160	243.777882	65.072262	2383.19	-506.02

2.4 Star Slots

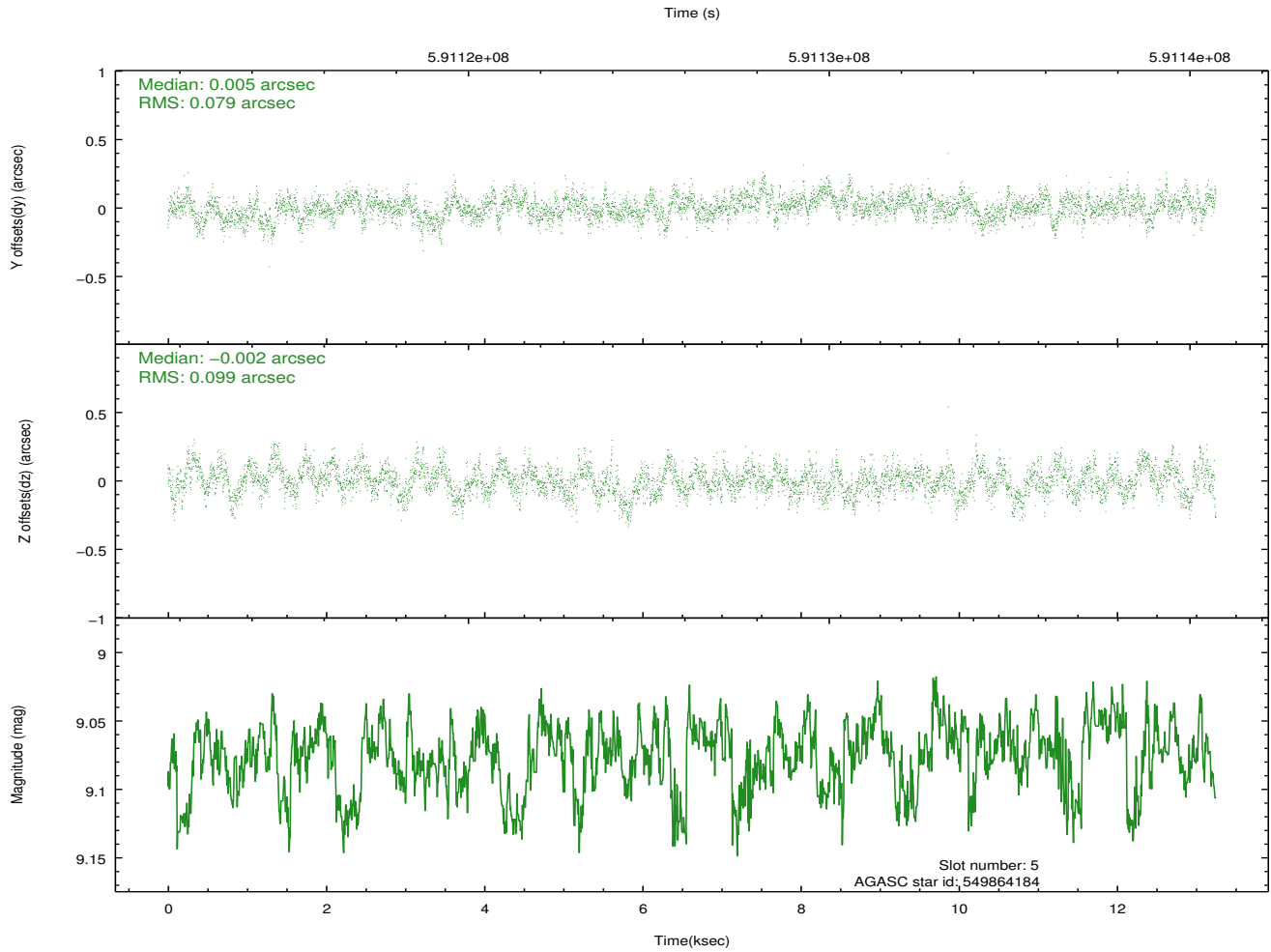
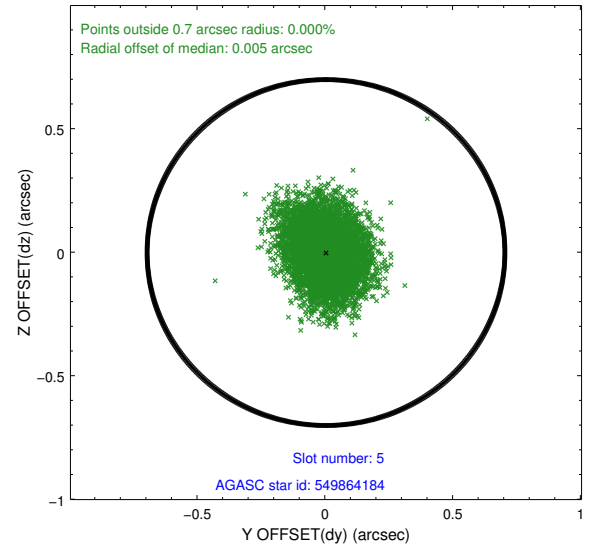
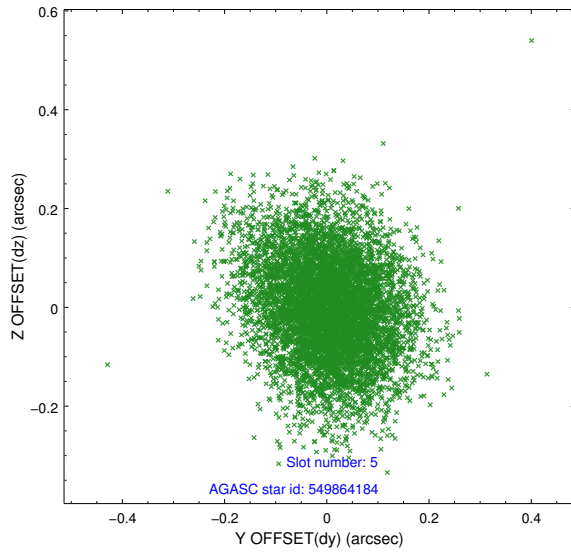
2.4.1 Slot 3



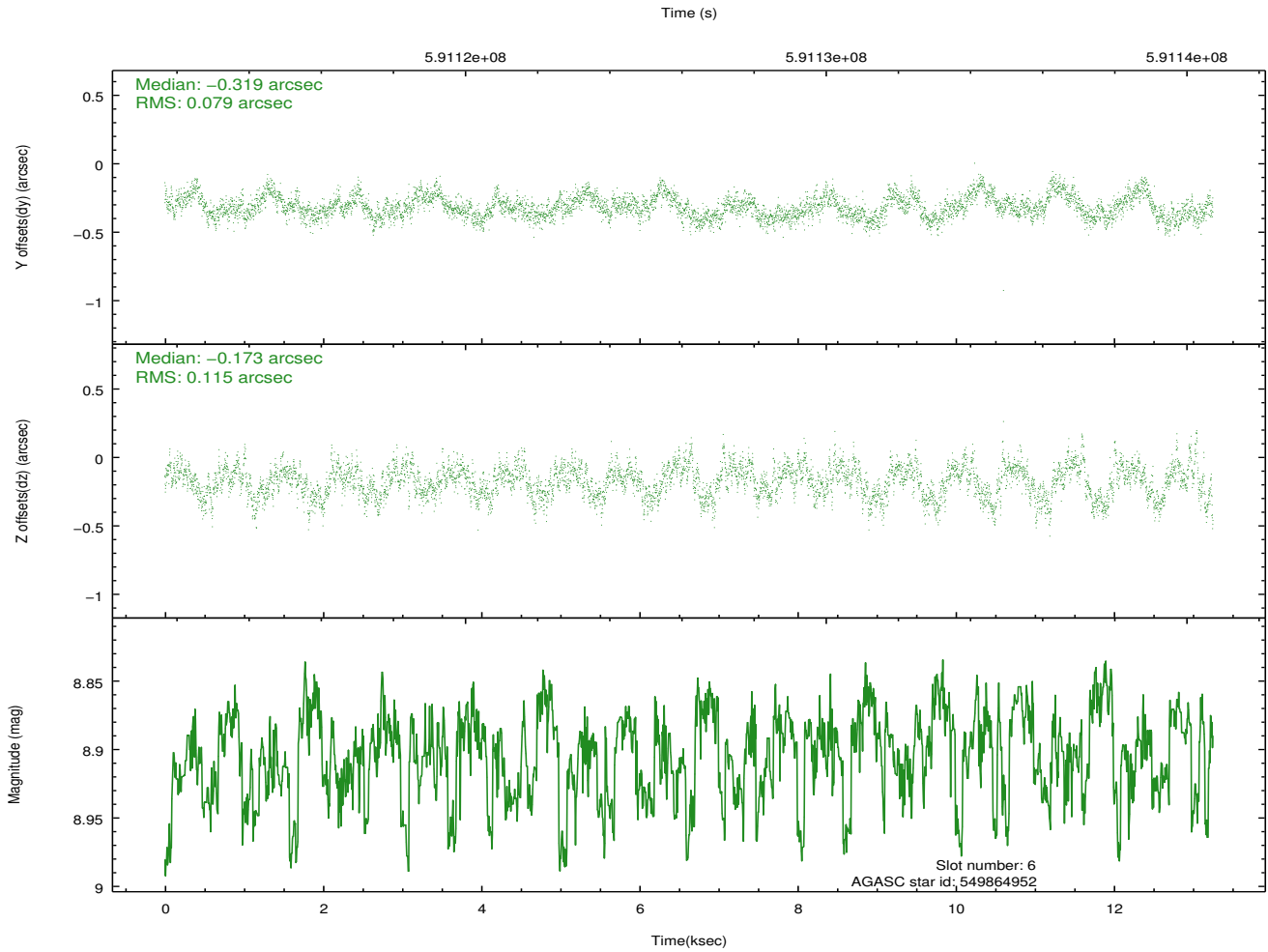
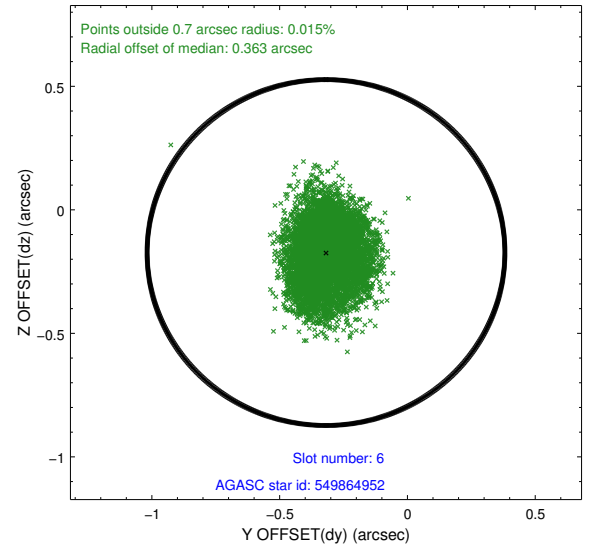
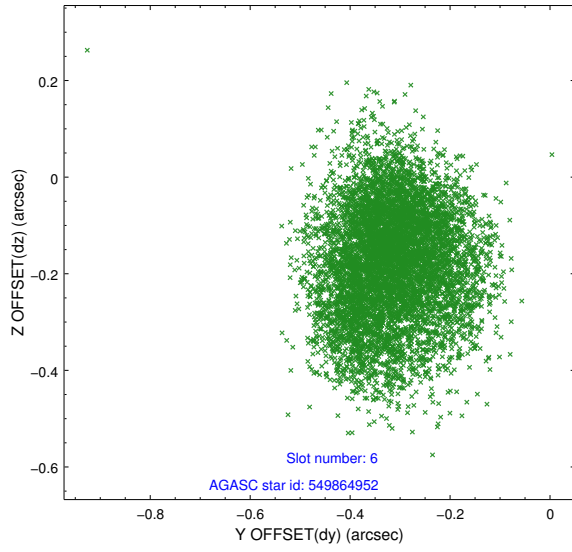
2.4.2 Slot 4



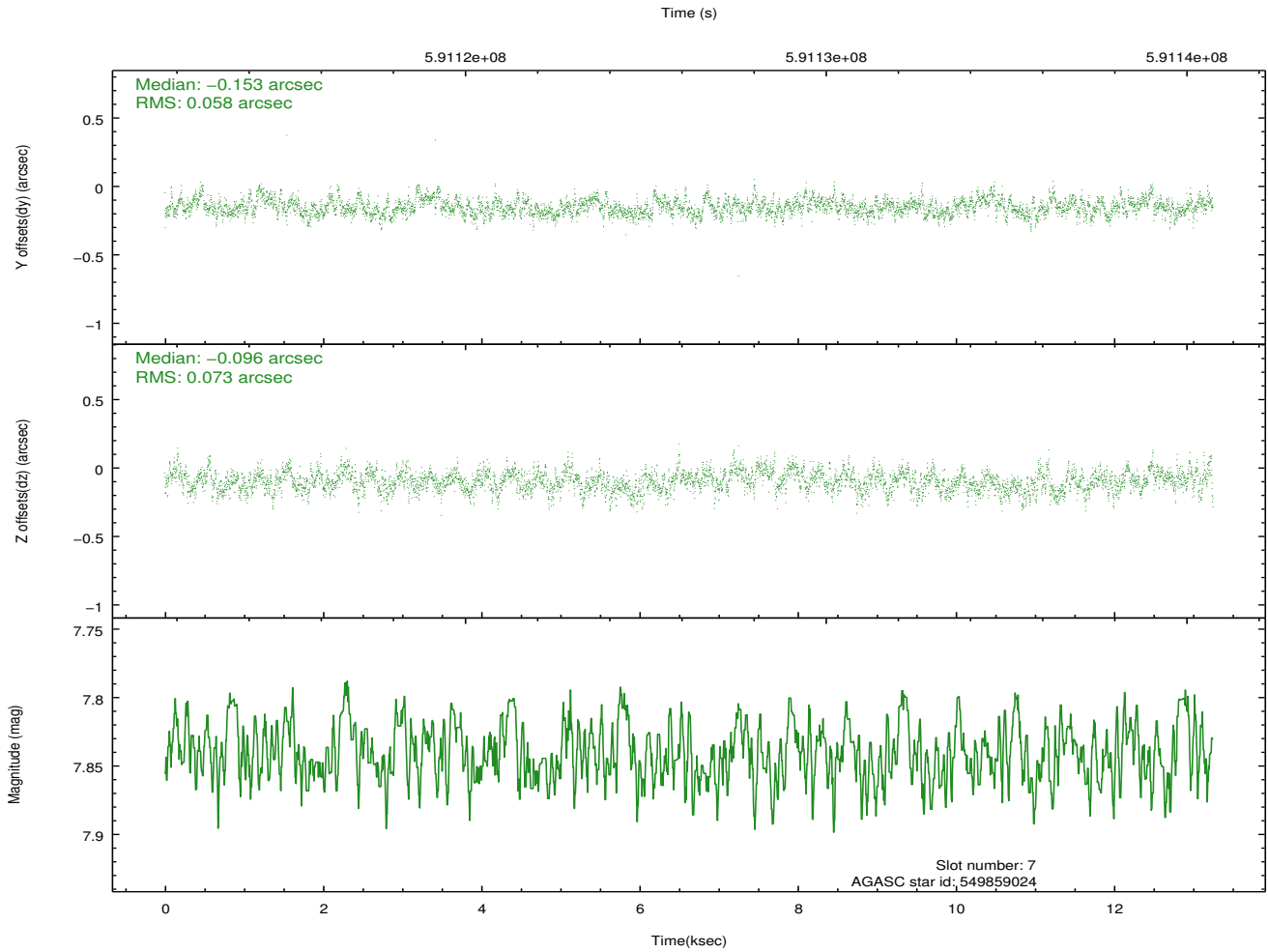
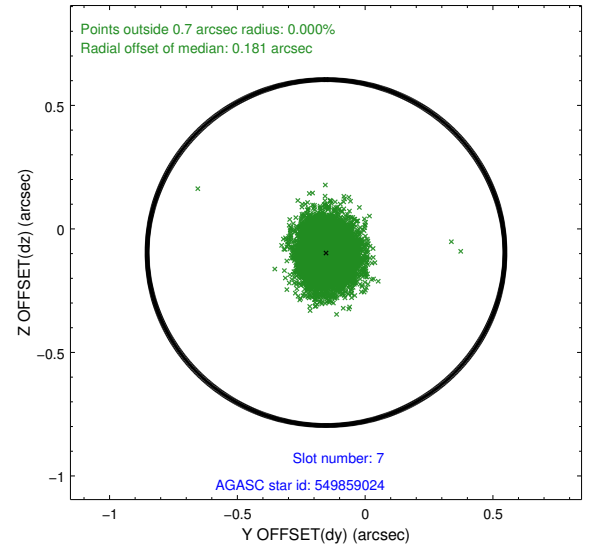
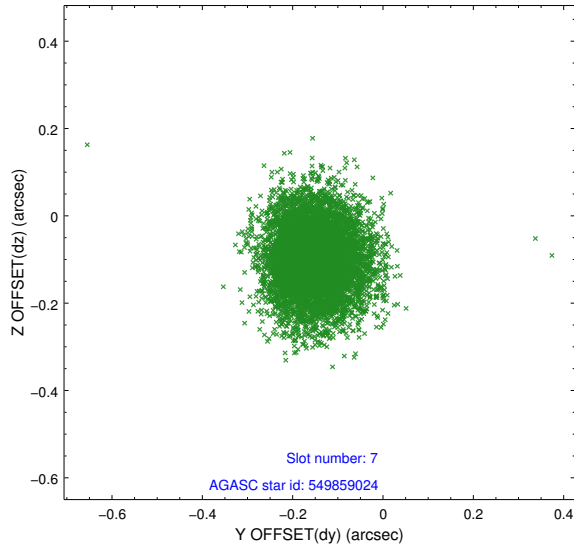
2.4.3 Slot 5



2.4.4 Slot 6

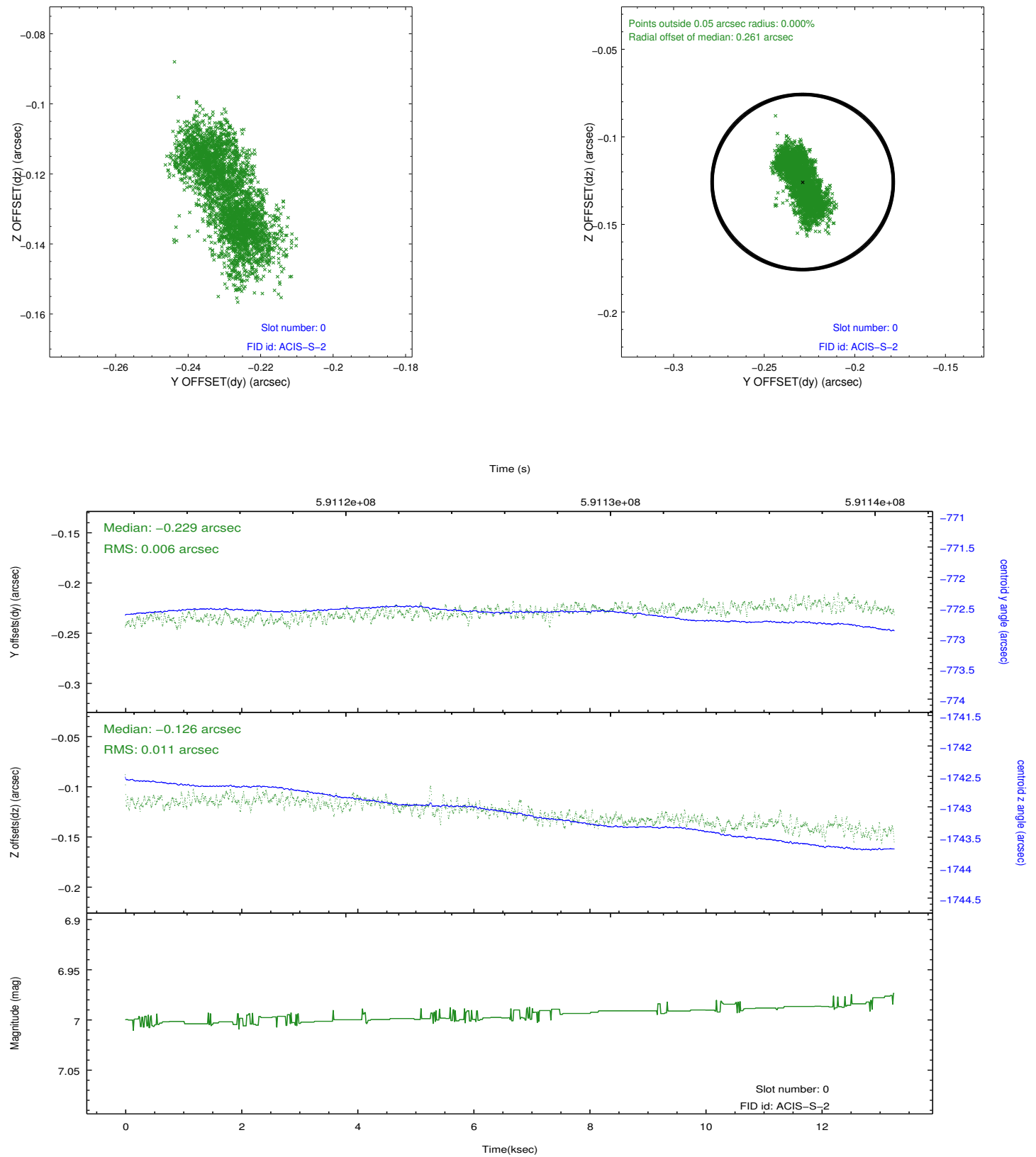


2.4.5 Slot 7

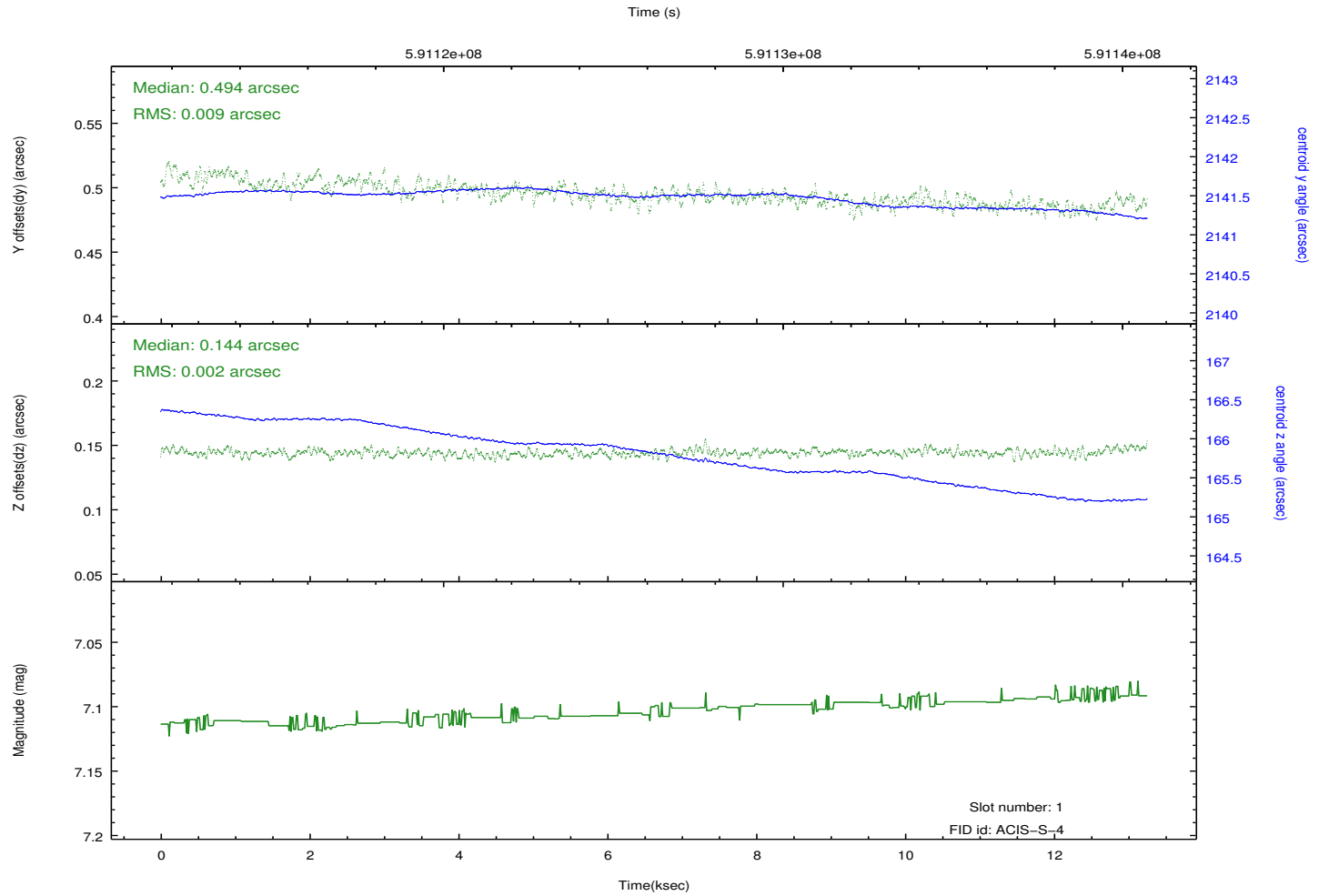
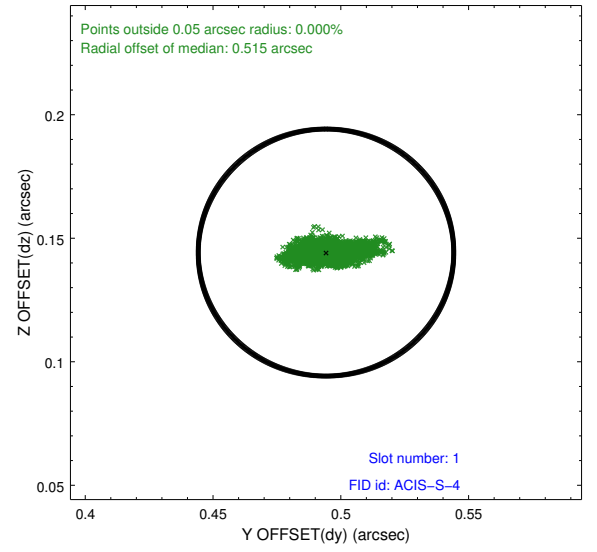
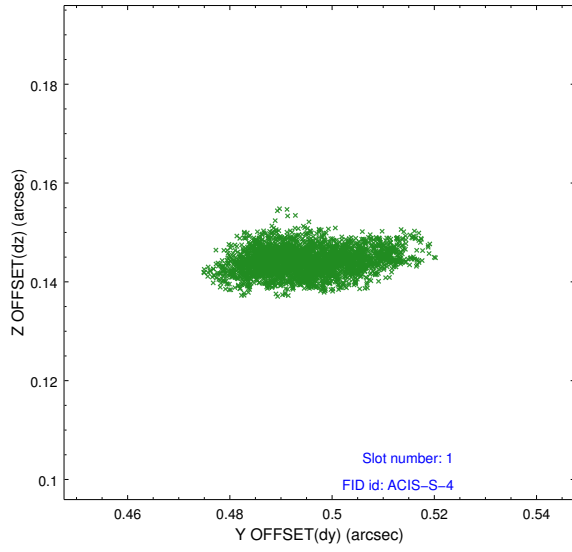


2.5 FID Slots

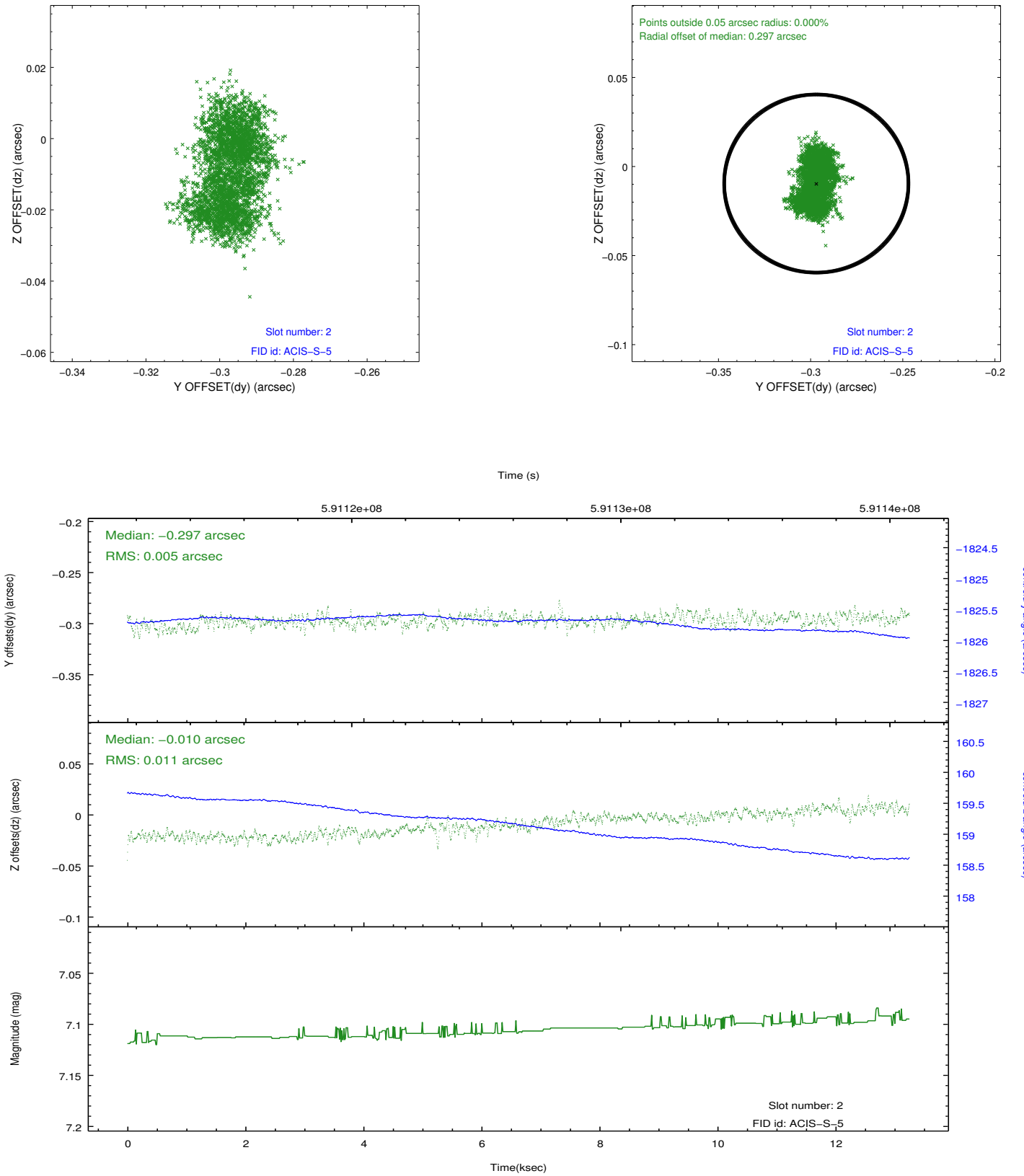
2.5.1 Slot 0



2.5.2 Slot 1

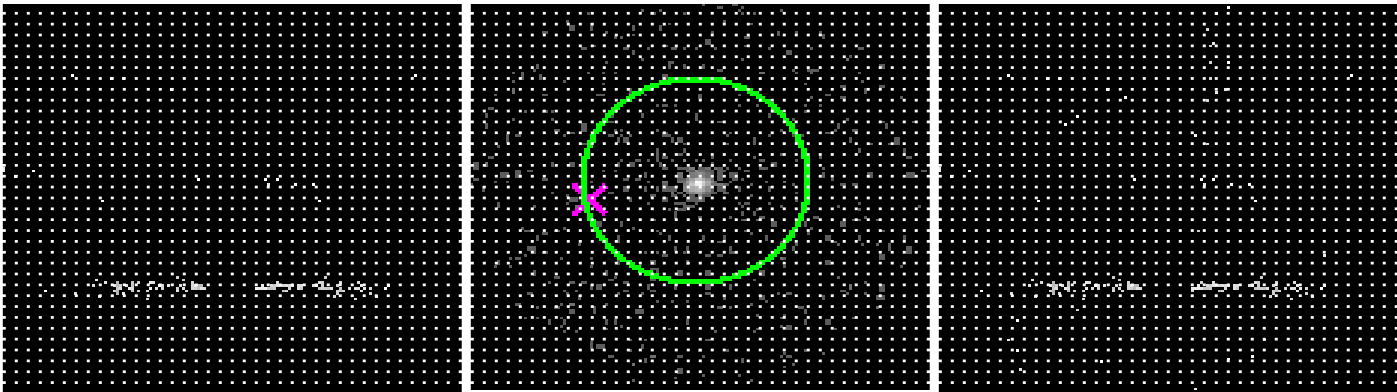


2.5.3 Slot 2



3 Gratings

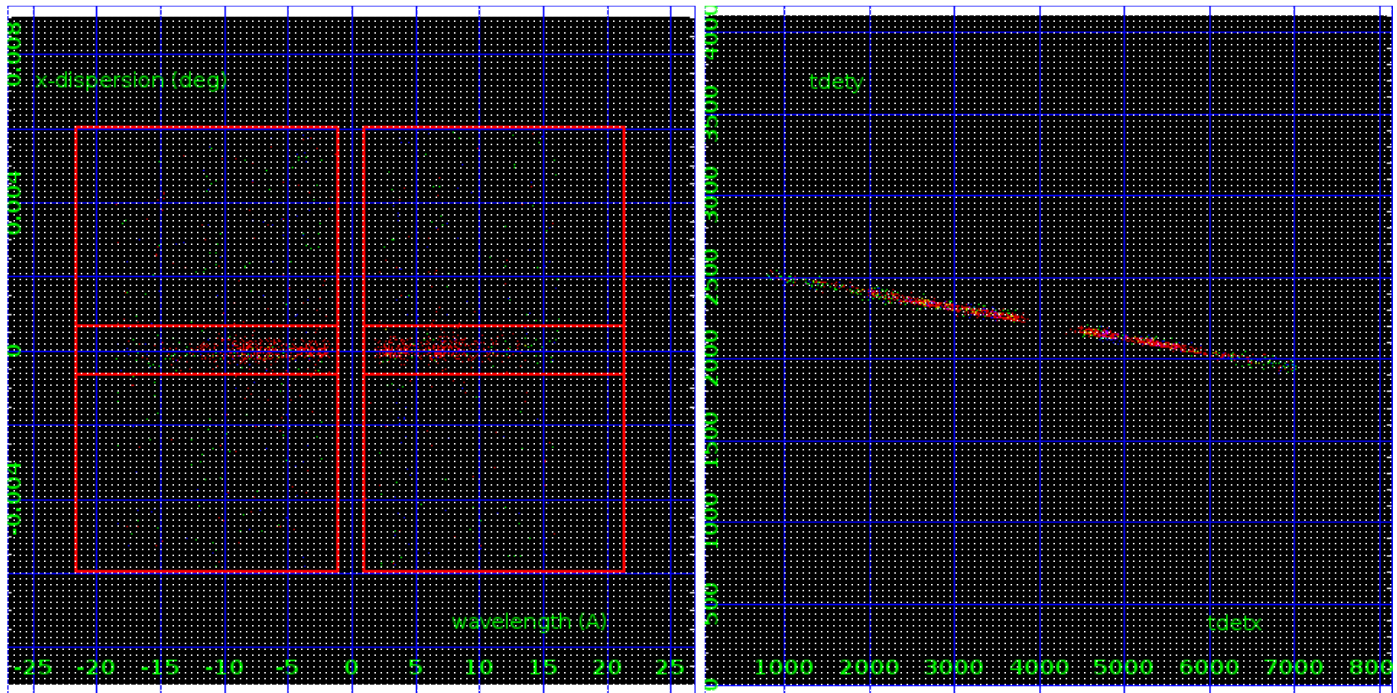
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

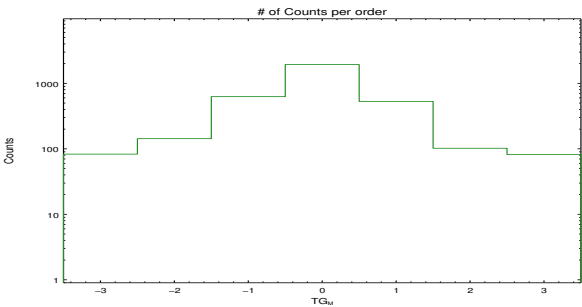
HEG Order Sort ALL

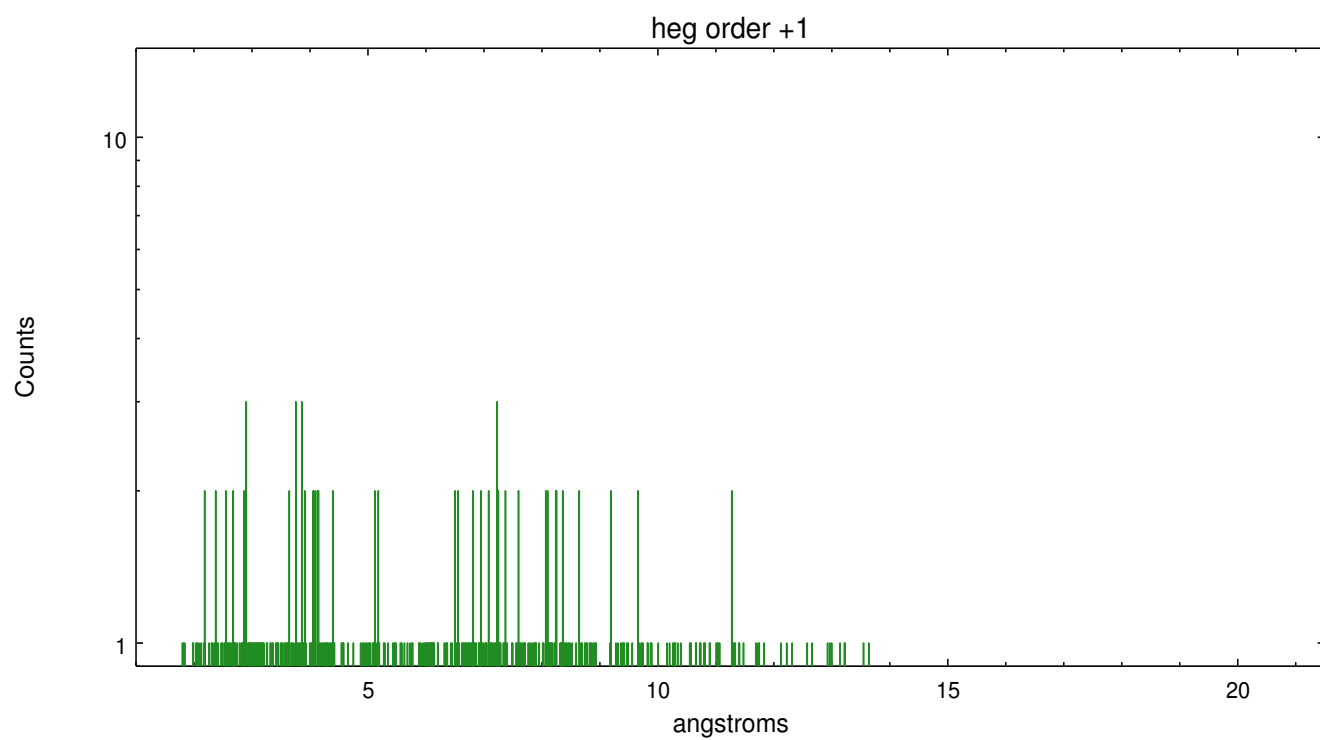
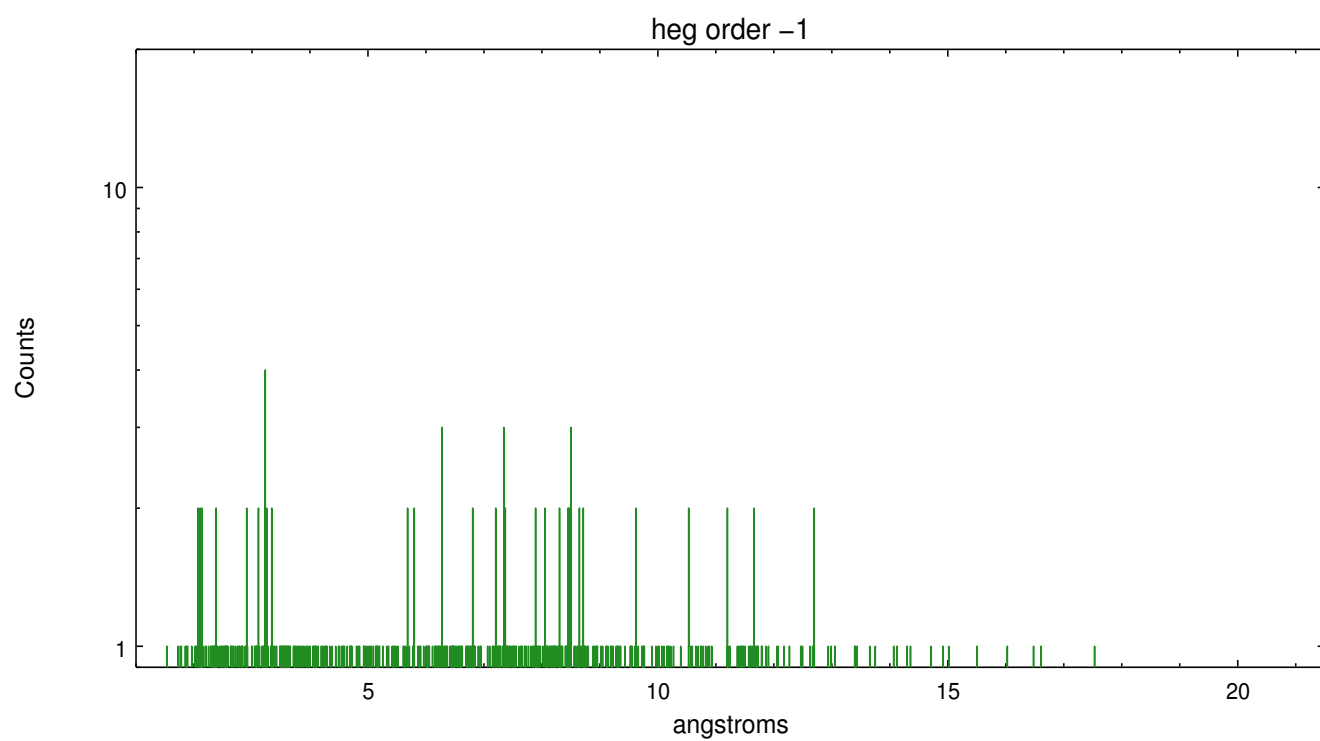


Spot Image HEG

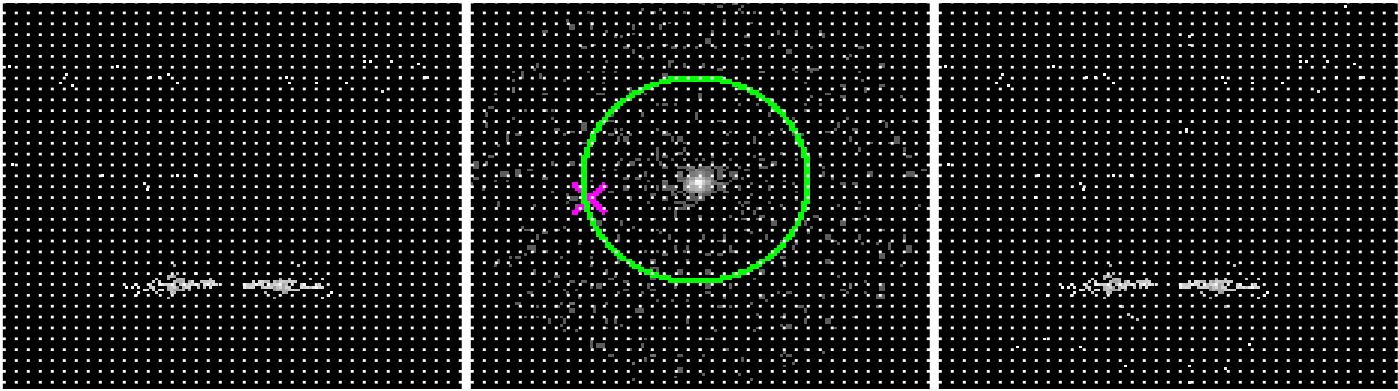
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	83	143	627	1937	530	102	82





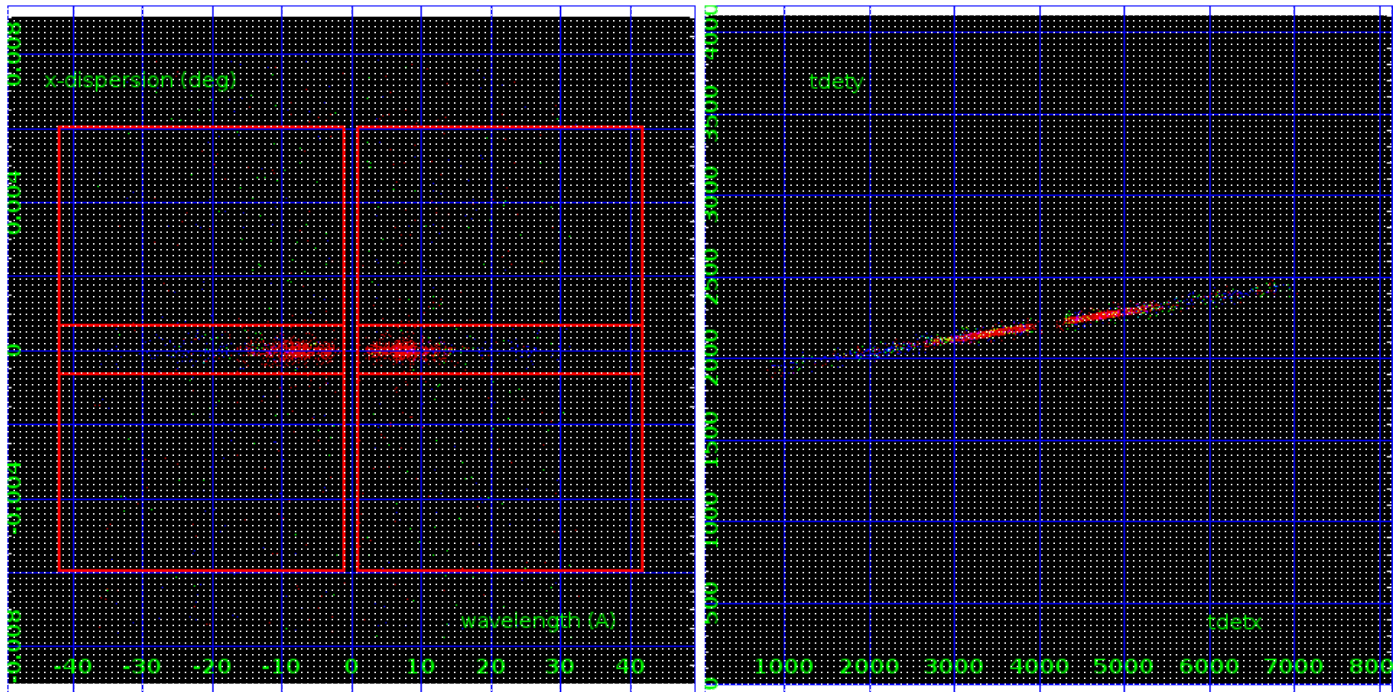
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

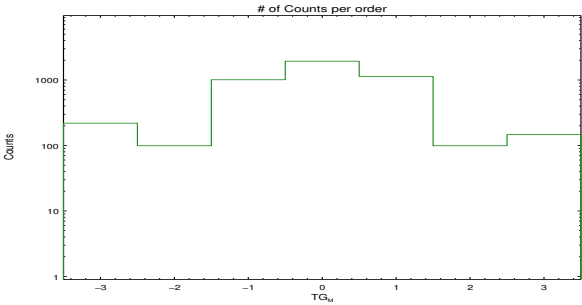
MEG Order Sort ALL

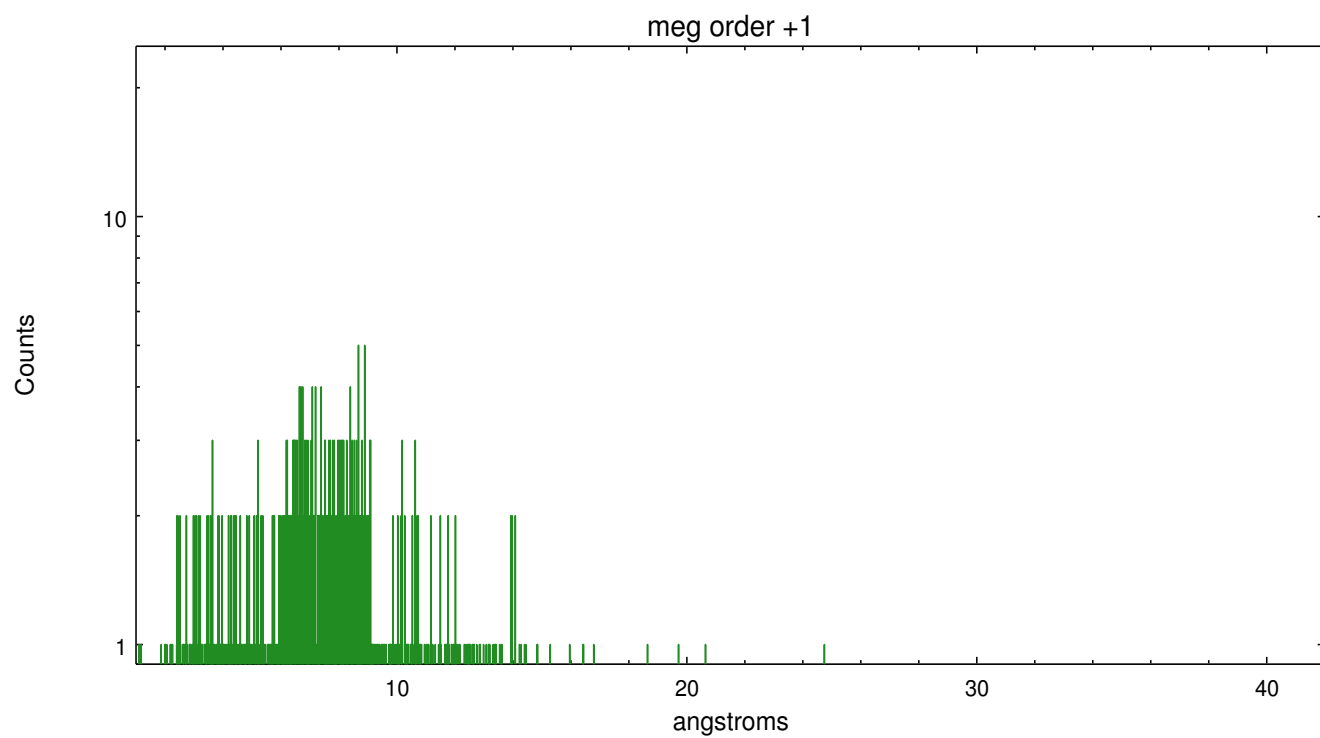
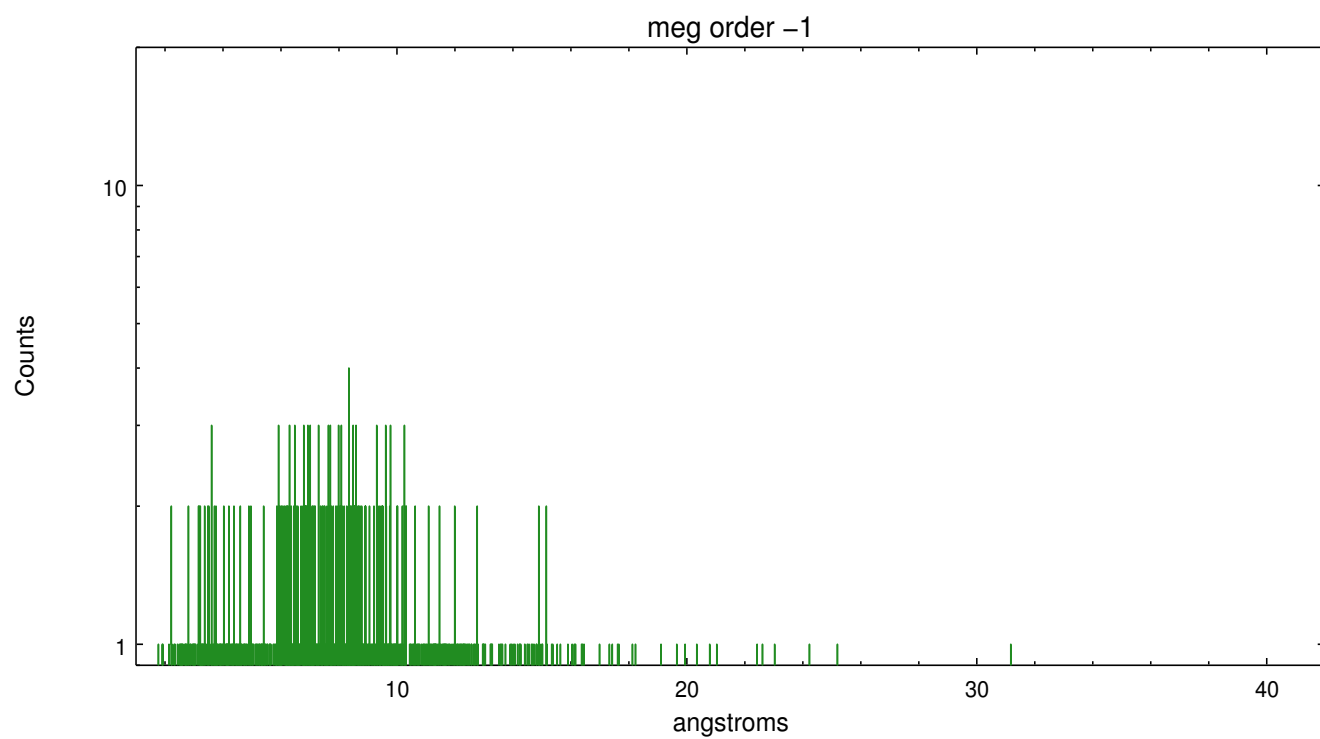


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	219	99	1009	1937	1132	99	147





A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2016.09.27
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	11.94752586329

A.2 Comments

A spatial region of the original bias map for CCD = 6 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small (~ 20 eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 6 has been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels affected by the anomaly are bounded by sky coords:
(243.71580,65.68031), (243.71311,65.68280), (243.40405,65.62569),
(243.40677,65.62321).