

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 20721 - L2 Version 2
Chandra X-Ray Center

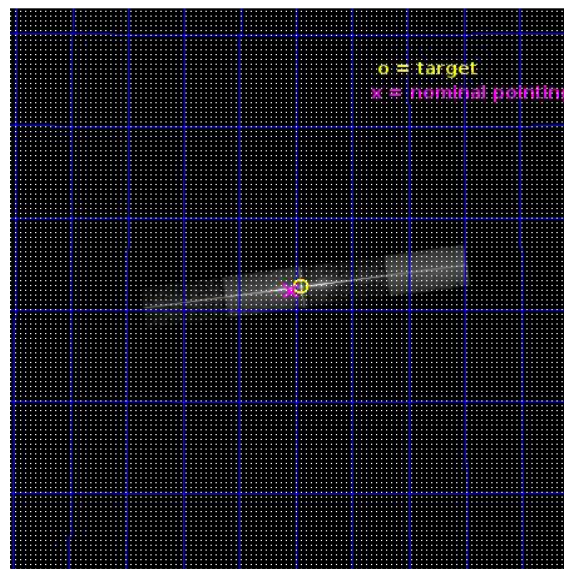
L2 Processing Date : Mar 1 2018

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1 Front

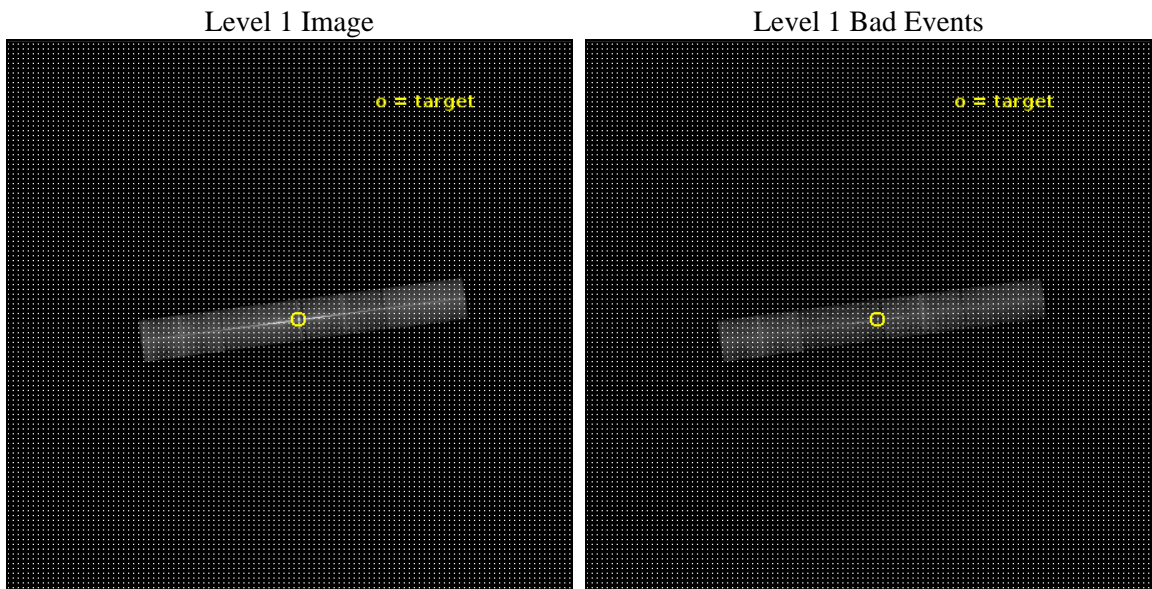
seq_num	790319	Sequence number
obs_id	20721	Observation id
title	AO-19 Big Dither Observation of Mkn421	Proposal title
observer	CXC Calibration	Principal investigator
object	MKN421	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	166.113333	Observer's specified target RA [deg]
dec_targ	38.208806	Observer's specified target Dec [deg]
ra_nom	166.13517912736	Nominal RA [deg]
dec_nom	38.201546538512	Nominal Dec [deg]
roll_nom	172.14306409973	Nominal Roll [deg]
revision	2	Processing version of data
ontime	27592.400598168	Sum of GTIs [s]
livetime	26599.979543211	Livetime [s]
ontime5	27592.400598168	Sum of GTIs [s]
ontime6	27592.400598168	Sum of GTIs [s]
ontime7	27592.400598168	Sum of GTIs [s]
ontime8	27592.400598168	Sum of GTIs [s]
l2events	390308	Number of level 2 events



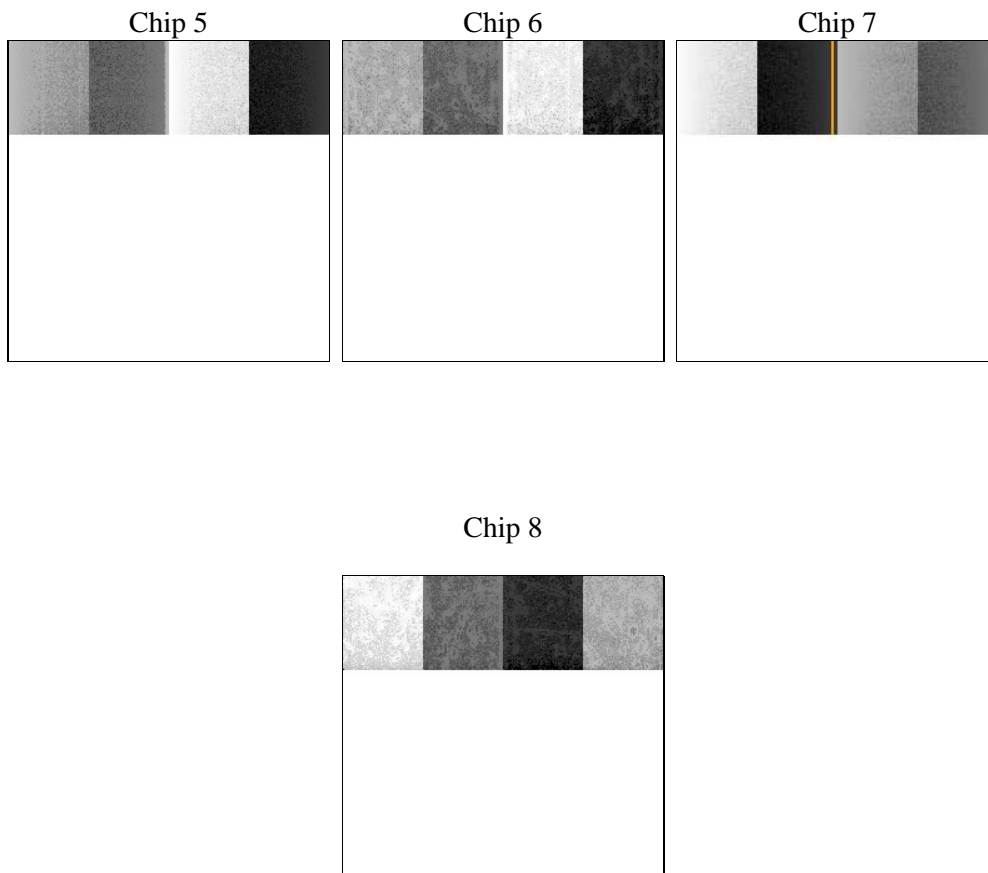
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	27505.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	27592.400598168	Sum of GTIs [s]
caldbver	4.7.7	 	ontime5	27592.400598168	Sum of GTIs [s]
date	2018-03-01T22:04:56	Date and time of file creation	ontime6	27592.400598168	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	27592.400598168	Sum of GTIs [s]
			ontime8	27592.400598168	Sum of GTIs [s]
			l1events	682882	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4217.67, 4151.71)	src1a sky pixel position
			zo_pos_tgd	(4217.95, 4151.91)	src1a sky pixel position via todetect

2.1.4 Events

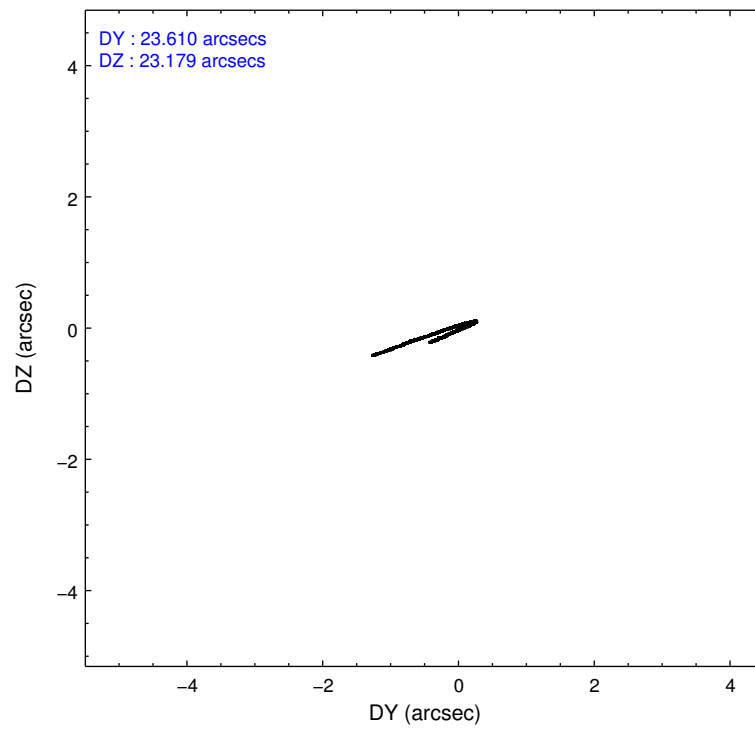
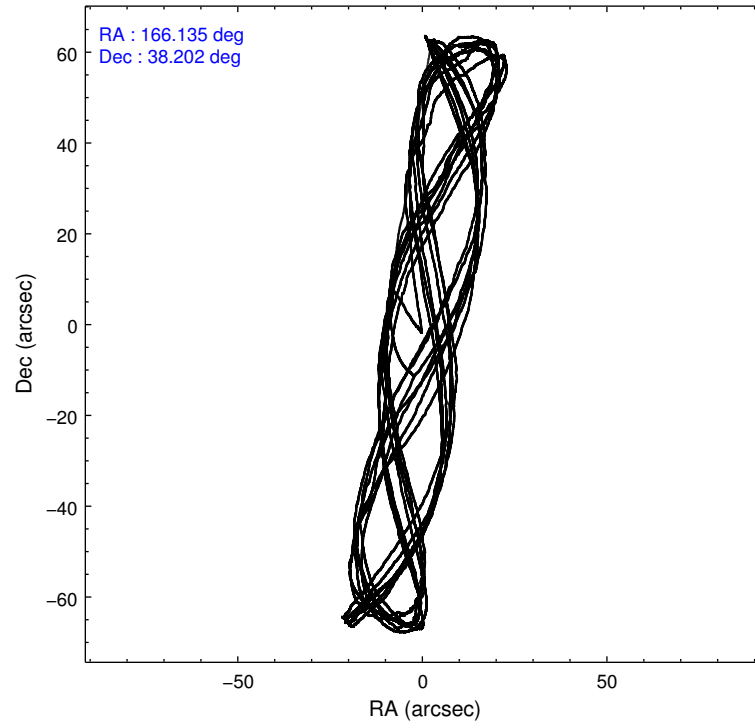
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	111334	187682	278212	105654
rejected events	53476	67525	71521	76231
rejected %	48%	35%	25%	72%

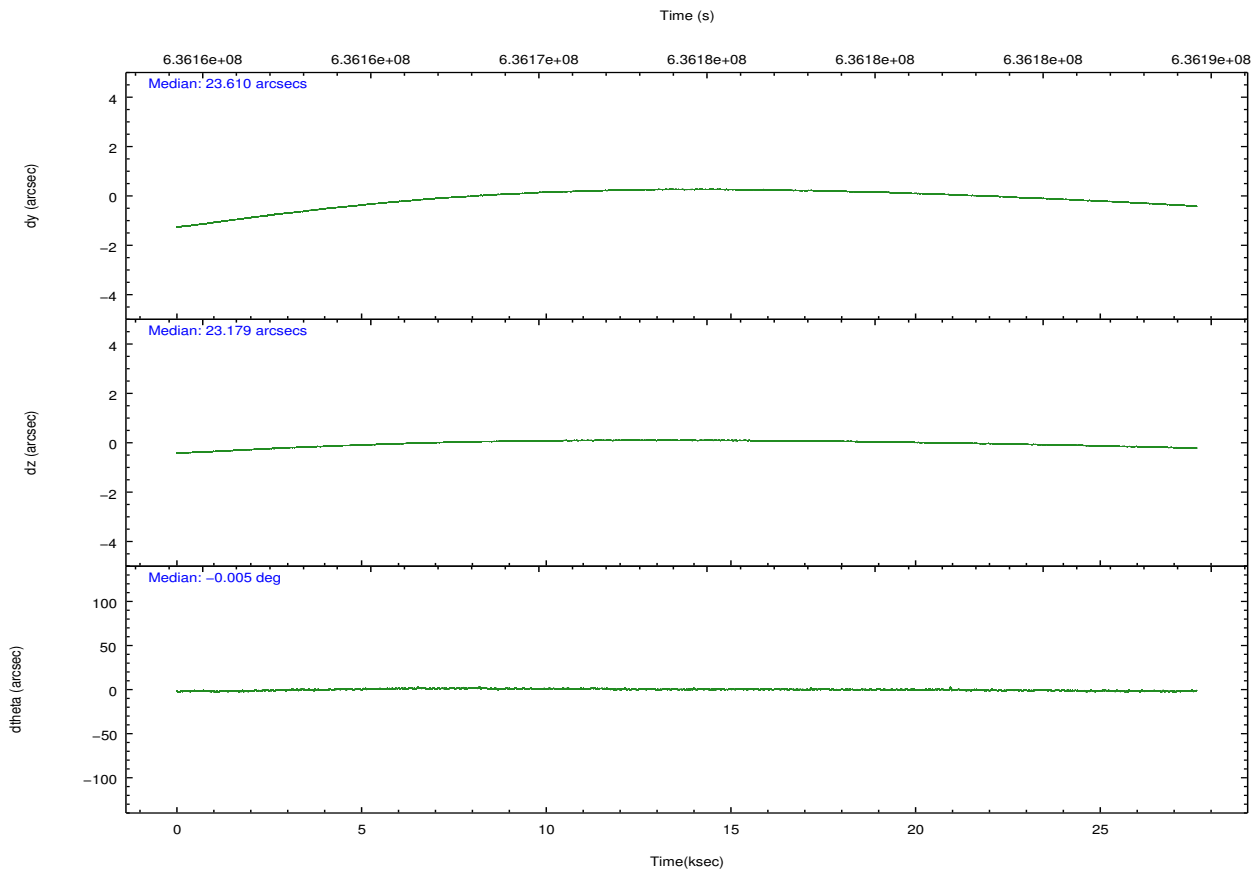
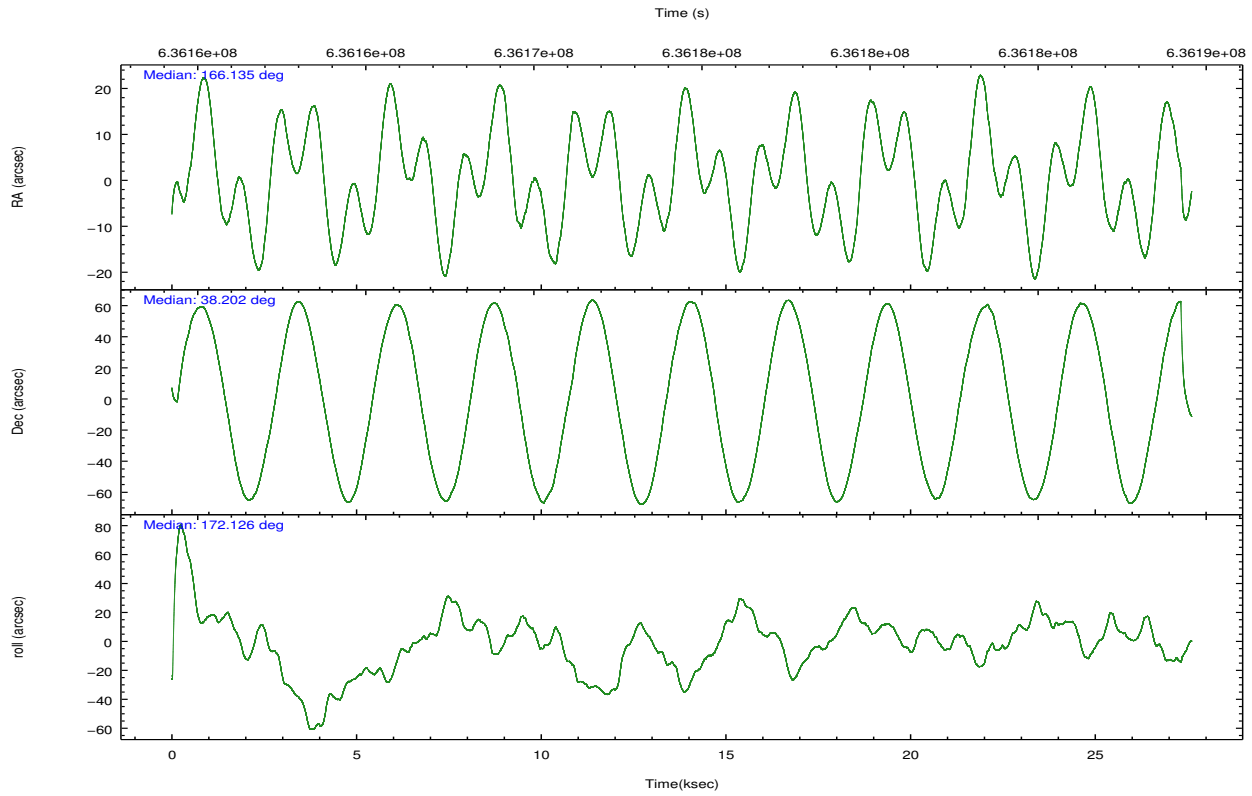
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	7565	91827	48189	12120
	6%	48%	17%	11%
grade 1 events	408	626	1430	76
	0%	0%	0%	0%
grade 2 events	18661	15207	49182	5531
	16%	8%	17%	5%
grade 3 events	2375	4344	22355	2615
	2%	2%	8%	2%
grade 4 events	2277	4272	22046	2454
	2%	2%	7%	2%
grade 5 events	7475	3478	14480	4531
	6%	1%	5%	4%
grade 6 events	26984	4520	64943	6704
	24%	2%	23%	6%
grade 7 events	45589	63408	55587	71623
	40%	33%	19%	67%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-5678	ACIS-5678	Obspar file type	PREDICTED	ACTUAL
Grating	LETG	LETG	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	166.167342	166.1351791273631	CCD I2 on	N	N
[deg] Pointing Dec	38.211925	38.20154653851222	CCD I3 on	N	N
[deg] Pointing Roll	171.966593	172.1430640997283	CCD S0 on	N	N
[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	-198.642523	-198.6485090303509	CCD S3 on	Y	Y
[mm] SIM translation stage offset	8.51	8.515986447343124	CCD S4 on	Y	Y
[s] Observation start time (MET)	636160699.184000	636159791.3718801	CCD S5 on	O1	N
Observation start date	2018-02-27T23:17:10	2018-02-27T23:03:11	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	636188204.184000	636188741.47358	On-chip summing requested	N	N
Observation end date	2018-02-28T06:55:35	2018-02-28T07:05:41	Subarray requested	CUSTOM	CUSTOM
Read mode	TIMED	TIMED	Subarray start row	725	725
			Subarray row count	300	300
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	1.1

2.3 Aspect





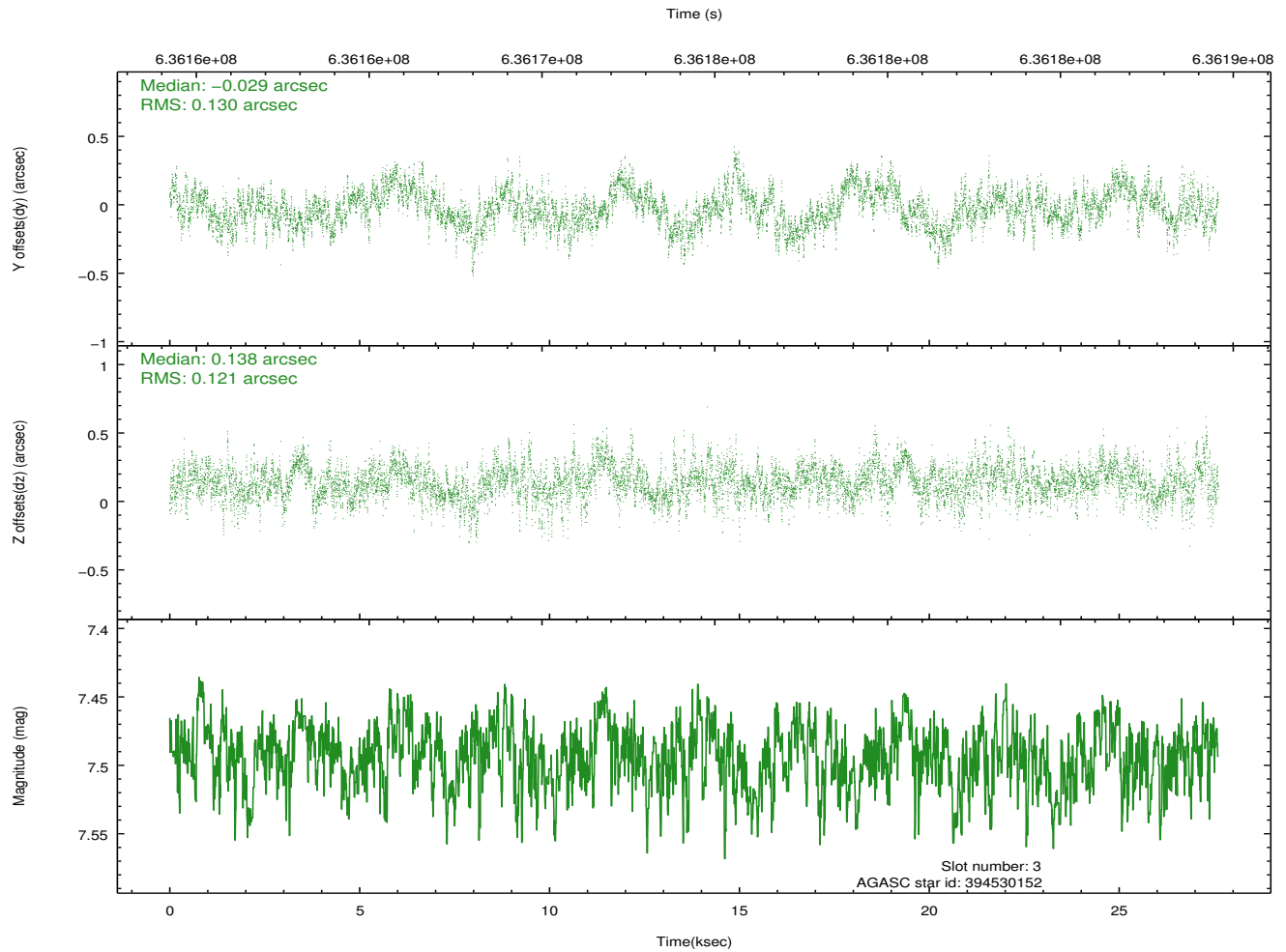
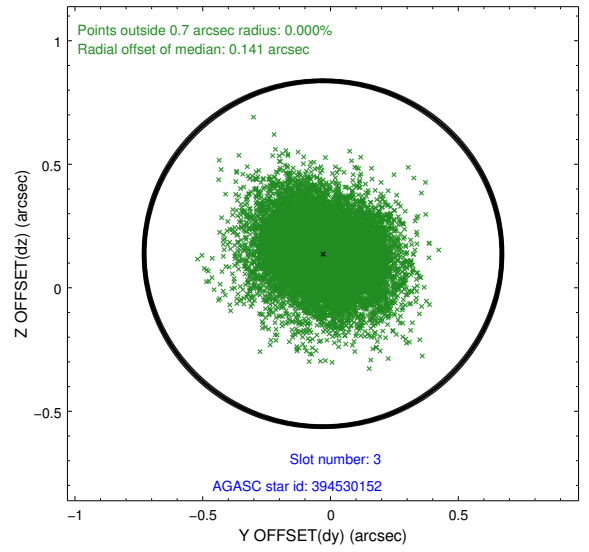
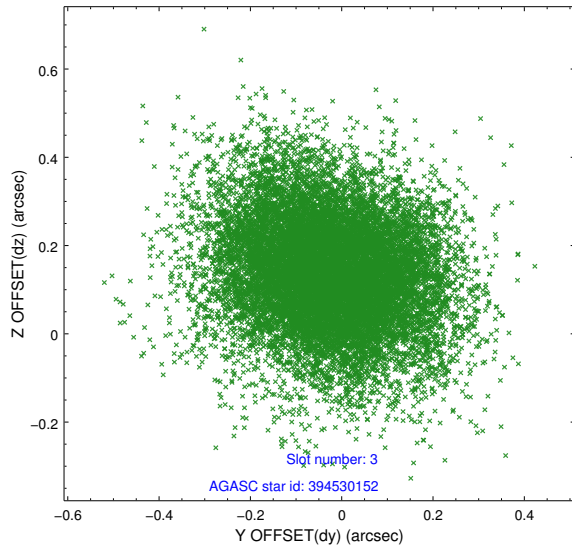
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.11	6735	-0.311	0.020	0.017	0.066	0.000000	0.000000	-777.48	-1569.24
1	FID		ACIS-S-4	7.17	6735	0.622	0.145	0.019	0.065	0.000000	0.000000	2136.63	339.35
2	FID		ACIS-S-5	7.20	6733	-0.345	-0.153	0.011	0.026	0.000000	0.000000	-1830.29	332.76
3	GUIDE	used	394530152	7.49	13467	-0.029	0.138	0.187	0.312	166.075805	38.868252	585.31	-2302.29
4	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
5	GUIDE	used	394533848	8.71	13461	-0.311	0.311	0.168	0.299	166.382906	38.276007	-564.53	-313.29
6	GUIDE	used	394543960	9.73	13295	-0.375	-0.560	0.286	0.493	165.802757	37.787371	813.15	1657.33
7	GUIDE	used	394546720	6.43	13468	0.711	0.102	0.184	0.305	166.130115	38.241361	120.16	-88.71

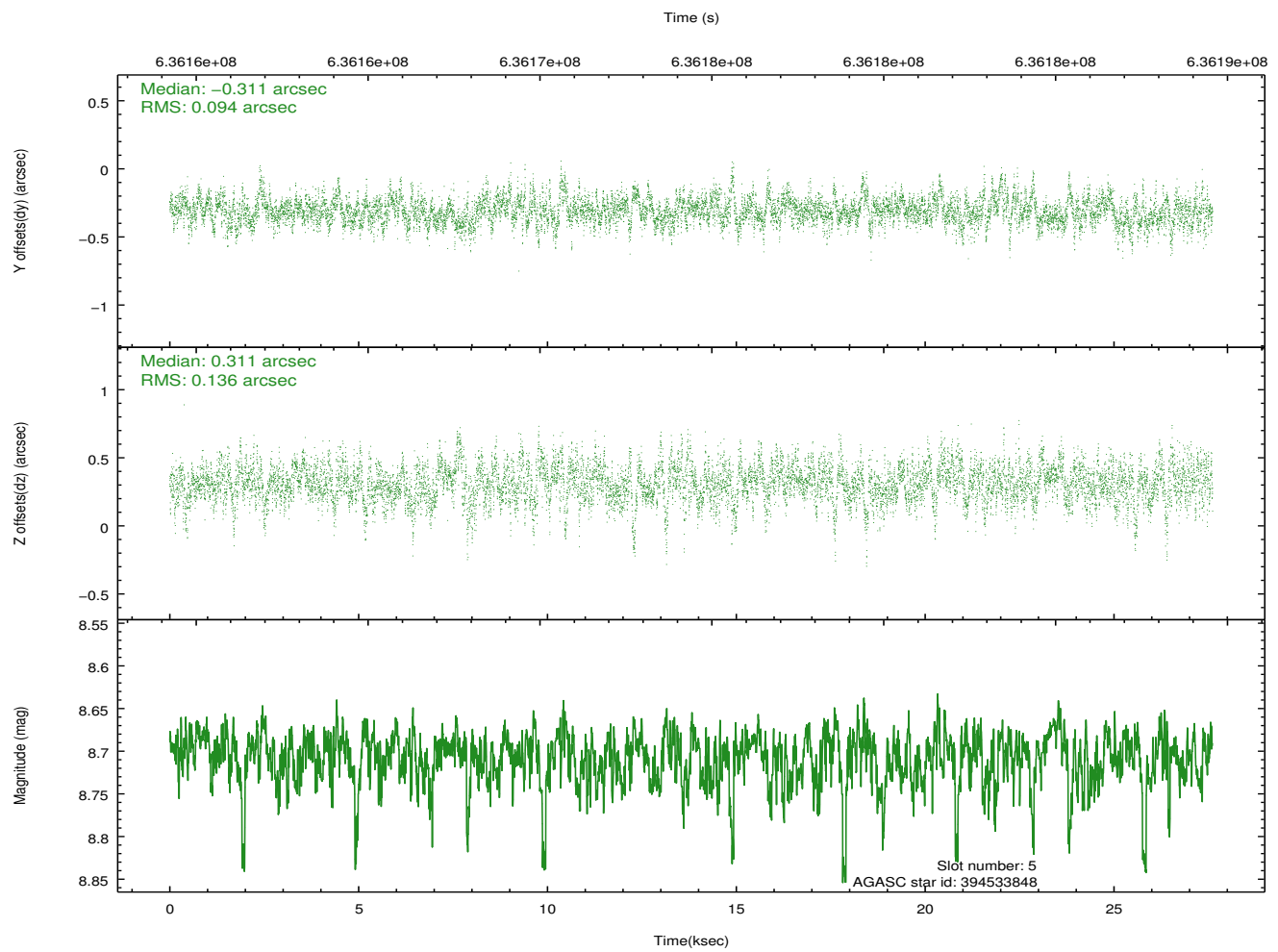
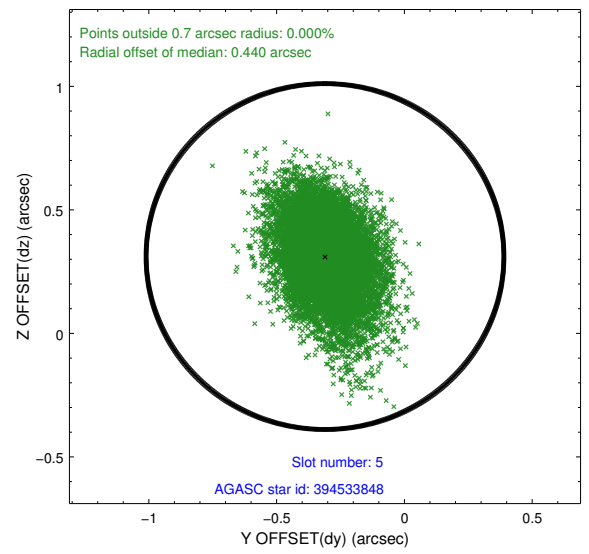
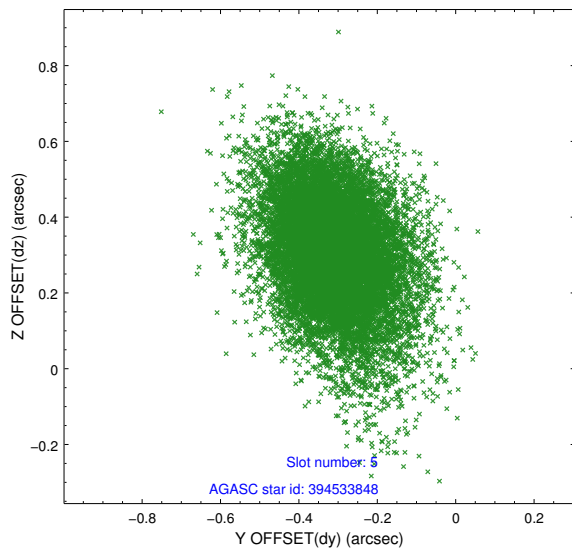
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2.4 Star Slots

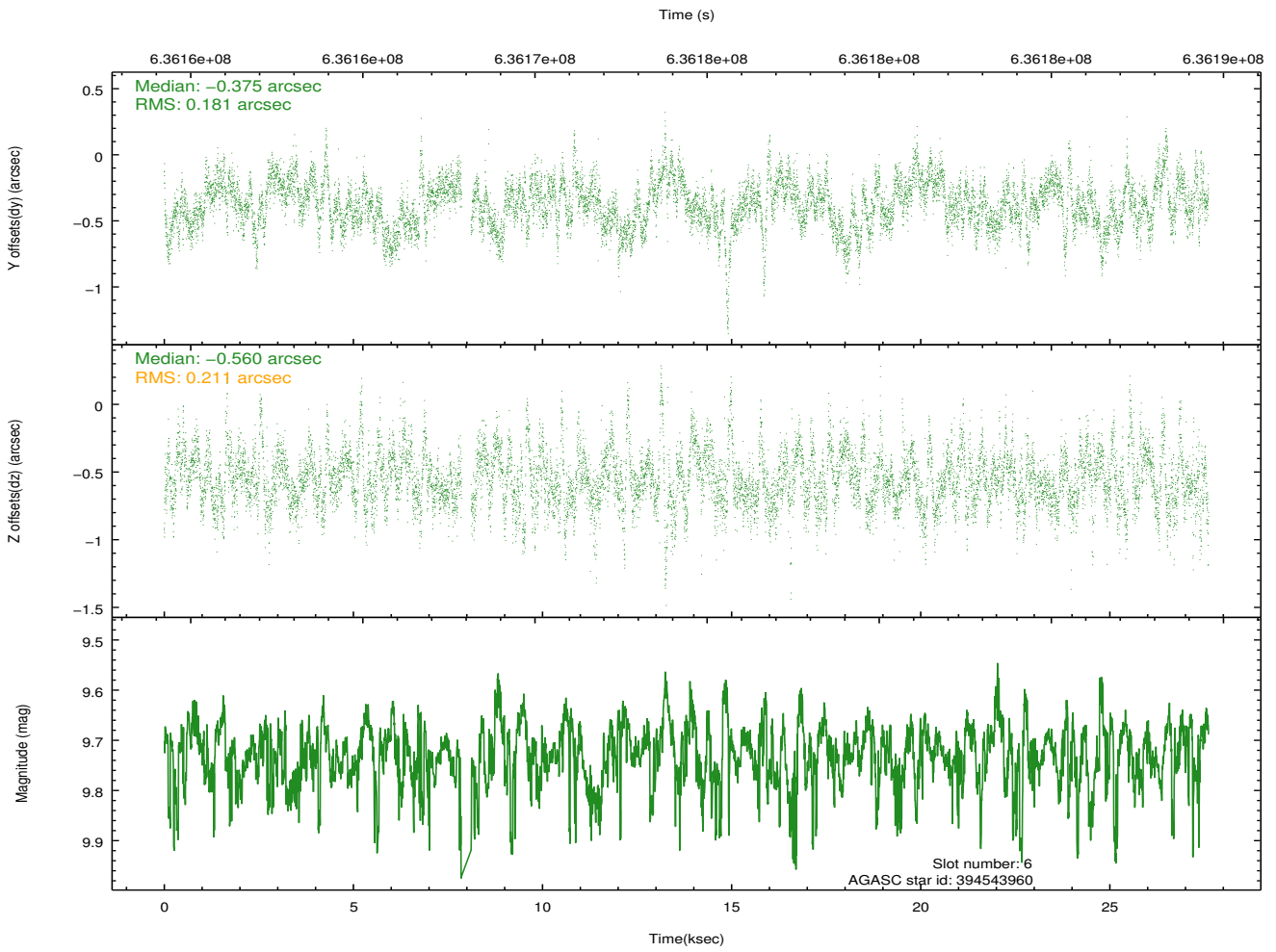
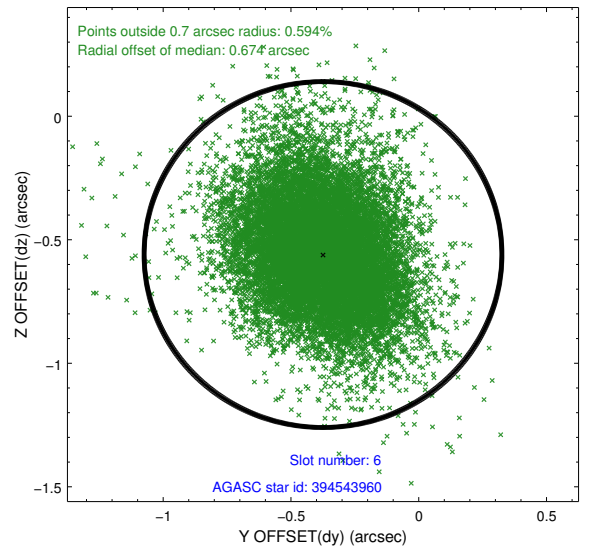
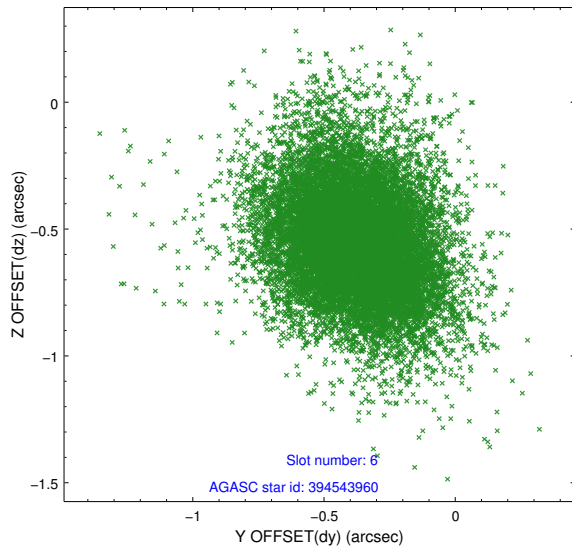
2.4.1 Slot 3



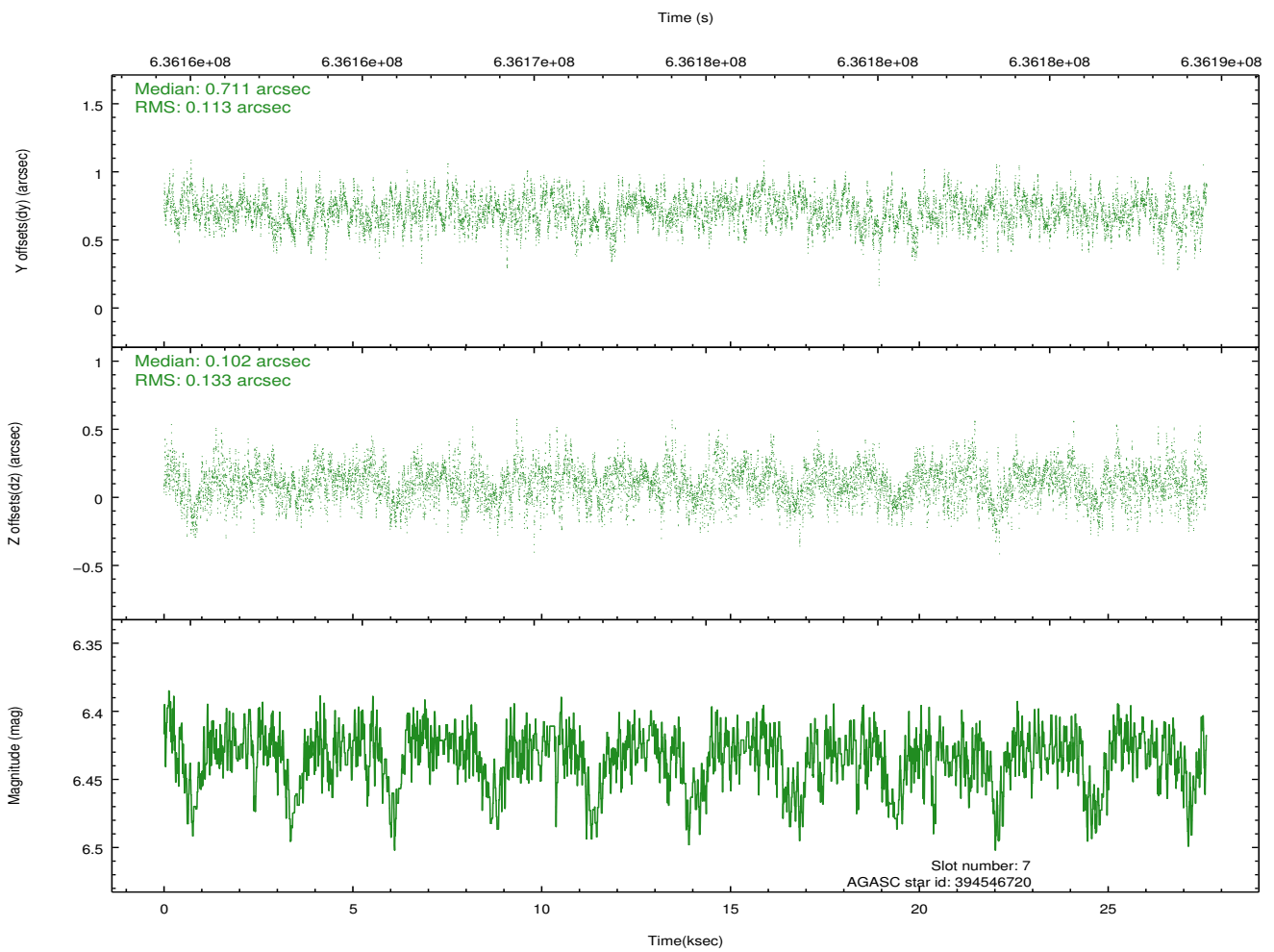
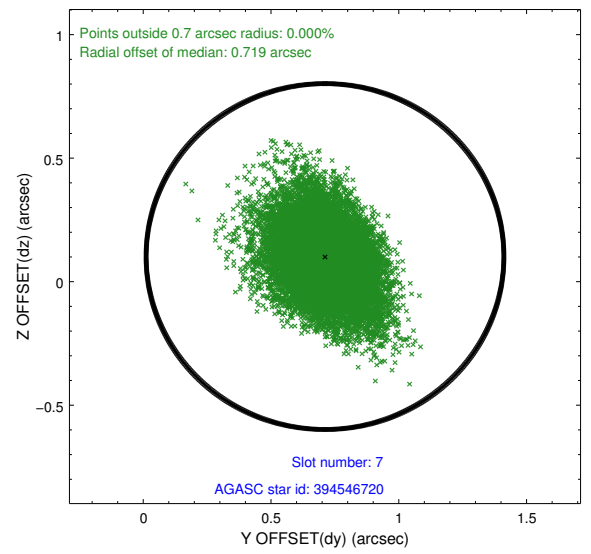
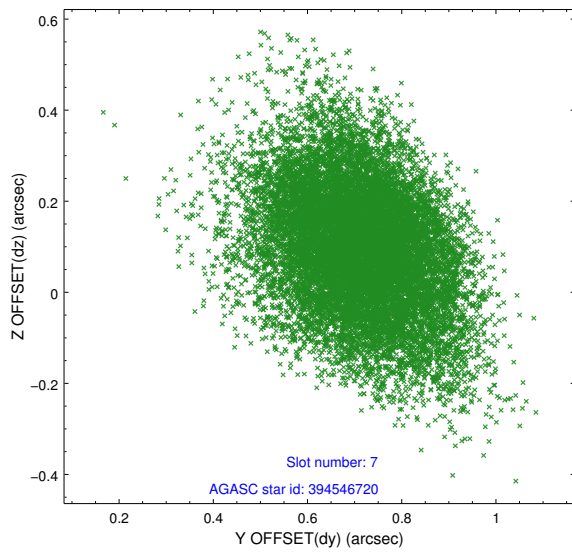
2.4.2 Slot 5



2.4.3 Slot 6

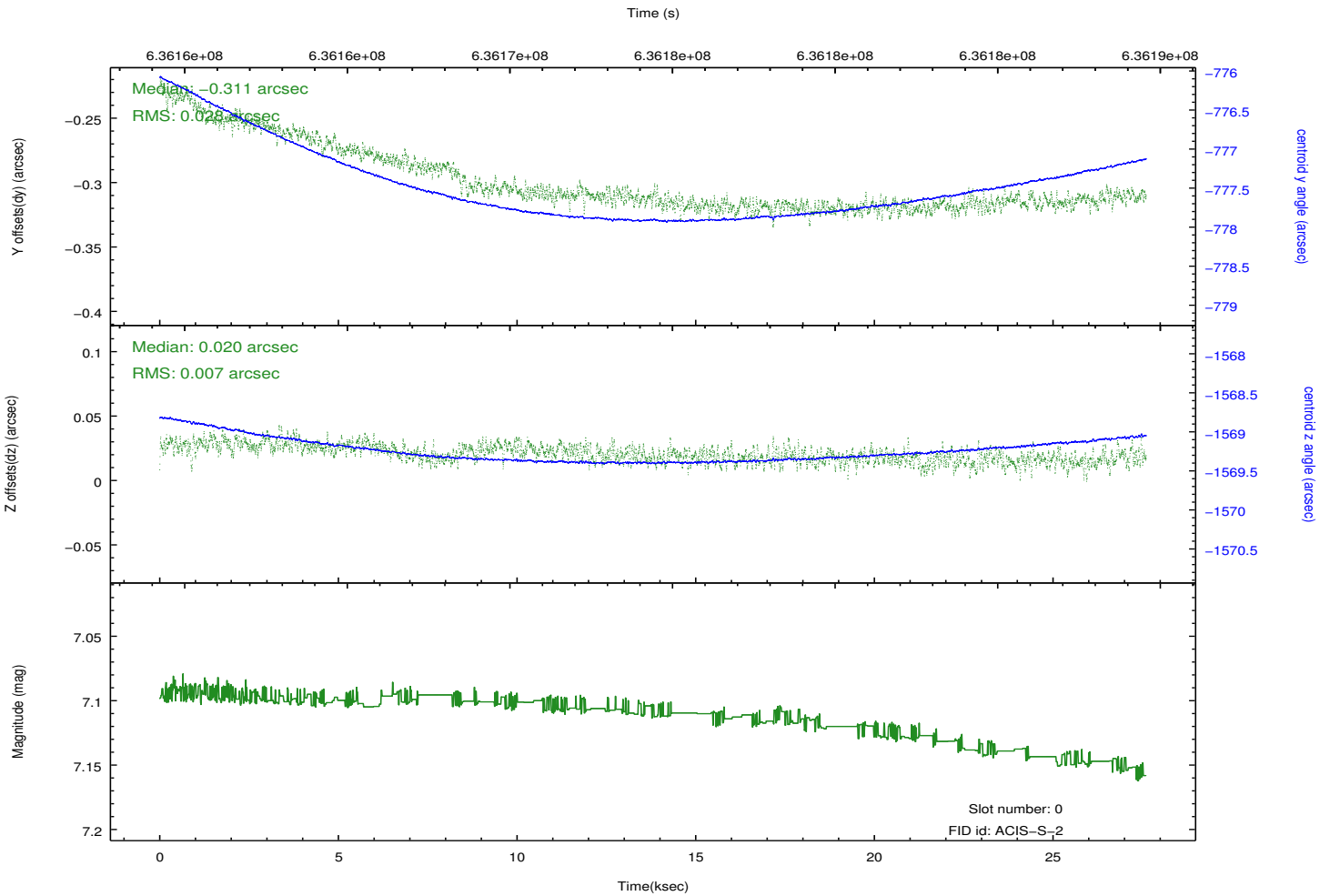
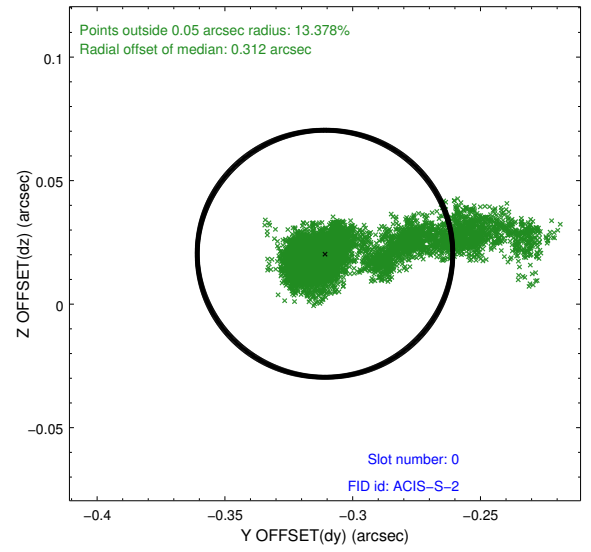
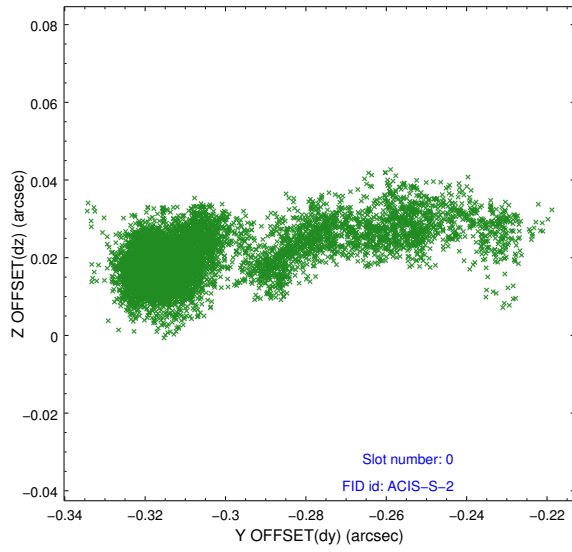


2.4.4 Slot 7

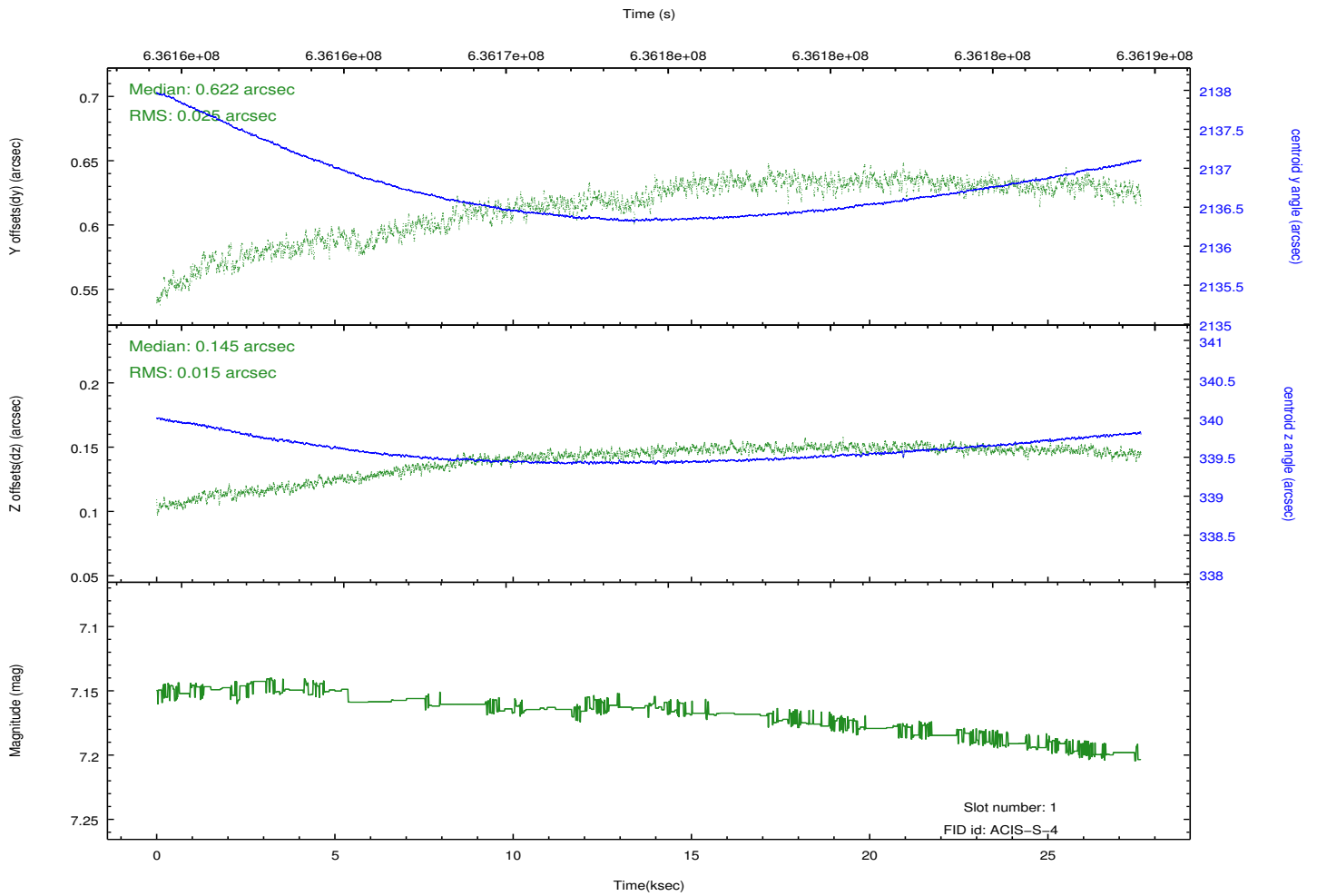
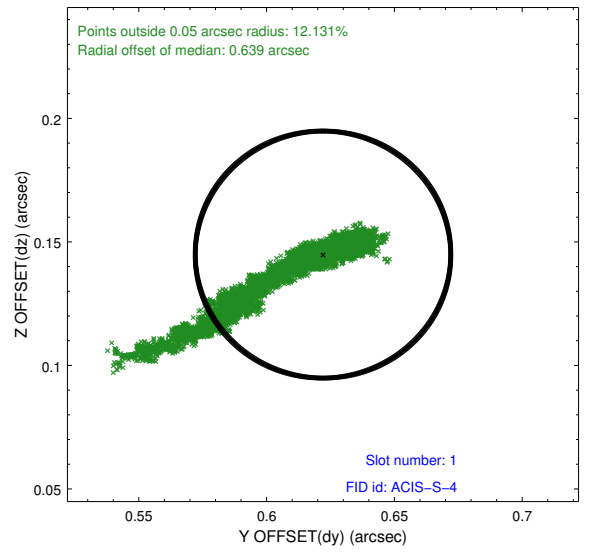
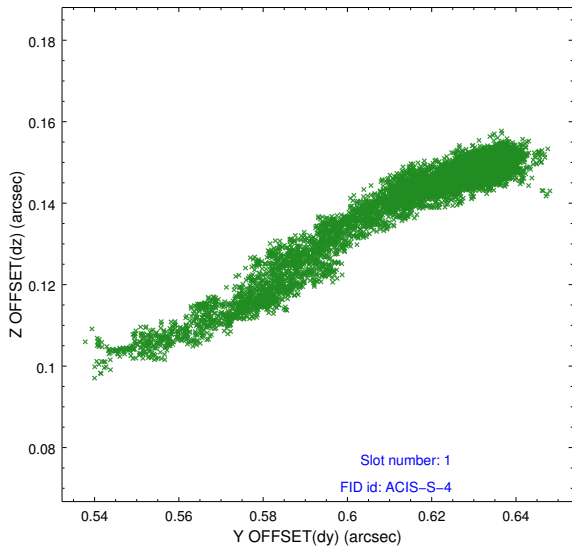


2.5 FID Slots

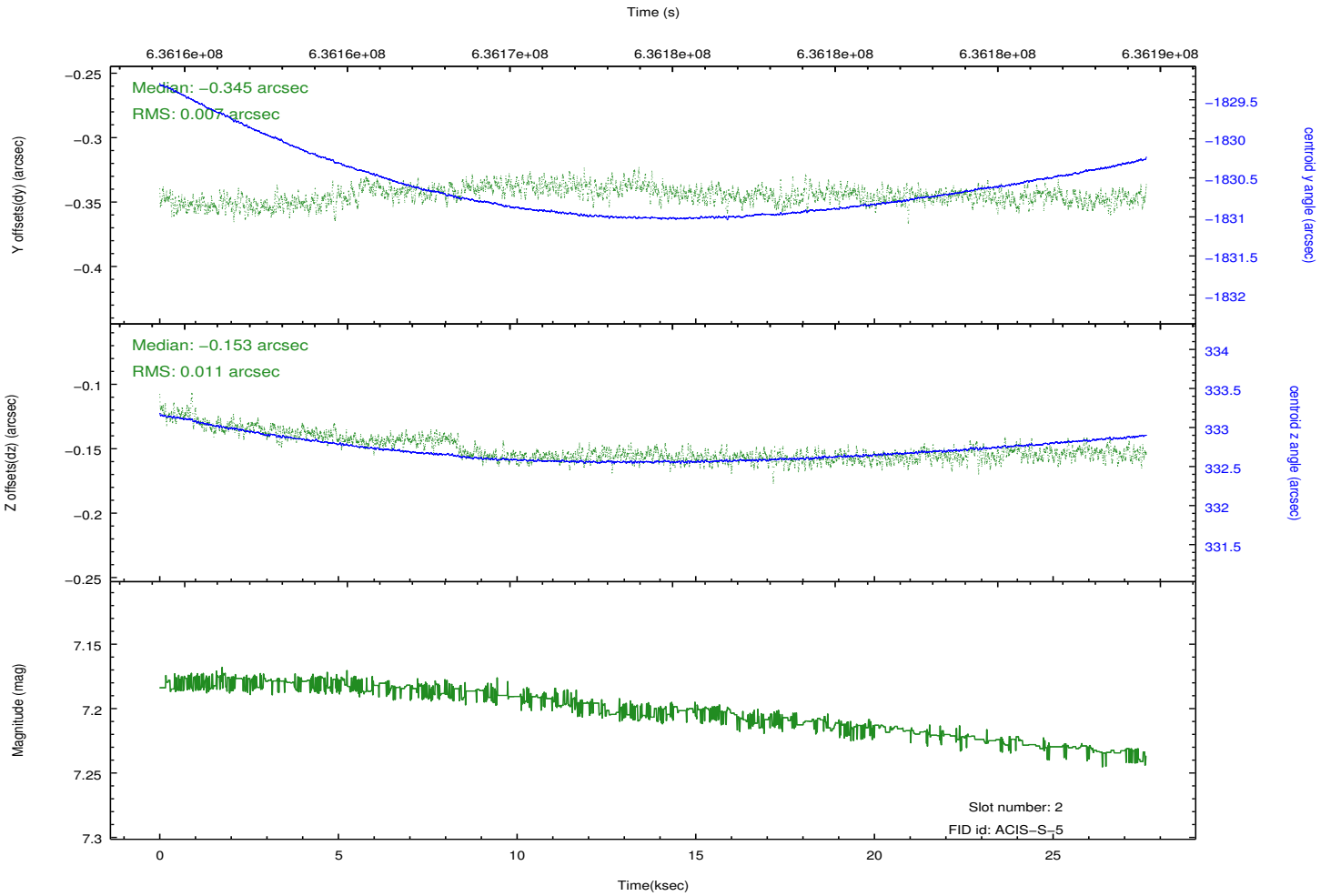
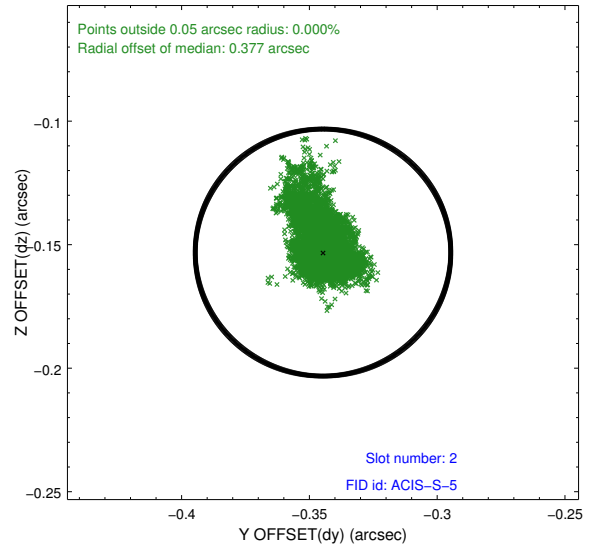
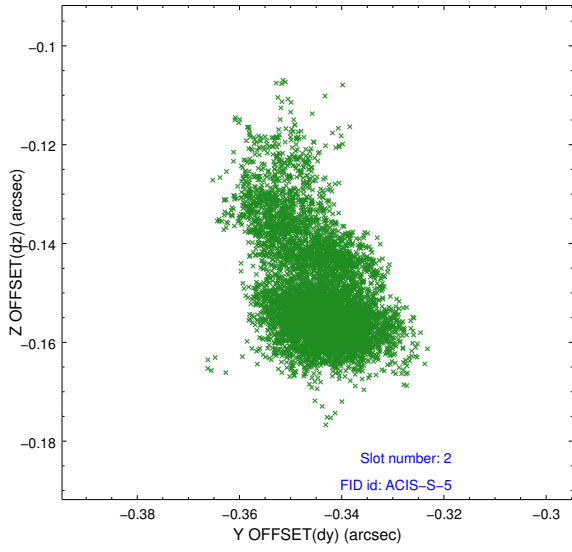
2.5.1 Slot 0



2.5.2 Slot 1

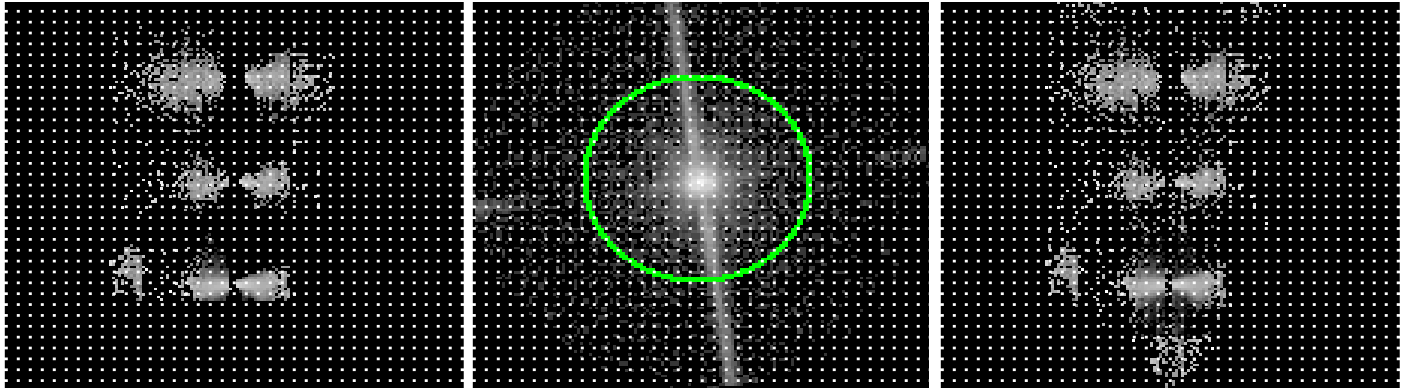


2.5.3 Slot 2



3 Gratings

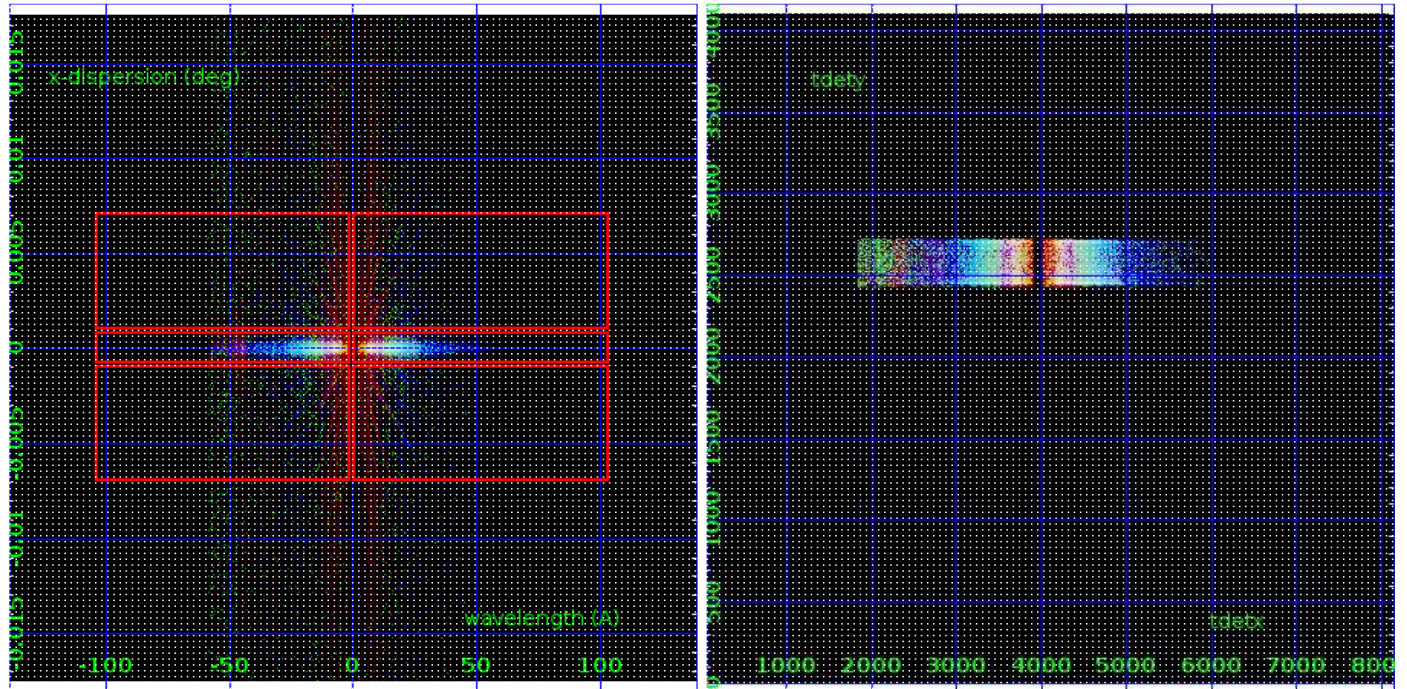
3.1 LETG Arm



LETG Order Sort 123

LETG Zero Order

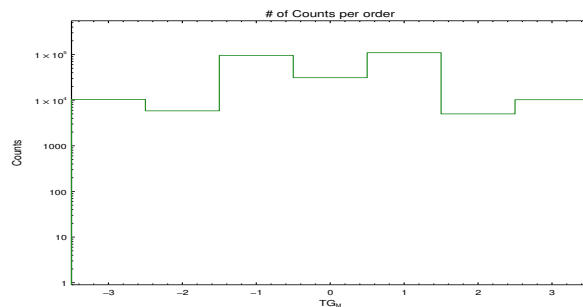
LETG Order Sort ALL

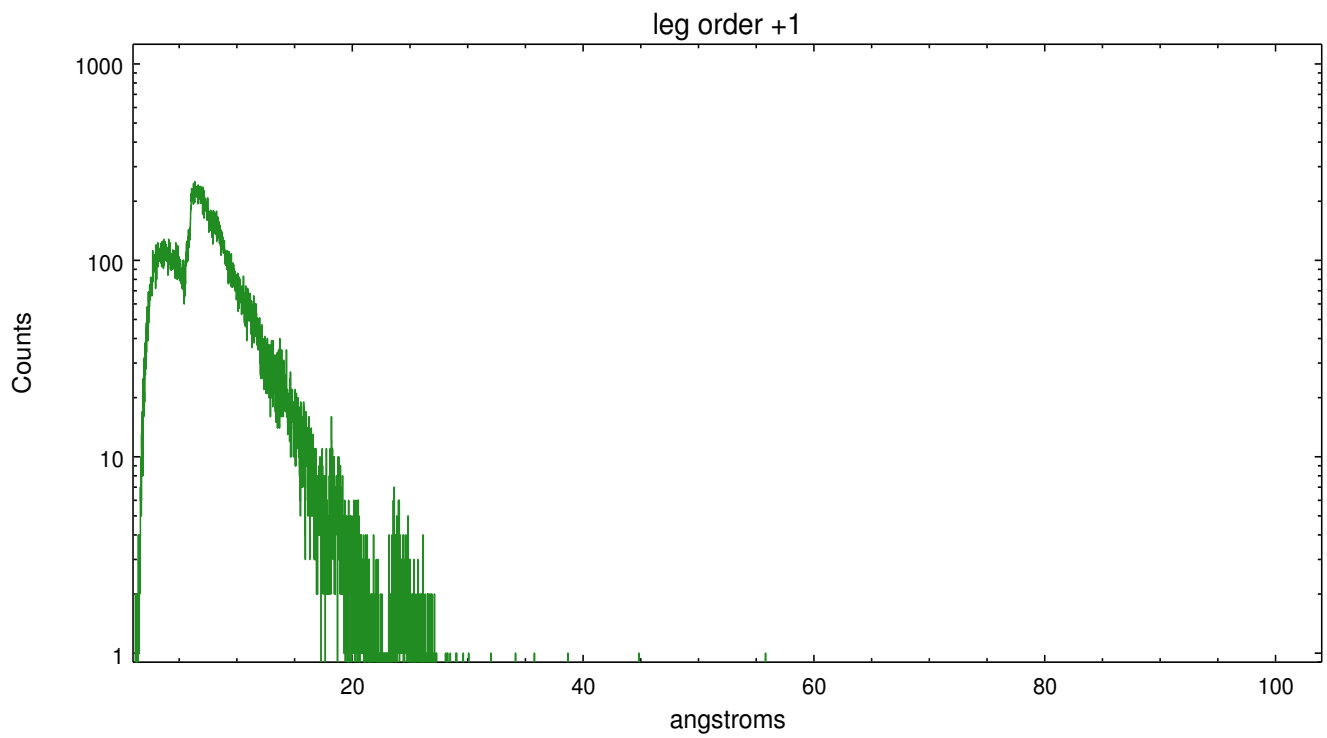
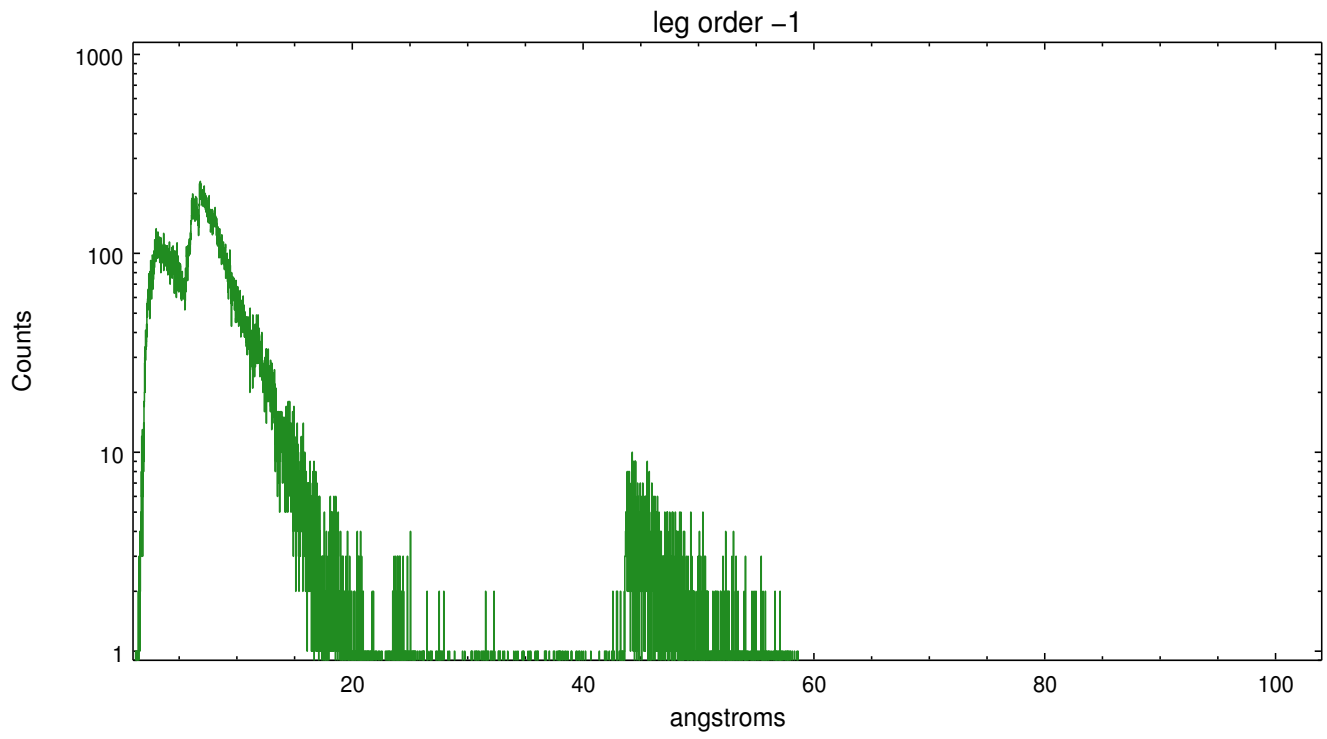


Spot Image LETG

Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	10406	5840	95838	31093	109826	5006	10239





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2018.03.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	27.592400598168

A.2 Comments

Comments for Obi 0

Star in slot 6 has an RMS deviation > 0.200000 arcsec

Fid in slot 1 radial offset > 0.550000 arcsec

(star slot 6, fid slot 1, both acceptable, as per aspect review)