

V&V Reference Report

L2 ASCDS Version : 10.8

Observation 22279 - L2 Version 2
Chandra X-Ray Center

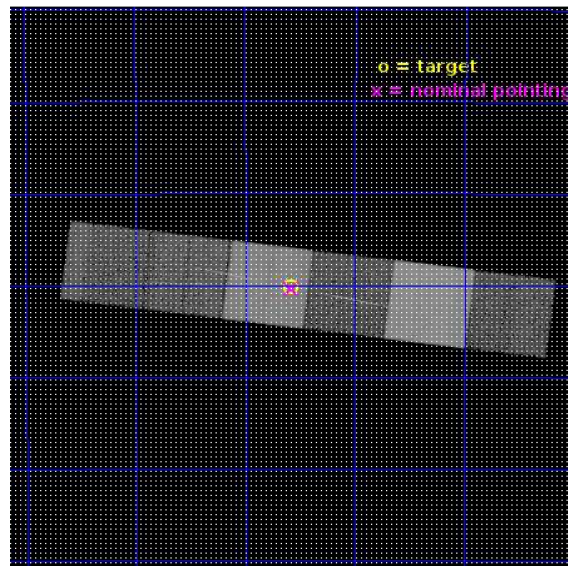
L2 Processing Date : Sep 27 2019

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1 Front

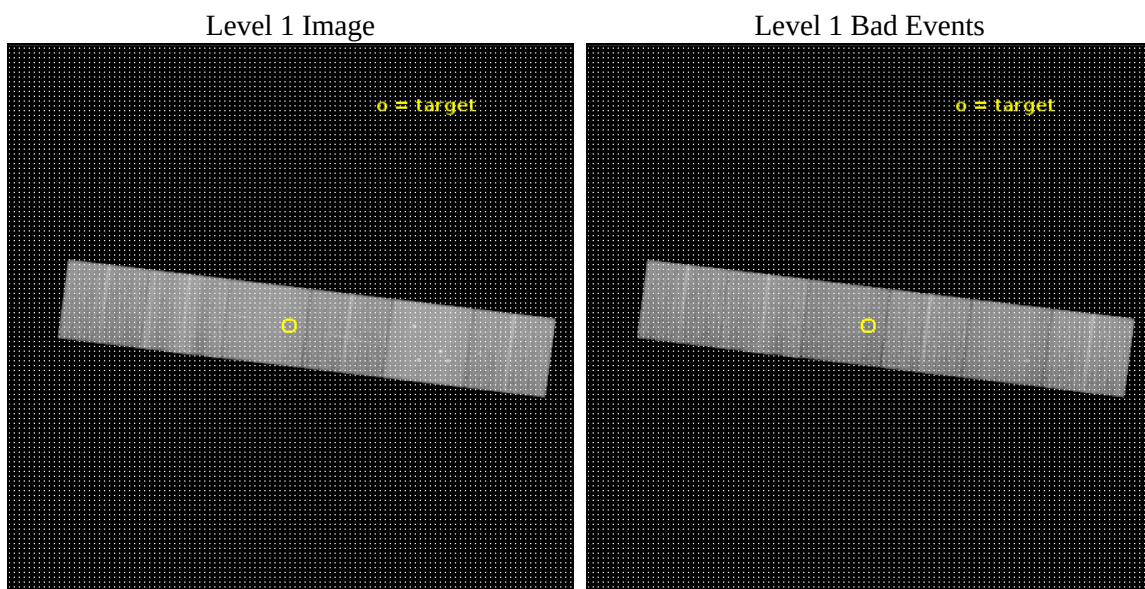
seq_num	201176	Sequence number
obs_id	22279	Observation id
title	Legacy HETG Spectrum of a Massive Star: zeta Pup	Proposal title
observer	Wayne Waldron	Principal investigator
object	zeta Pup	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	120.895833	Observer's specified target RA [deg]
dec_targ	-40.003139	Observer's specified target Dec [deg]
ra_nom	120.89478770879	Nominal RA [deg]
dec_nom	-40.006535677002	Nominal Dec [deg]
roll_nom	187.15593497834	Nominal Roll [deg]
revision	2	Processing version of data
ontime	26379.463238001	Sum of GTIs [s]
livetime	26045.430590676	Livetime [s]
ontime4	26379.504277945	Sum of GTIs [s]
ontime5	26379.422197938	Sum of GTIs [s]
ontime6	26379.381157994	Sum of GTIs [s]
ontime7	26379.463238001	Sum of GTIs [s]
ontime8	26379.340117931	Sum of GTIs [s]
ontime9	26379.299077988	Sum of GTIs [s]
l2events	348109	Number of level 2 events



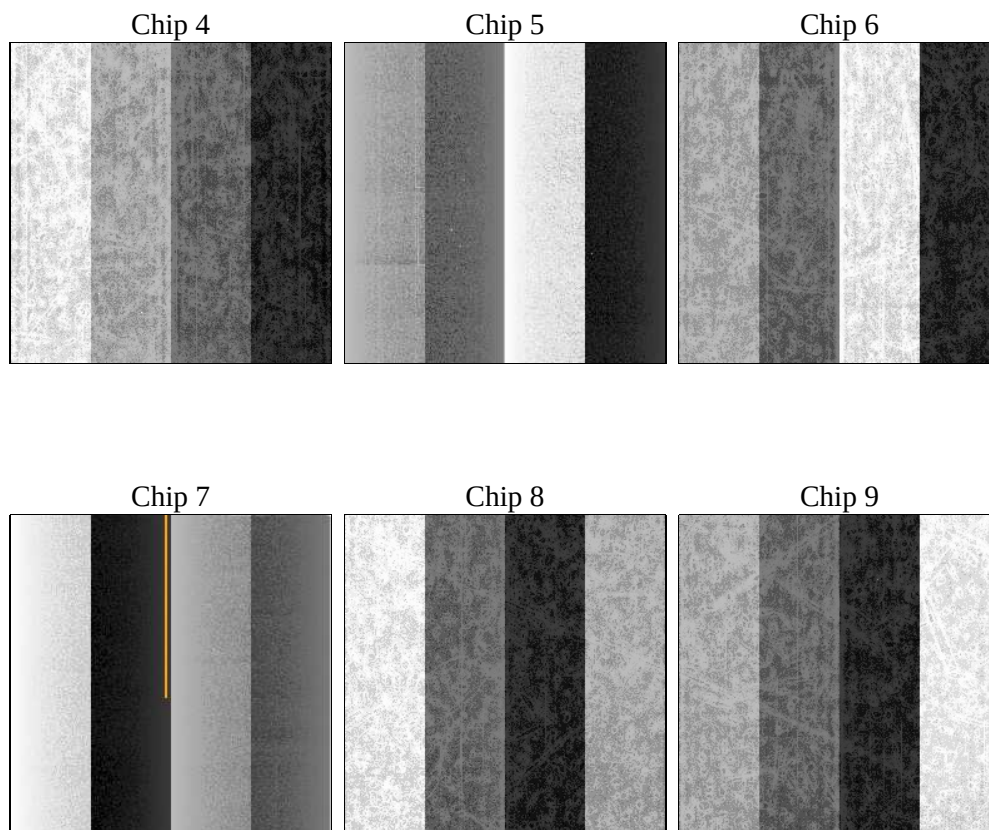
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	26433.000000	[s] Scheduled observation exposure time
ascdsver	10.8	Processing system revision	ontime	26379.463238001	Sum of GTIs [s]
caldsver	4.8.4.1	 	ontime4	26379.504277945	Sum of GTIs [s]
date	2019-09-27T21:33:50	Date and time of file creation	ontime5	26379.422197938	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	26379.381157994	Sum of GTIs [s]
			ontime7	26379.463238001	Sum of GTIs [s]
			ontime8	26379.340117931	Sum of GTIs [s]
			ontime9	26379.299077988	Sum of GTIs [s]
			l1events	1499802	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			src1a_pos	(4001.00, 4121.48)	src1a sky pixel position

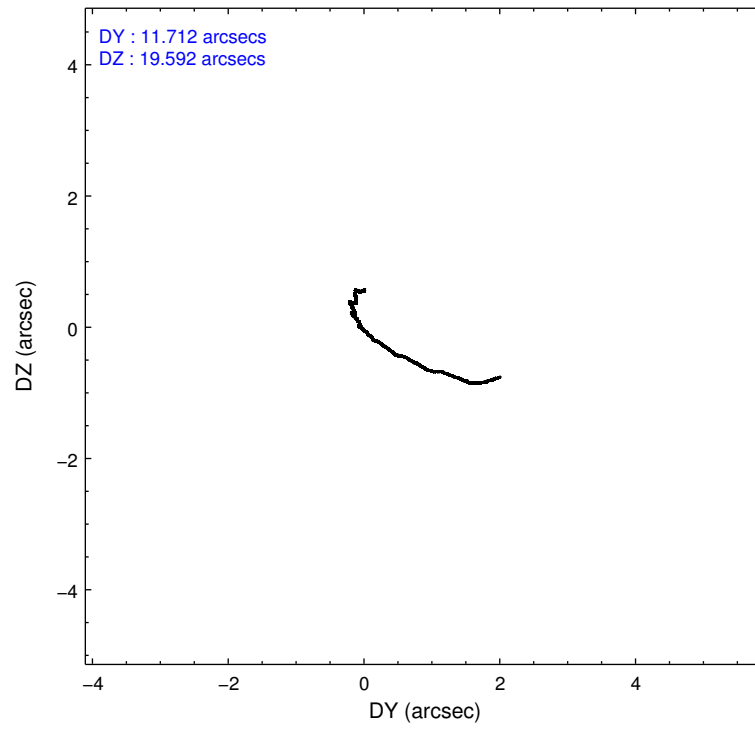
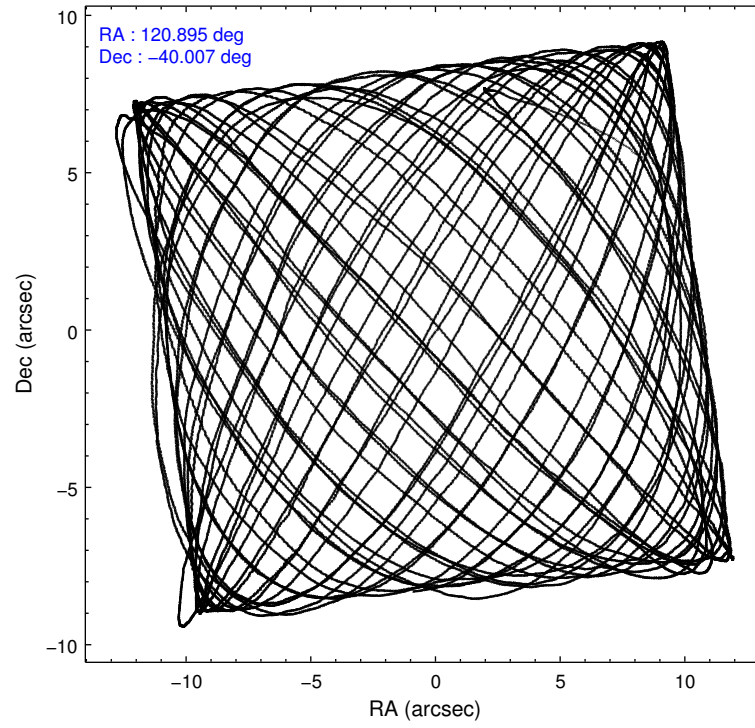
2.1.4 Events

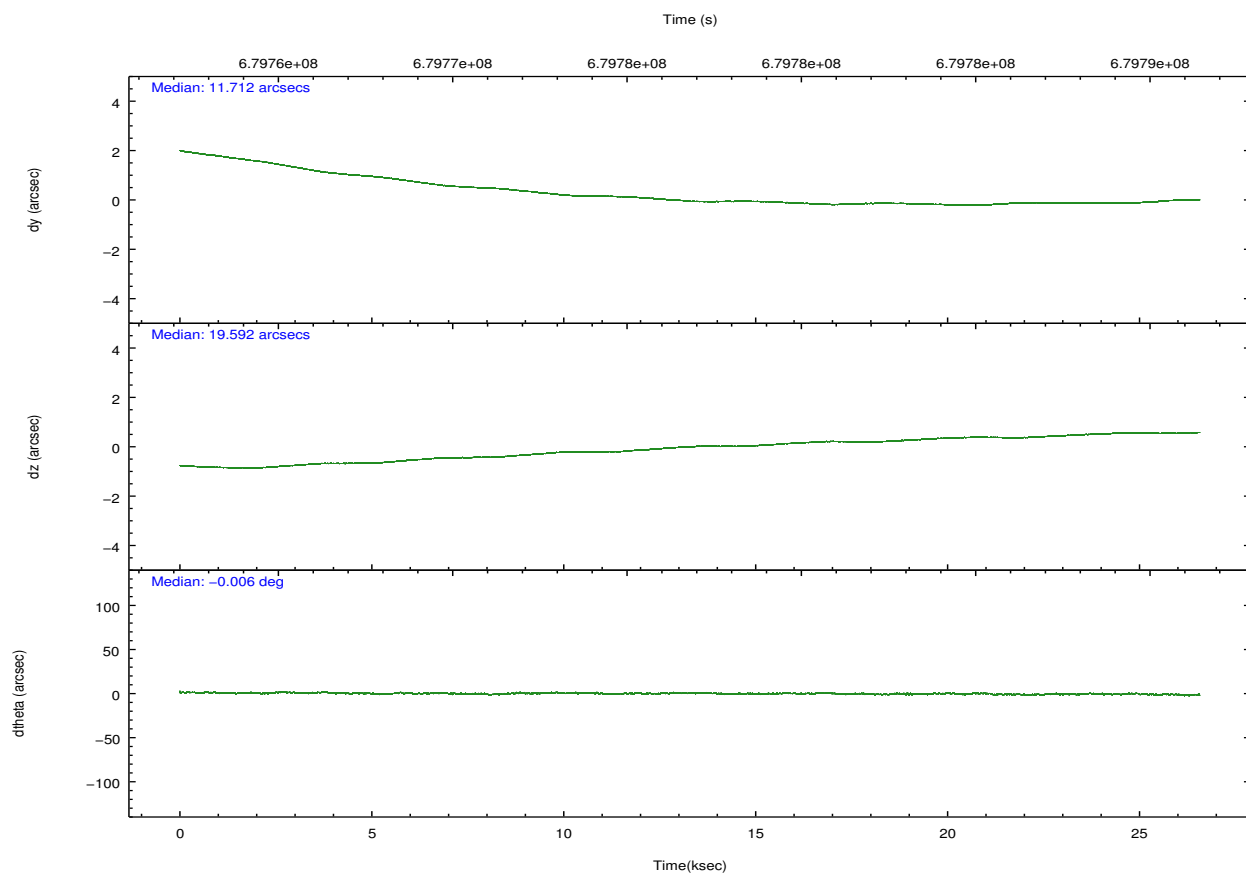
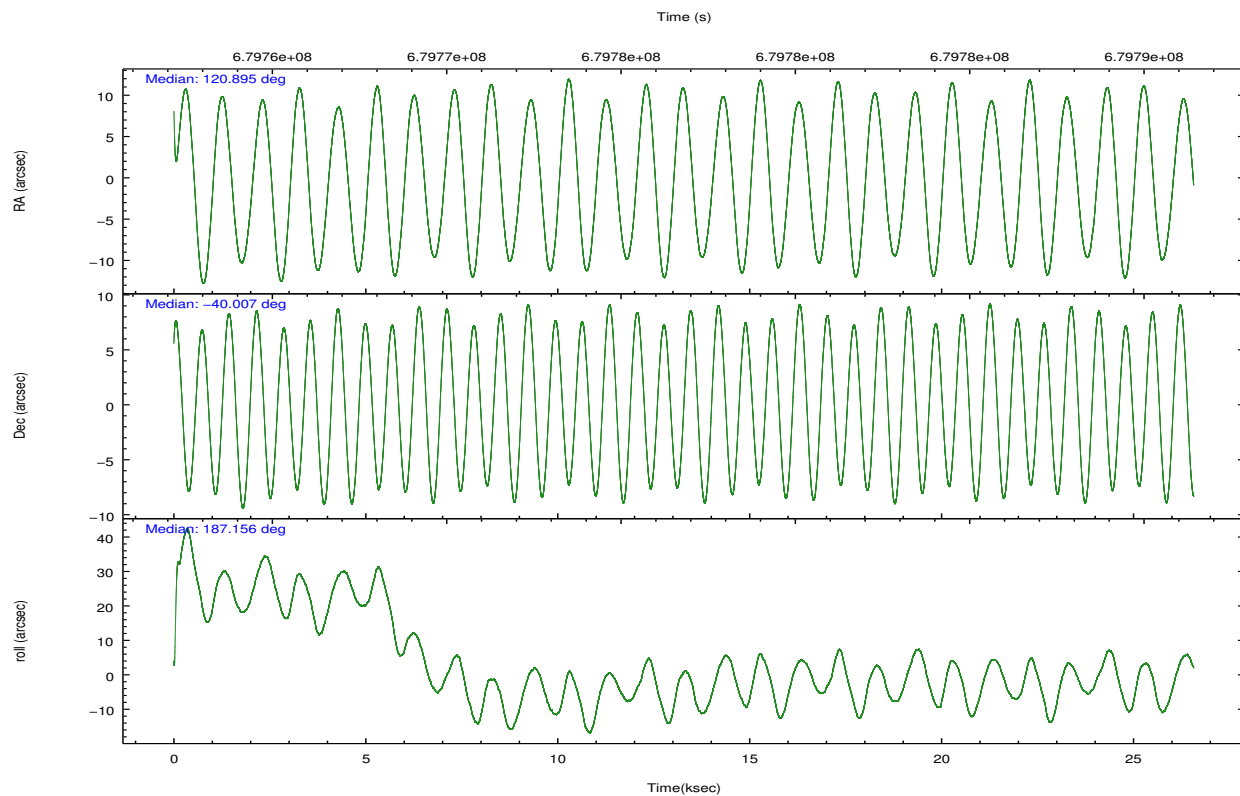
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	236936	325237	207218	262095	267908	200408	grade 0 events	10552	15606	8666	10315	22161	8613
rejected events	211059	165922	182533	146822	192584	175642		4%	4%	4%	3%	8%	4%
rejected %	89%	51%	88%	56%	71%	87%	grade 1 events	244	1343	117	385	230	121
								0%	0%	0%	0%	0%	0%
							grade 2 events	6128	49399	5770	25135	17744	5665
								2%	15%	2%	9%	6%	2%
							grade 3 events	2637	4748	2266	9213	7743	2525
								1%	1%	1%	3%	2%	1%
							grade 4 events	2381	4567	2255	8981	7452	2307
								1%	1%	1%	3%	2%	1%
							grade 5 events	9820	22134	9171	25504	14649	10680
								4%	6%	4%	9%	5%	5%
							grade 6 events	4189	85029	5735	61663	20251	5662
								1%	26%	2%	23%	7%	2%
							grade 7 events	200985	142411	173238	120899	177678	164835
								84%	43%	83%	46%	66%	82%

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	120.923006	120.8947877087904	CCD I2 on	N	N
[deg] Pointing Dec	-39.989679	-40.00653567700209	CCD I3 on	N	N
[deg] Pointing Roll	187.017464	187.1559349783391	CCD S0 on	O2	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	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	Y	Y
[s] Observation start time (MET)	679763670.184000	679762360.27177	CCD S5 on	O1	Y
Observation start date	2019-07-17T15:13:21	2019-07-17T14:52:40	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	679790103.184000	679791155.086	On-chip summing requested	N	N
Observation end date	2019-07-17T22:33:54	2019-07-17T22:52:35	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

2.3 Aspect



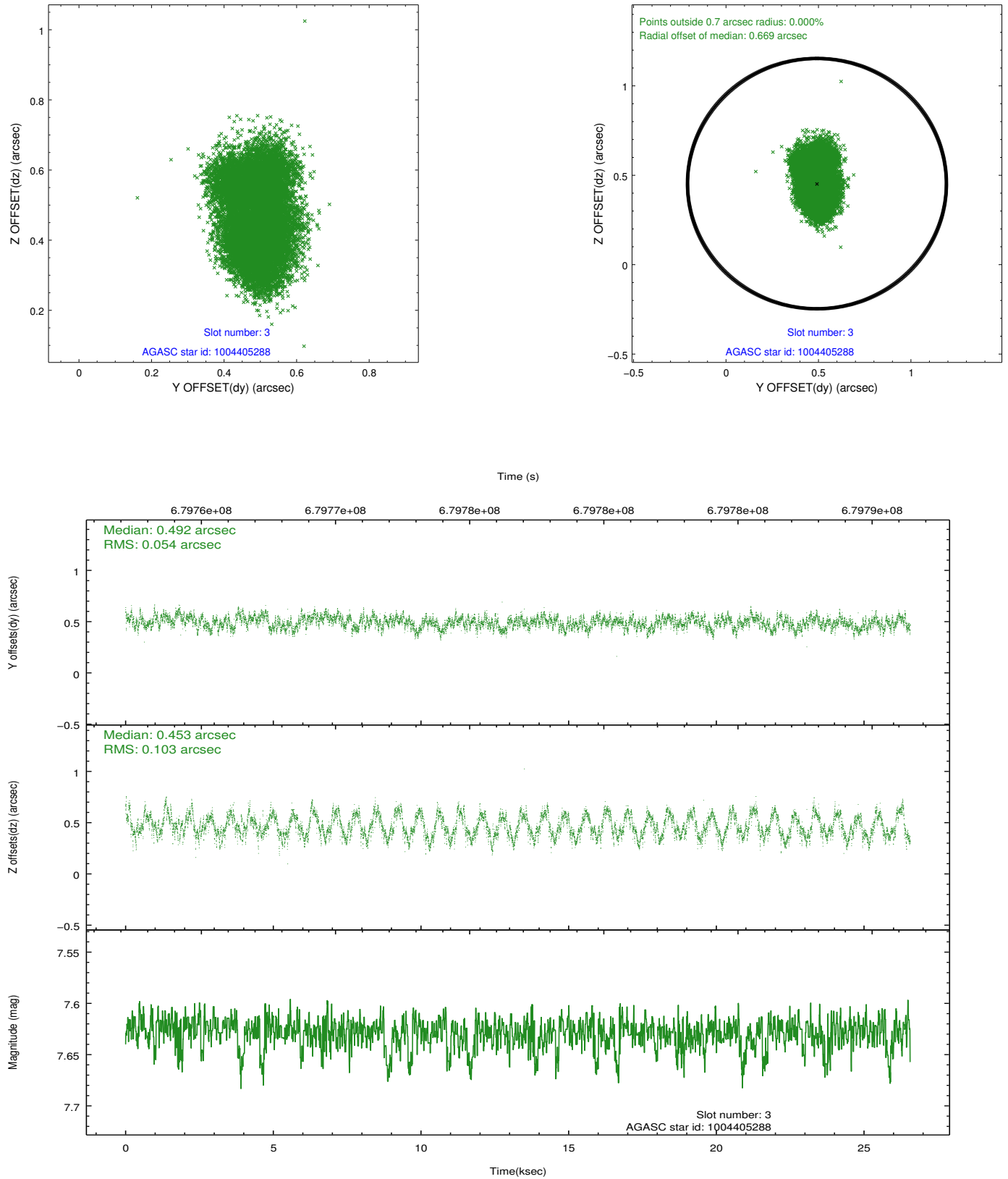


Slot Statistics

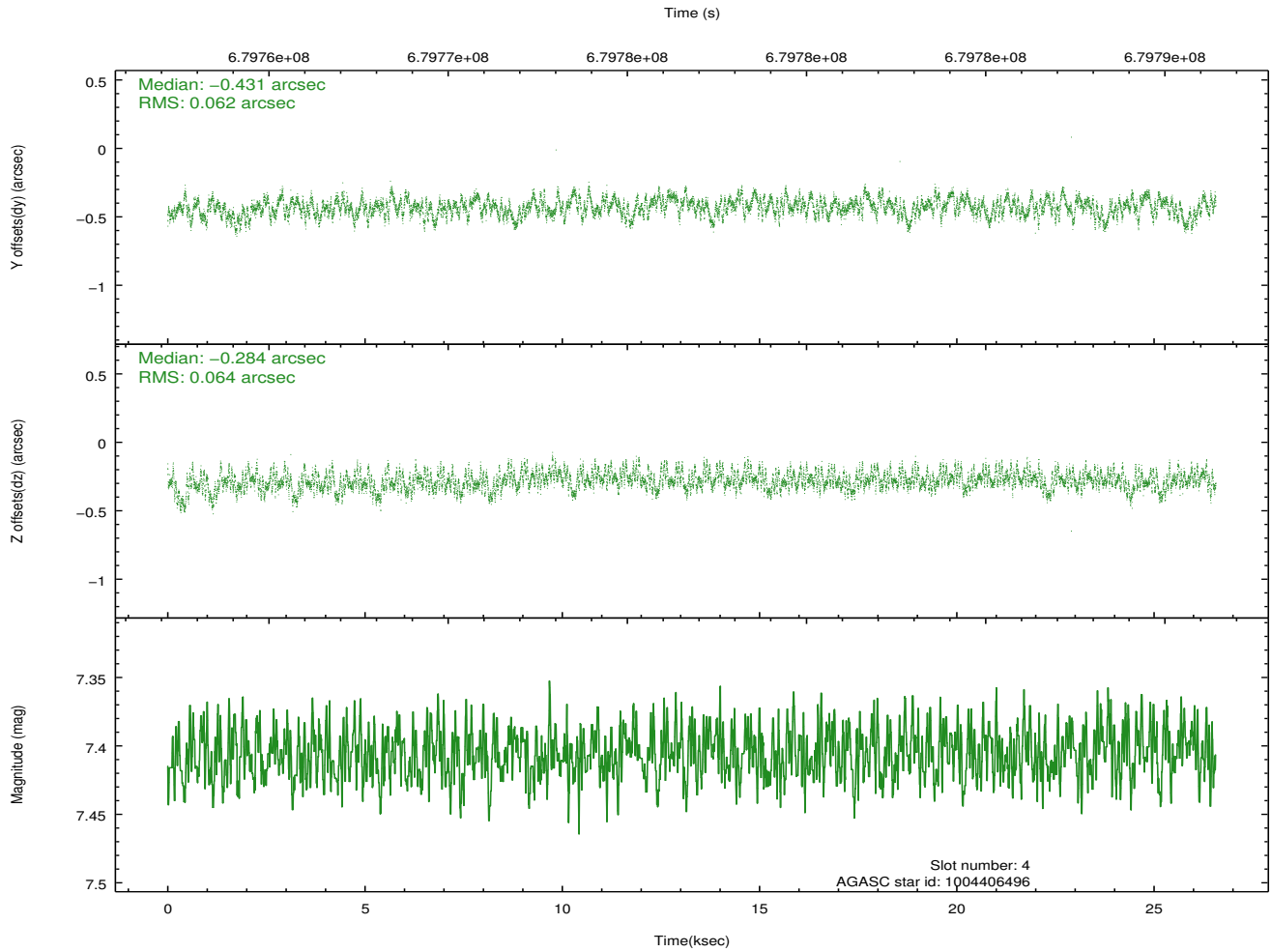
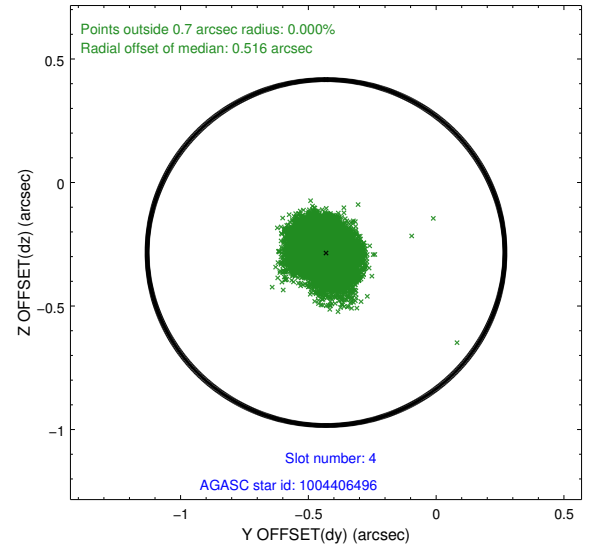
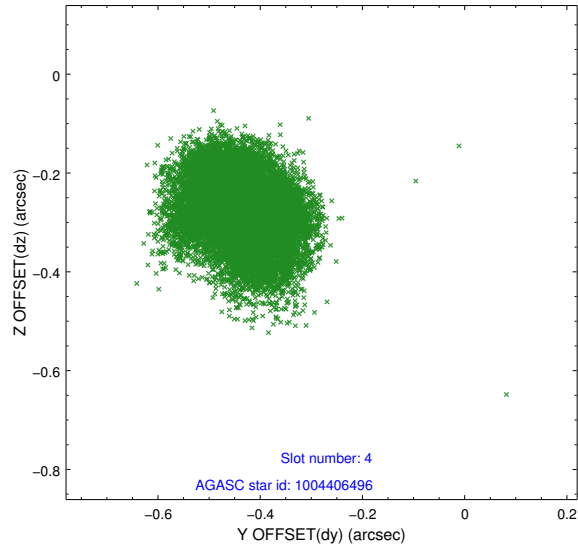
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	6.99	6478	1.000	-0.263	-0.124	0.034	0.073	0.000000	0.000000	-765.12	-1741
1	FID		ACIS-S-4	7.11	6480	1.000	0.638	0.161	0.028	0.103	0.000000	0.000000	2148.95	167
2	FID		ACIS-S-5	7.09	6481	1.000	-0.405	-0.028	0.048	0.124	0.000000	0.000000	-1818.07	161
3	GUIDE	used	1004405288	7.63	12959	1.000	0.492	0.453	0.127	0.194	121.091785	-39.410922	-719.73	-2009
4	GUIDE	used	1004406496	7.41	12957	1.000	-0.431	-0.284	0.097	0.151	120.210035	-40.527356	2173.59	1690
5	GUIDE	used	1004413080	8.79	12953	1.000	-0.361	-0.206	0.106	0.168	120.242432	-40.499402	2074.49	1600
6	GUIDE	used	1004425112	8.84	12952	1.000	0.123	0.292	0.108	0.181	121.364029	-39.923076	-1236.66	-85
7	GUIDE	used	1004409560	9.81	12810	1.000	0.182	-0.274	0.197	0.320	120.328272	-40.211628	1721.39	598

2.4 Star Slots

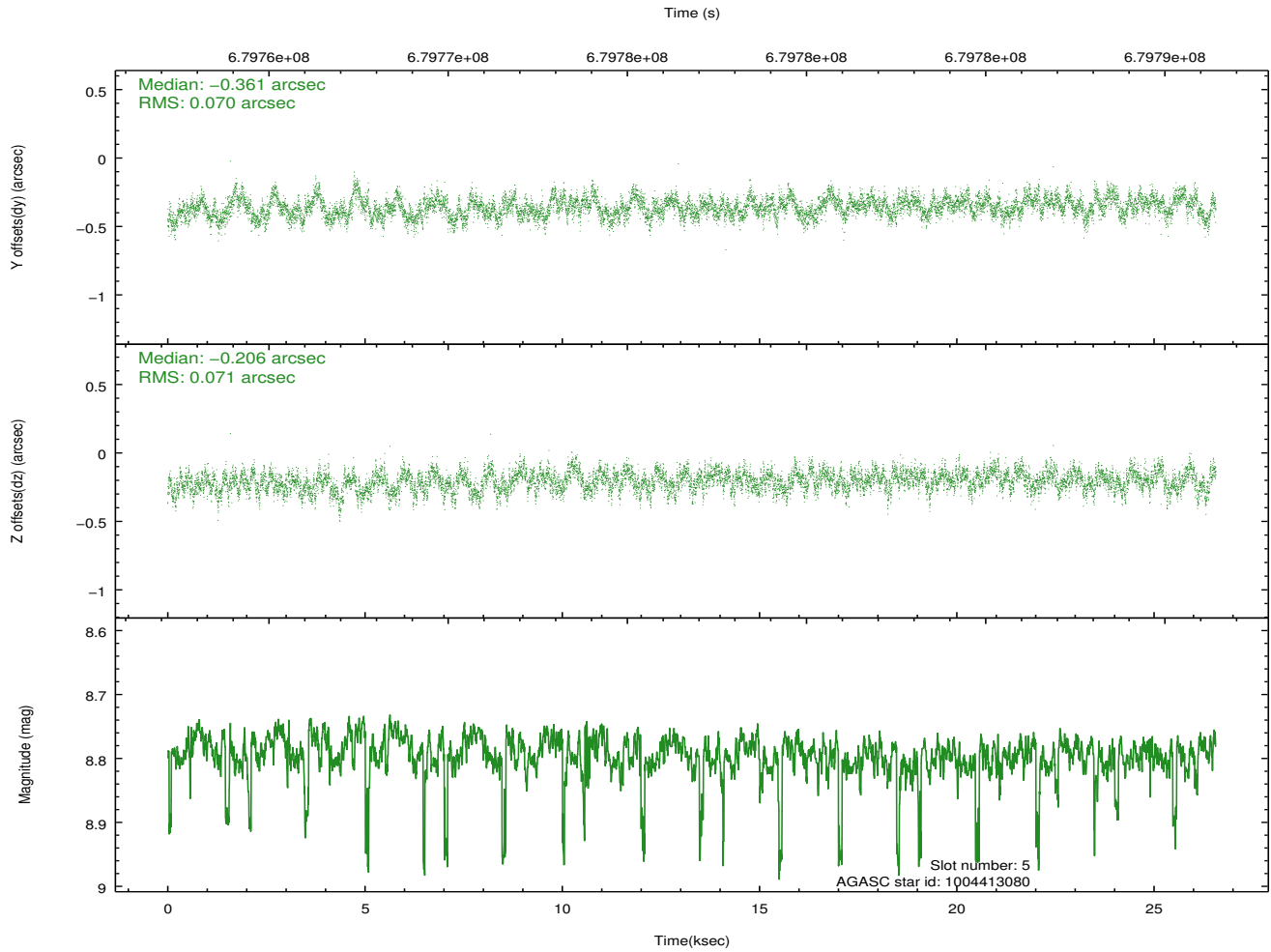
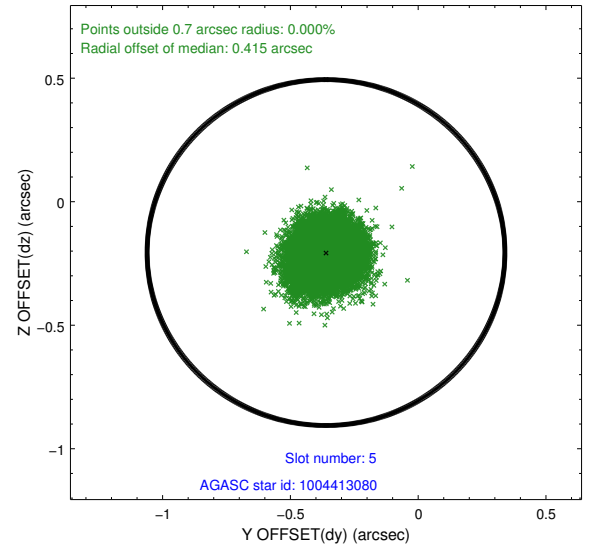
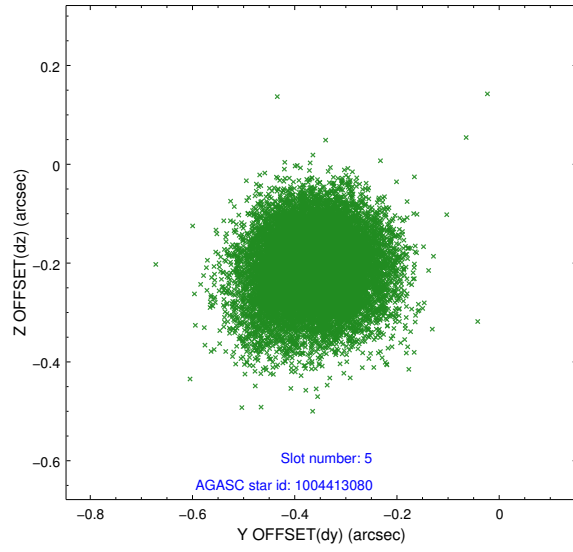
2.4.1 Slot 3



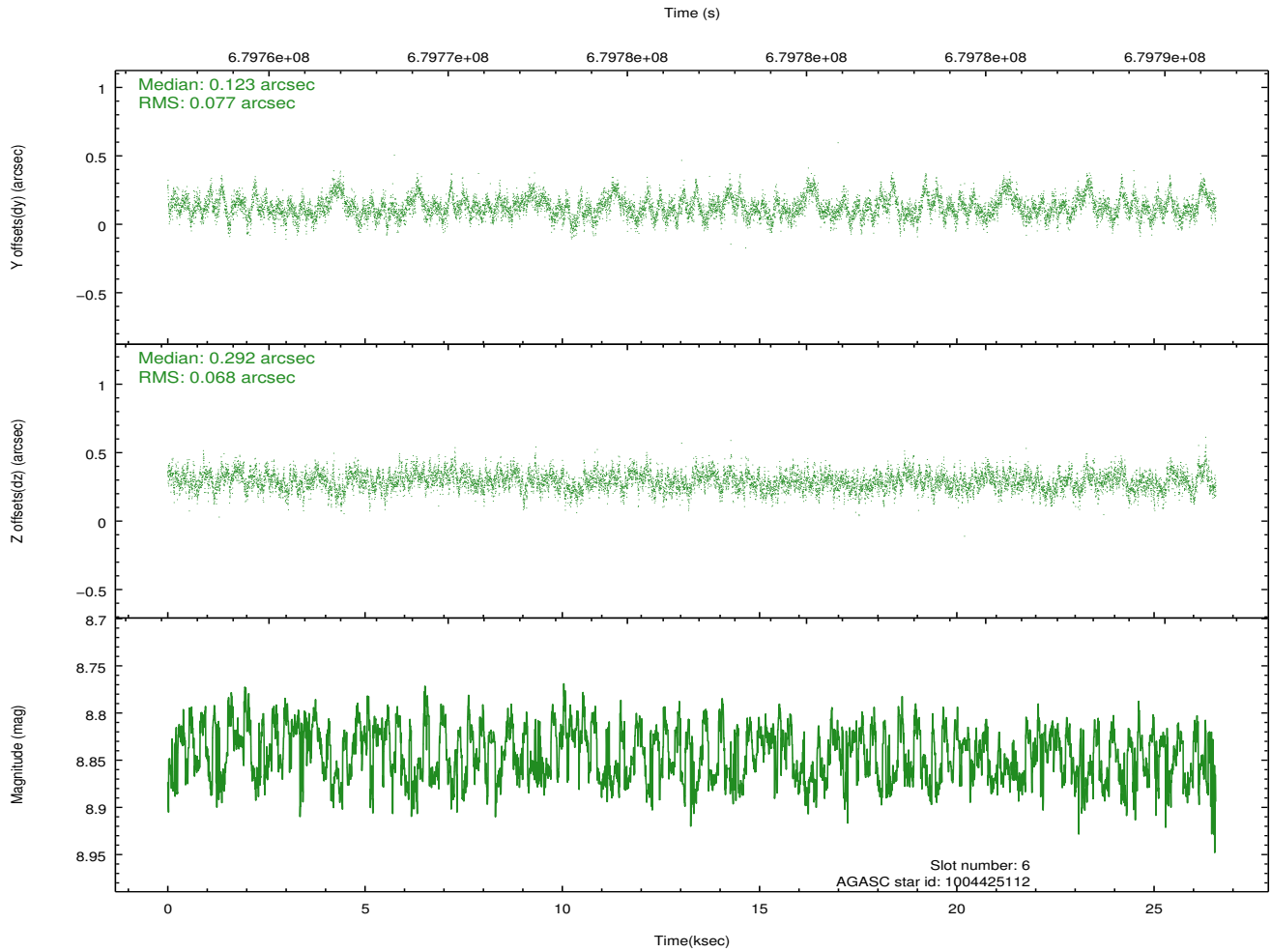
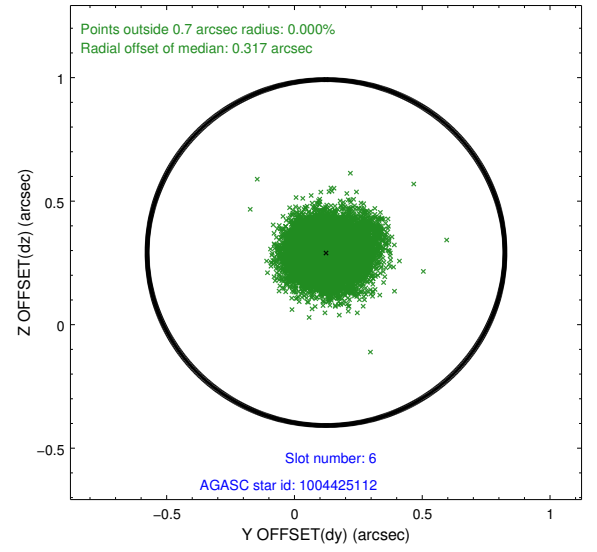
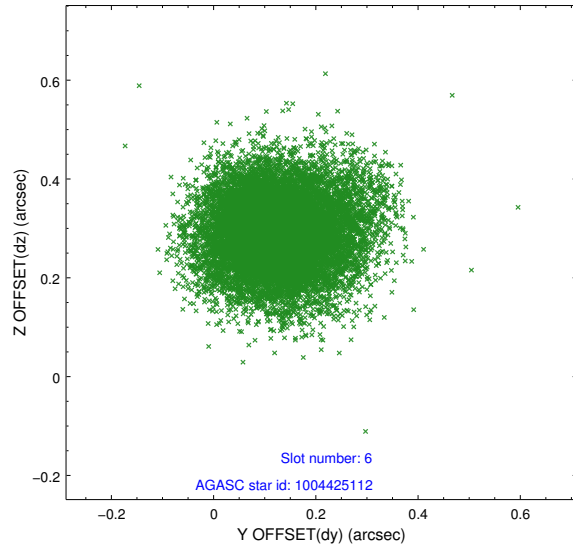
2.4.2 Slot 4



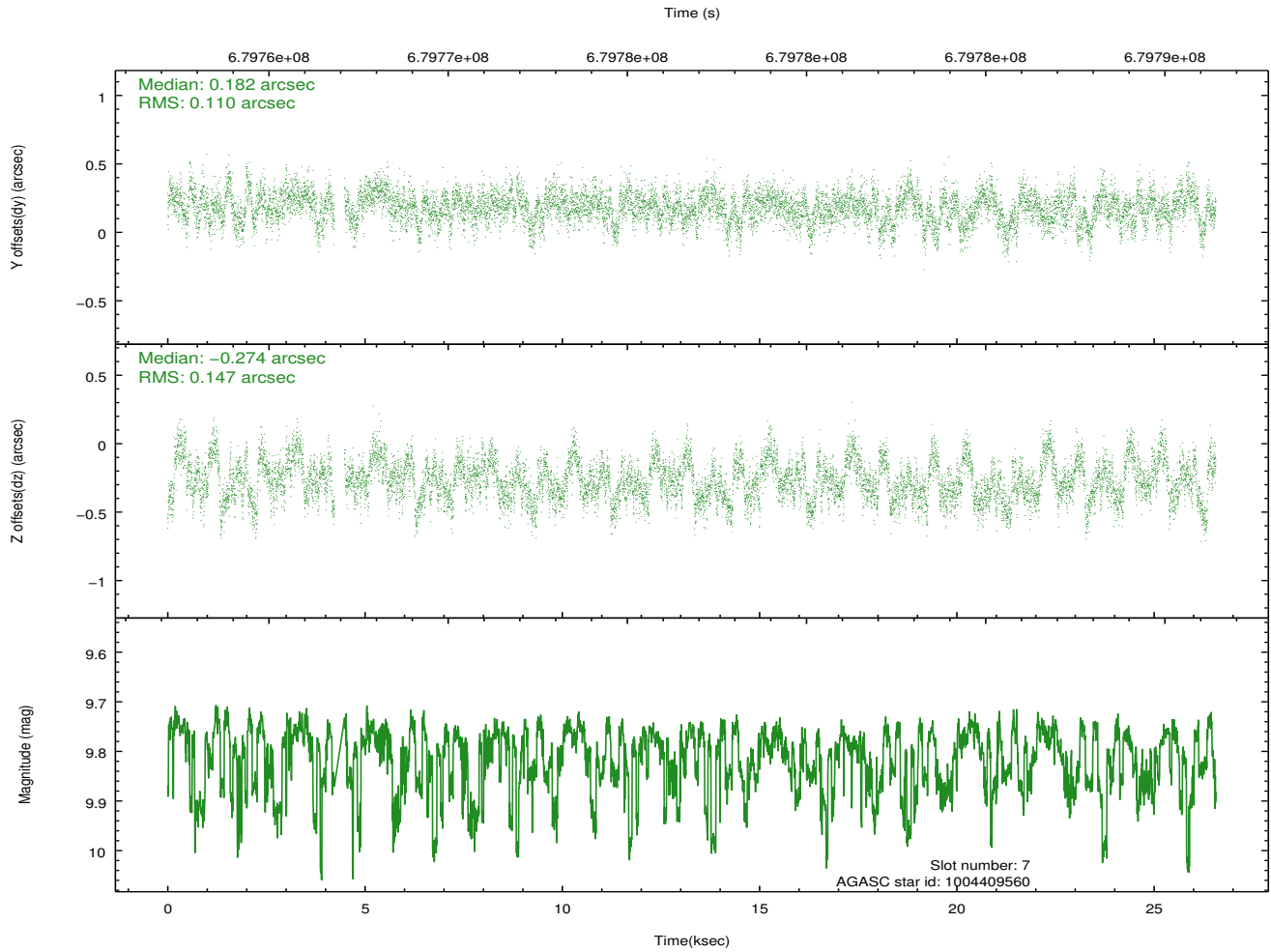
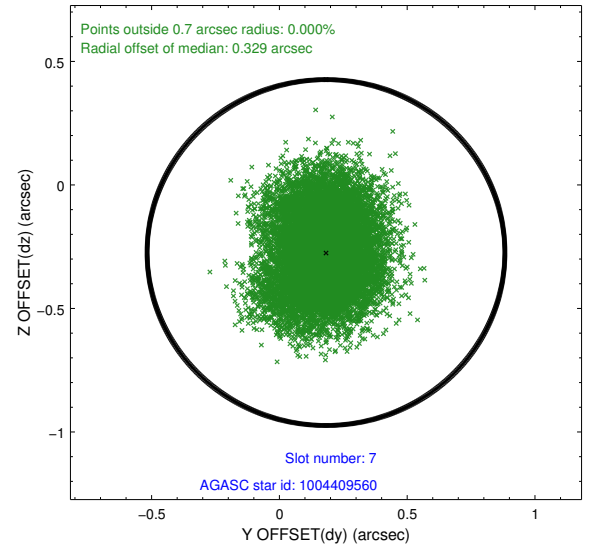
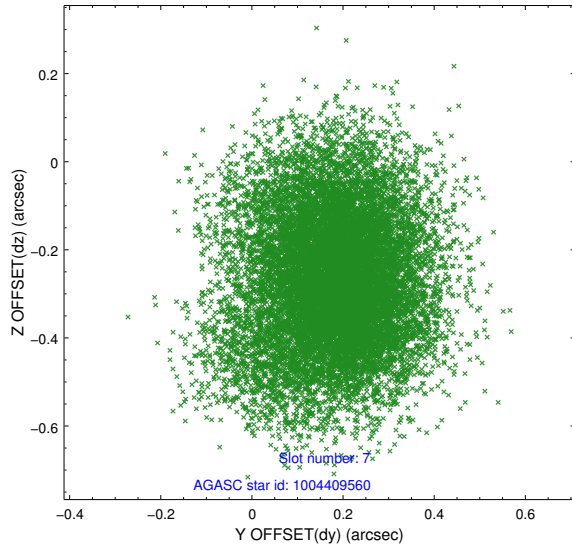
2.4.3 Slot 5



2.4.4 Slot 6

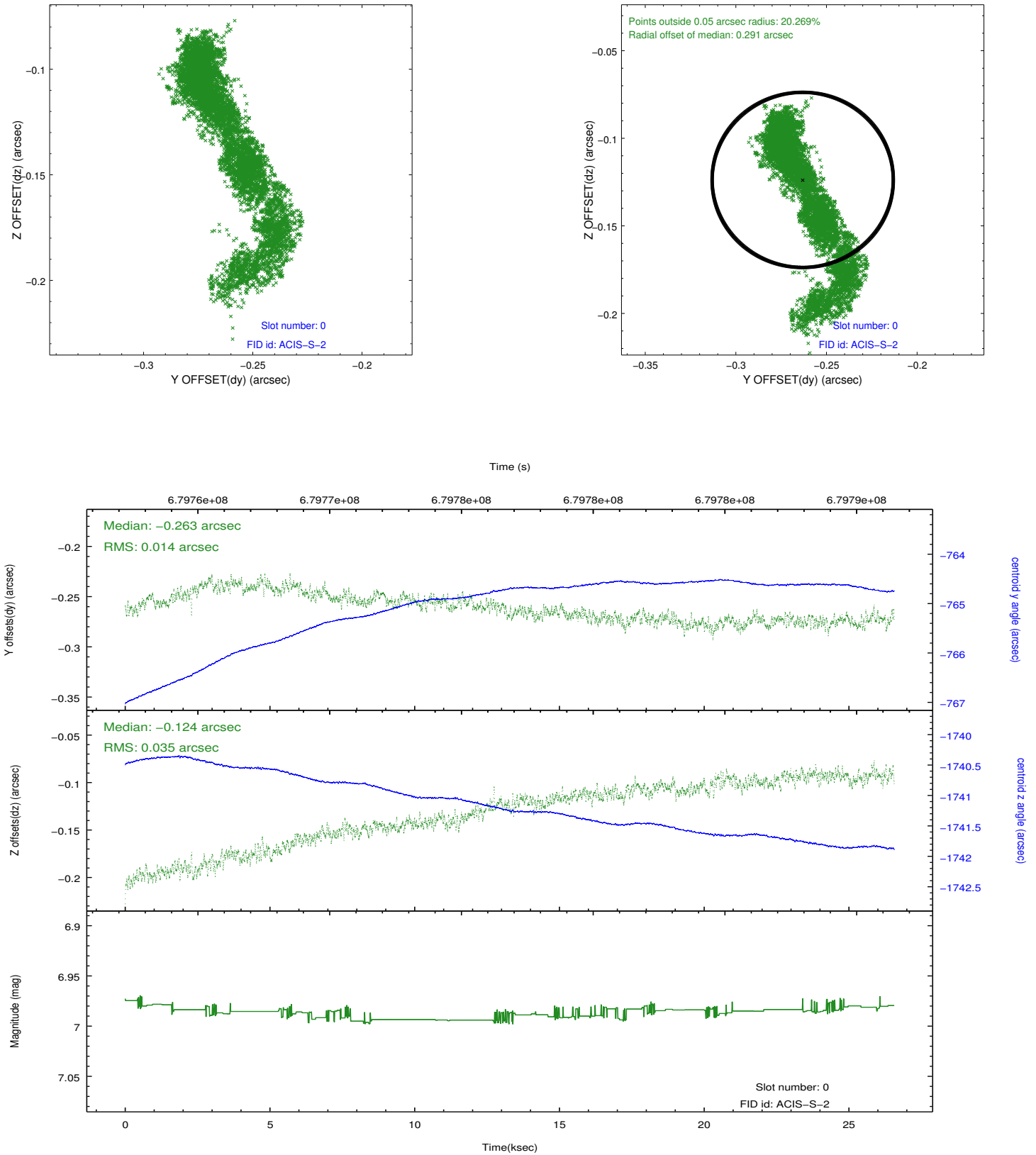


2.4.5 Slot 7

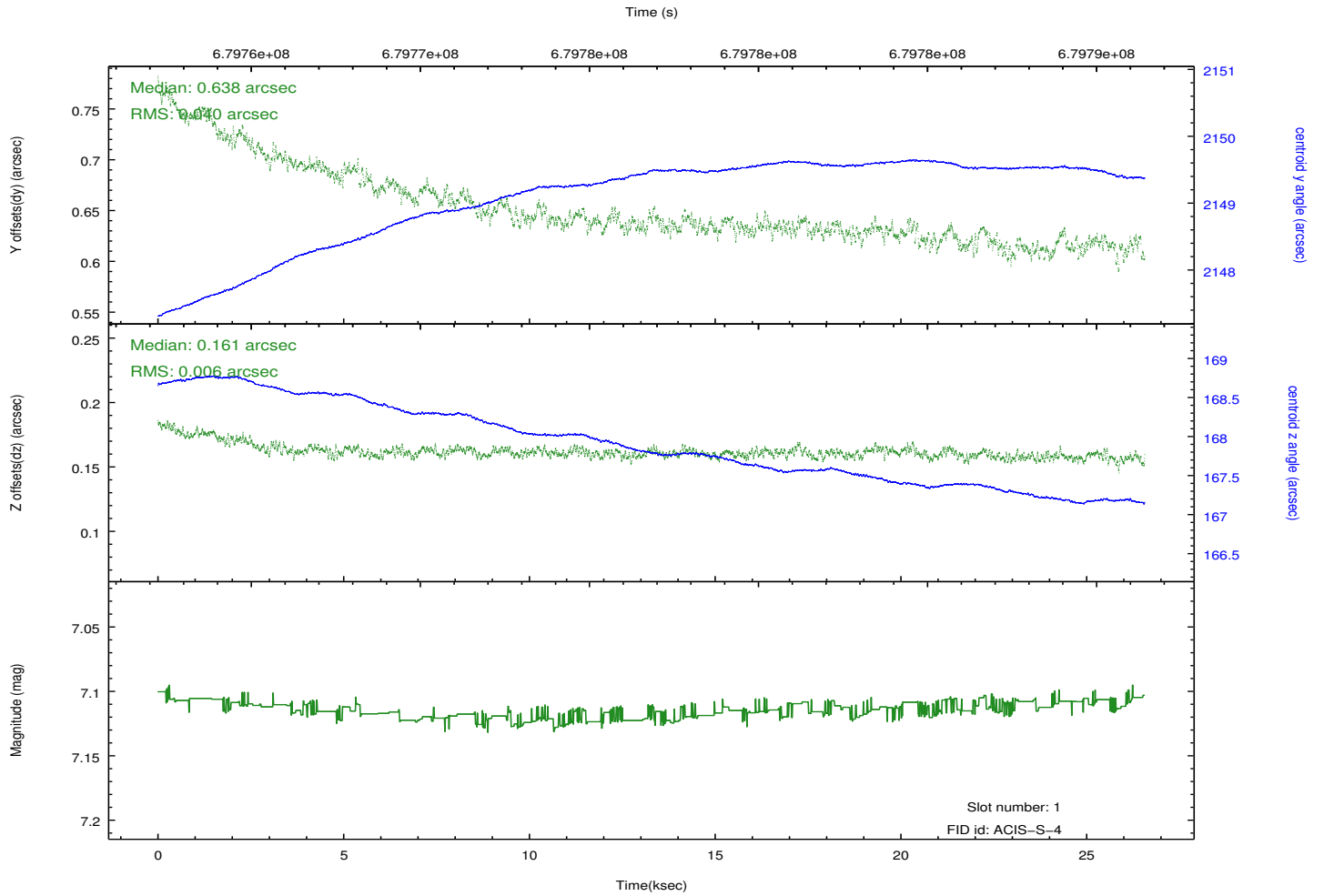
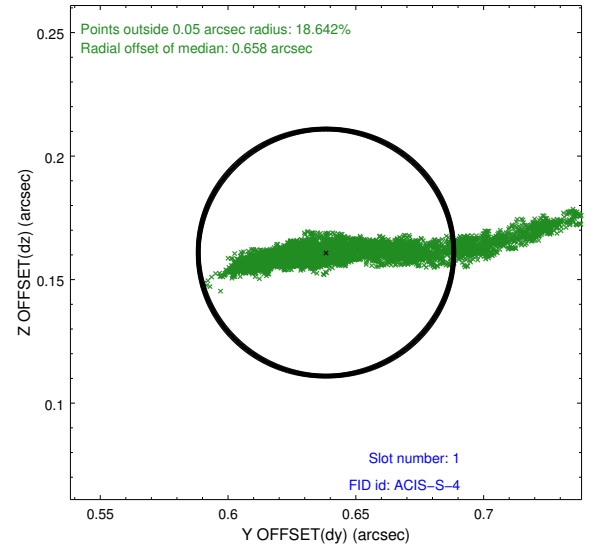
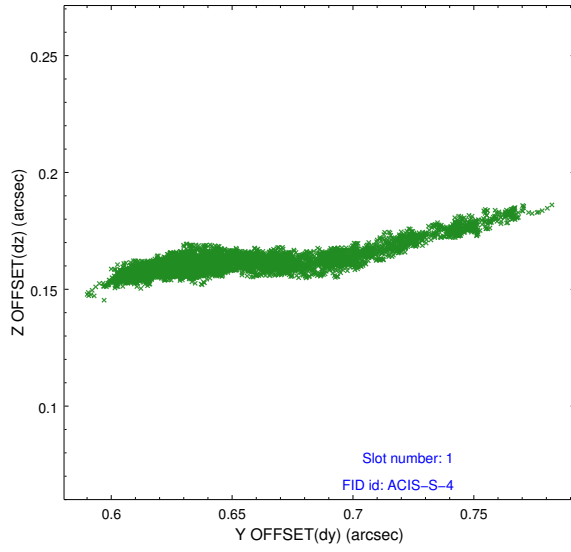


2.5 FID Slots

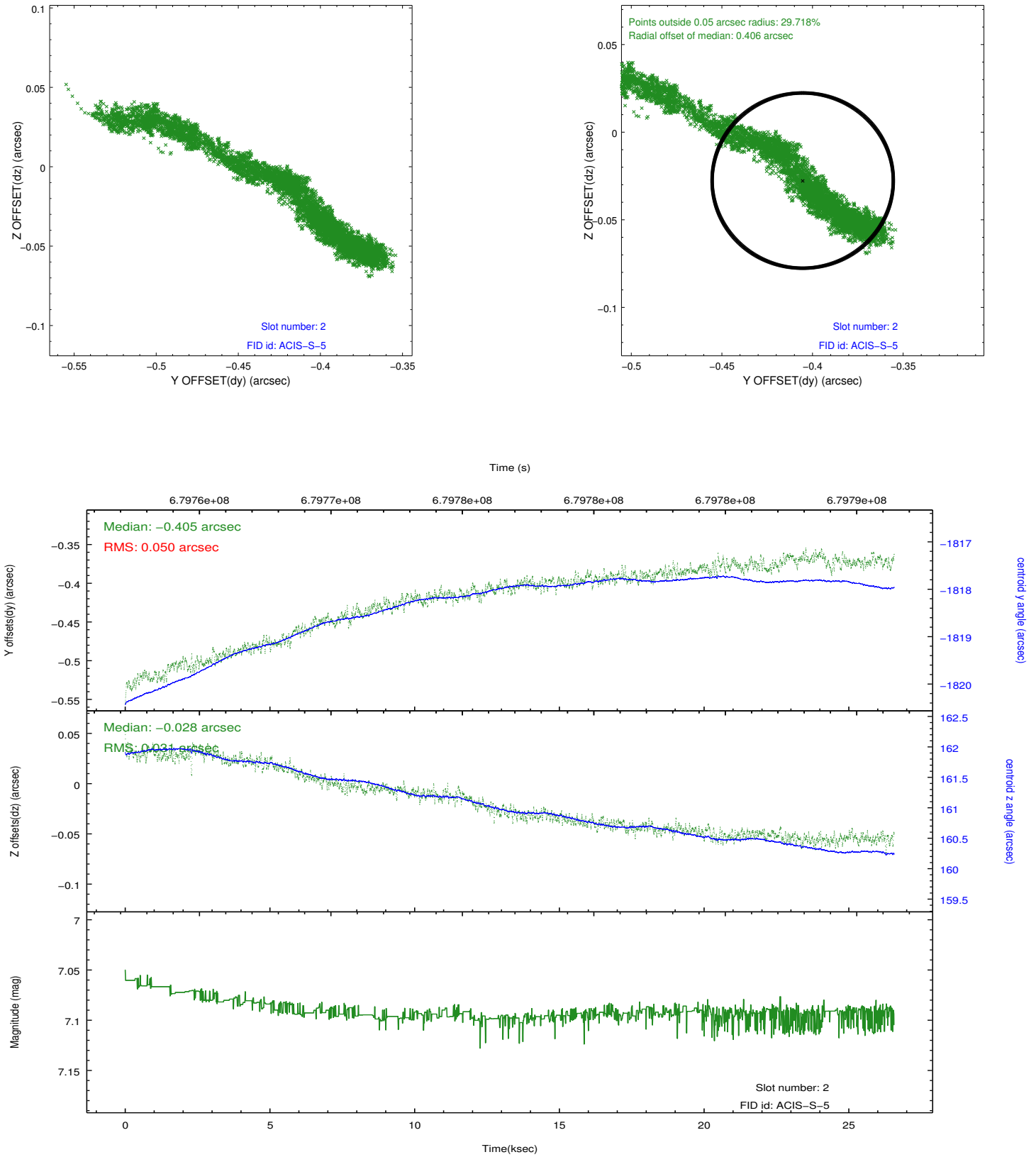
2.5.1 Slot 0



2.5.2 Slot 1

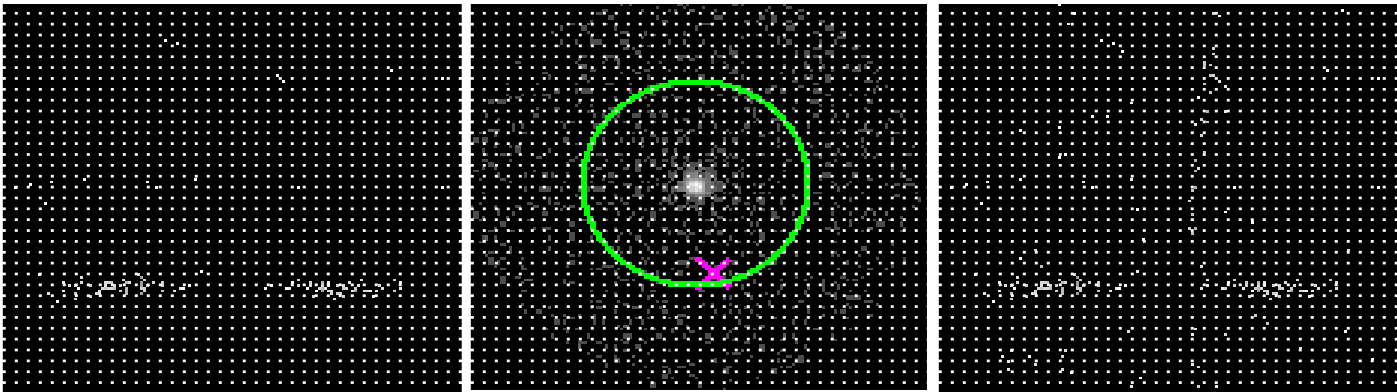


2.5.3 Slot 2



3 Gratings

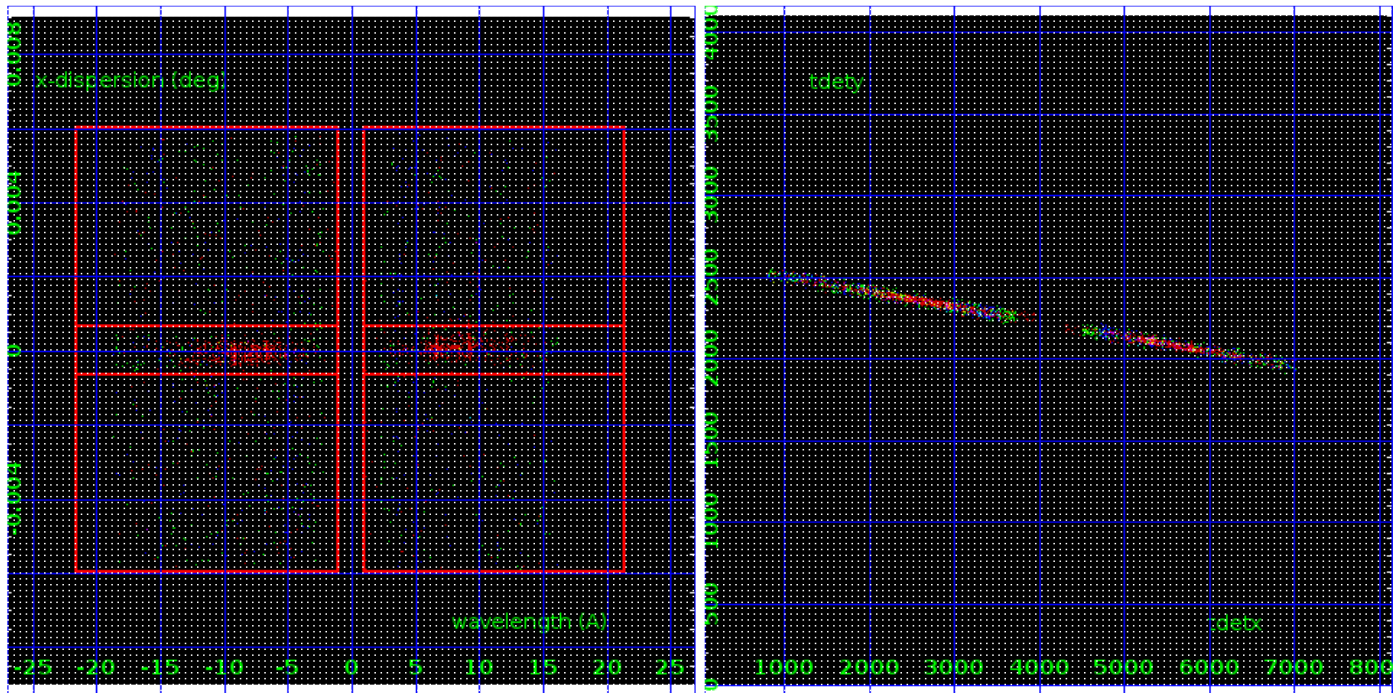
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

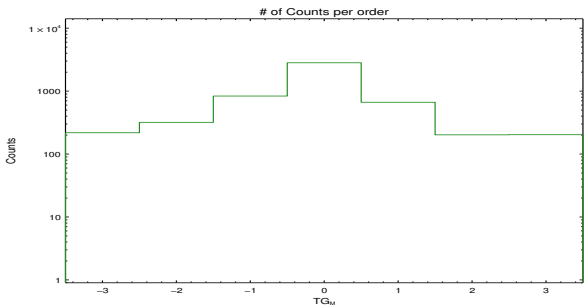
HEG Order Sort ALL

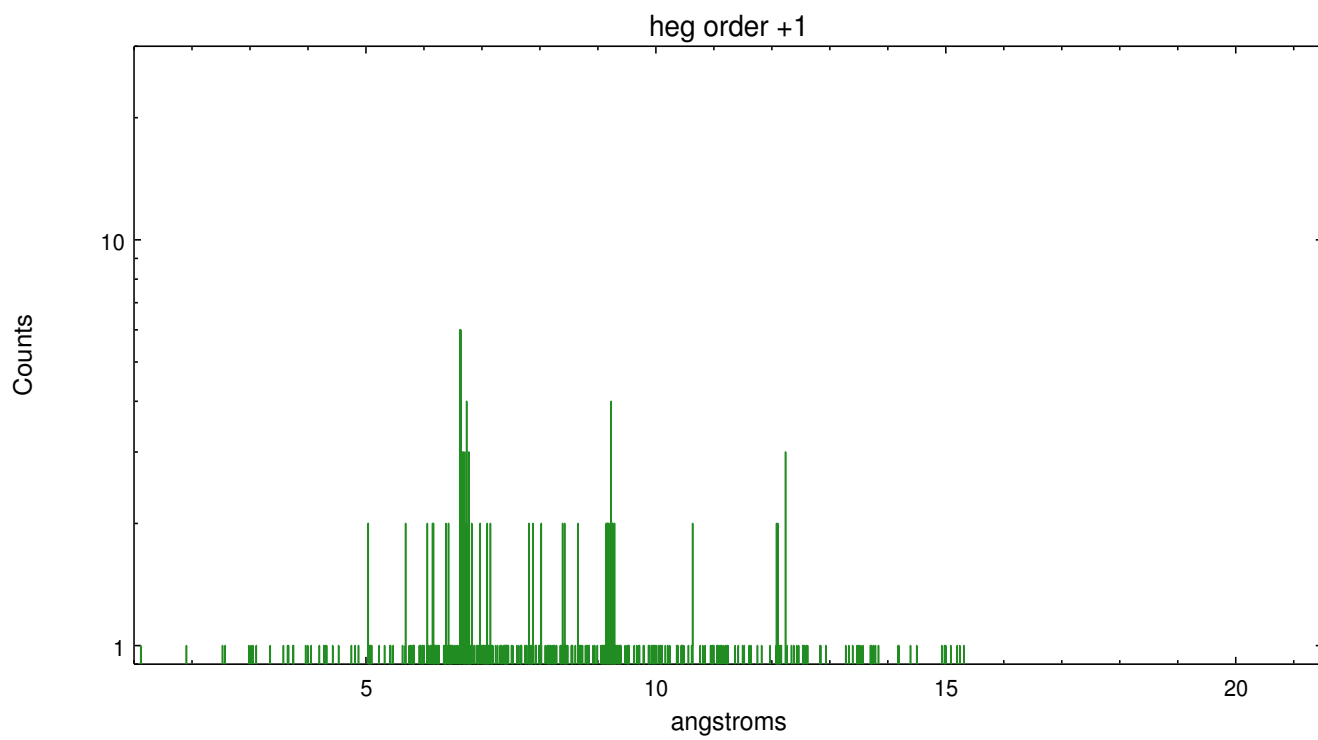
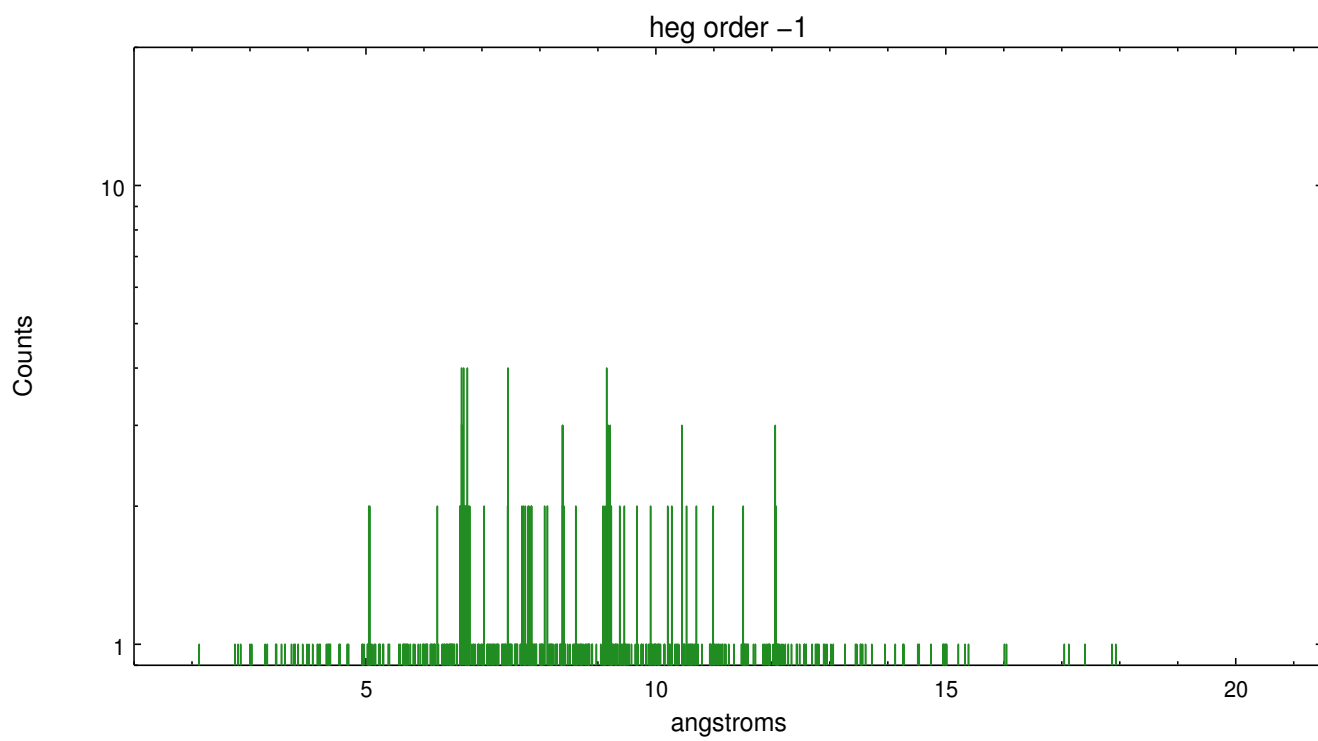


Spot Image HEG

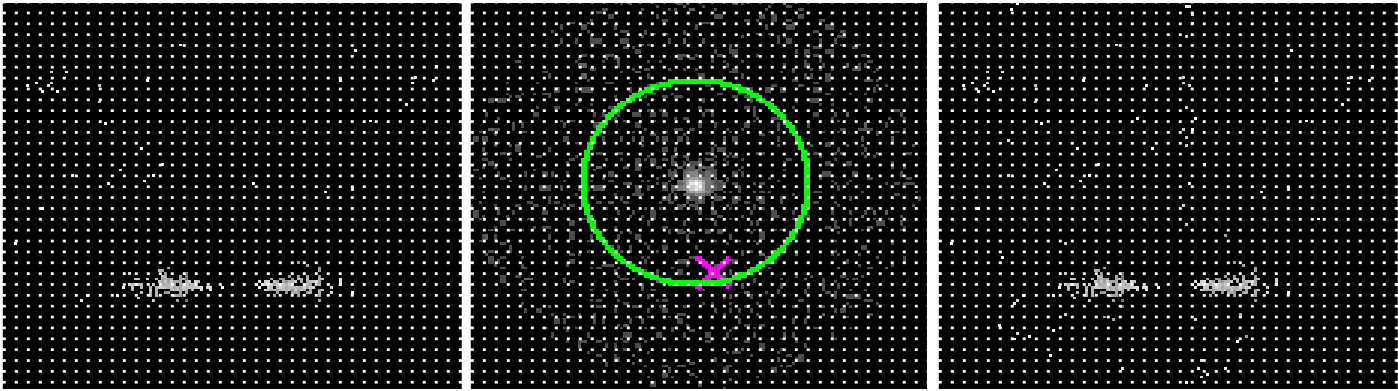
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	218	319	835	2820	665	202	203





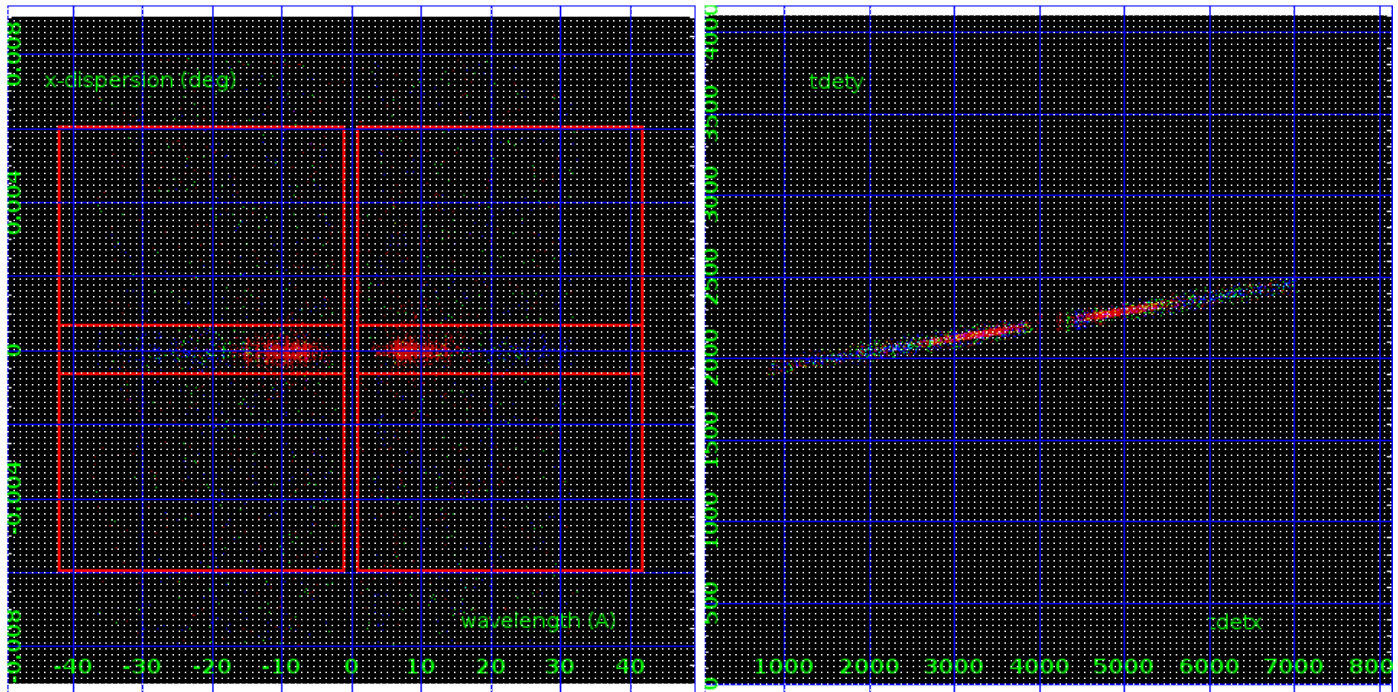
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

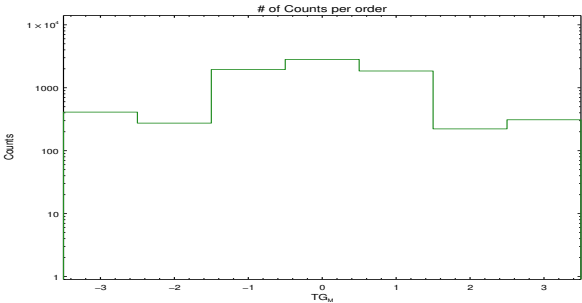
MEG Order Sort ALL

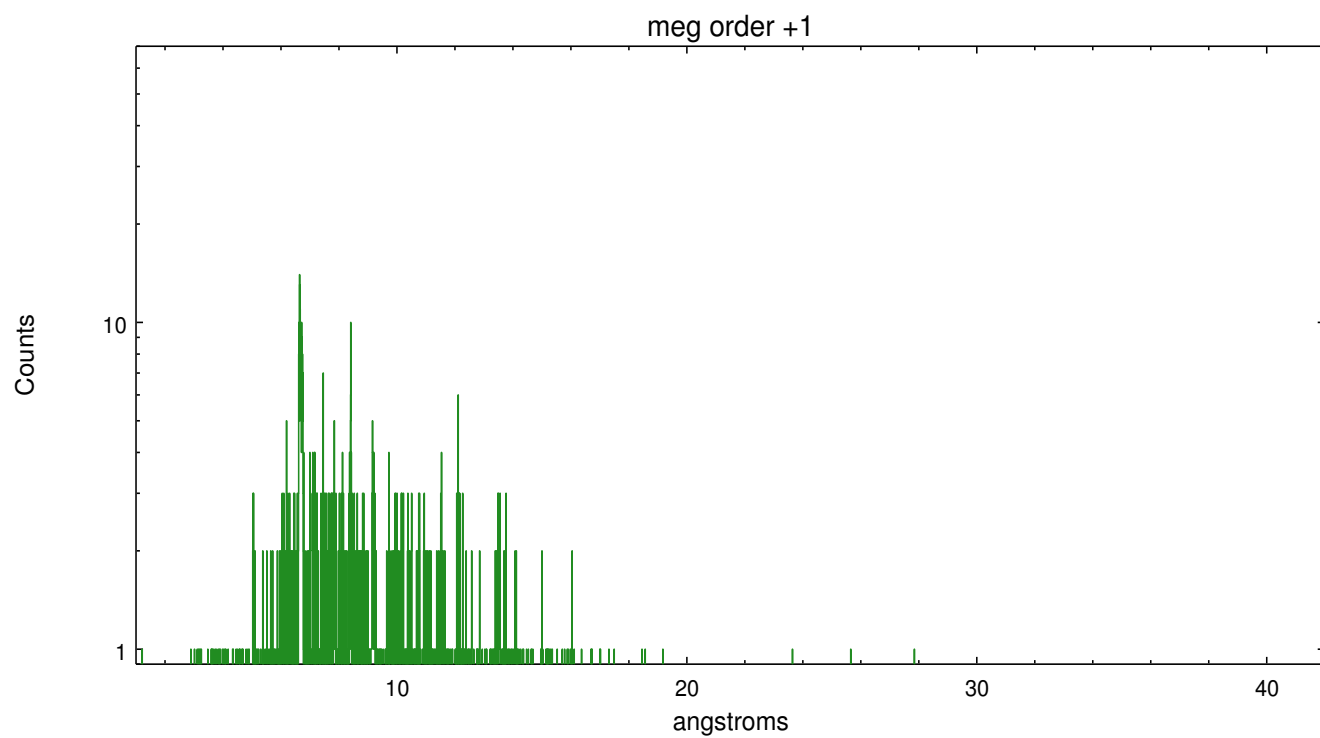
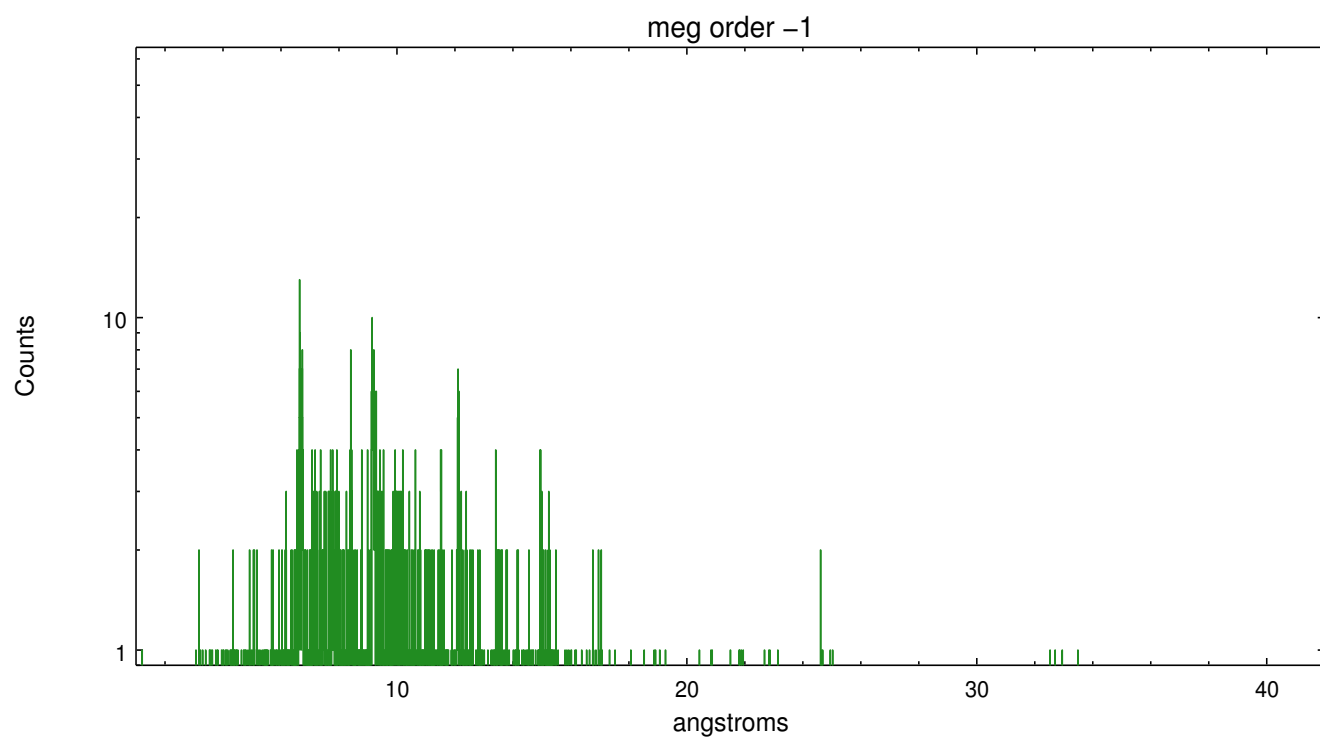


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	410	274	1945	2820	1846	222	310





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2019.09.30
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	26.379463238001

A.2 Comments

Comments for Obi 0

Fid in slot 2 has an RMS deviation > 0.050000 arcsec
(Acceptable, as per aspect review)