

V&V Reference Report

L2 ASCDS Version : 10.6.4

Observation 20711 - L2 Version 1
Chandra X-Ray Center

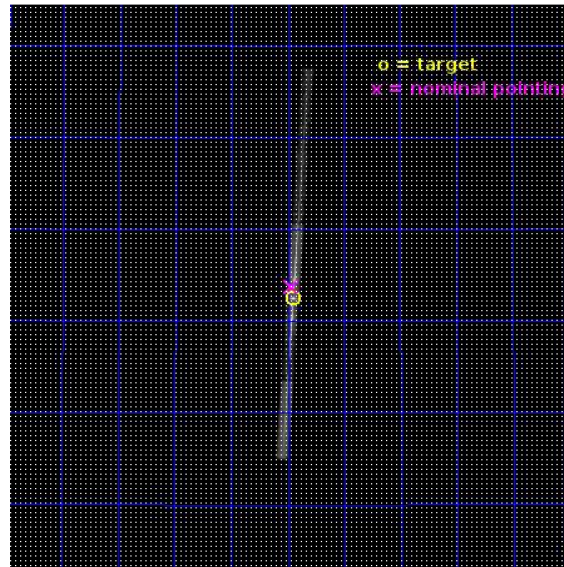
L2 Processing Date : Jul 13 2018

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	LETG Arm	17
A	Summary	19
A.1	Status	19
A.2	Comments	19

1 Front

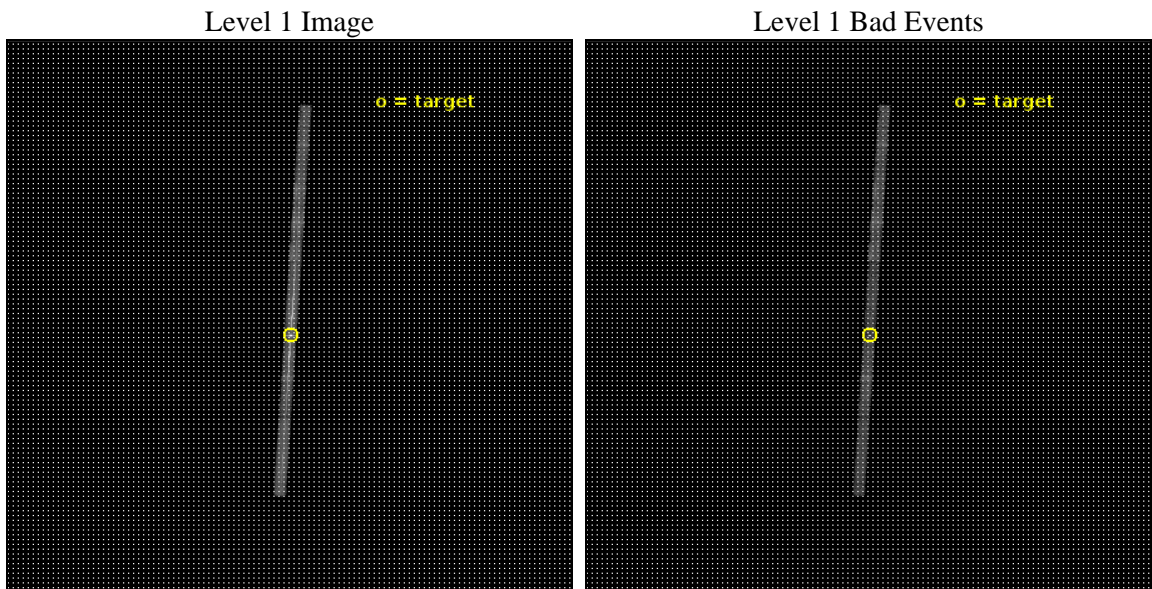
seq_num	790310	Sequence number
obs_id	20711	Observation id
title	AO-19 Calibration Observations of Mkn421	Proposal title
observer	CXC Calibration	Principal investigator
object	MKN421	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	166.113333	Observer's specified target RA [deg]
dec_targ	38.208806	Observer's specified target Dec [deg]
ra_nom	166.11670987854	Nominal RA [deg]
dec_nom	38.22945295207	Nominal Dec [deg]
roll_nom	273.61792081609	Nominal Roll [deg]
revision	1	Processing version of data
ontime	10077.200686455	Sum of GTIs [s]
livetime	9519.1089286925	Livetime [s]
ontime5	10077.200686455	Sum of GTIs [s]
ontime6	10077.200686455	Sum of GTIs [s]
ontime7	10077.200686455	Sum of GTIs [s]
ontime8	10077.200686455	Sum of GTIs [s]
ontime9	10077.200686455	Sum of GTIs [s]
l2events	84387	Number of level 2 events



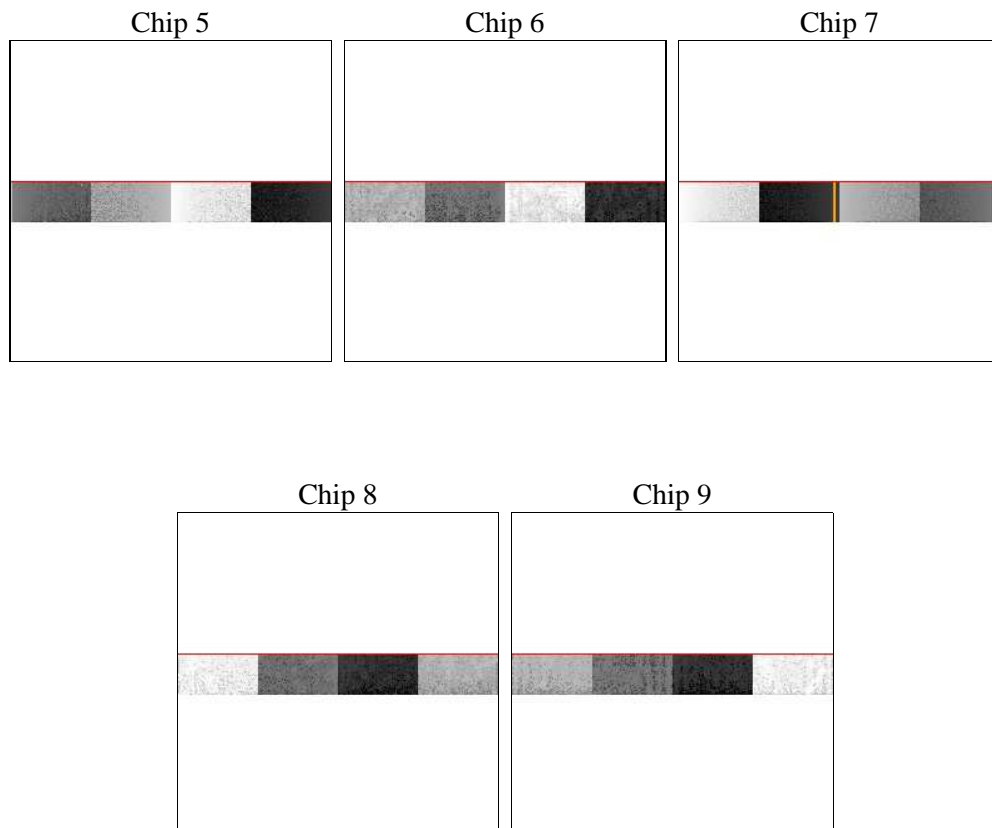
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ascdsver	10.6.4	Processing system revision	ontime	10077.200686455	Sum of GTIs [s]
caldsver	4.7.8	 	ontime5	10077.200686455	Sum of GTIs [s]
date	2018-07-13T16:25:33	Date and time of file creation	ontime6	10077.200686455	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	10077.200686455	Sum of GTIs [s]
			ontime8	10077.200686455	Sum of GTIs [s]
			ontime9	10077.200686455	Sum of GTIs [s]
			l1events	145944	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4112.83, 3944.99)	src1a sky pixel position
					src1a sky pixel position via

2.1.4 Events

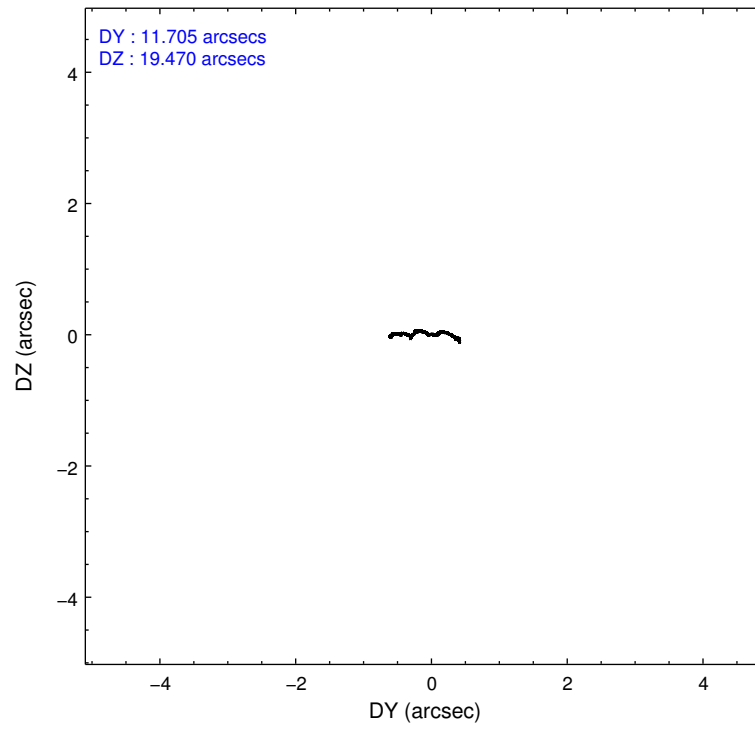
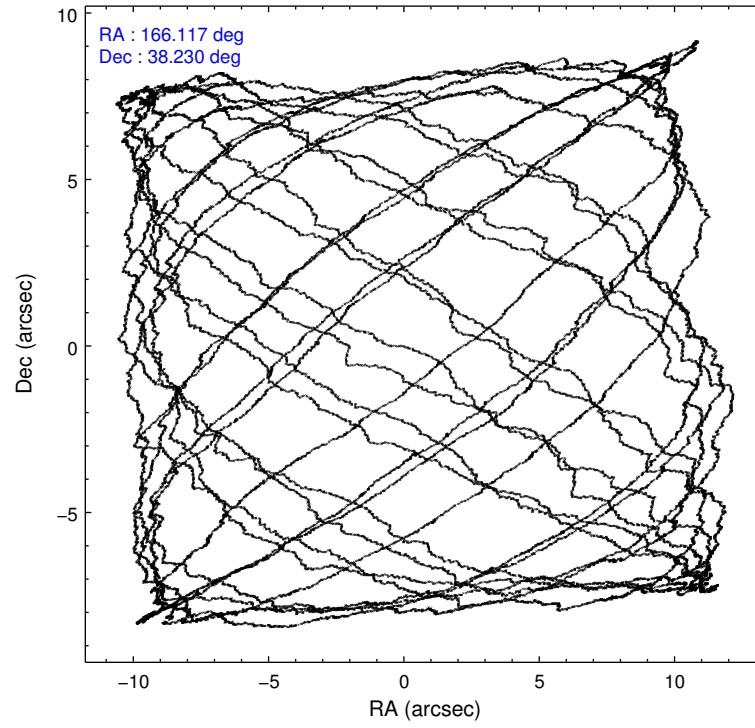
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	18877	32669	61786	19865	12747
rejected events	8054	10831	12859	13829	10756
rejected %	42%	33%	20%	69%	84%

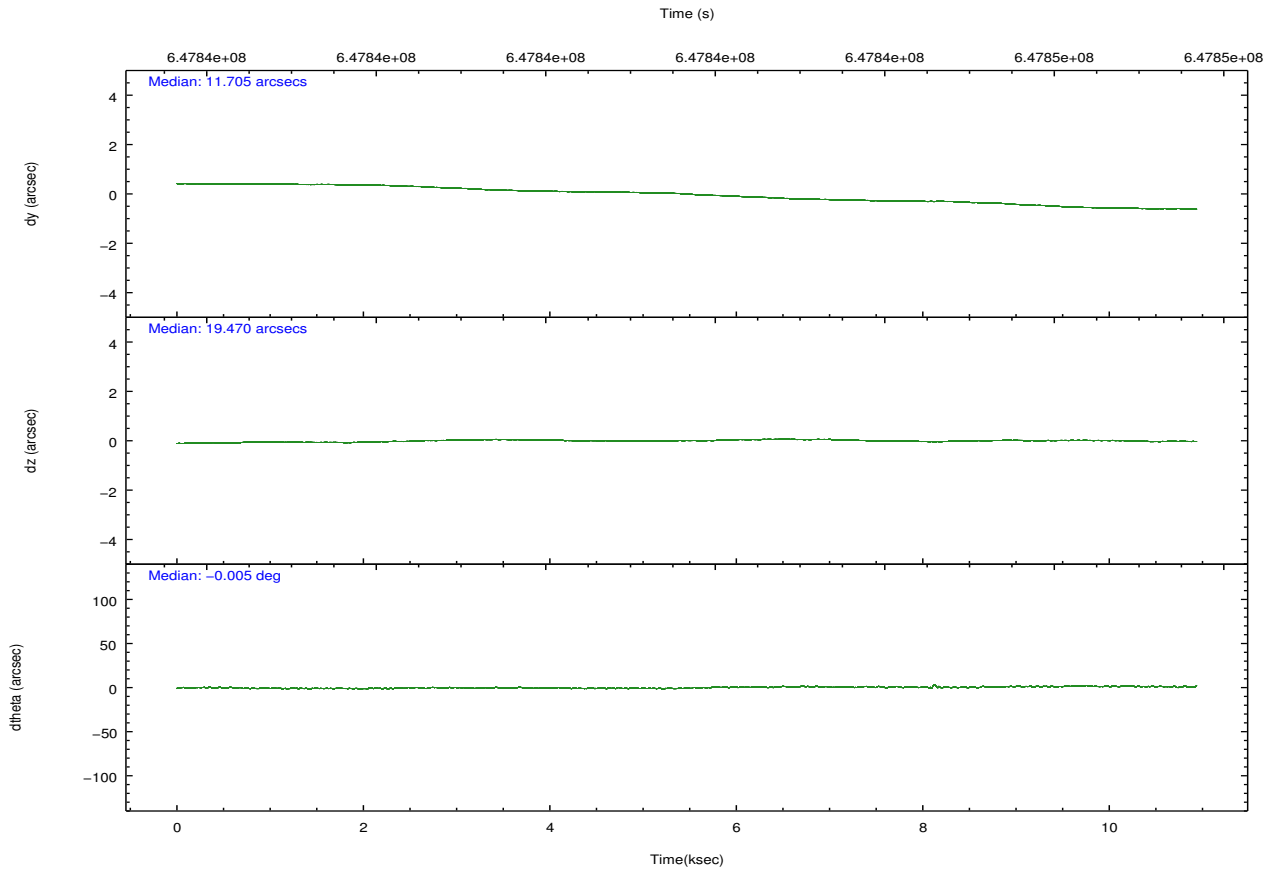
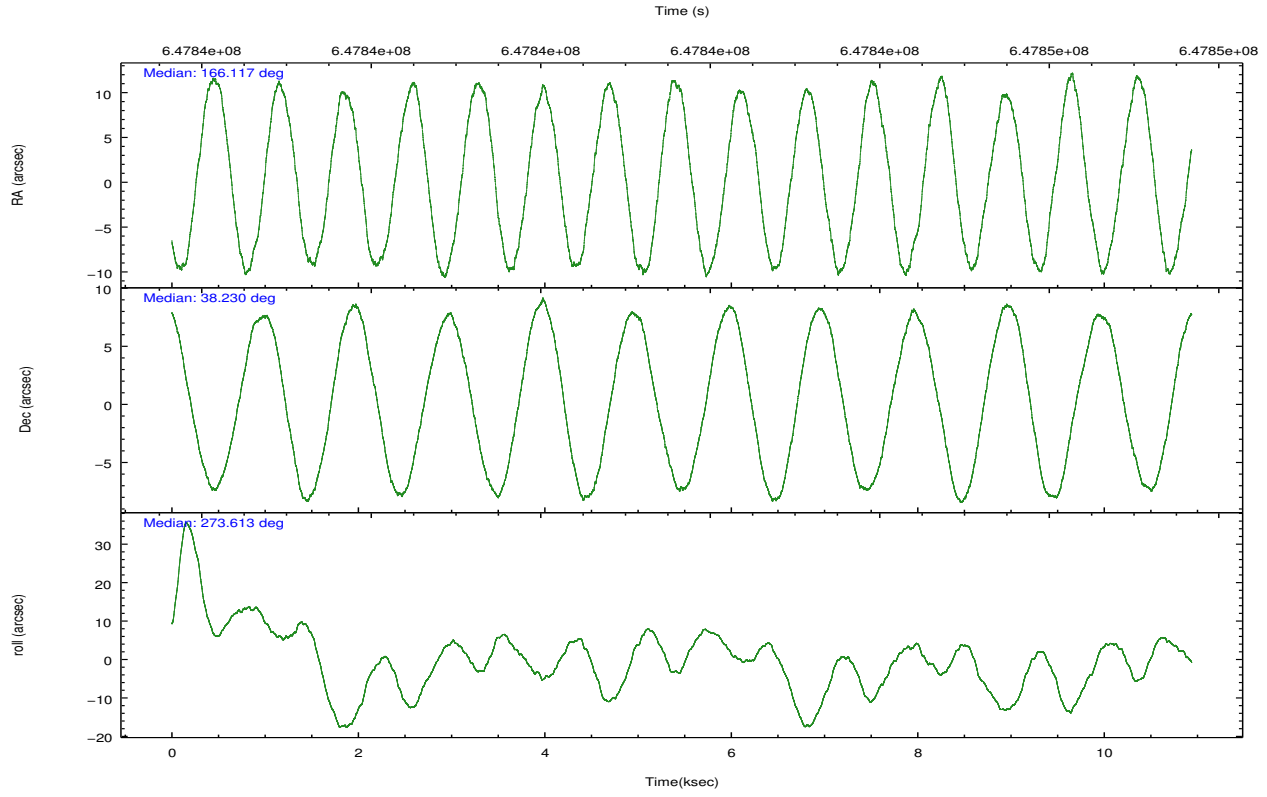
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	2407	17017	12845	2460	889
	12%	52%	20%	12%	6%
grade 1 events	38	46	493	12	4
	0%	0%	0%	0%	0%
grade 2 events	2939	2395	12162	1031	311
	15%	7%	19%	5%	2%
grade 3 events	650	838	5366	588	260
	3%	2%	8%	2%	2%
grade 4 events	617	859	5286	499	231
	3%	2%	8%	2%	1%
grade 5 events	1381	489	3330	680	496
	7%	1%	5%	3%	3%
grade 6 events	4210	732	13270	1459	300
	22%	2%	21%	7%	2%
grade 7 events	6635	10293	9034	13136	10256
	35%	31%	14%	66%	80%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-56789	ACIS-56789	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	166.097026	166.1167098785415	CCD I2 on	N	N
[deg] Pointing Dec	38.252117	38.22945295206987	CCD I3 on	N	N
[deg] Pointing Roll	273.473488	273.6179208160939	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	-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)	647837154.184000	647835785.89922	CCD S5 on	O1	Y
Observation start date	2018-07-13T02:44:45	2018-07-13T02:23:05	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	647847154.184000	647847381.21241	On-chip summing requested	N	N
Observation end date	2018-07-13T05:31:25	2018-07-13T05:36:21	Subarray requested	CUSTOM	1/8
Read mode	TIMED	TIMED	Subarray start row	448	448
			Subarray row count	128	128
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	0.7

2.3 Aspect



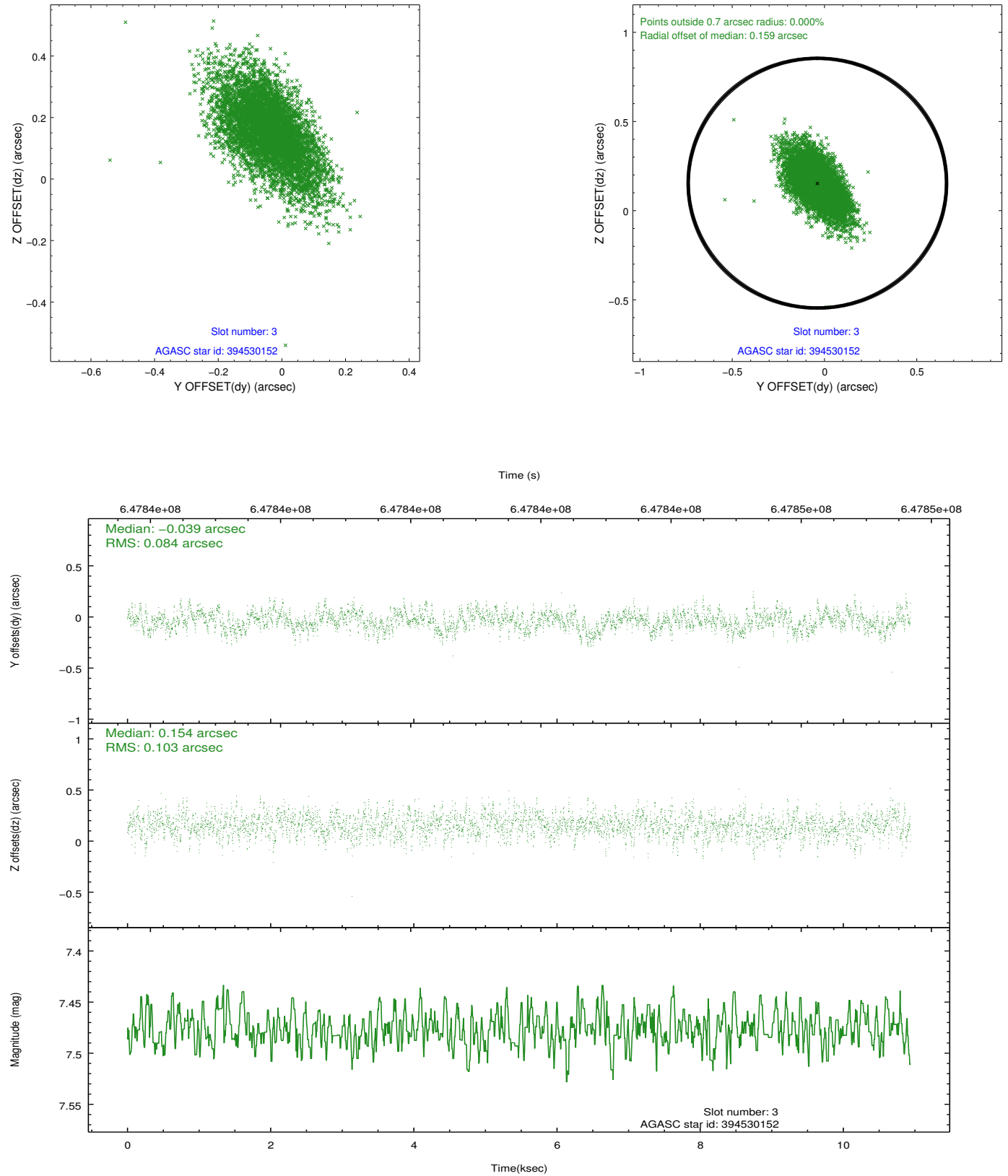


Slot Statistics

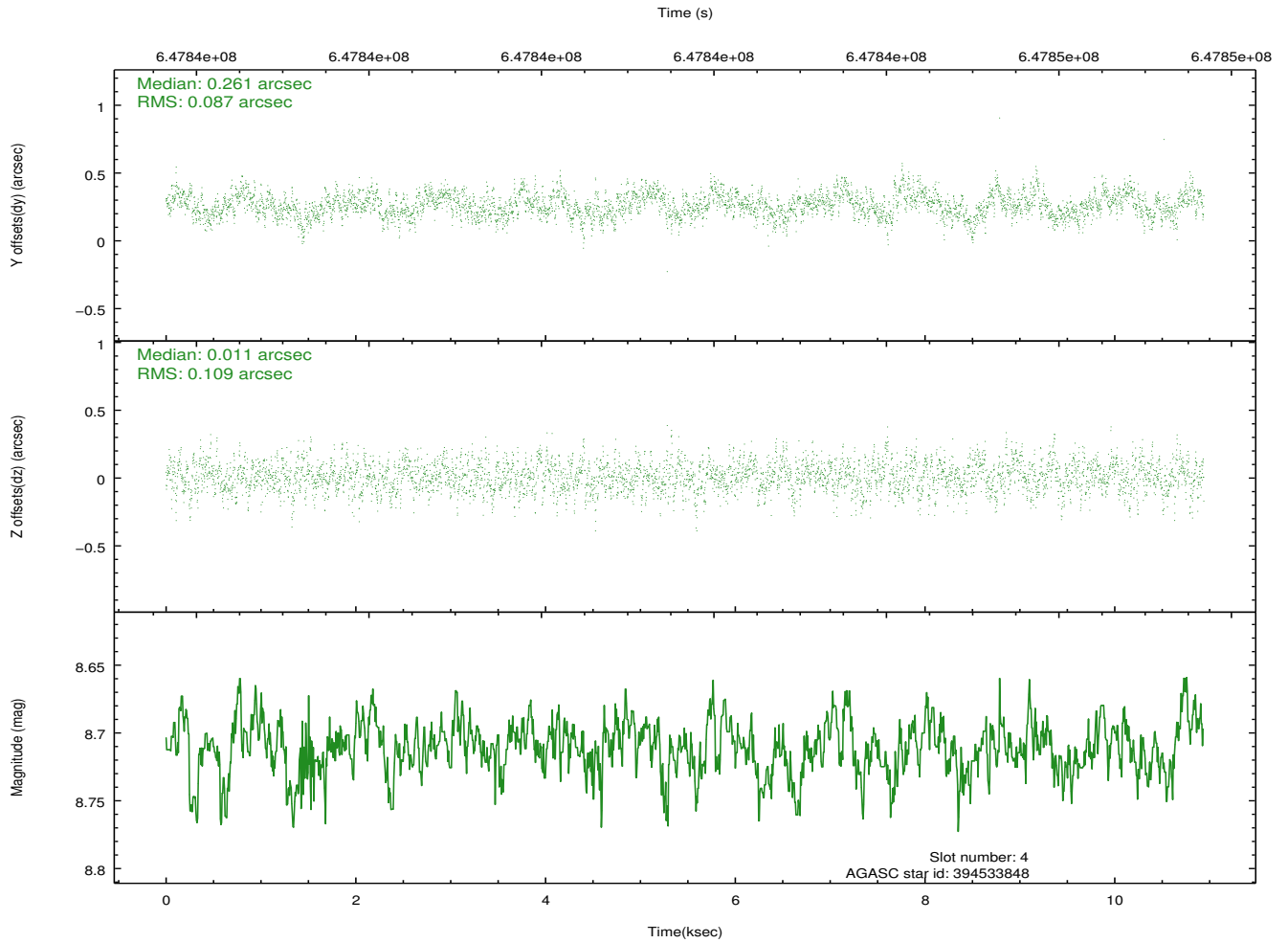
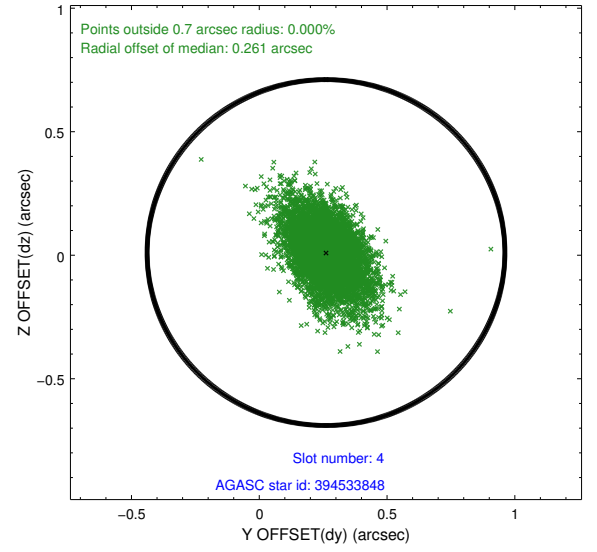
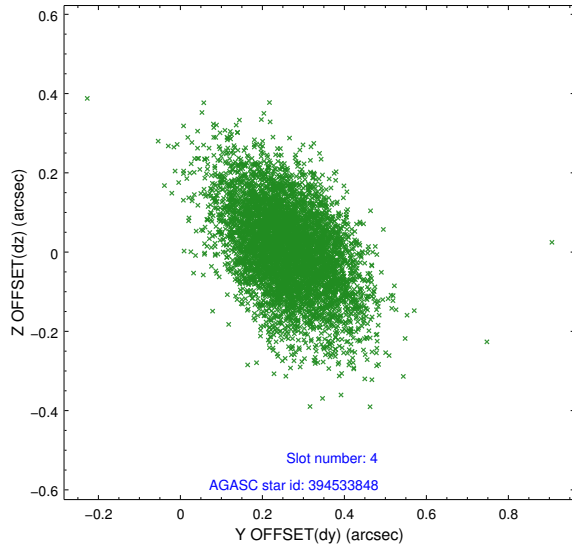
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.03	2667	1.000	-0.161	-0.052	0.009	0.015	0.000000	0.000000	-764.66	-1741
1	FID		ACIS-S-4	7.15	2668	1.000	0.377	0.091	0.008	0.014	0.000000	0.000000	2148.90	167
2	FID		ACIS-S-5	7.15	2668	1.000	-0.247	-0.031	0.013	0.024	0.000000	0.000000	-1817.02	161
3	GUIDE	used	394530152	7.48	5337	1.000	-0.039	0.154	0.135	0.242	166.075805	38.868252	-2217.40	74
4	GUIDE	used	394533848	8.71	5327	1.000	0.261	0.011	0.143	0.251	166.382906	38.276007	-39.56	805
5	GUIDE	used	394543960	9.71	5325	1.000	0.011	0.219	0.278	0.449	165.802757	37.787371	1618.38	-936
6	GUIDE	used	394546712	6.58	5337	1.000	-0.148	-0.043	0.129	0.230	166.451462	38.394357	-451.84	1027
7	GUIDE	used	394546720	6.43	5336	1.000	-0.105	-0.339	0.172	0.291	166.130115	38.241361	44.34	89

2.4 Star Slots

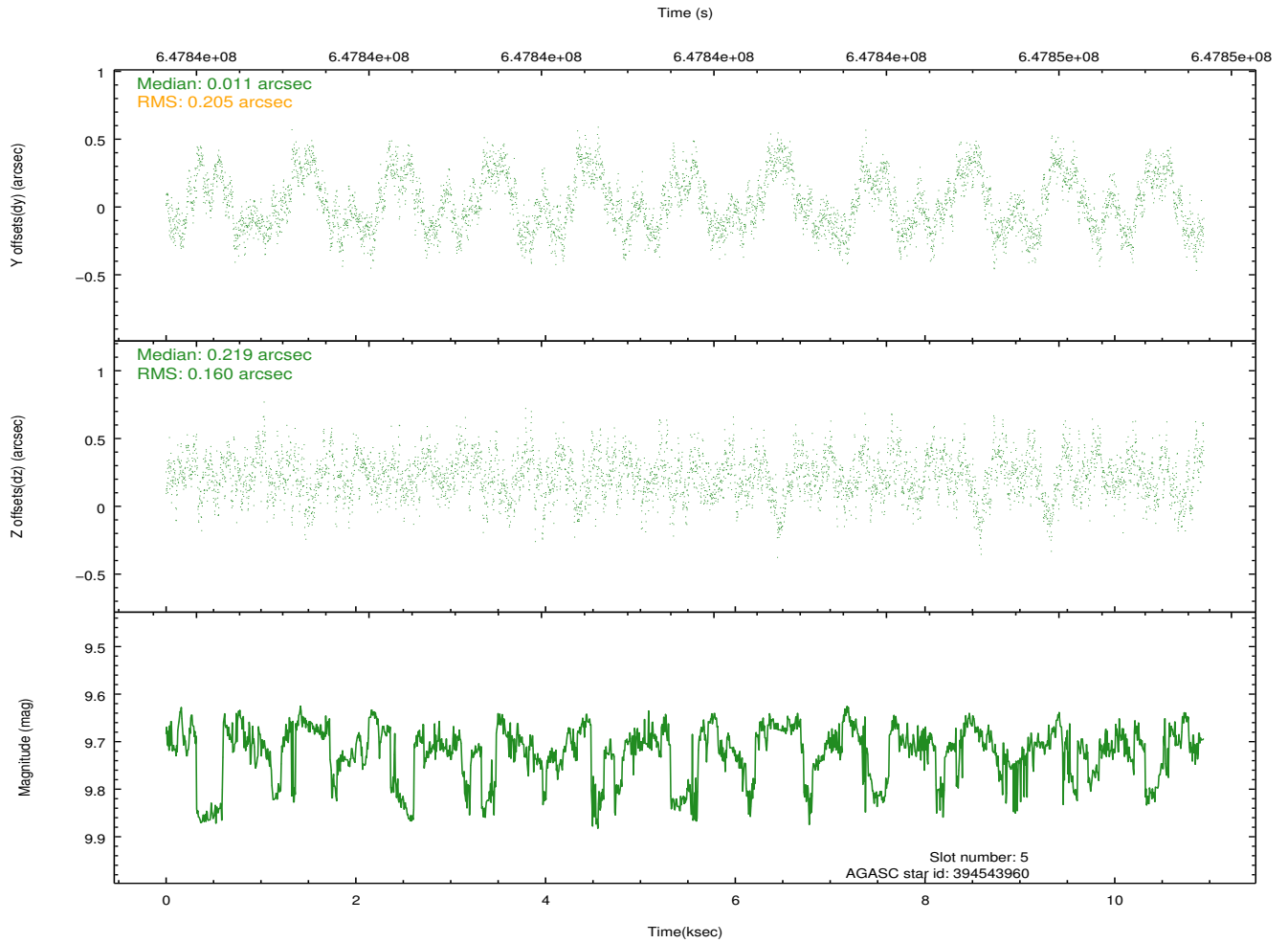
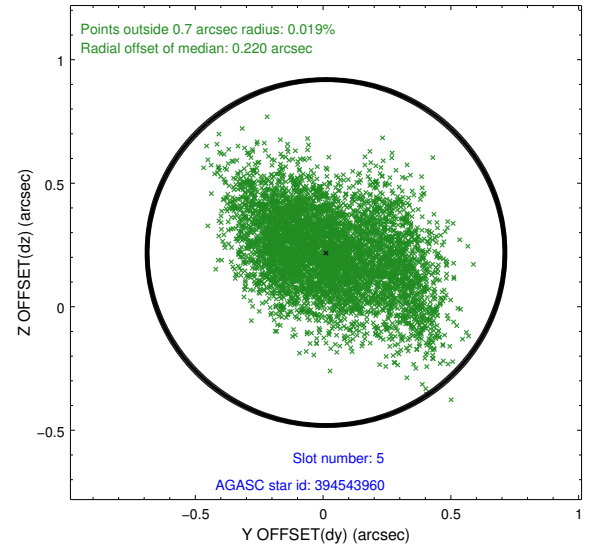
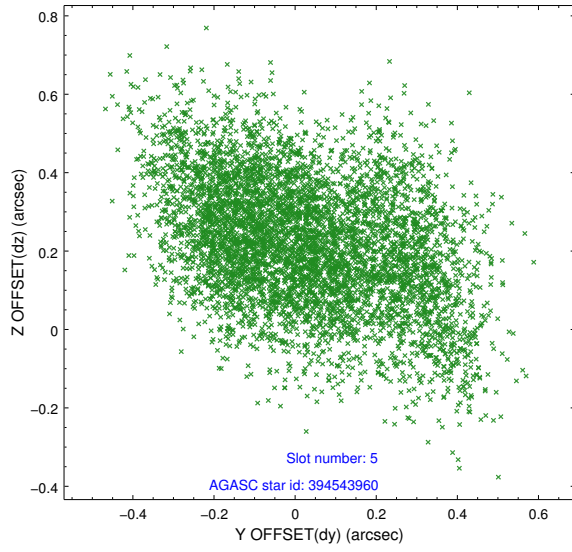
2.4.1 Slot 3



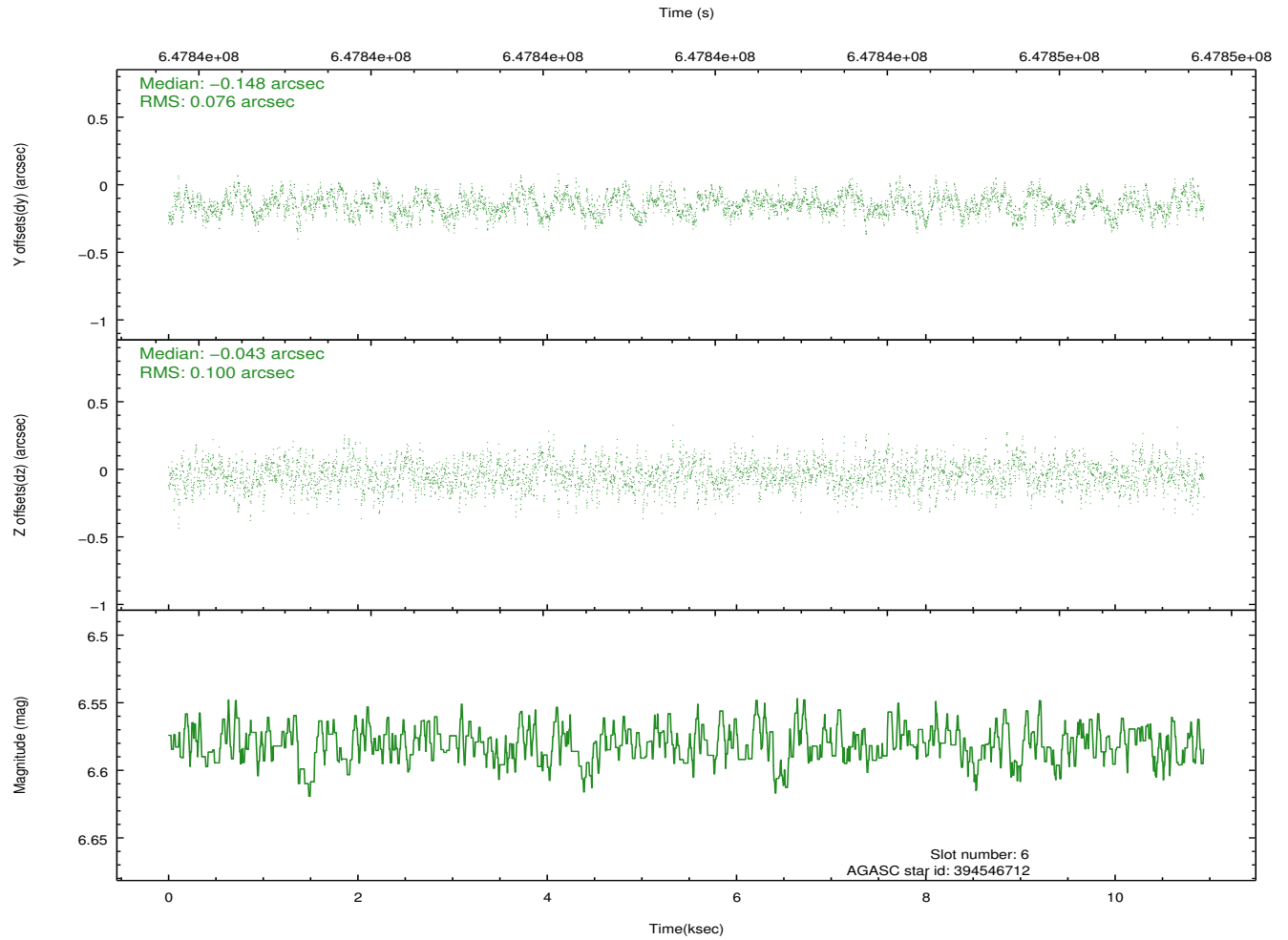
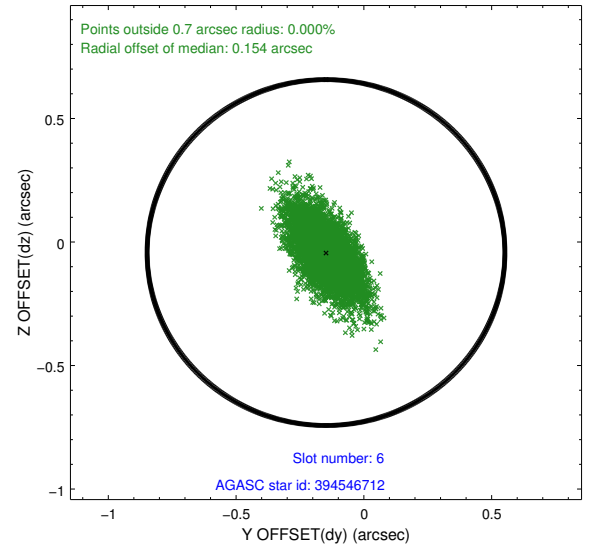
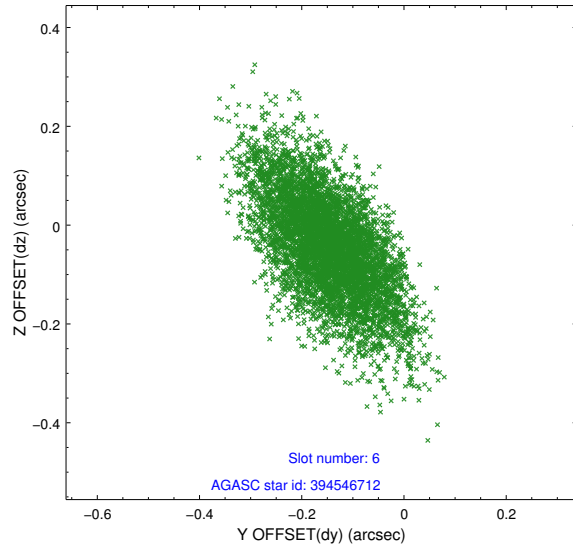
2.4.2 Slot 4



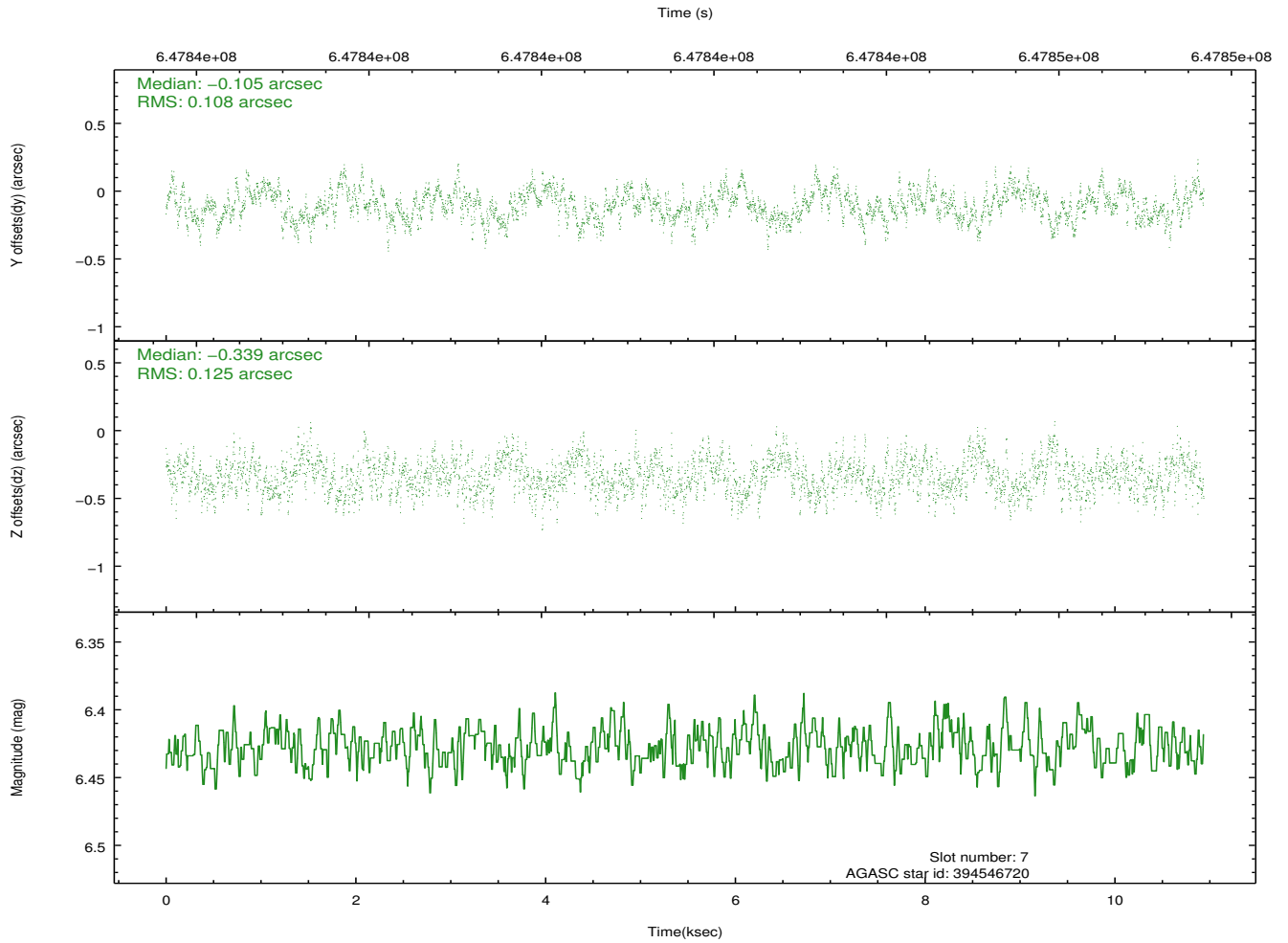
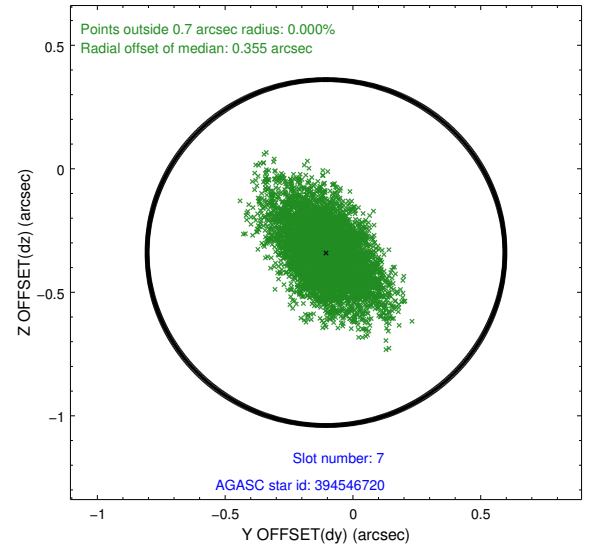
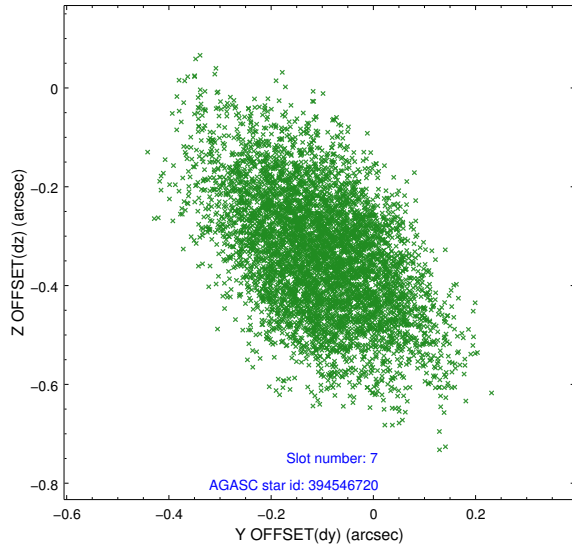
2.4.3 Slot 5



2.4.4 Slot 6

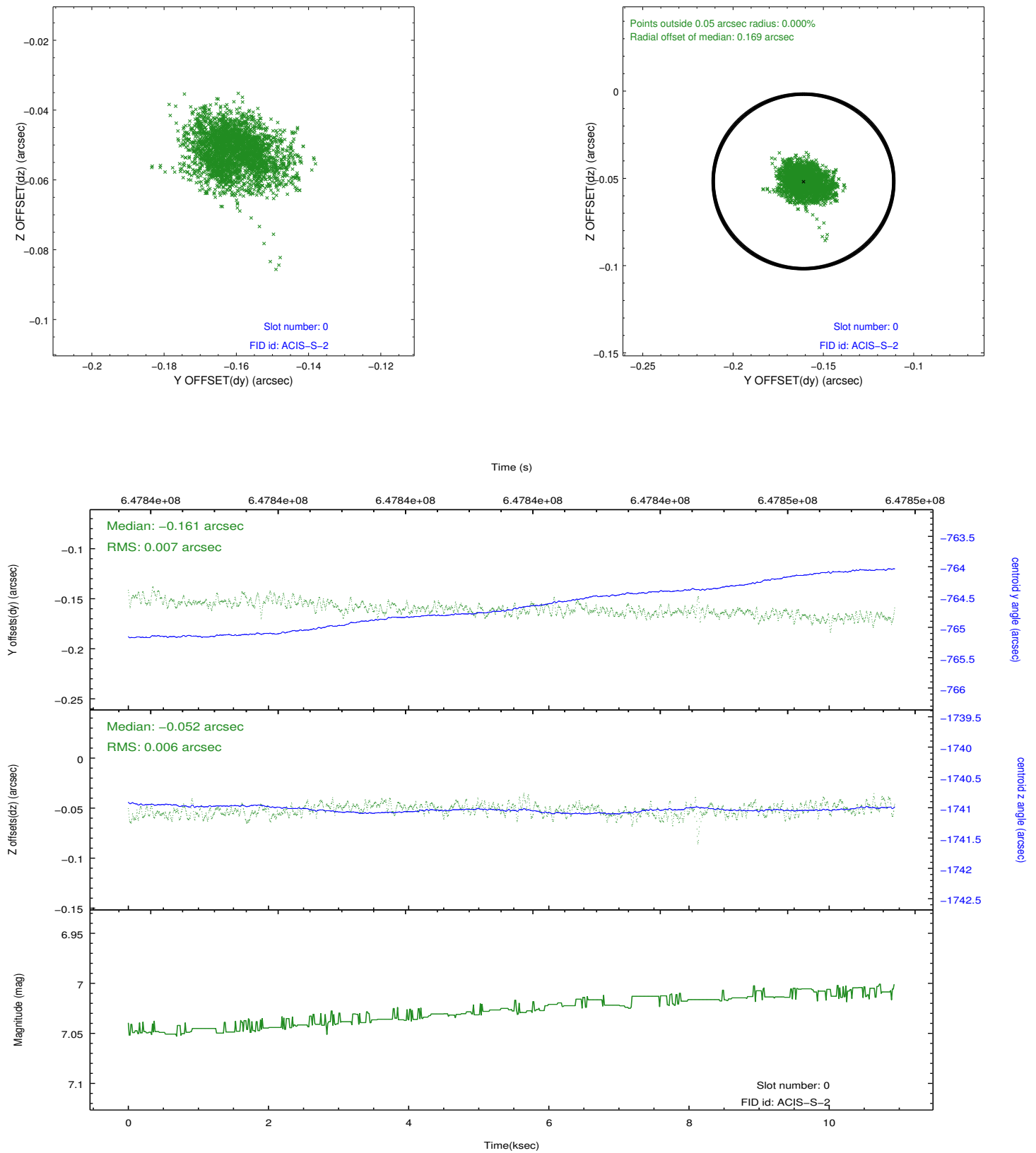


2.4.5 Slot 7

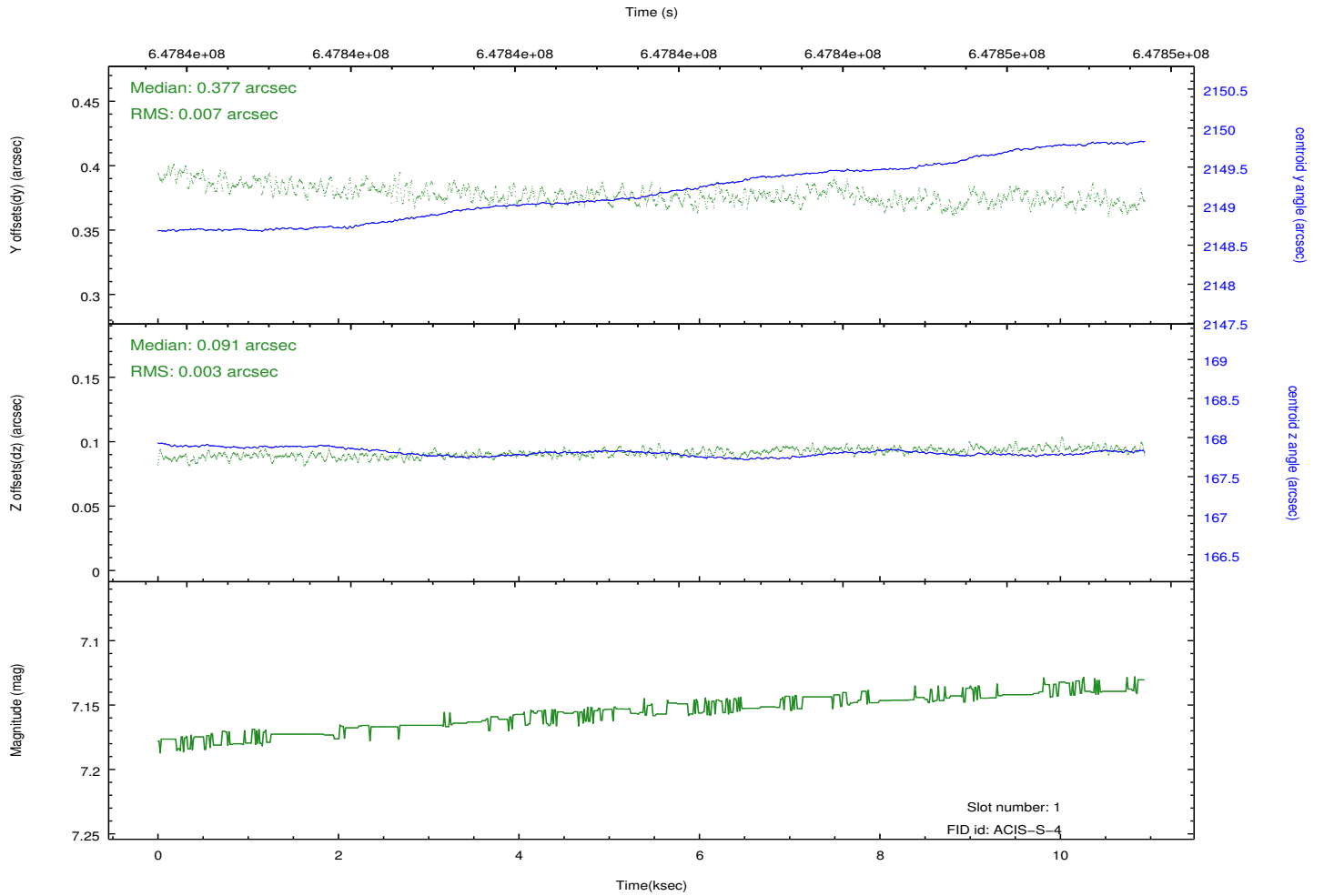
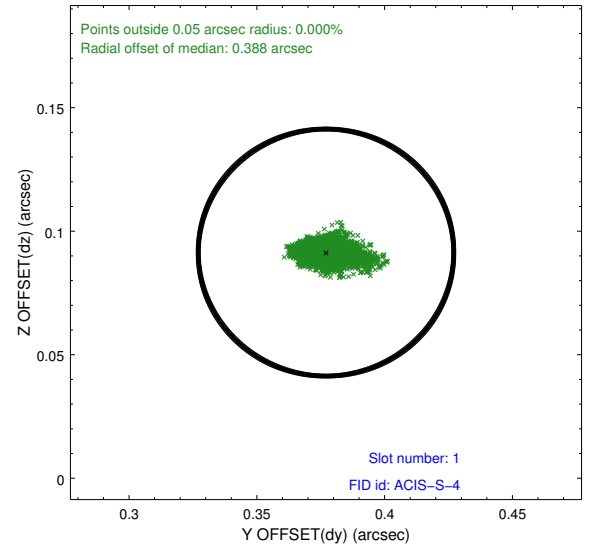
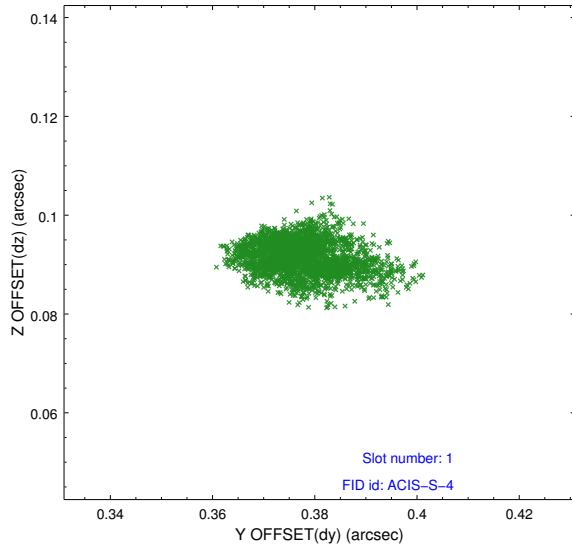


2.5 FID Slots

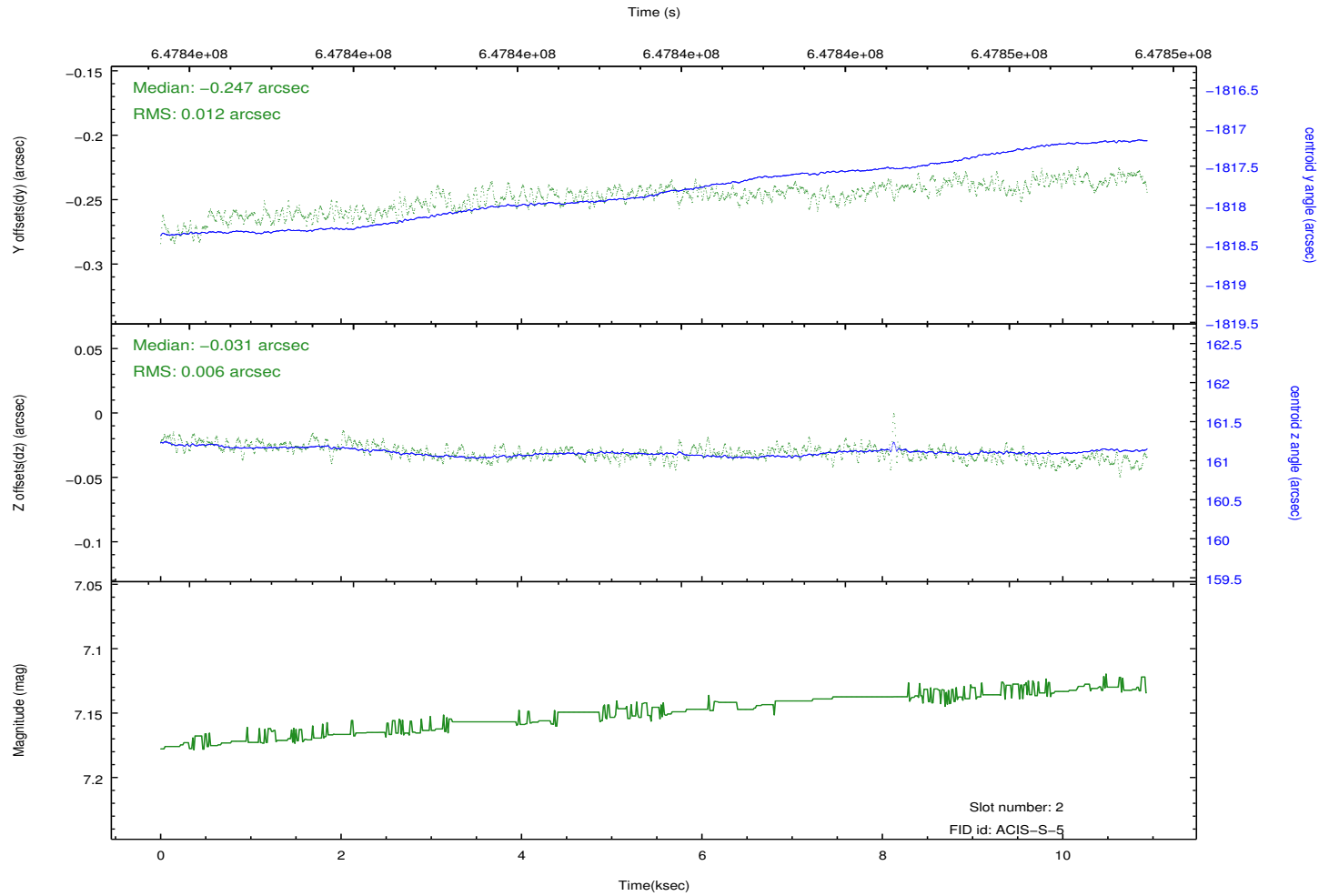
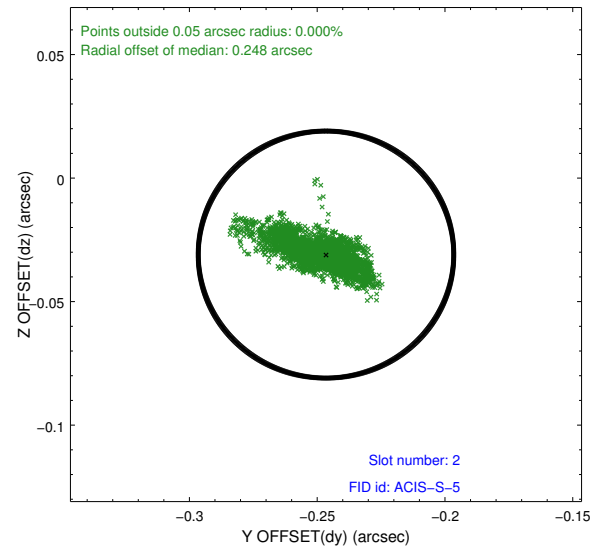
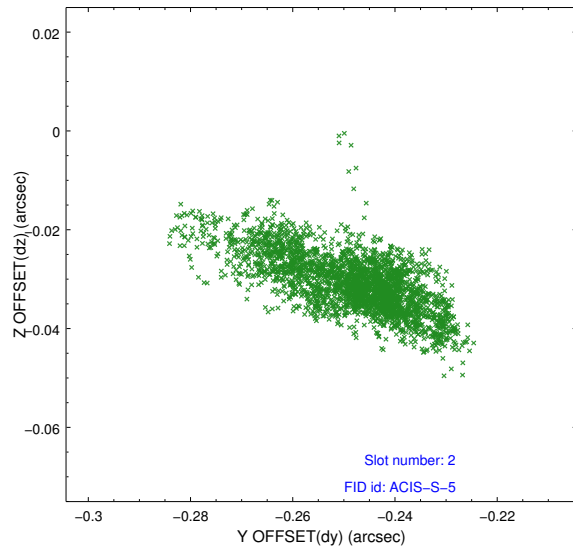
2.5.1 Slot 0



2.5.2 Slot 1

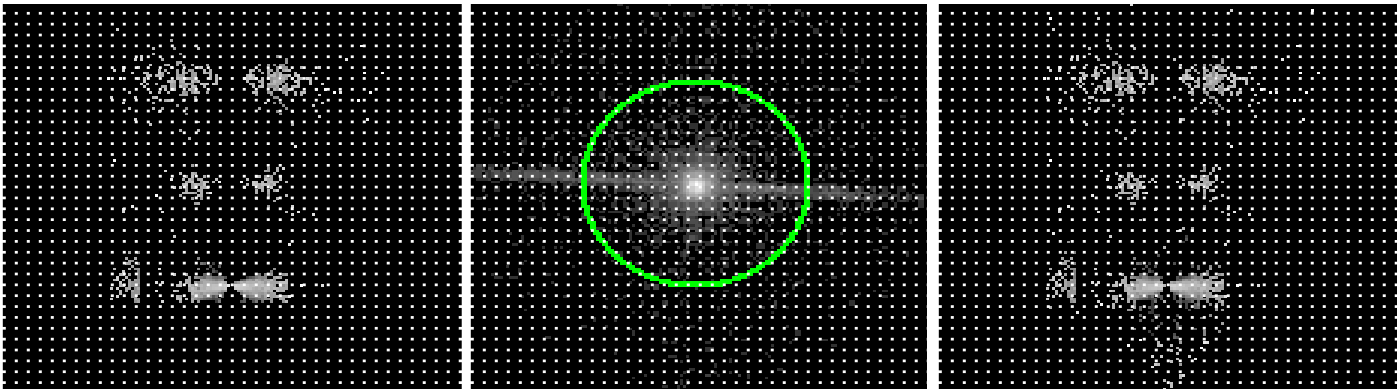


2.5.3 Slot 2



3 Gratings

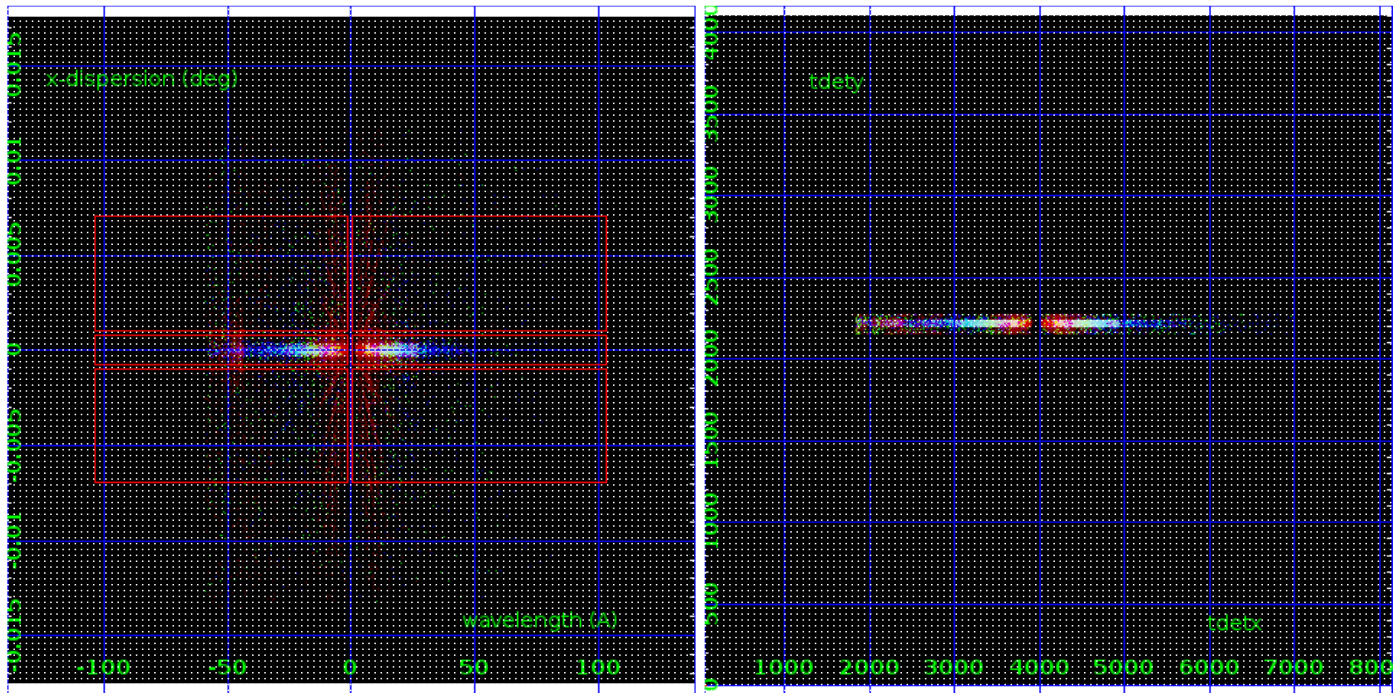
3.1 LETG Arm



LETG Order Sort 123

LETG Zero Order

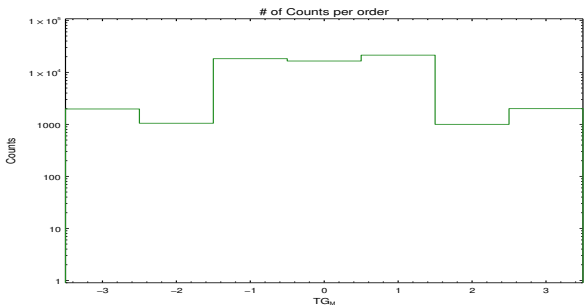
LETG Order Sort ALL

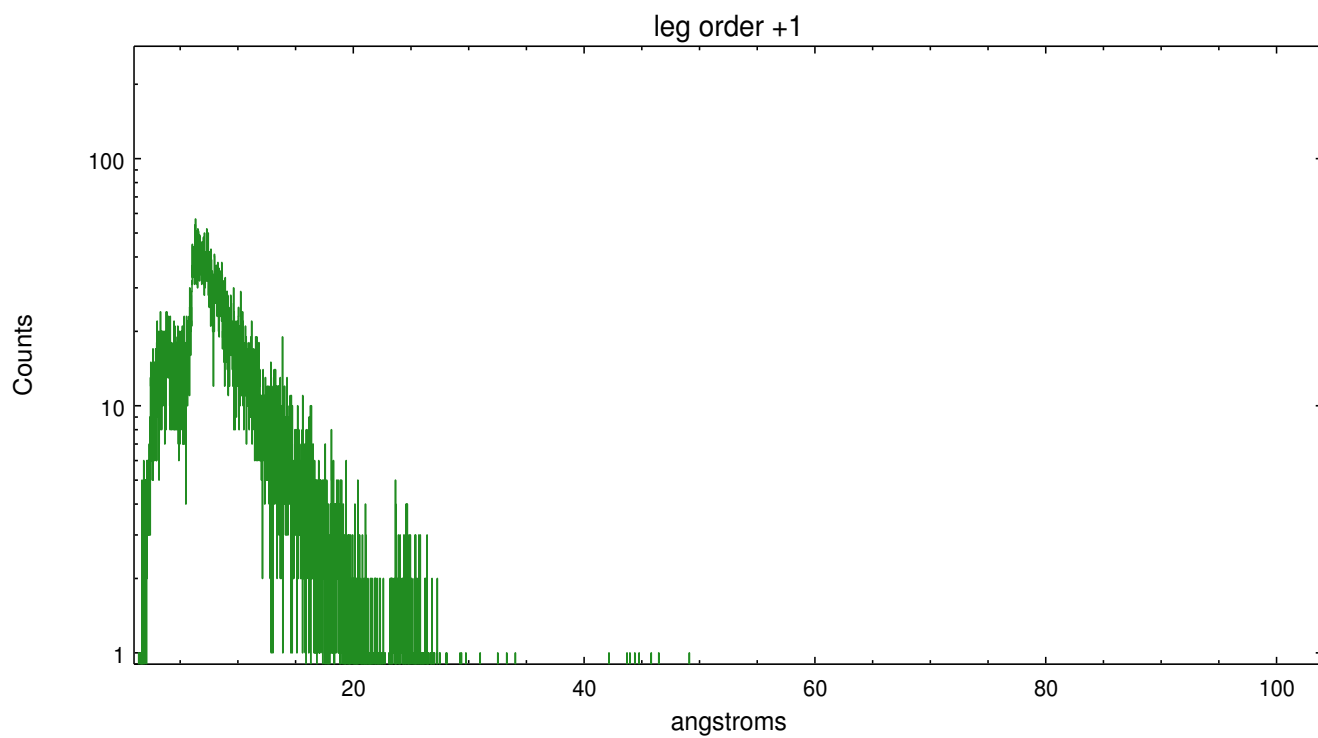
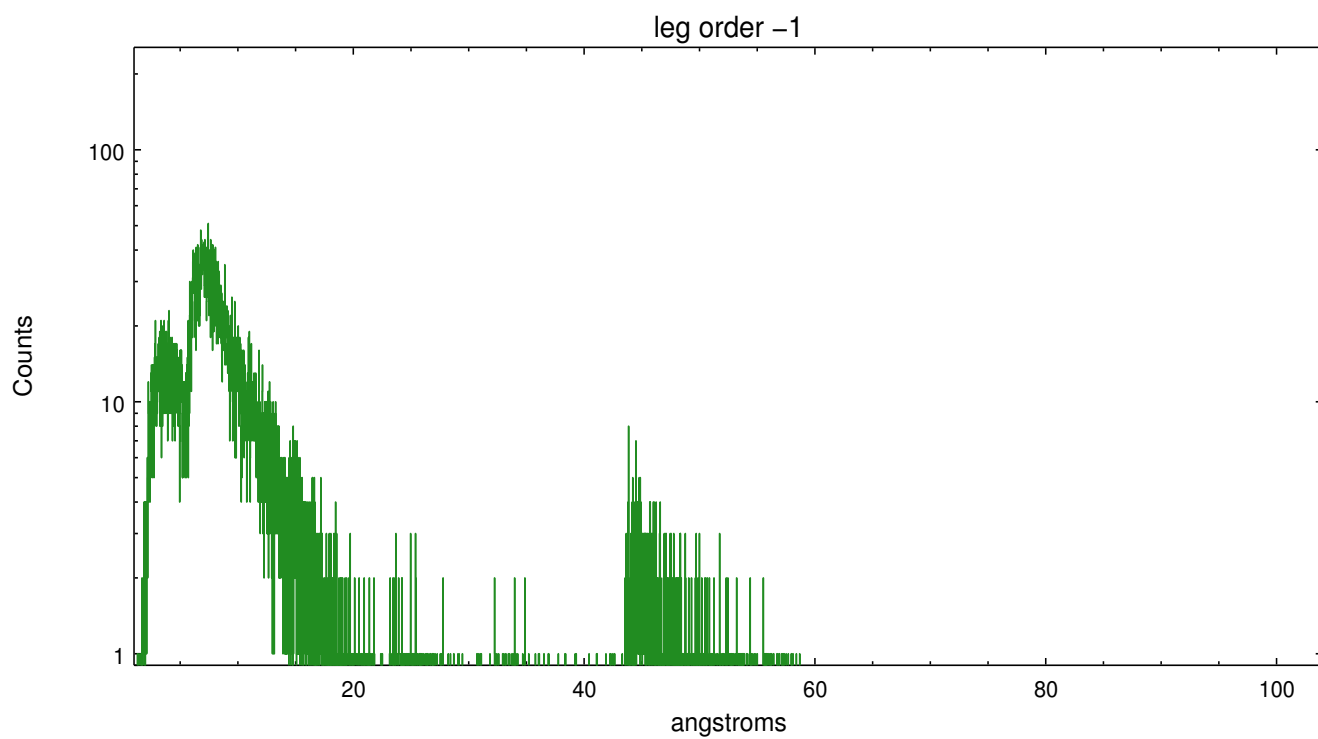


Spot Image LETG

Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1977	1051	18307	16521	21429	1001	2006





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2018.07.16
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.077200686455

A.2 Comments