

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 20637 - L2 Version 1
Chandra X-Ray Center

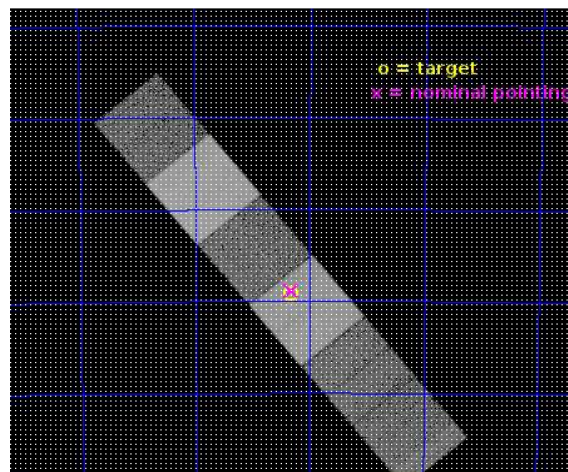
L2 Processing Date : Sep 25 2017

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
3	Gratings	17
3.1	HEG Arm	17
3.2	MEG Arm	19
A	Summary	21
A.1	Status	21
A.2	Comments	21

1 Front

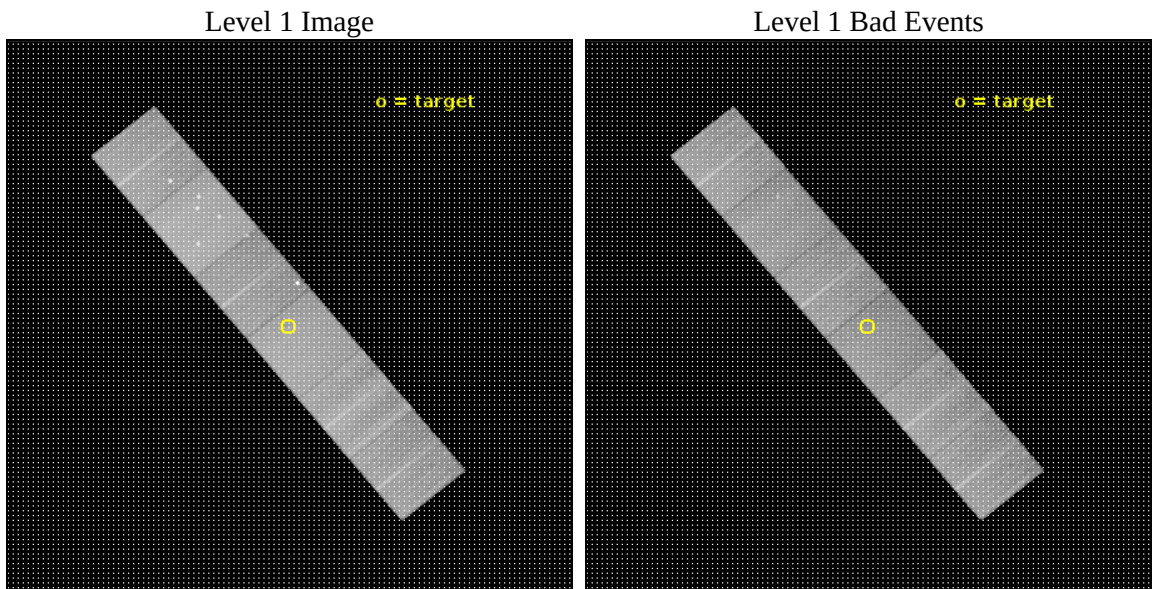
seq_num	401882	Sequence number
obs_id	20637	Observation id
title	HETG Spectroscopy of the Ultra-Luminous X-ray Source NGC 1313 X-1	
observer	Claude Canizares	Principal investigator
object	NGC 1313 X-1	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	49.583333	Observer's specified target RA [deg]
dec_targ	-66.486389	Observer's specified target Dec [deg]
ra_nom	49.580857595228	Nominal RA [deg]
dec_nom	-66.480985119101	Nominal Dec [deg]
roll_nom	50.643887503428	Nominal Roll [deg]
revision	1	Processing version of data
ontime	27948.80041647	Sum of GTIs [s]
livetime	27594.895876849	Livetime [s]
ontime4	27948.80041647	Sum of GTIs [s]
ontime5	27948.80041647	Sum of GTIs [s]
ontime6	27948.80041647	Sum of GTIs [s]
ontime7	27948.80041647	Sum of GTIs [s]
ontime8	27948.80041647	Sum of GTIs [s]
ontime9	27948.80041647	Sum of GTIs [s]
l2events	309881	Number of level 2 events



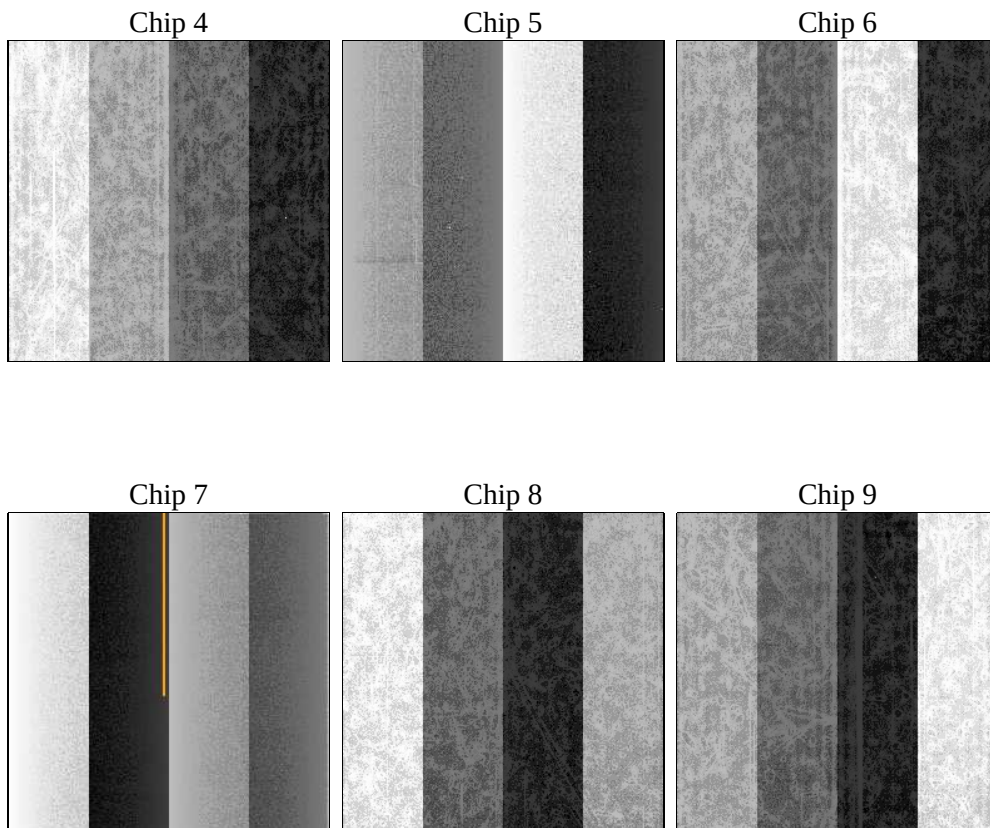
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	28000.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	27948.80041647	Sum of GTIs [s]
caldsver	4.7.6	 	ontime4	27948.80041647	Sum of GTIs [s]
date	2017-09-25T11:42:44	Date and time of file creation	ontime5	27948.80041647	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	27948.80041647	Sum of GTIs [s]
			ontime7	27948.80041647	Sum of GTIs [s]
			ontime8	27948.80041647	Sum of GTIs [s]
			ontime9	27948.80041647	Sum of GTIs [s]
			l1events	1374818	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
				14088.51	

2.1.4 Events

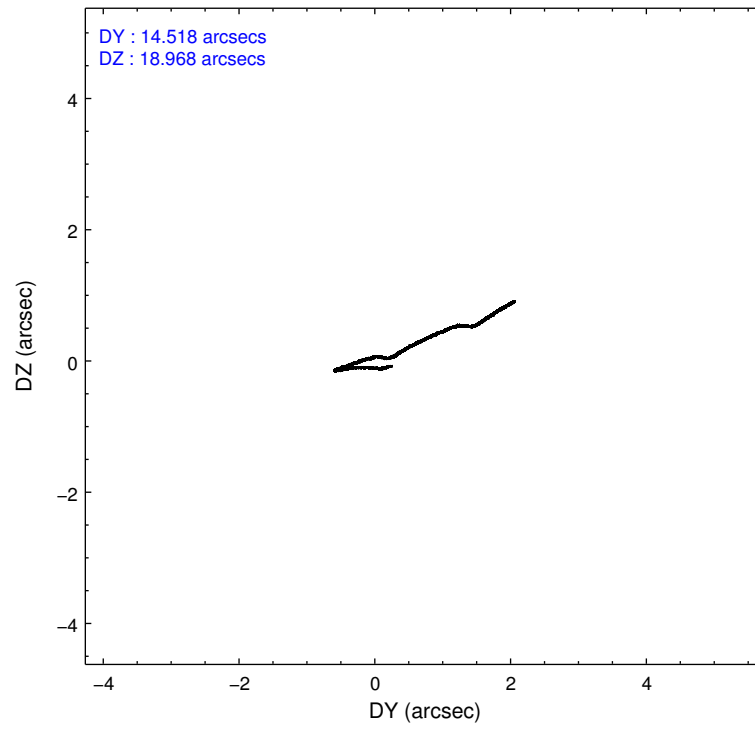
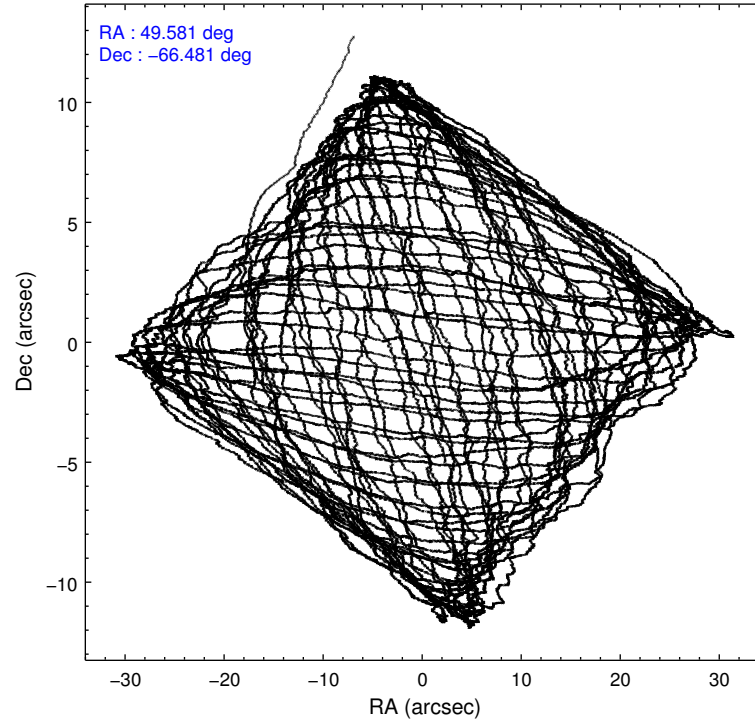
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	216351	301634	192453	238635	240366	185379	grade 0 events	12225	19415	7228	9127	17680	7656
rejected events	190343	151436	162931	133935	177564	163335		5%	6%	3%	3%	7%	4%
rejected %	87%	50%	84%	56%	73%	88%	grade 1 events	246	1225	97	317	161	111
								0%	0%	0%	0%	0%	0%
							grade 2 events	5442	44671	13307	22034	15194	4968
								2%	14%	6%	9%	6%	2%
							grade 3 events	2320	4370	1988	8474	6685	2301
								1%	1%	1%	3%	2%	1%
							grade 4 events	2188	4204	2002	8248	6155	2191
								1%	1%	1%	3%	2%	1%
							grade 5 events	9197	19881	8612	23753	13037	9939
								4%	6%	4%	9%	5%	5%
							grade 6 events	3837	77557	5004	56832	17096	4931
								1%	25%	2%	23%	7%	2%
							grade 7 events	180896	130311	154215	109850	164358	153282
								83%	43%	80%	46%	68%	82%

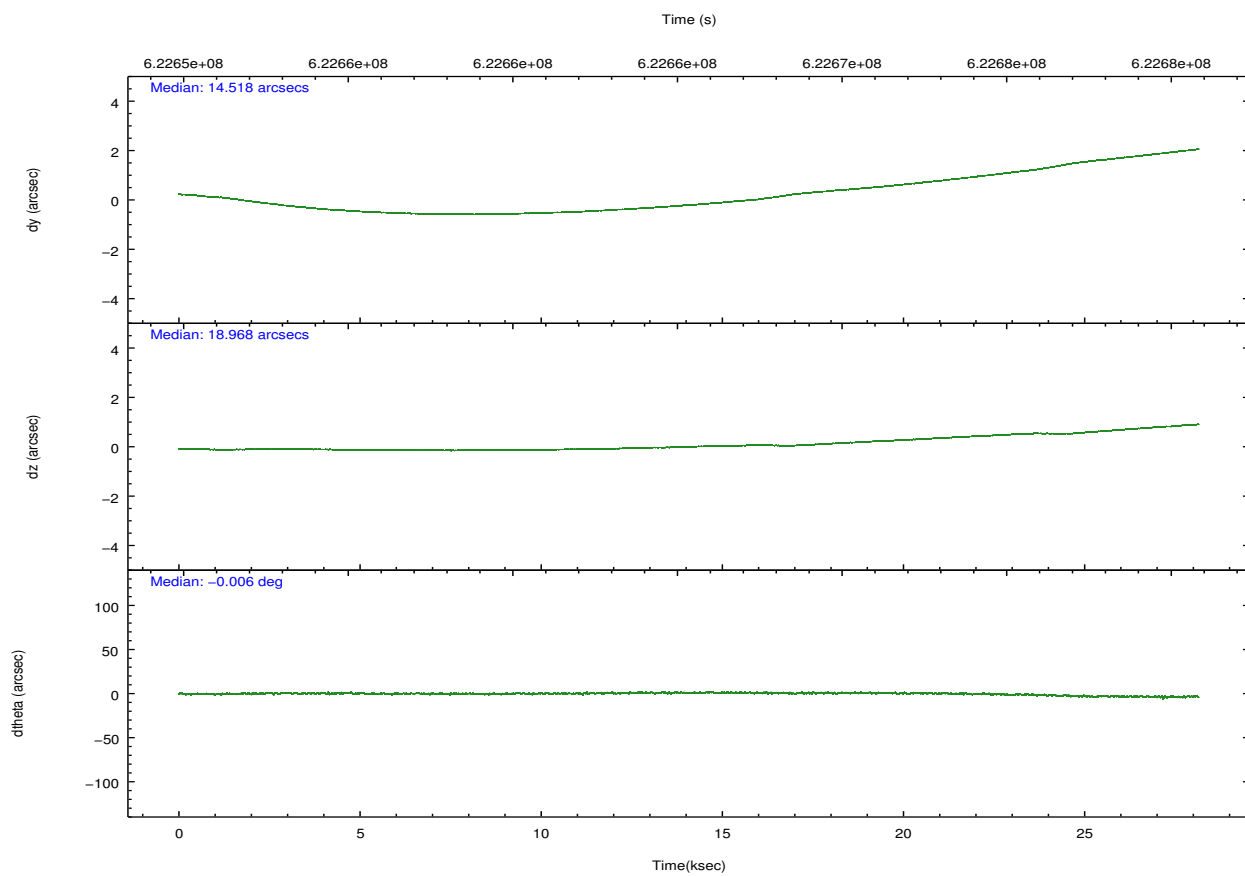
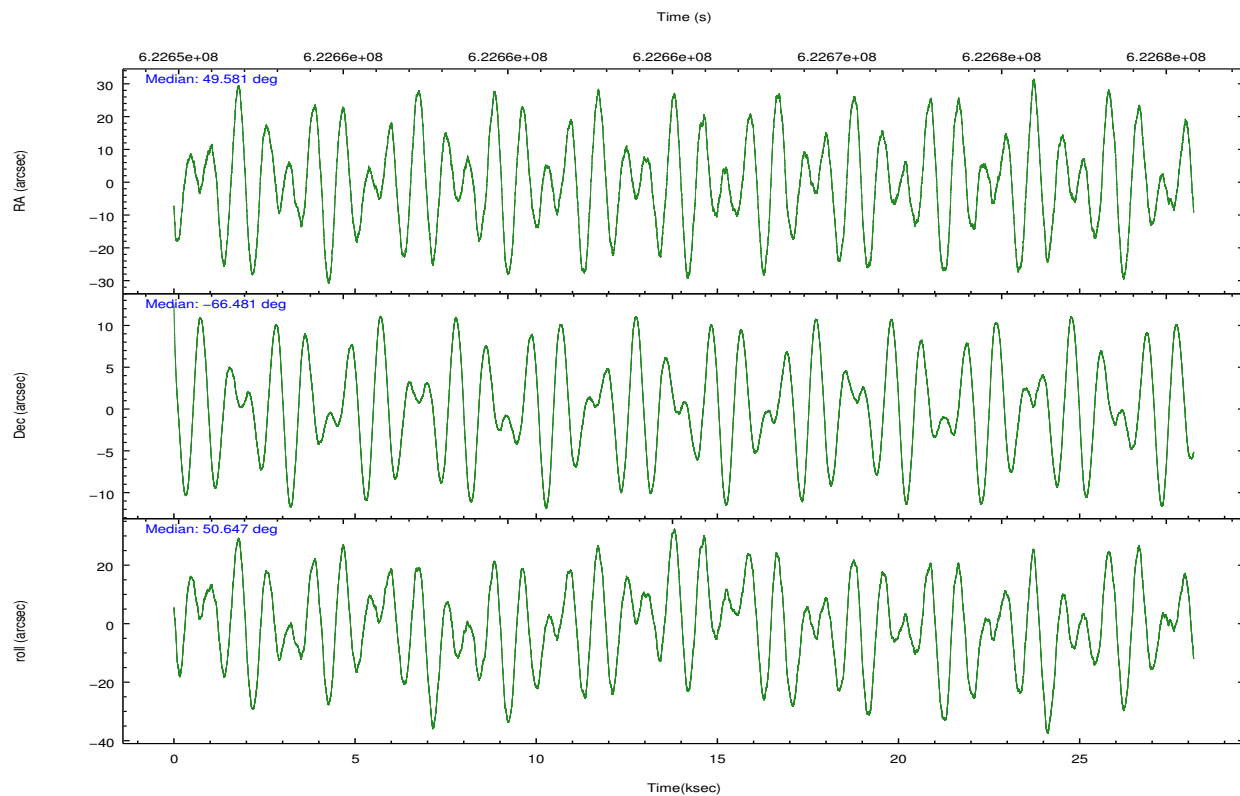
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-456789	ACIS-456789
Grating	HETG	HETG
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	49.570545	49.58085759522766
[deg] Pointing Dec	-66.508119	-66.48098511910129
[deg] Pointing Roll	50.477794	50.64388750342798
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1400660498719
[mm] SIM translation stage offset	0	0.00754346686406393
[s] Observation start time (MET)	622651433.184000	622650503.2658401
Observation start date	2017-09-24T14:42:44	2017-09-24T14:28:23
[s] Observation end time (MET)	622679433.184000	622680077.08008
Observation end date	2017-09-24T22:29:24	2017-09-24T22:41:17
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	N	N
CCD I3 on	N	N
CCD S0 on	O1	Y
CCD S1 on	Y	Y
CCD S2 on	Y	Y
CCD S3 on	Y	Y
CCD S4 on	Y	Y
CCD S5 on	Y	Y
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.2

2.3 Aspect



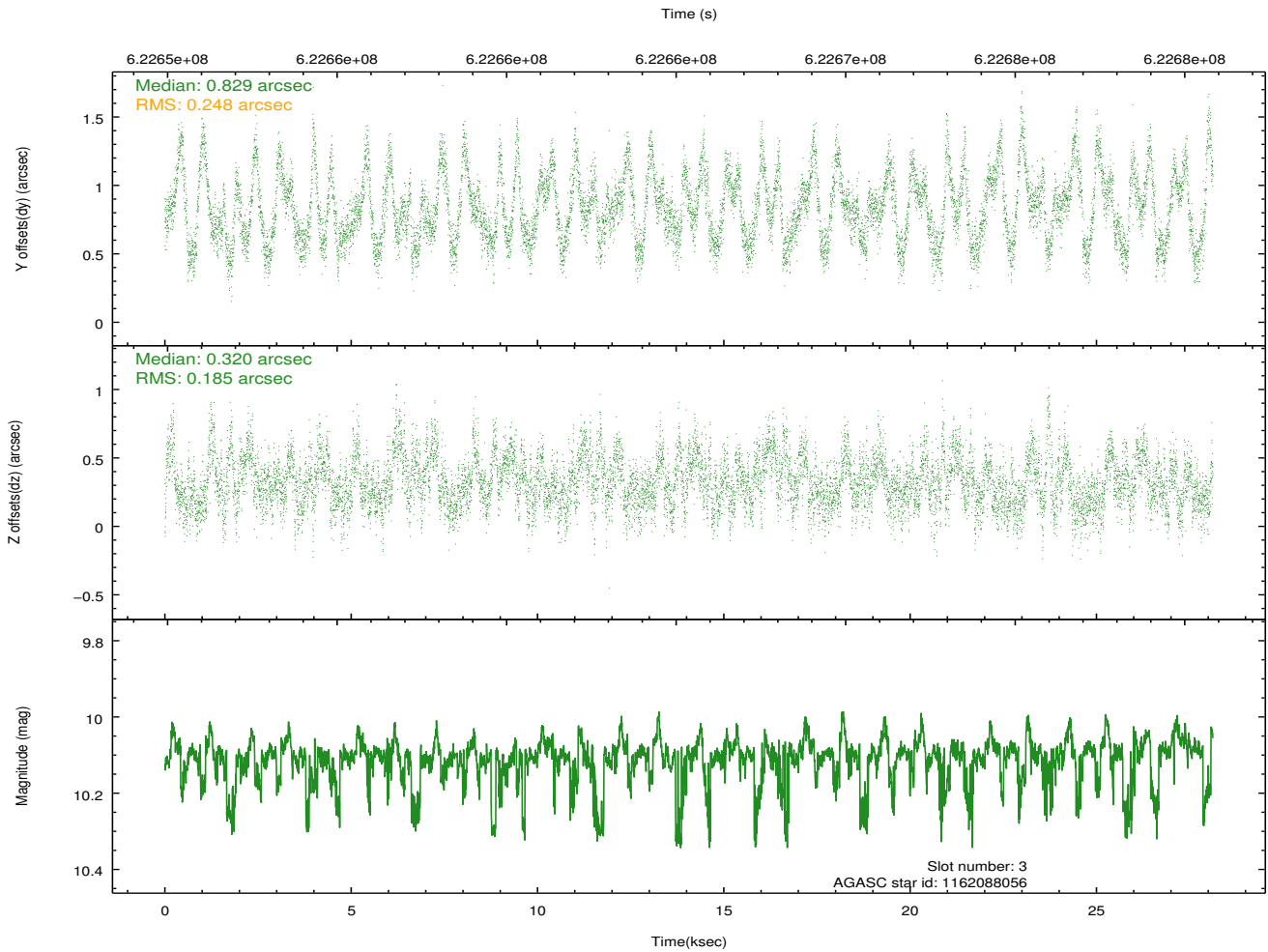
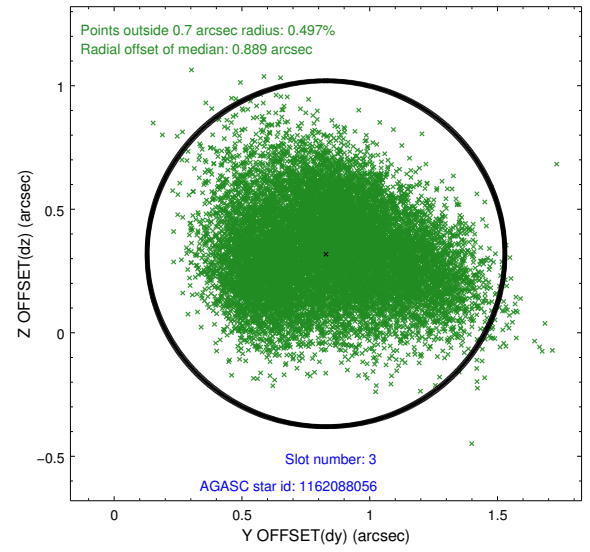
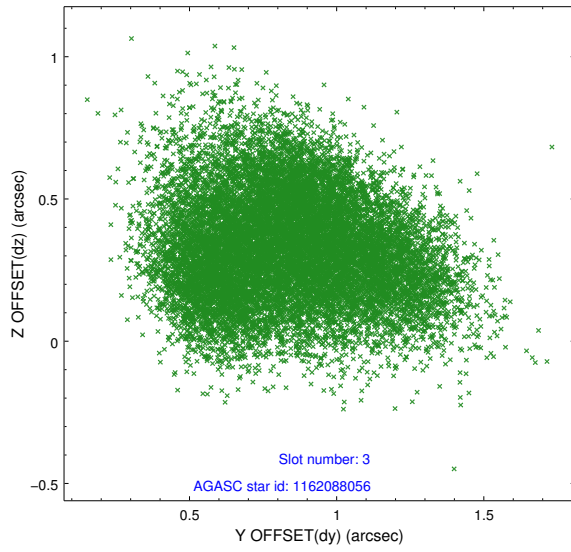


Slot Statistics

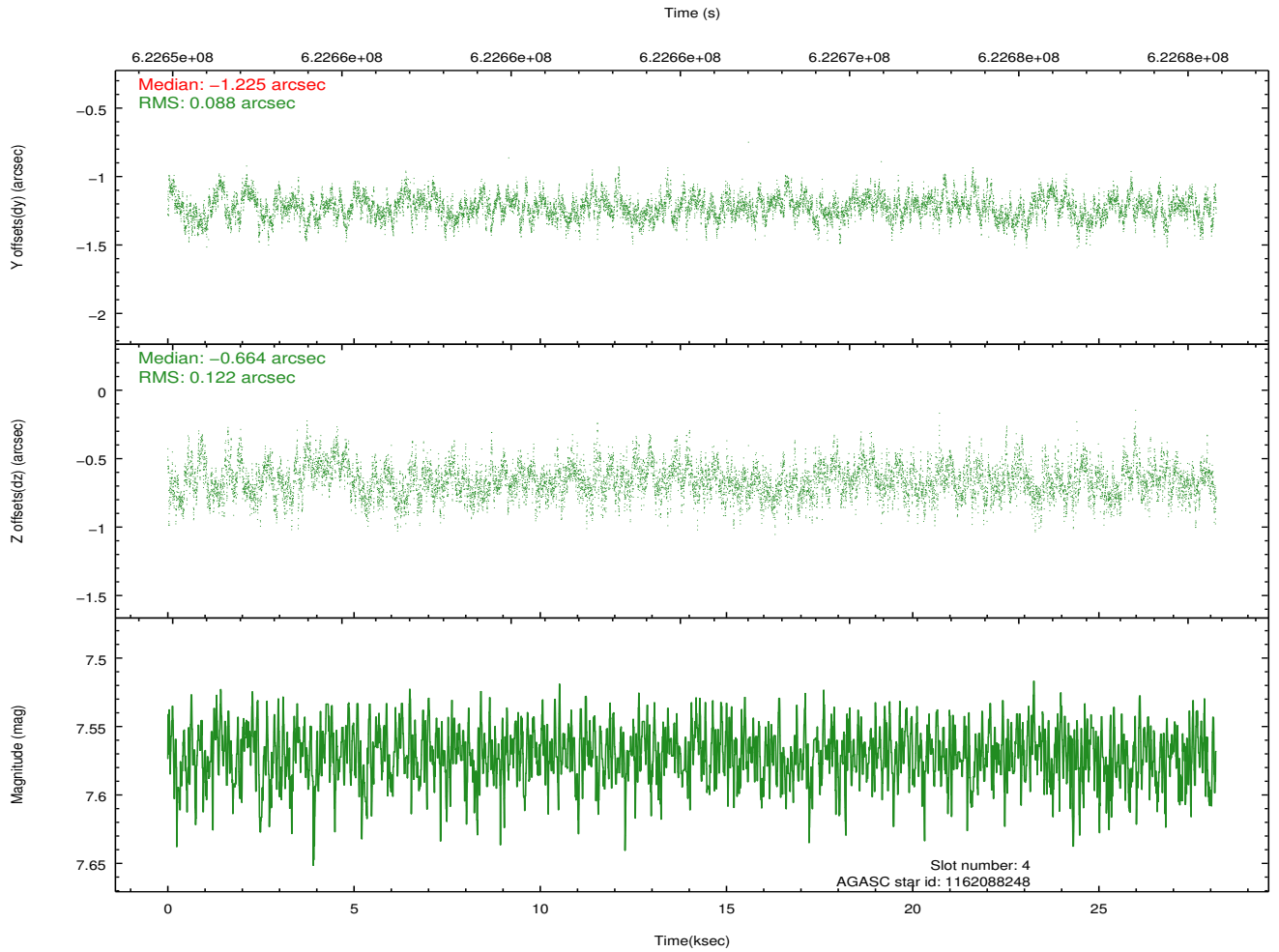
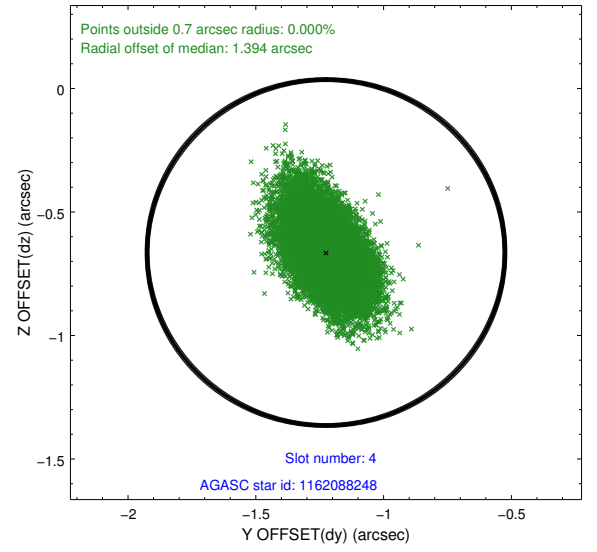
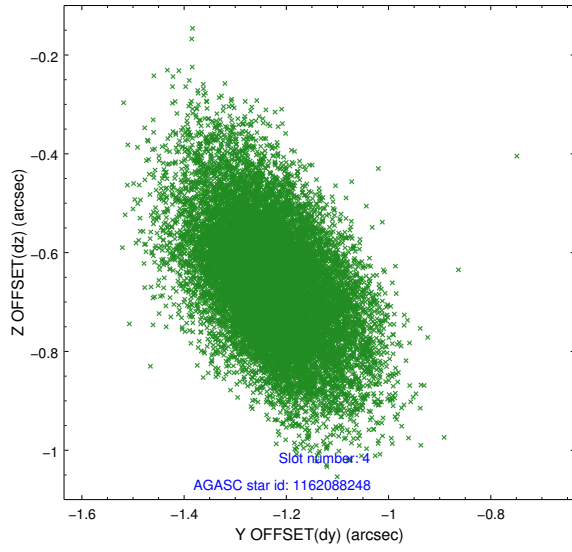
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-1	7.12	6866	-0.091	-0.016	0.023	0.062	0.000000	0.000000	928.22	-1736.24
1	FID		ACIS-S-4	7.14	6865	0.214	0.055	0.012	0.018	0.000000	0.000000	2145.96	167.92
2	FID		ACIS-S-6	7.28	6864	-0.146	-0.026	0.017	0.053	0.000000	0.000000	394.19	805.29
3	GUIDE	used	1162088056	10.10	13676	0.829	0.320	0.334	0.514	48.729349	-66.949806	-1986.57	-102.13
4	GUIDE	used	1162088248	7.57	13730	-1.225	-0.664	0.156	0.272	49.751966	-65.888113	1889.77	1213.43
5	GUIDE	used	1162089104	9.52	13716	-0.210	0.145	0.256	0.434	48.422126	-66.410699	-794.17	1489.75
6	GUIDE	used	1162090824	9.21	13714	0.394	-0.127	0.218	0.334	48.677982	-66.885202	-1856.67	103.29
7	GUIDE	used	1162094224	9.64	13706	0.209	0.304	0.216	0.349	49.638584	-66.701903	-476.65	-518.56

2.4 Star Slots

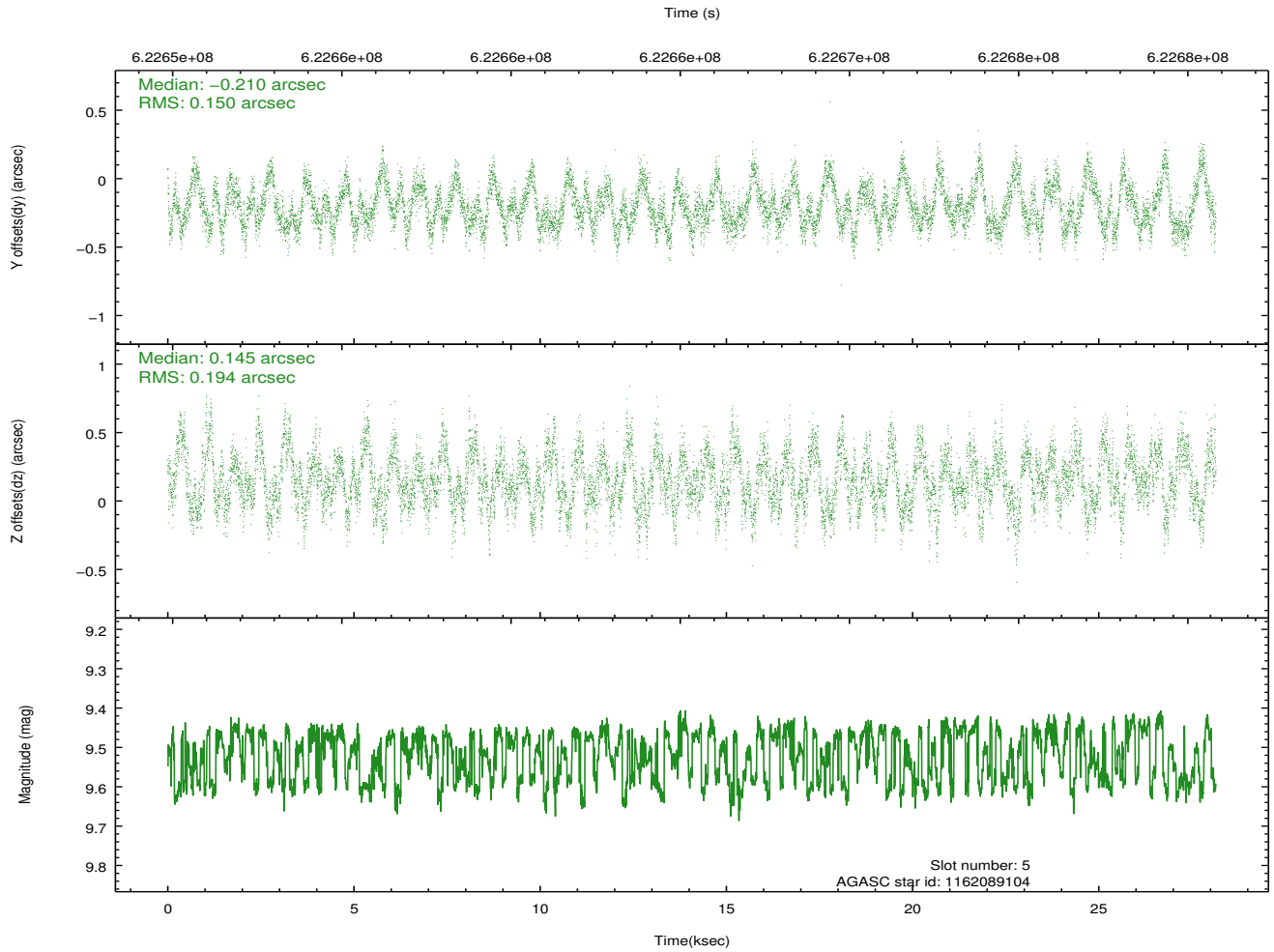
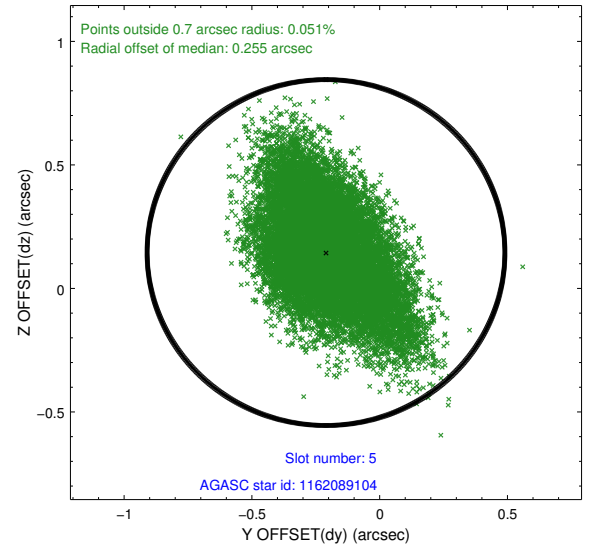
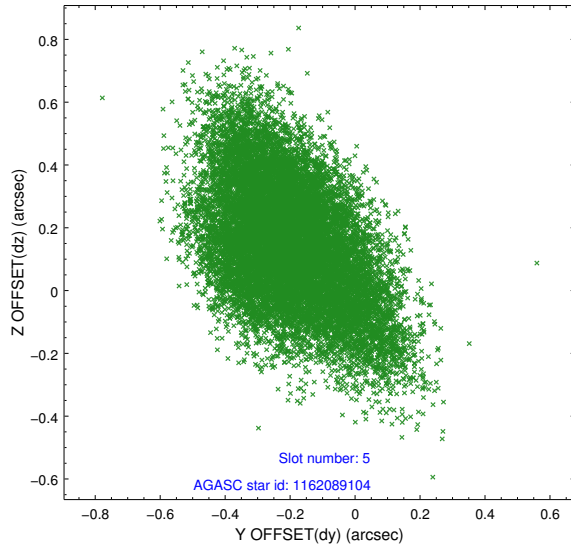
2.4.1 Slot 3



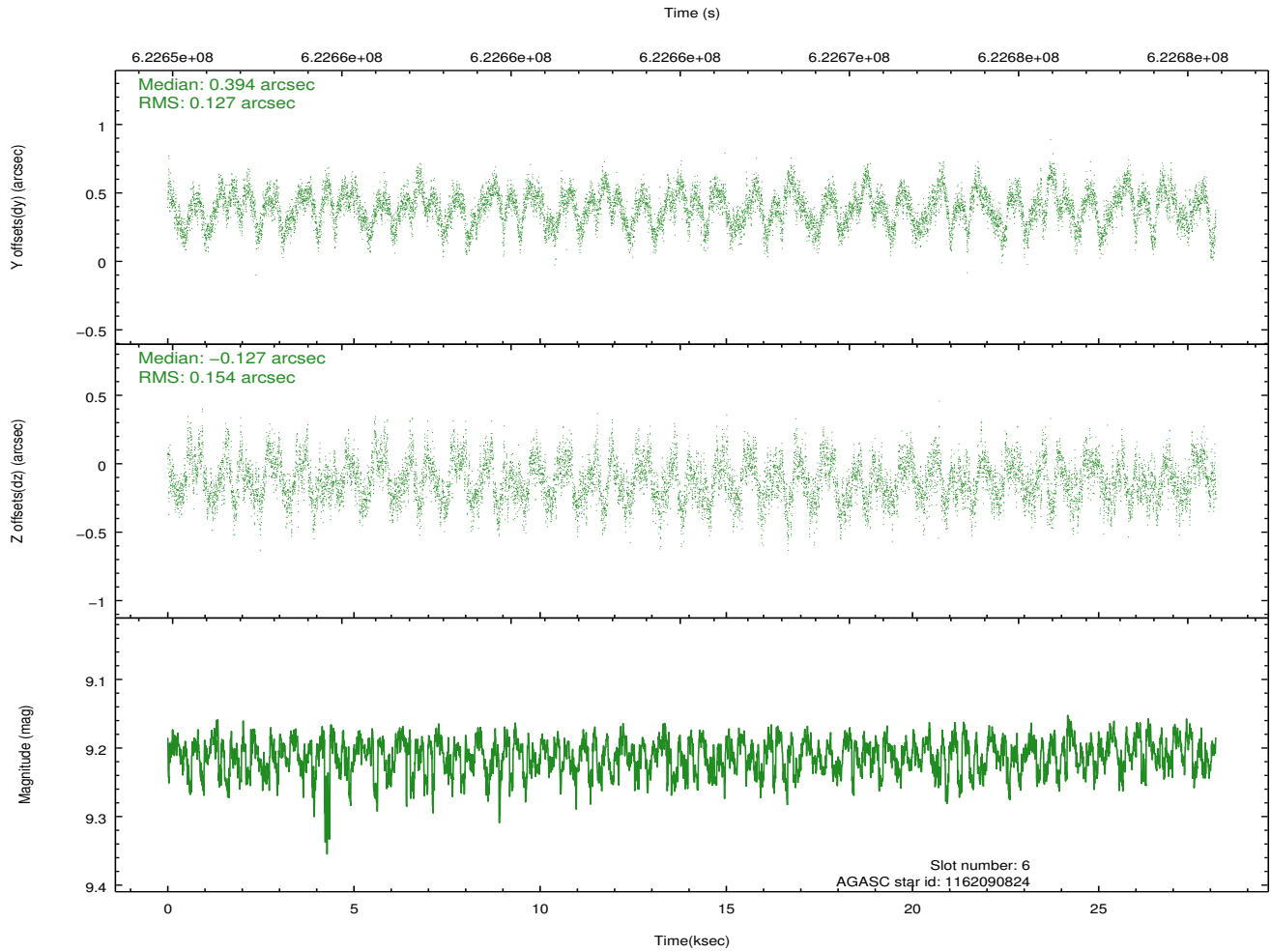
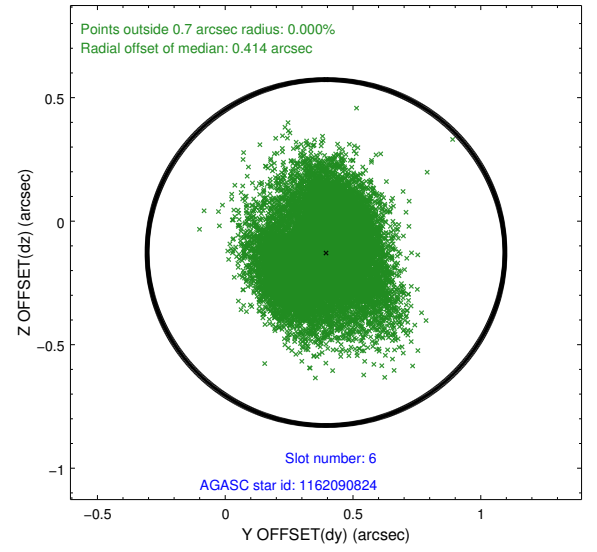
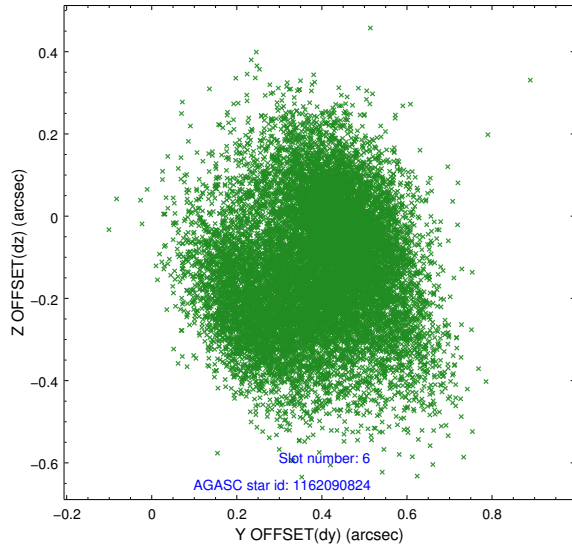
2.4.2 Slot 4



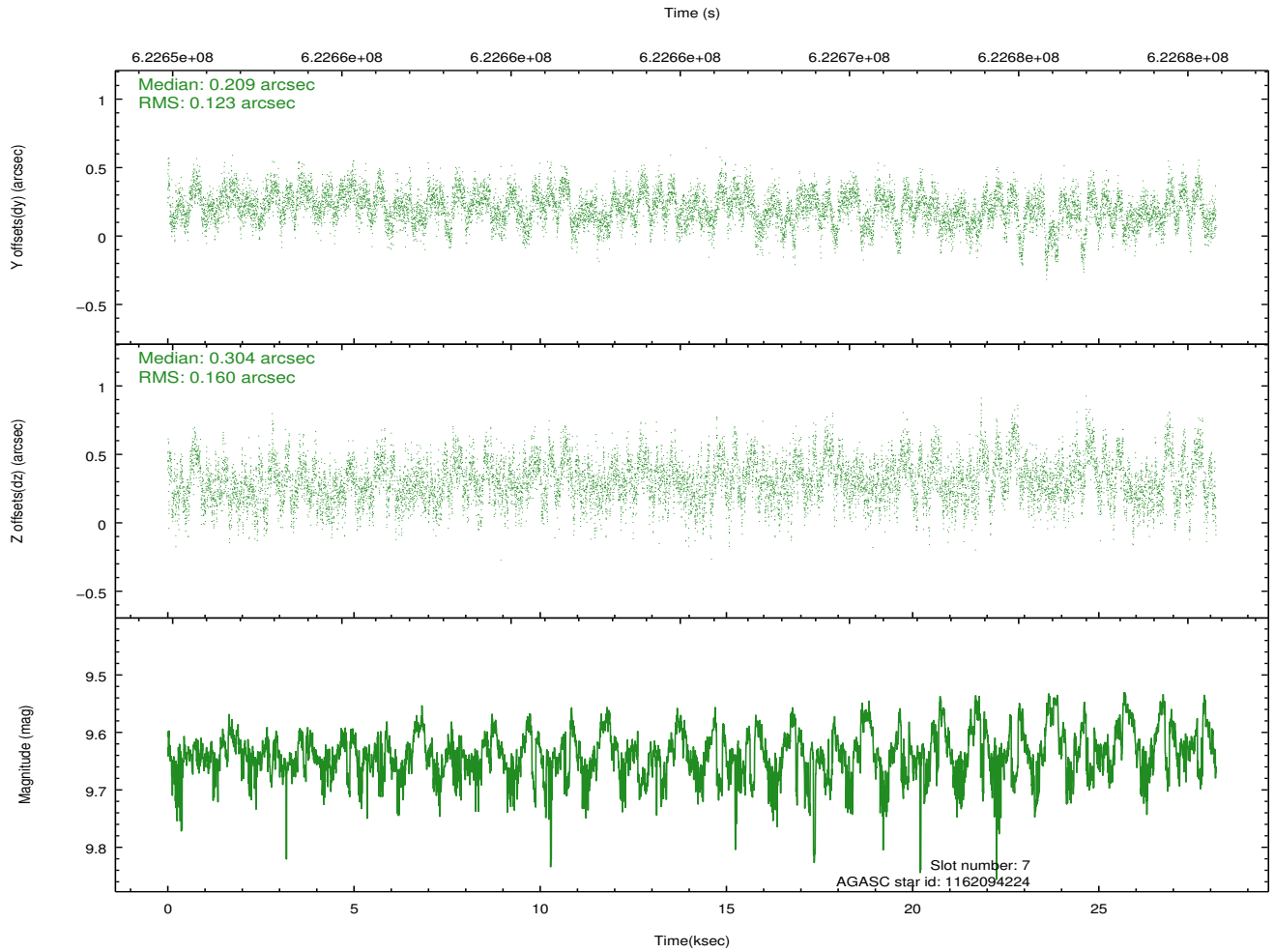
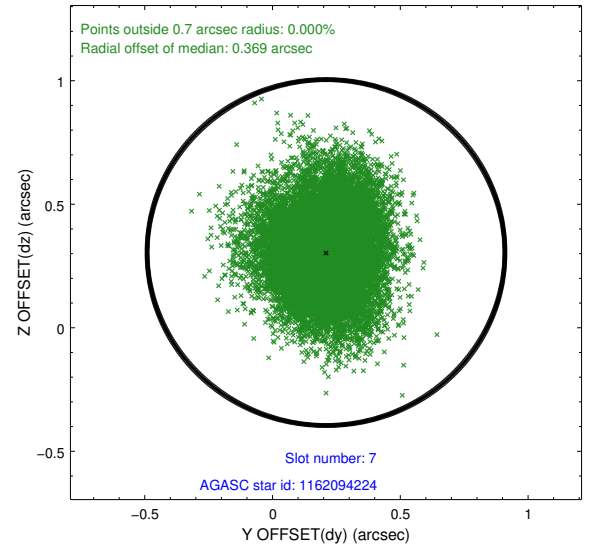
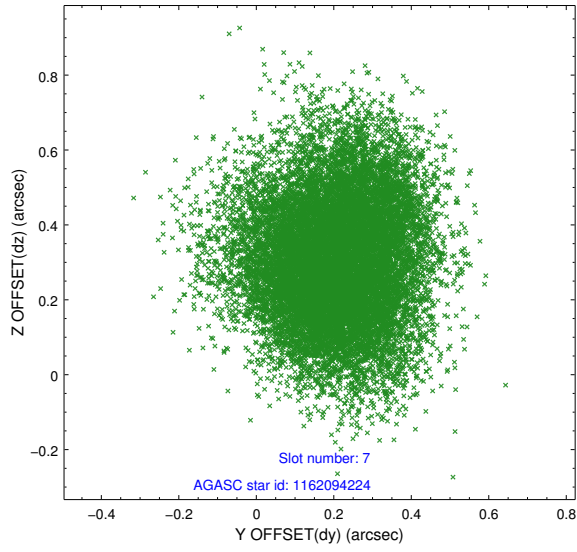
2.4.3 Slot 5



2.4.4 Slot 6

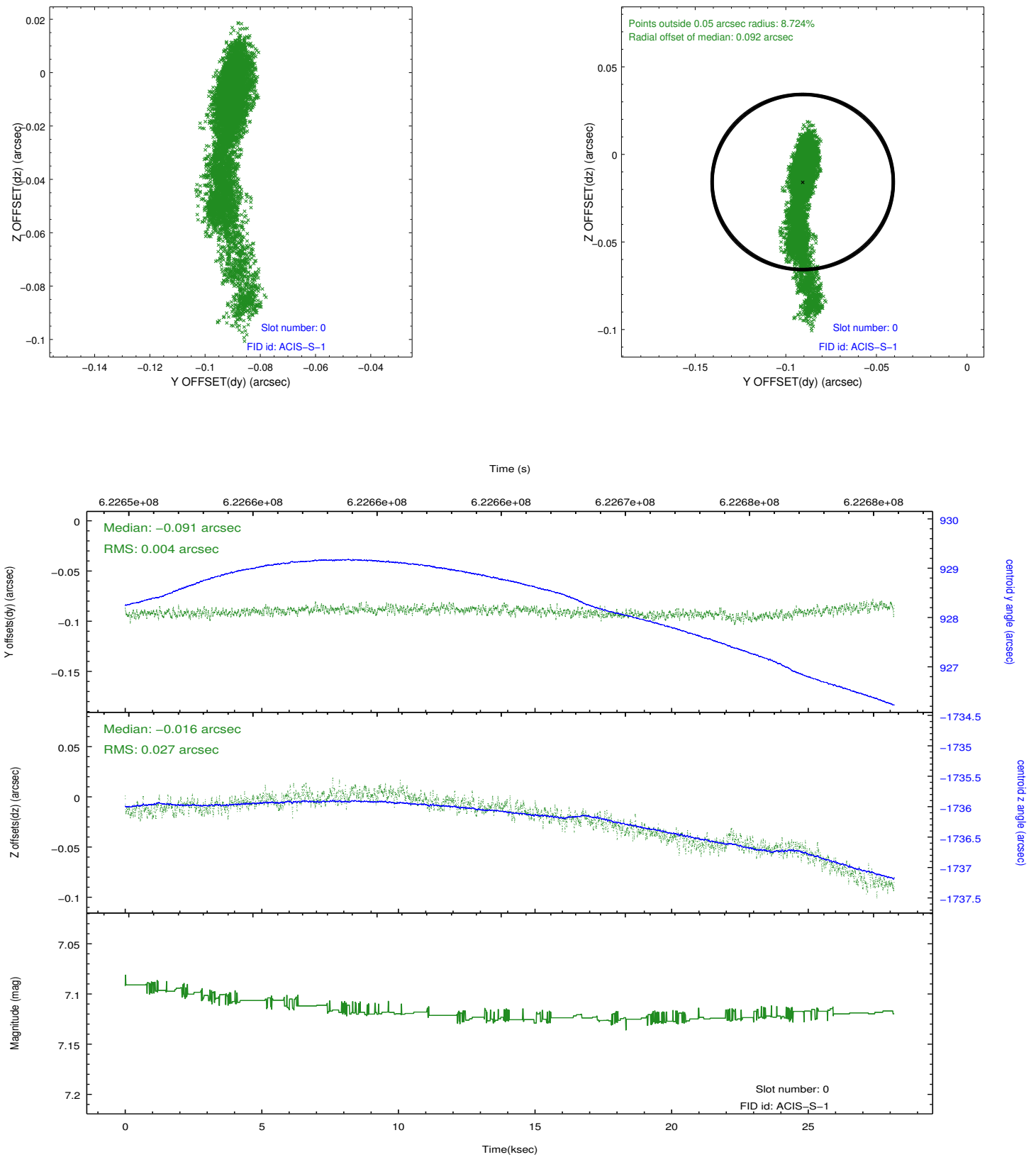


2.4.5 Slot 7

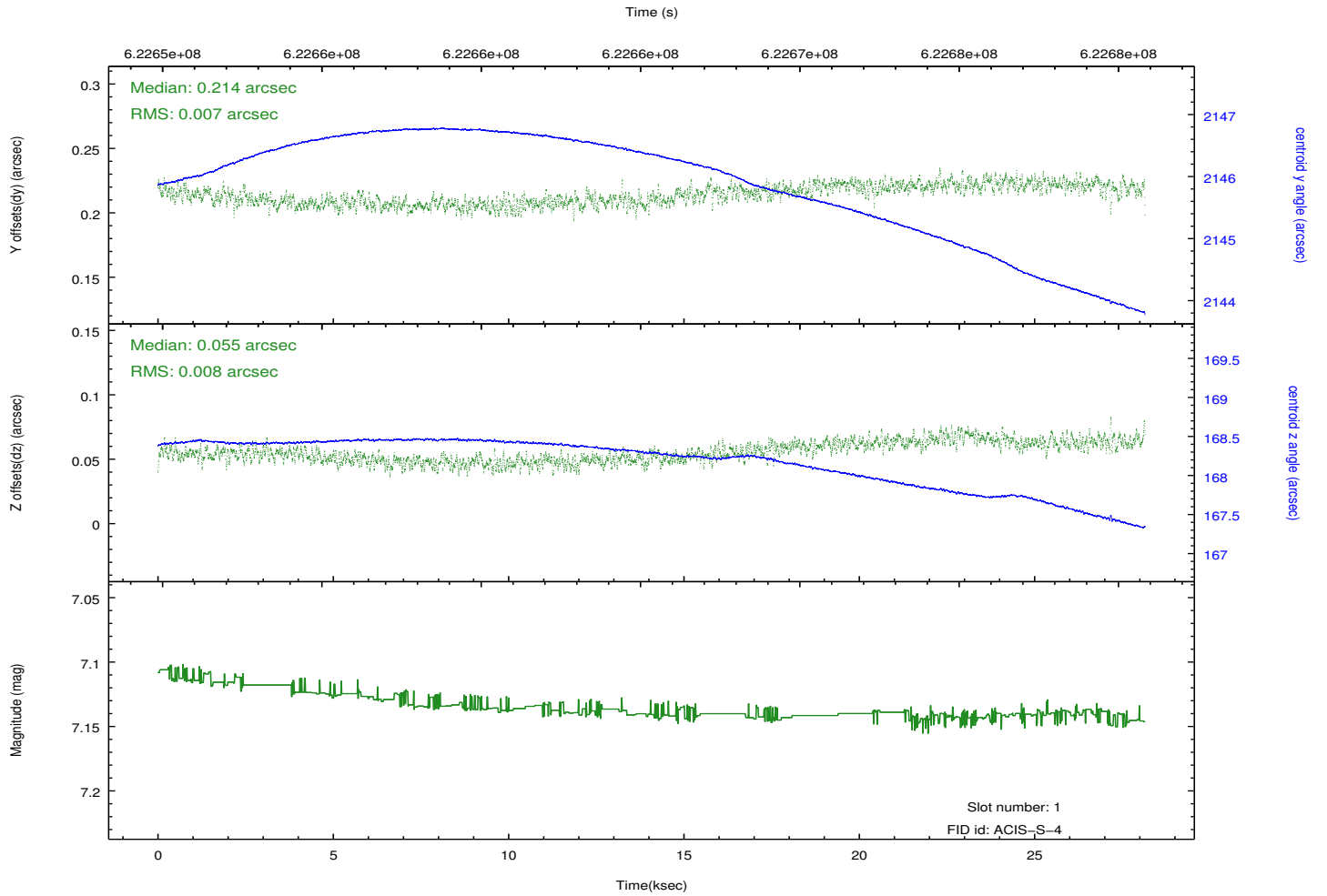
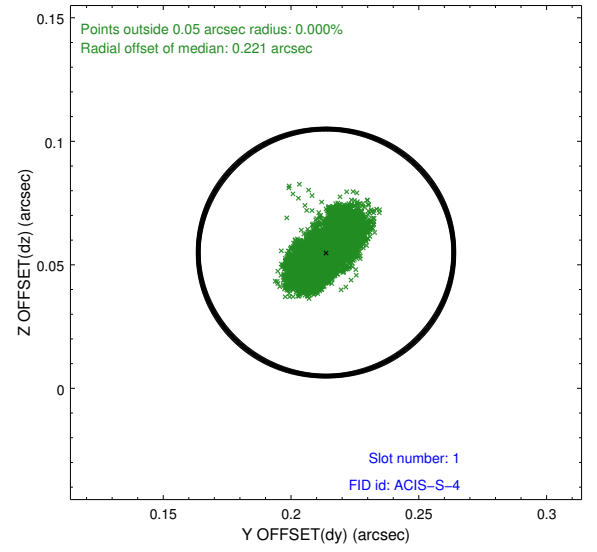
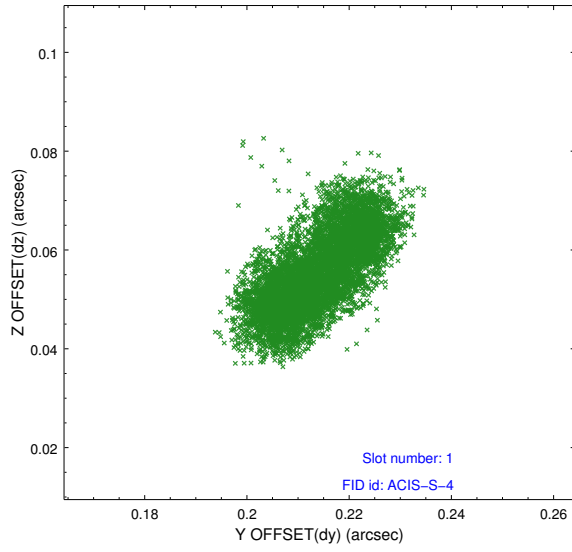


2.5 FID Slots

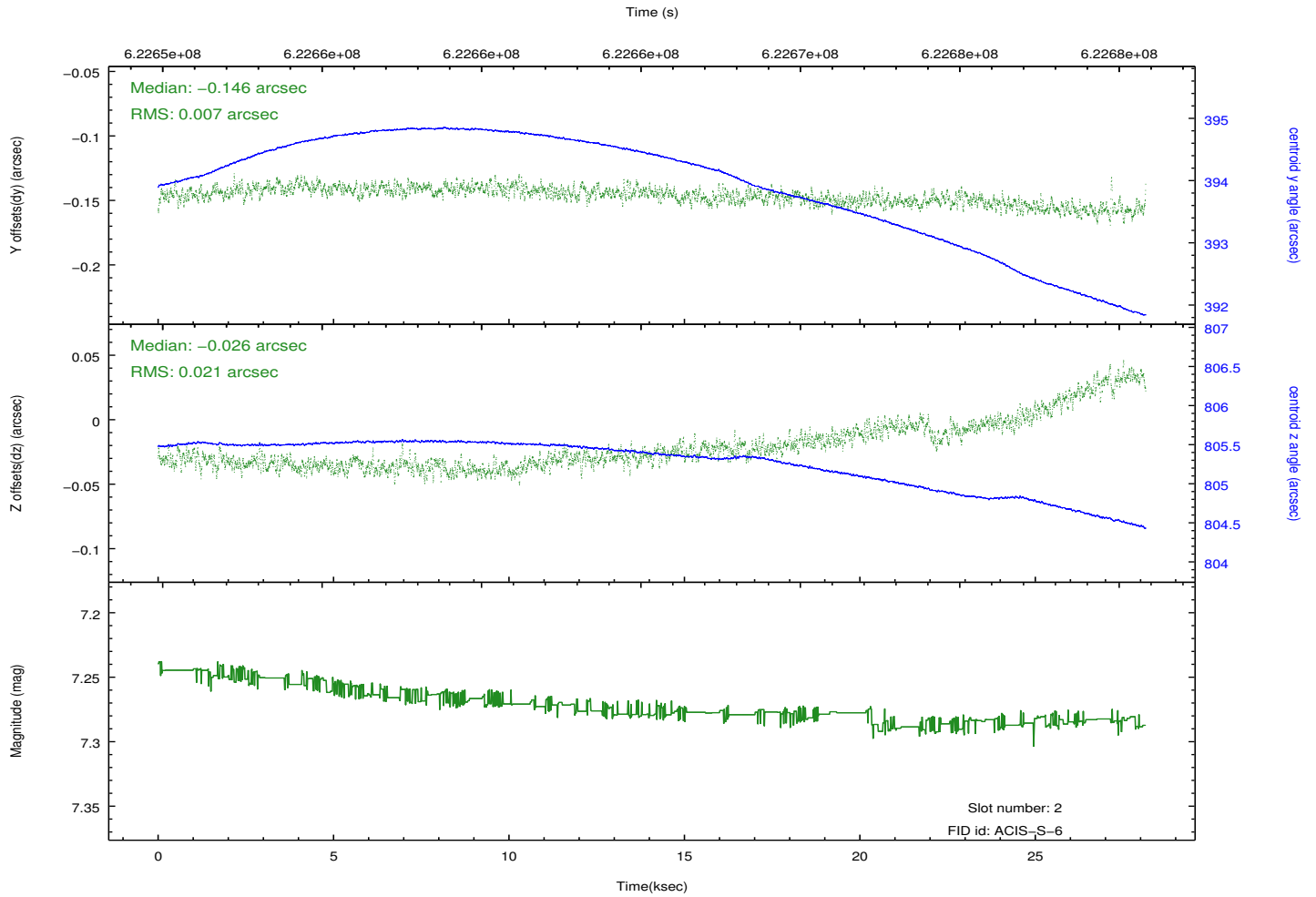
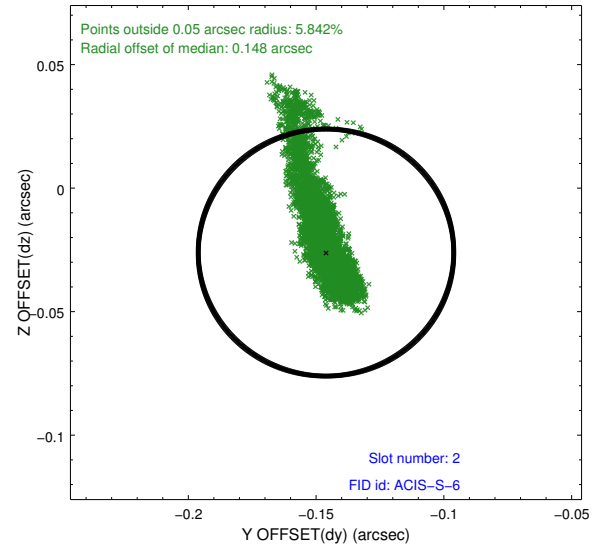
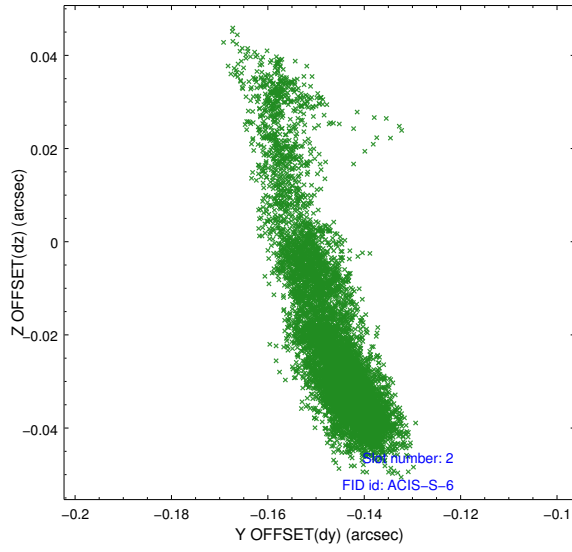
2.5.1 Slot 0



2.5.2 Slot 1

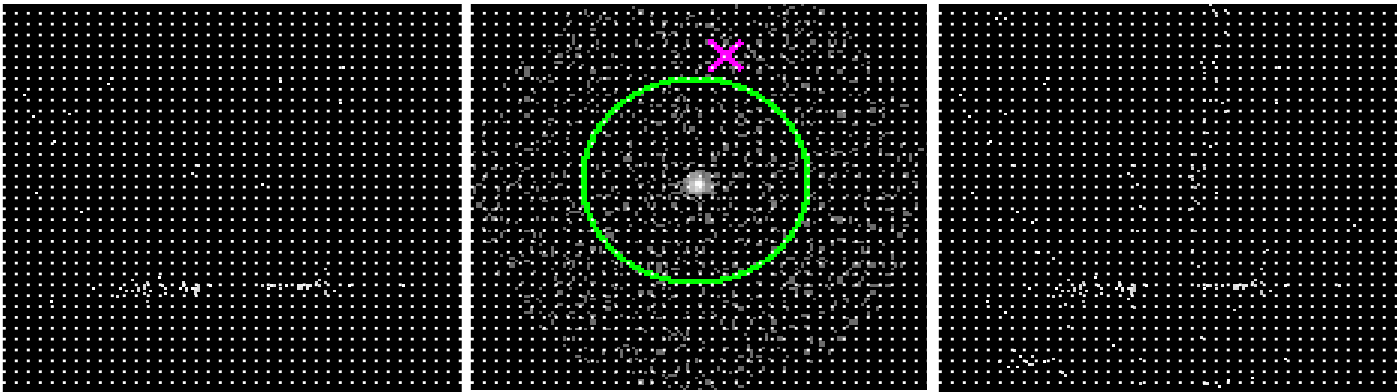


2.5.3 Slot 2



3 Gratings

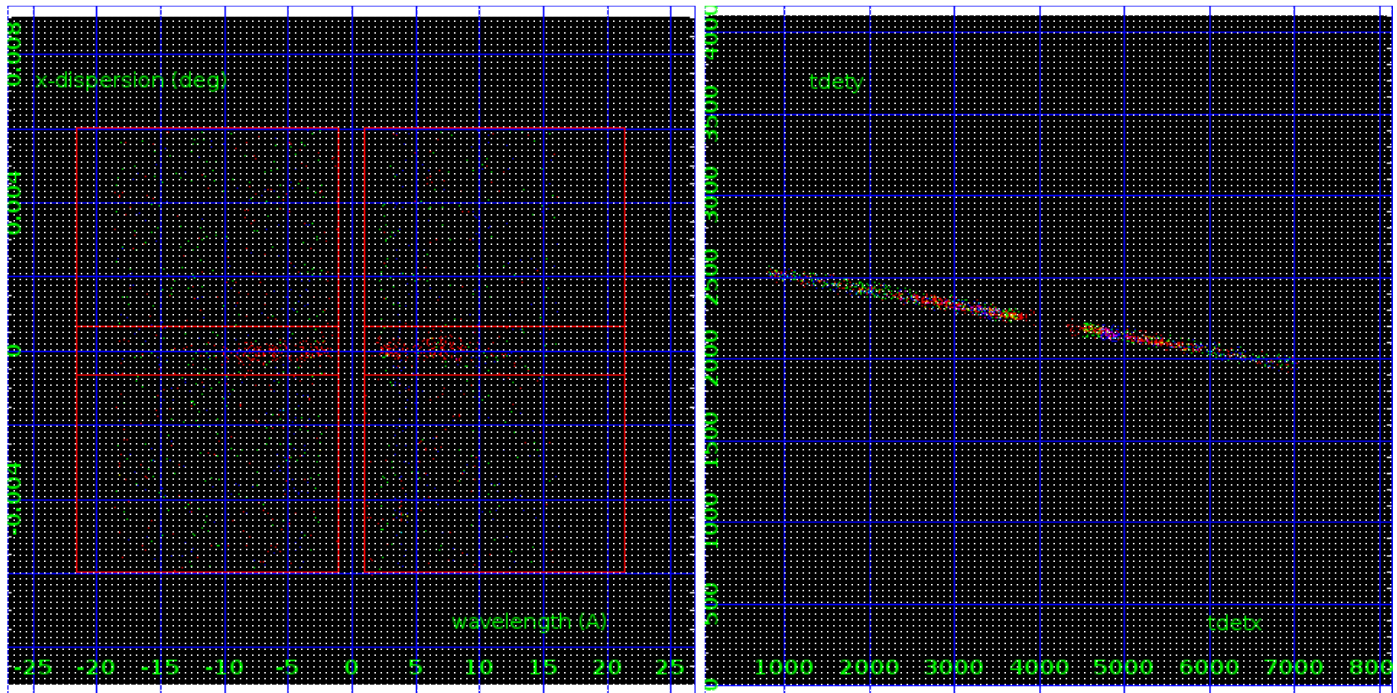
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

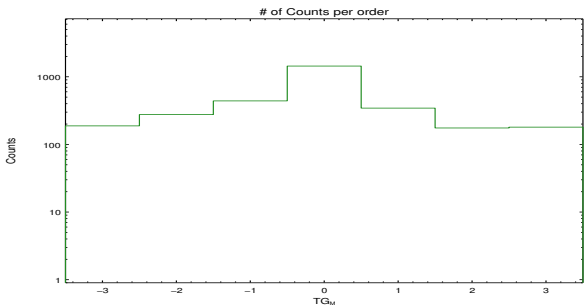
HEG Order Sort ALL

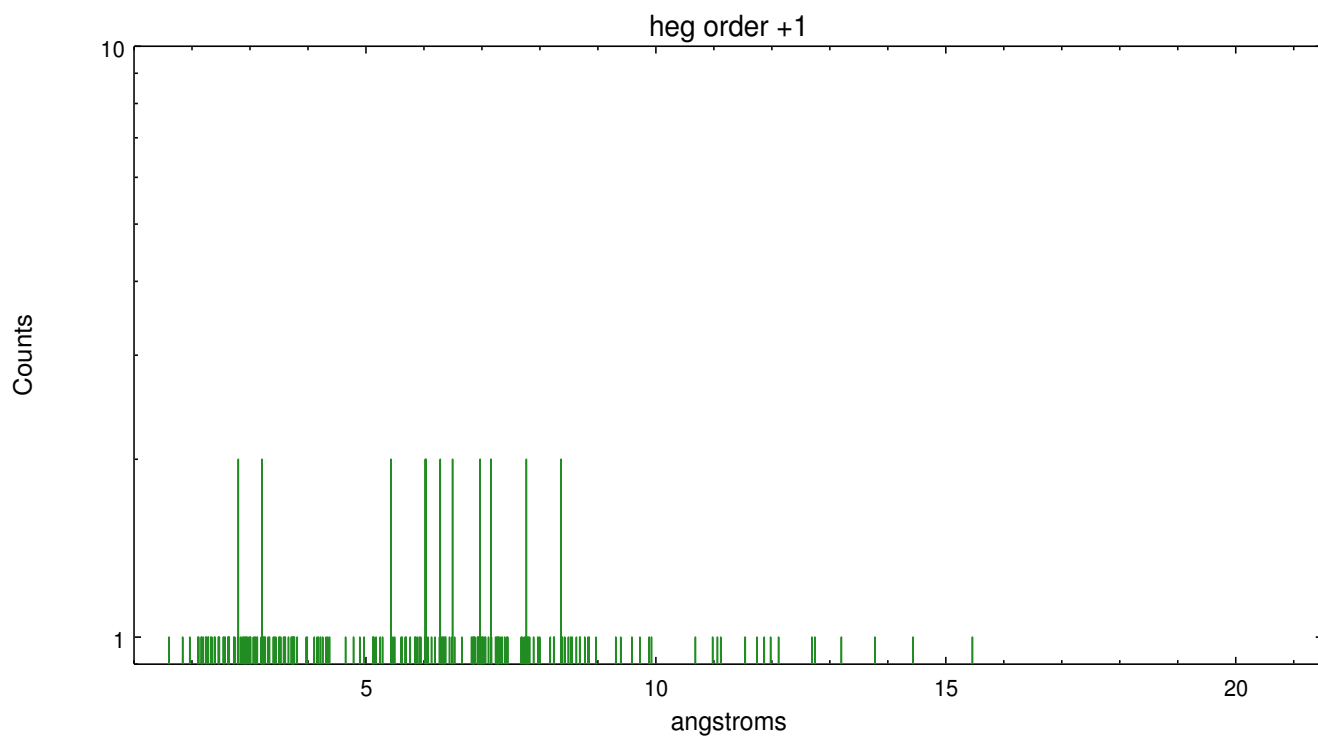
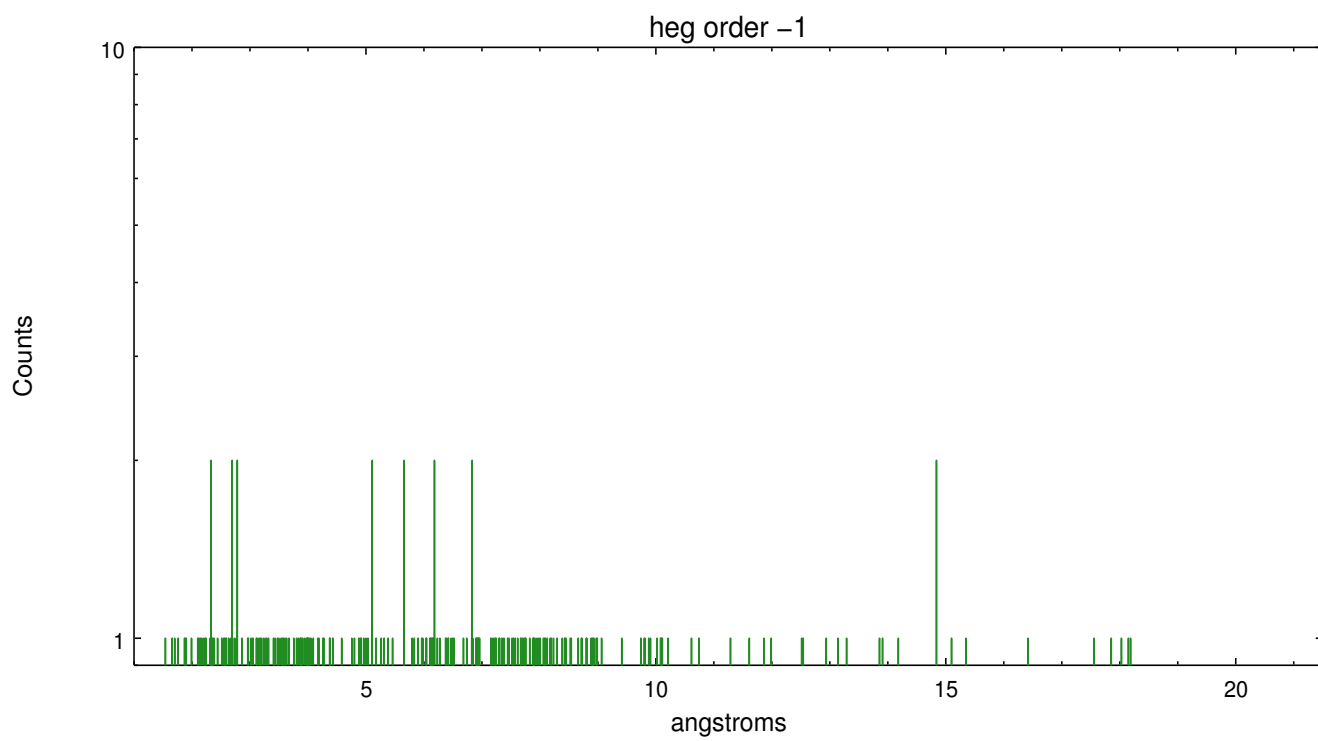


Spot Image HEG

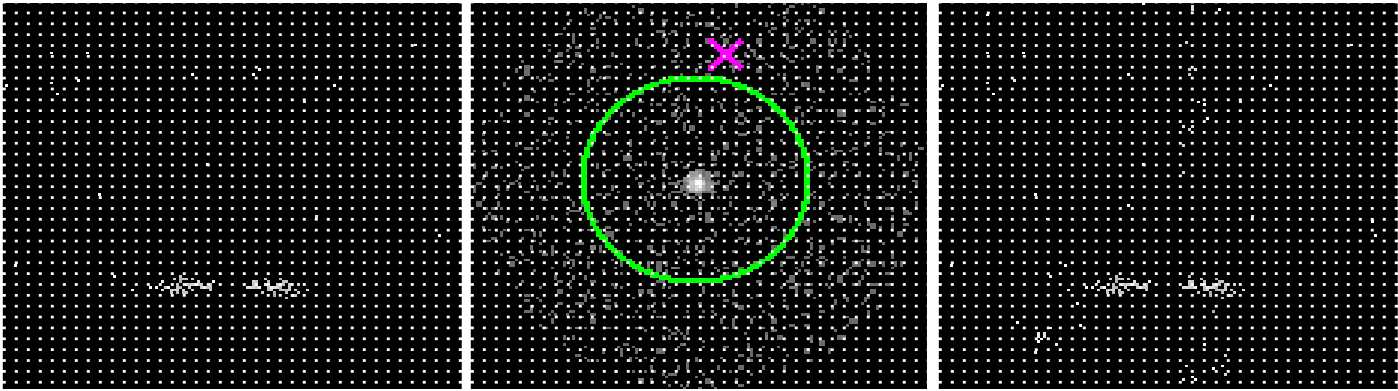
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	188	276	440	1440	344	175	180





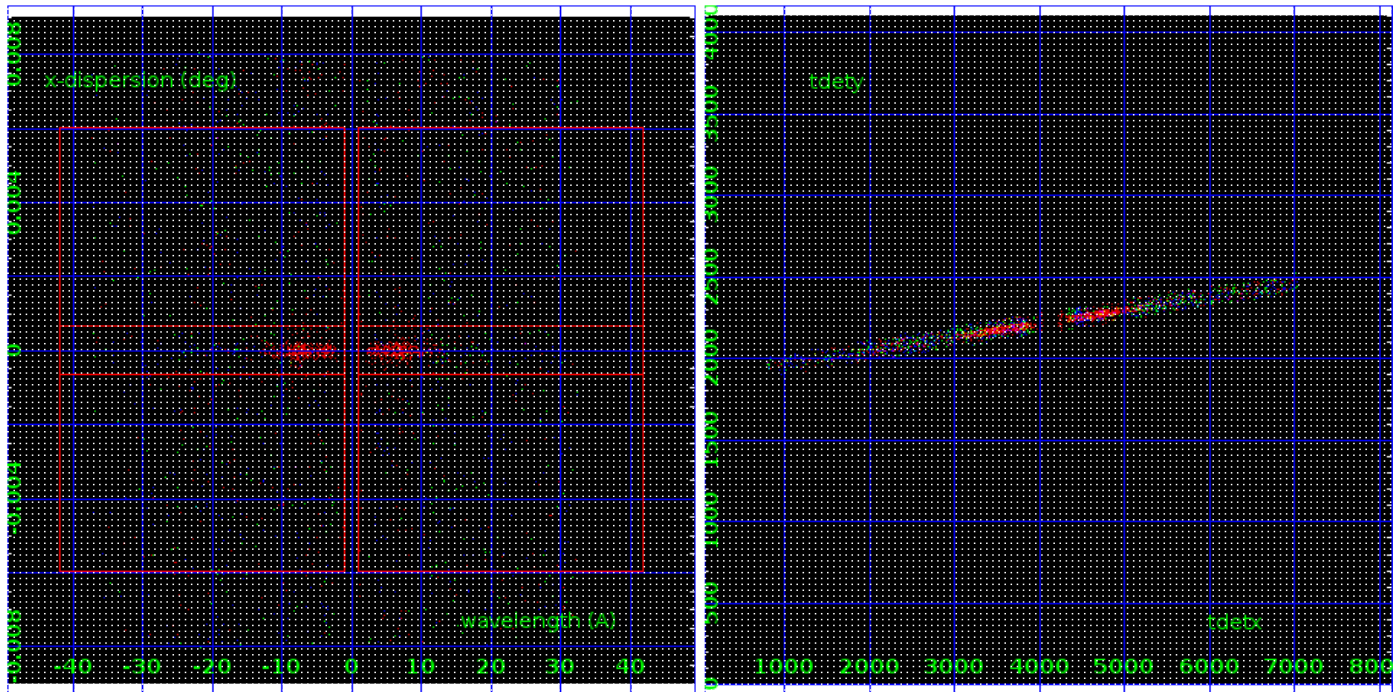
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

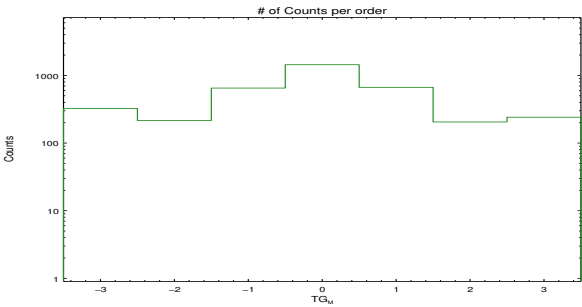
MEG Order Sort ALL

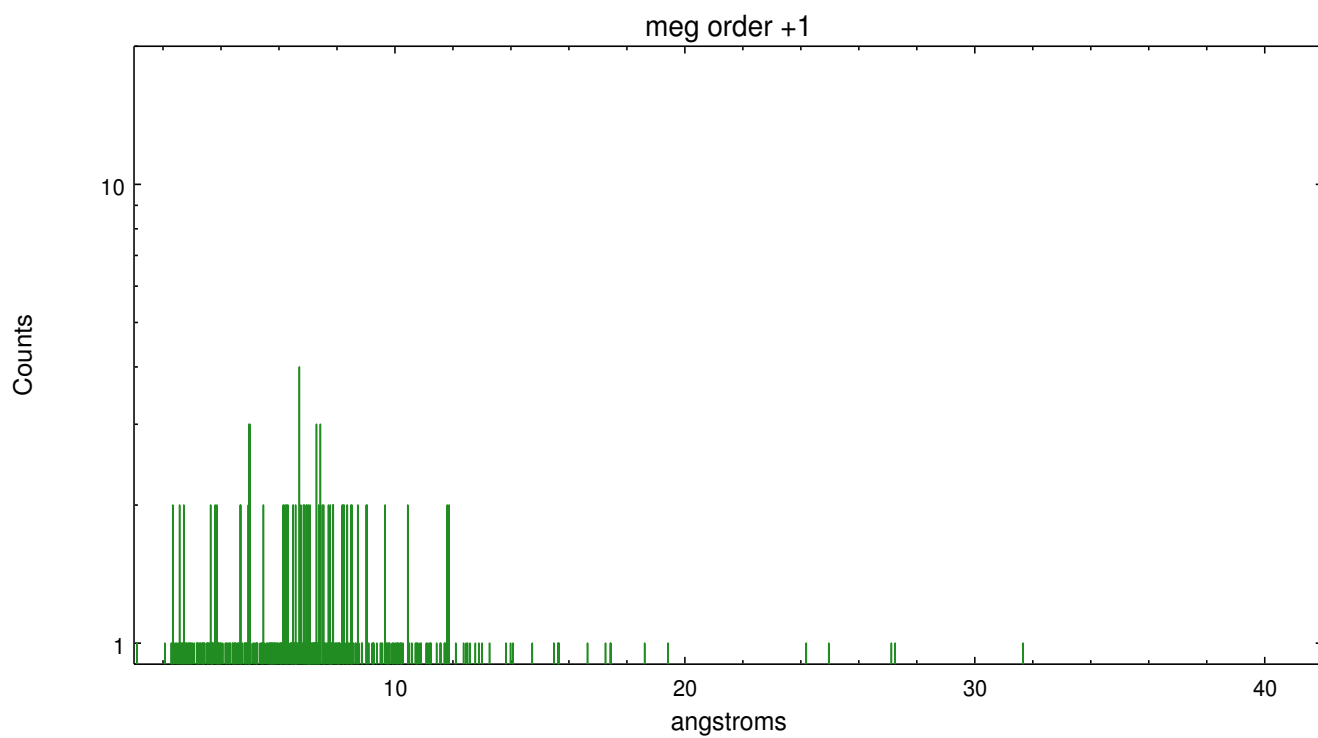
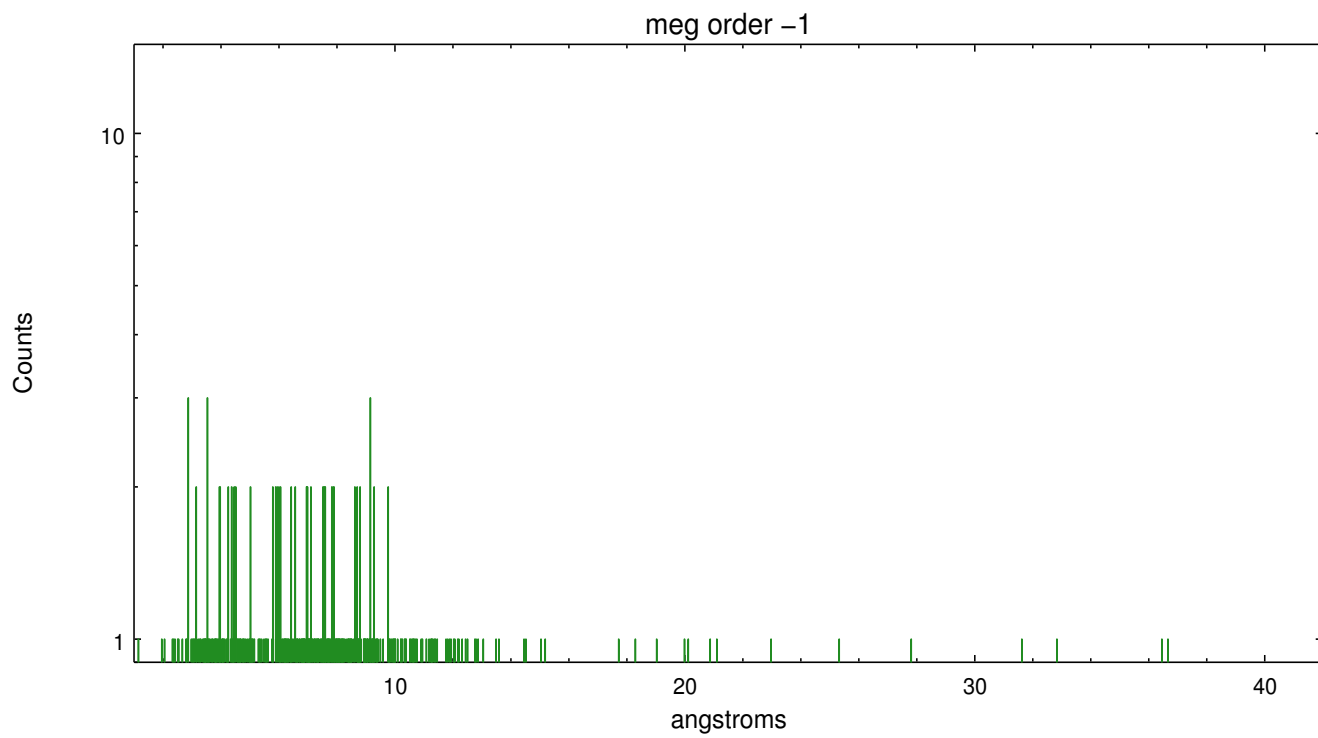


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	324	216	650	1440	666	205	241





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2017.09.25
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	27.94880041647

A.2 Comments

Comments for Obi 0

Star in slot 3 has an RMS deviation > 0.200000 arcsec