

V&V Reference Report

L2 ASCDS Version : 10.6.4

Observation 20713 - L2 Version 1
Chandra X-Ray Center

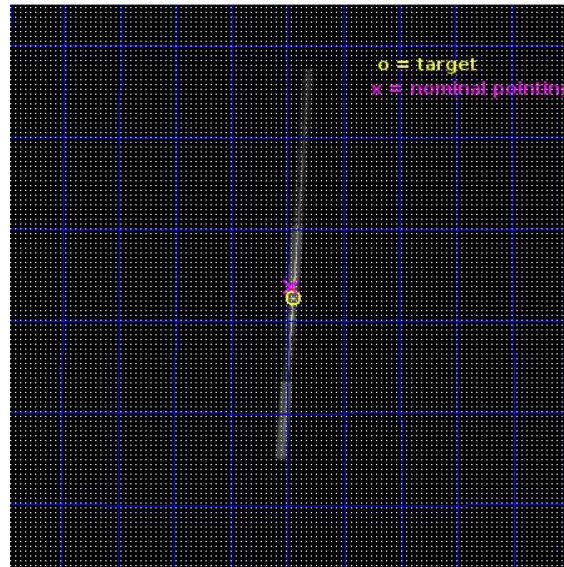
L2 Processing Date : Jul 13 2018

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1 Front

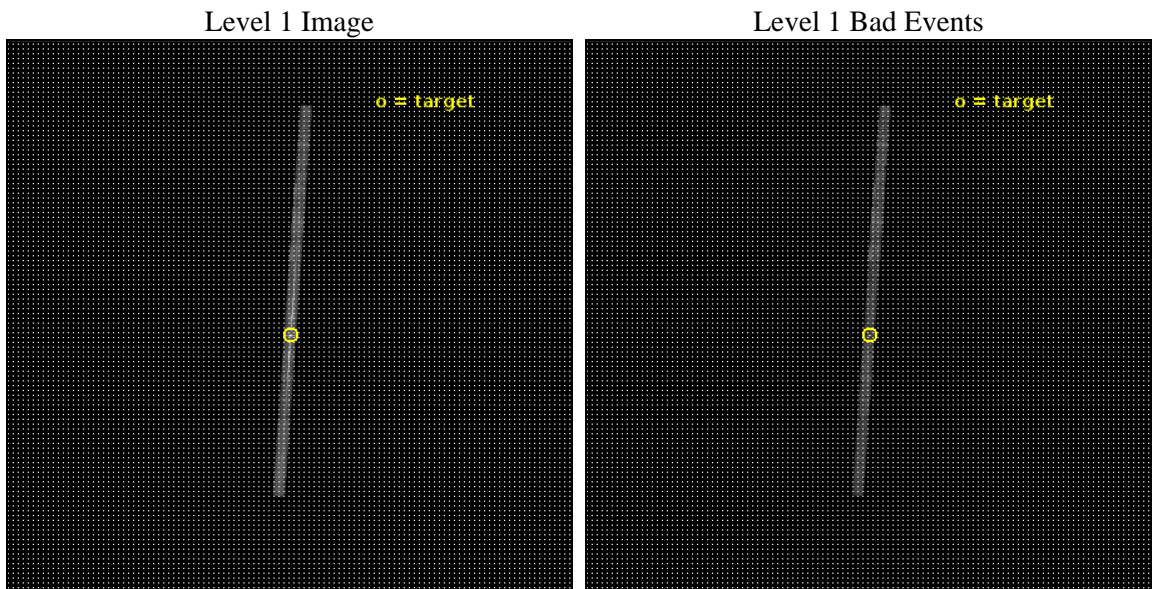
seq_num	790312	Sequence number
obs_id	20713	Observation id
title	AO-19 Calibration Observations of Mkn421	Proposal title
observer	CXC Calibration	Principal investigator
object	MKN421	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	166.113333	Observer's specified target RA [deg]
dec_targ	38.208806	Observer's specified target Dec [deg]
ra_nom	166.1165018215	Nominal RA [deg]
dec_nom	38.229655735498	Nominal Dec [deg]
roll_nom	273.84103735419	Nominal Roll [deg]
revision	1	Processing version of data
ontime	9877.7006728649	Sum of GTIs [s]
livetime	9330.657550207	Livetime [s]
ontime5	9877.7006728649	Sum of GTIs [s]
ontime6	9877.7006728649	Sum of GTIs [s]
ontime7	9877.7006728649	Sum of GTIs [s]
ontime8	9877.7006728649	Sum of GTIs [s]
ontime9	9877.7006728649	Sum of GTIs [s]
l2events	82985	Number of level 2 events



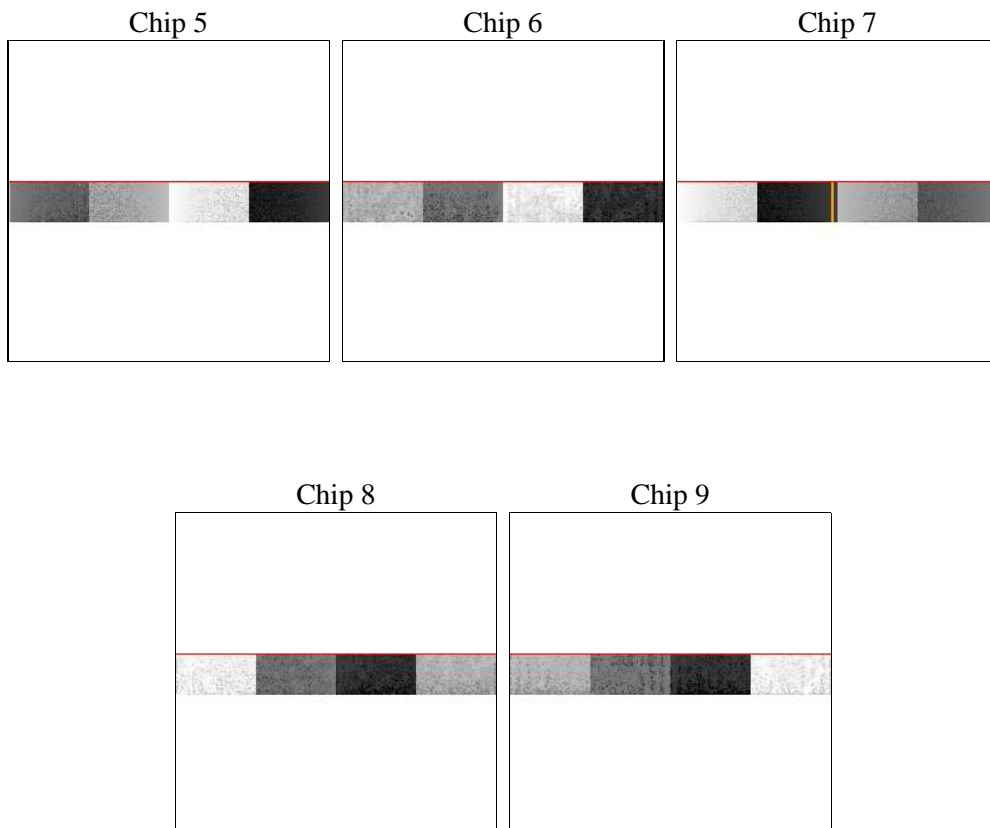
2 OBI

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	9877.7006728649	Sum of GTIs [s]
caldsver	4.7.8	 	ontime5	9877.7006728649	Sum of GTIs [s]
date	2018-07-13T16:25:01	Date and time of file creation	ontime6	9877.7006728649	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	9877.7006728649	Sum of GTIs [s]
			ontime8	9877.7006728649	Sum of GTIs [s]
			ontime9	9877.7006728649	Sum of GTIs [s]
			l1events	143185	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4111.57, 3943.18)	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	18926	32056	60609	19314	12280
rejected events	8228	10458	12691	13133	10388
rejected %	43%	32%	20%	67%	84%

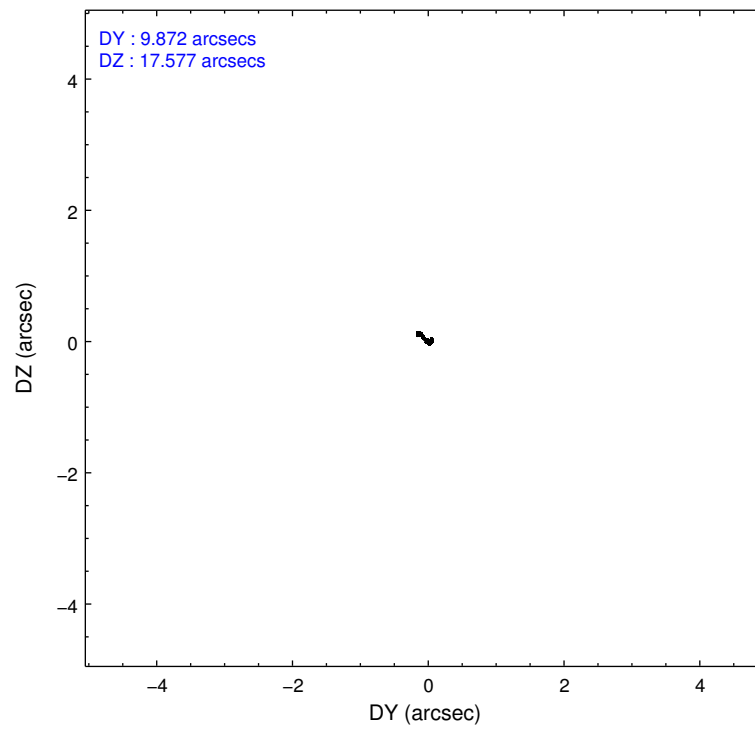
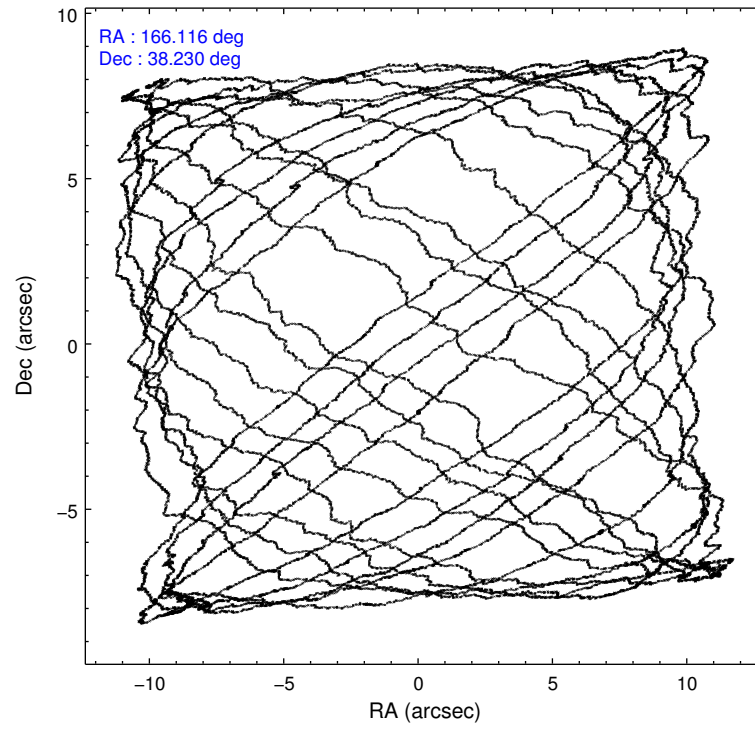
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	2363	16848	12729	2412	854
	12%	52%	21%	12%	6%
grade 1 events	59	56	501	10	8
	0%	0%	0%	0%	0%
grade 2 events	2975	2482	11873	1214	290
	15%	7%	19%	6%	2%
grade 3 events	698	824	5260	477	252
	3%	2%	8%	2%	2%
grade 4 events	694	821	5158	466	240
	3%	2%	8%	2%	1%
grade 5 events	1527	492	3195	703	505
	8%	1%	5%	3%	4%
grade 6 events	4007	677	13008	1620	261
	21%	2%	21%	8%	2%
grade 7 events	6603	9856	8885	12412	9870
	34%	30%	14%	64%	80%

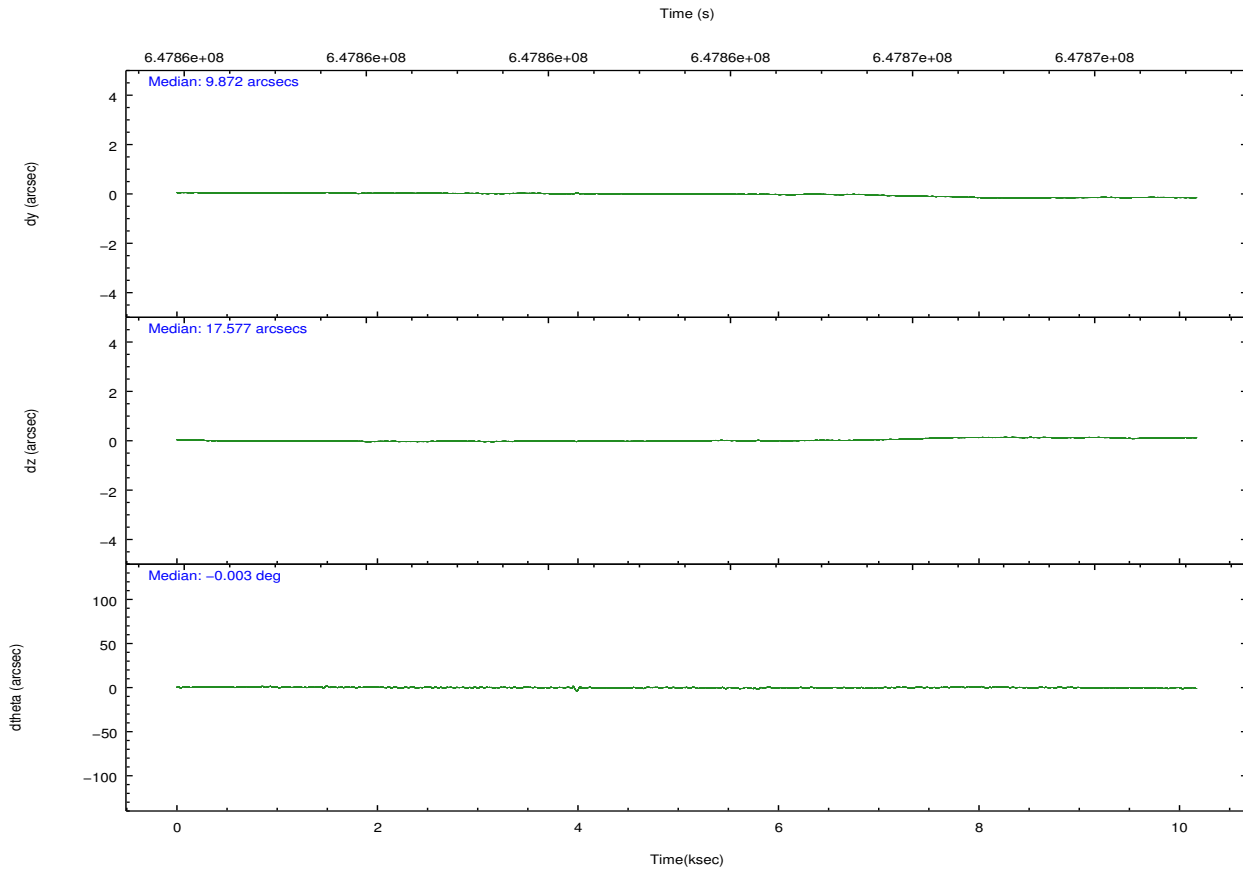
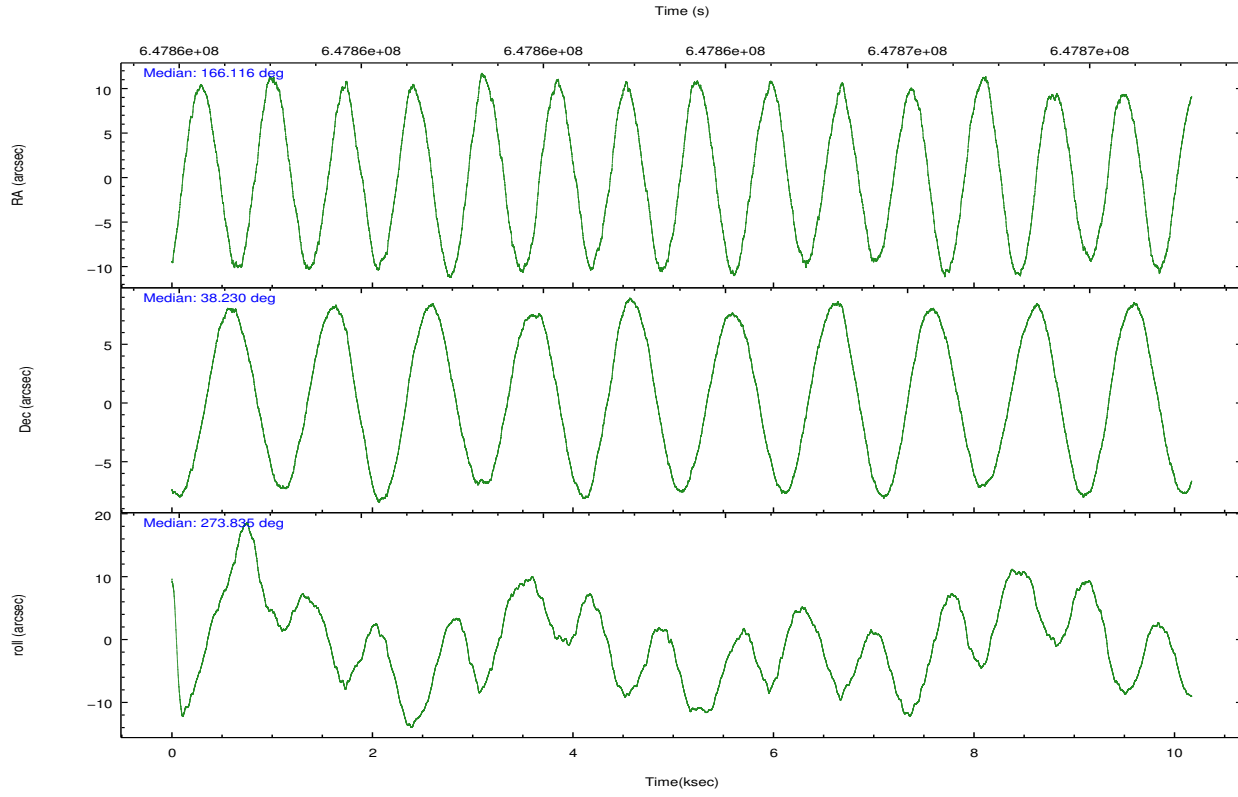
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-56789	ACIS-56789
Grating	LETG	LETG
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	166.096647	166.1165018215048
[deg] Pointing Dec	38.252286	38.2296557354984
[deg] Pointing Roll	273.696700	273.8410373541892
[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)	647858622.184000	647858115.0130399
Observation start date	2018-07-13T08:42:33	2018-07-13T08:35:15
[s] Observation end time (MET)	647868622.184000	647868848.8136801
Observation end date	2018-07-13T11:29:13	2018-07-13T11:34:08
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	N	N
CCD S1 on	Y	Y
CCD S2 on	Y	Y
CCD S3 on	Y	Y
CCD S4 on	Y	Y
CCD S5 on	O1	Y
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	CUSTOM	1/8
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



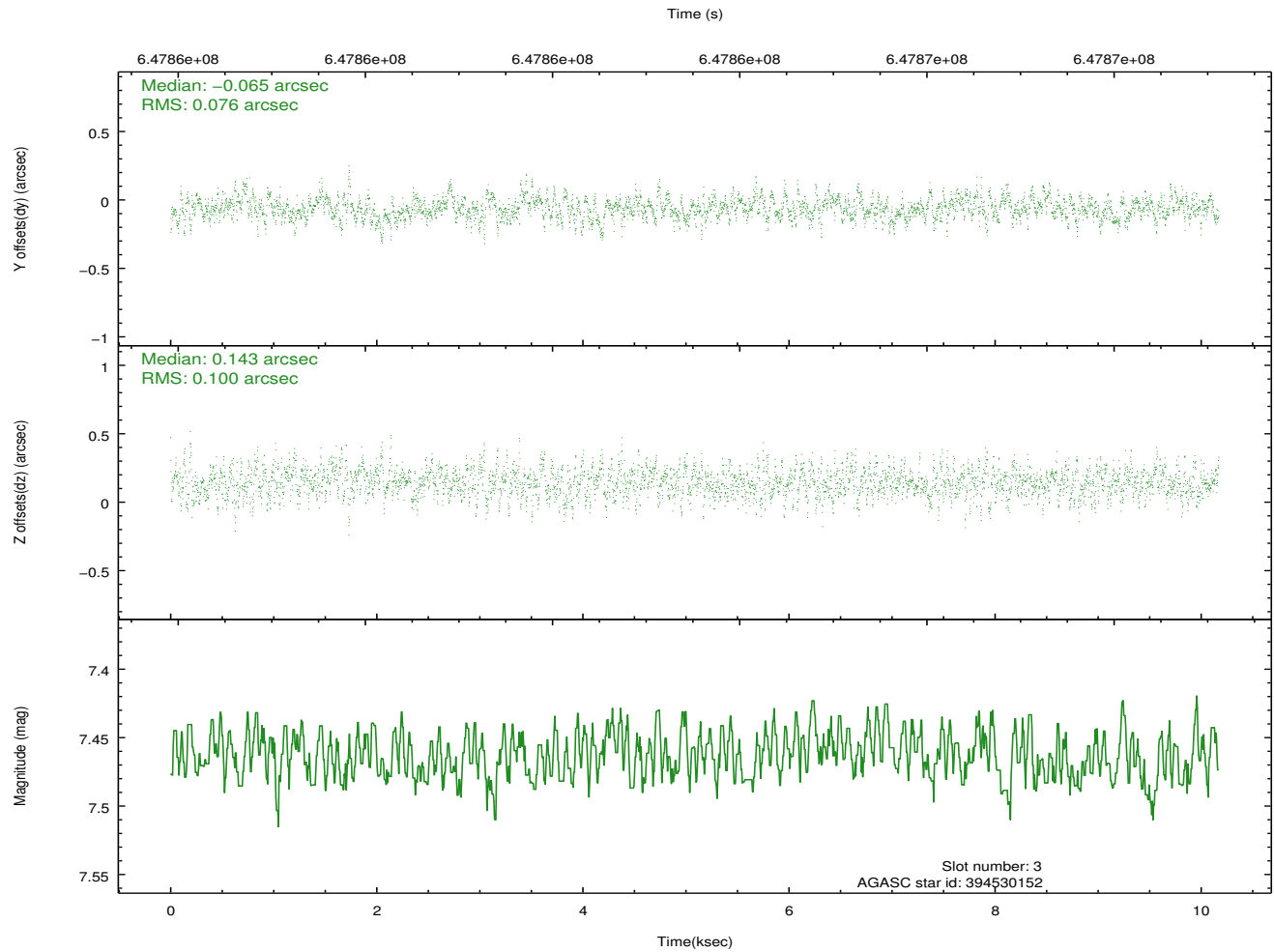
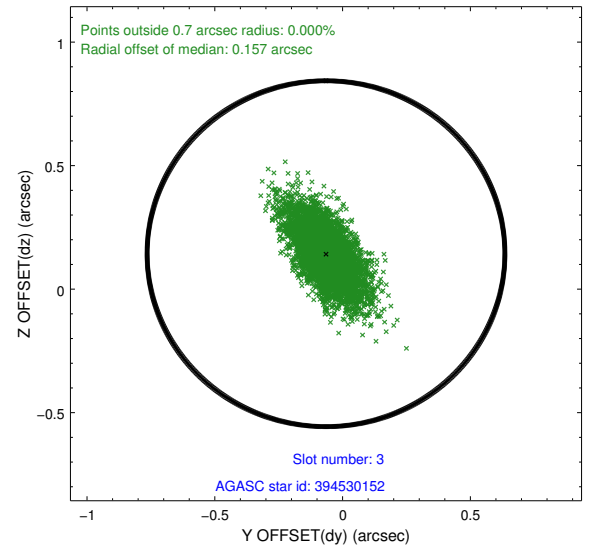
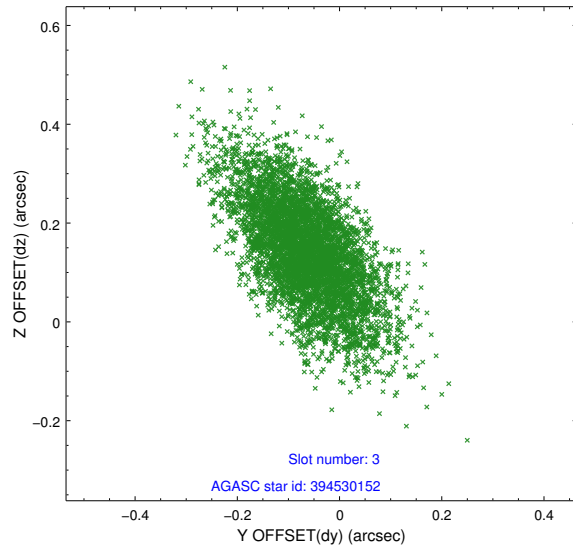


Slot Statistics

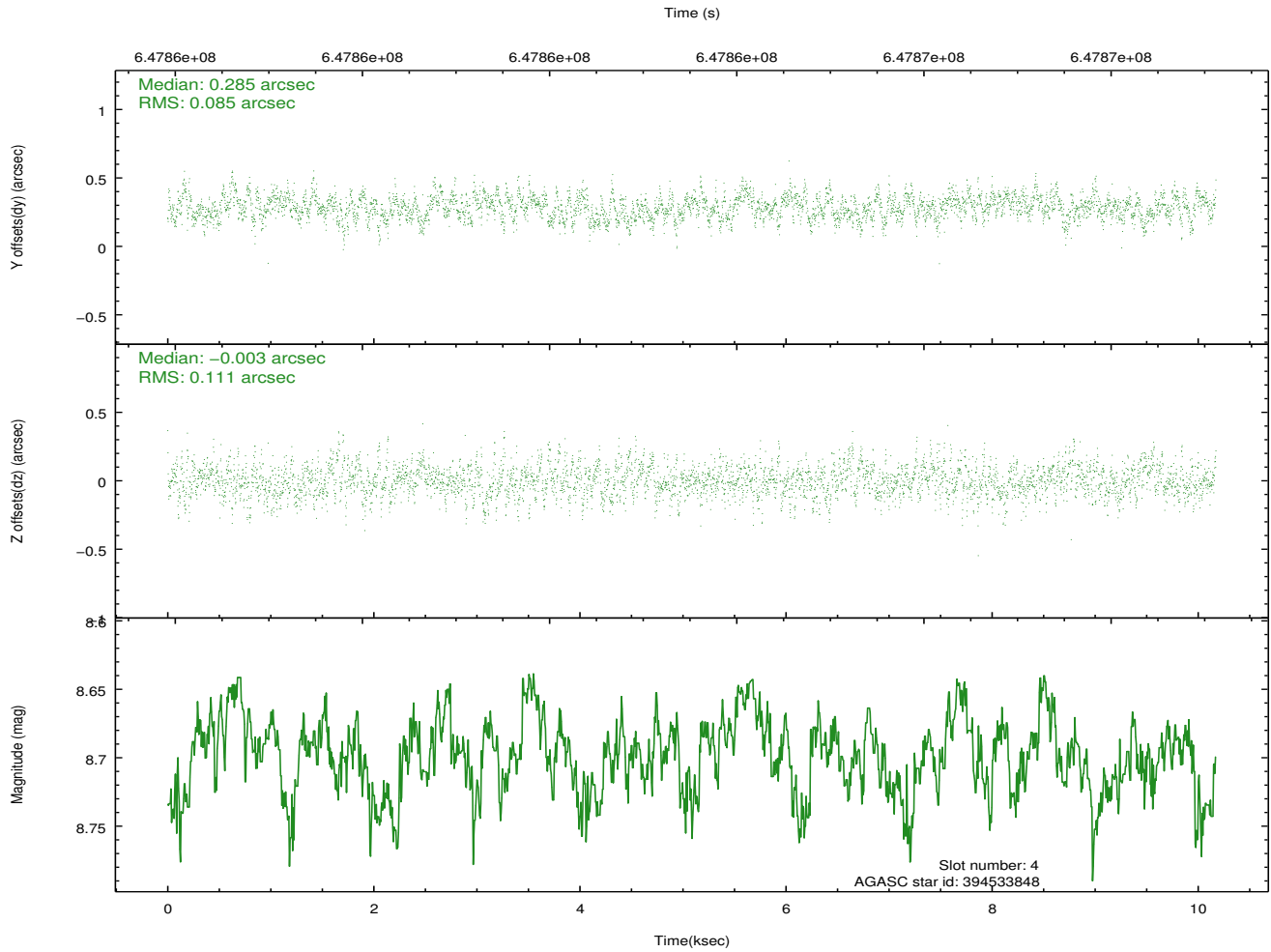
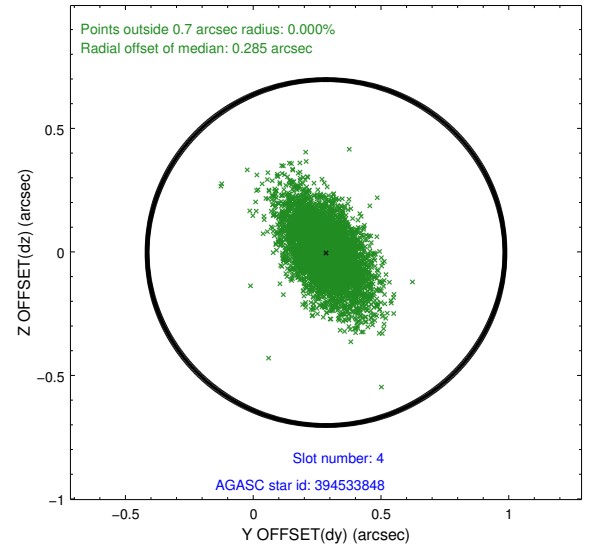
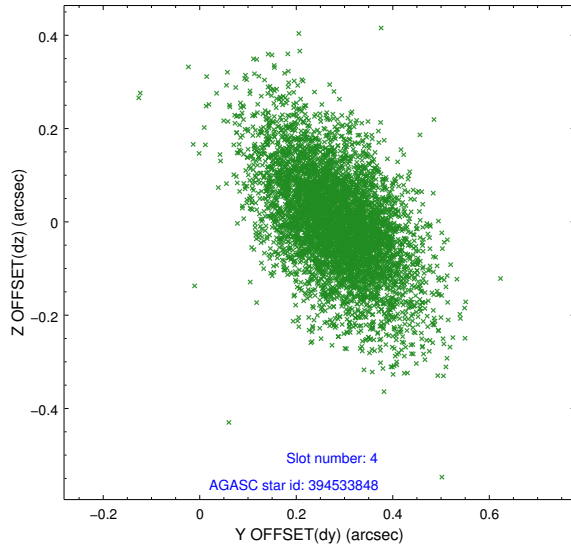
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	6.94	2481	1.000	-0.127	-0.073	0.007	0.012	0.000000	0.000000	-762.82	-1739
1	FID		ACIS-S-4	7.05	2481	1.000	0.345	0.081	0.006	0.012	0.000000	0.000000	2150.72	168
2	FID		ACIS-S-5	7.05	2481	1.000	-0.249	0.001	0.008	0.013	0.000000	0.000000	-1815.09	163
3	GUIDE	used	394530152	7.46	4963	1.000	-0.065	0.143	0.127	0.233	166.075805	38.868252	-2216.51	84
4	GUIDE	used	394533848	8.70	4962	1.000	0.285	-0.003	0.141	0.256	166.382906	38.276007	-35.84	806
5	GUIDE	used	394543960	9.75	4958	1.000	0.084	0.190	0.223	0.372	165.802757	37.787371	1615.41	-941
6	GUIDE	used	394546712	6.58	4963	1.000	-0.150	-0.001	0.134	0.247	166.451462	38.394357	-447.22	1030
7	GUIDE	used	394546720	6.41	4962	1.000	-0.156	-0.325	0.150	0.270	166.130115	38.241361	45.24	90

2.4 Star Slots

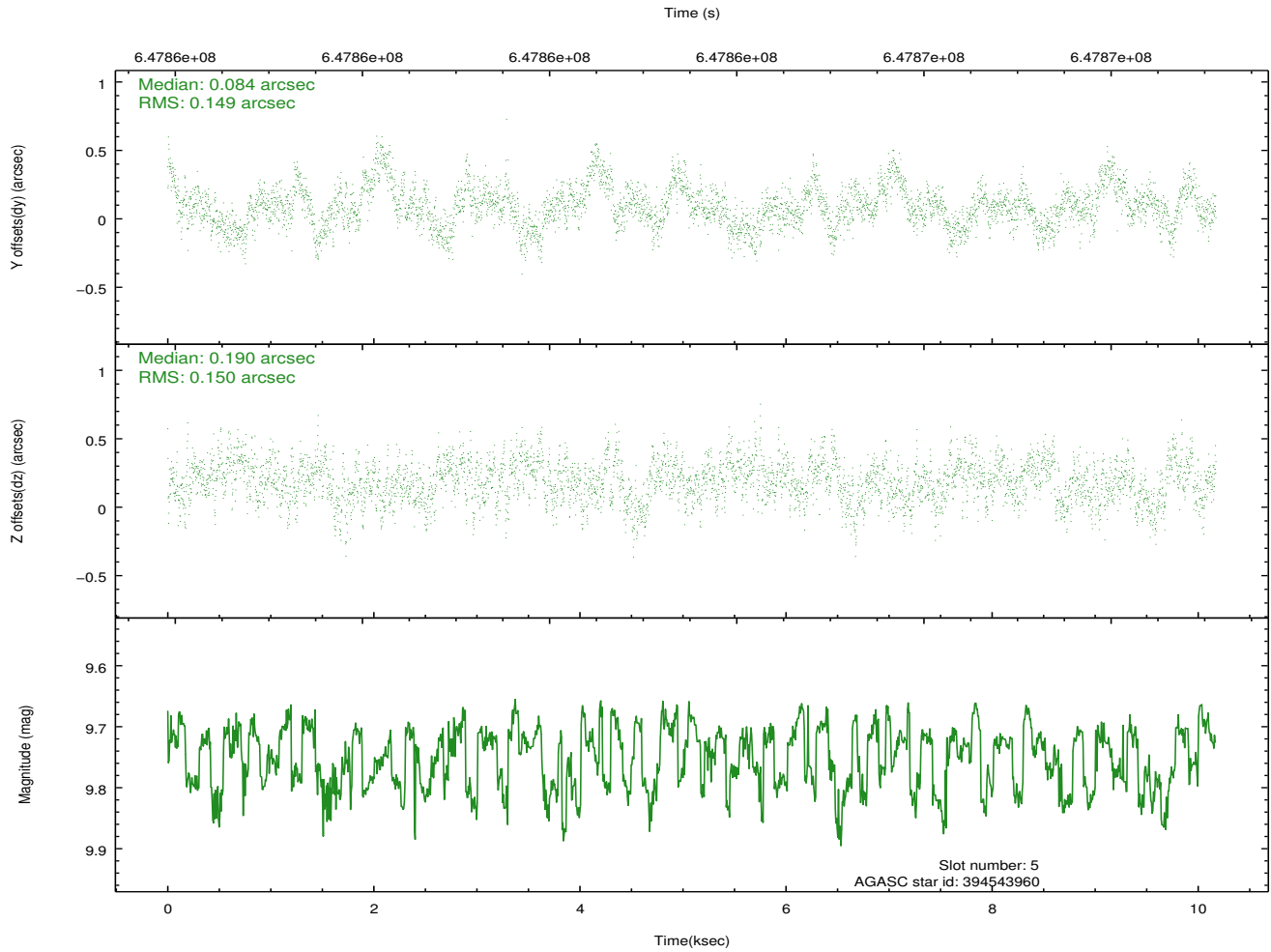
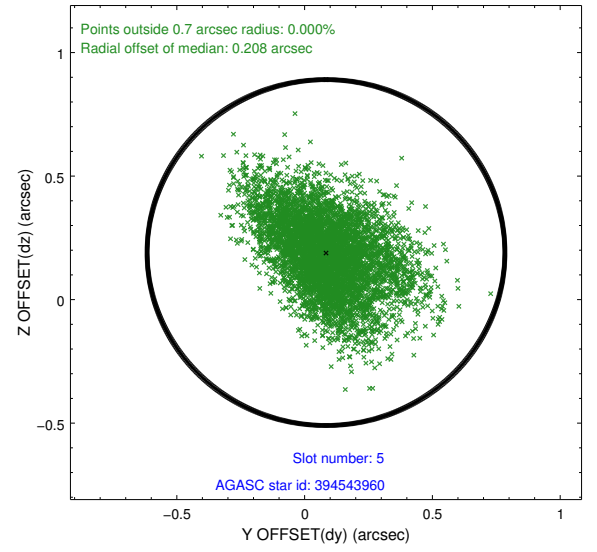
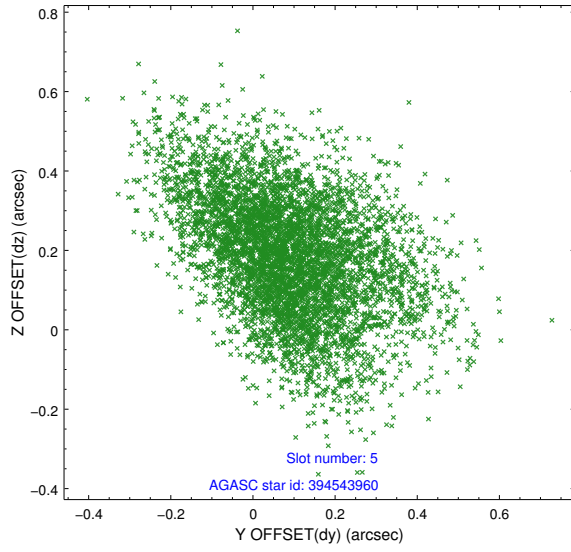
2.4.1 Slot 3



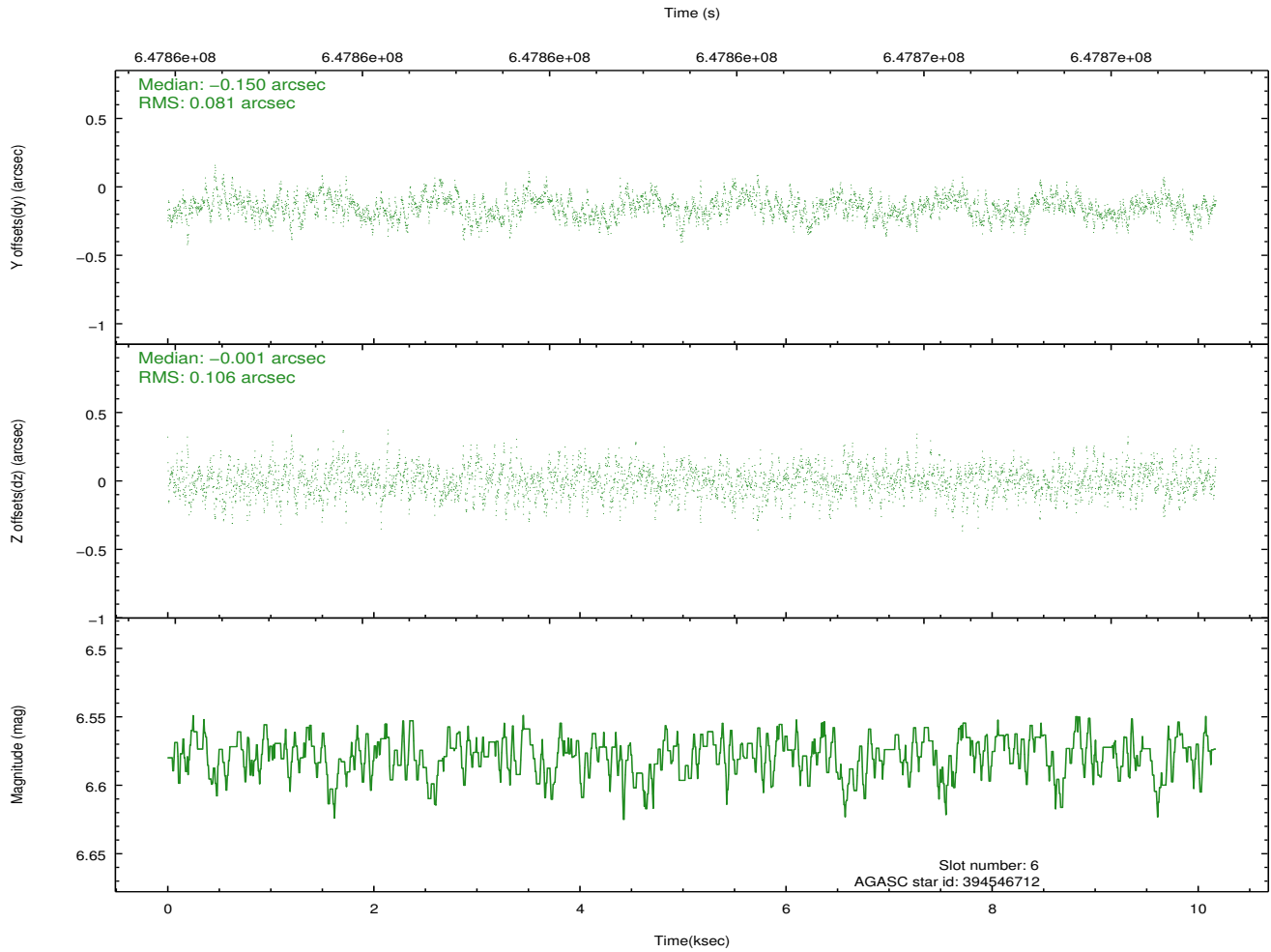
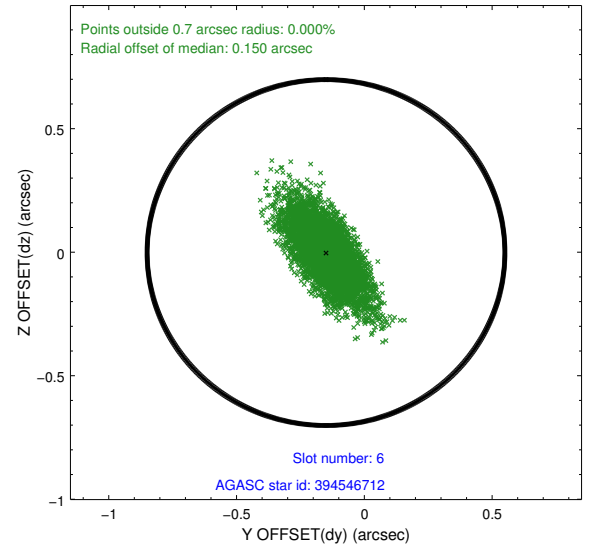
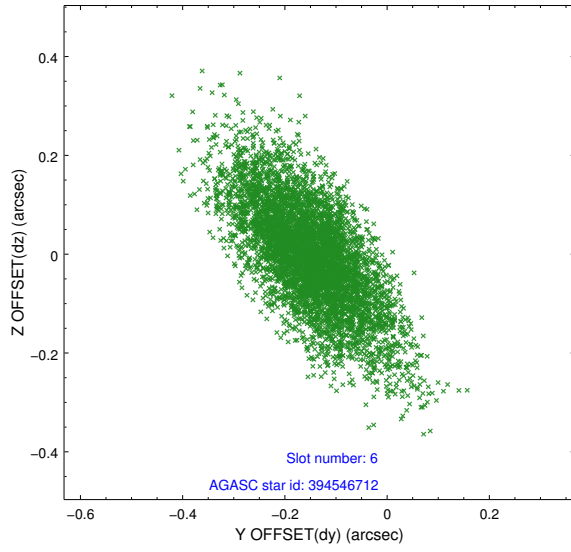
2.4.2 Slot 4



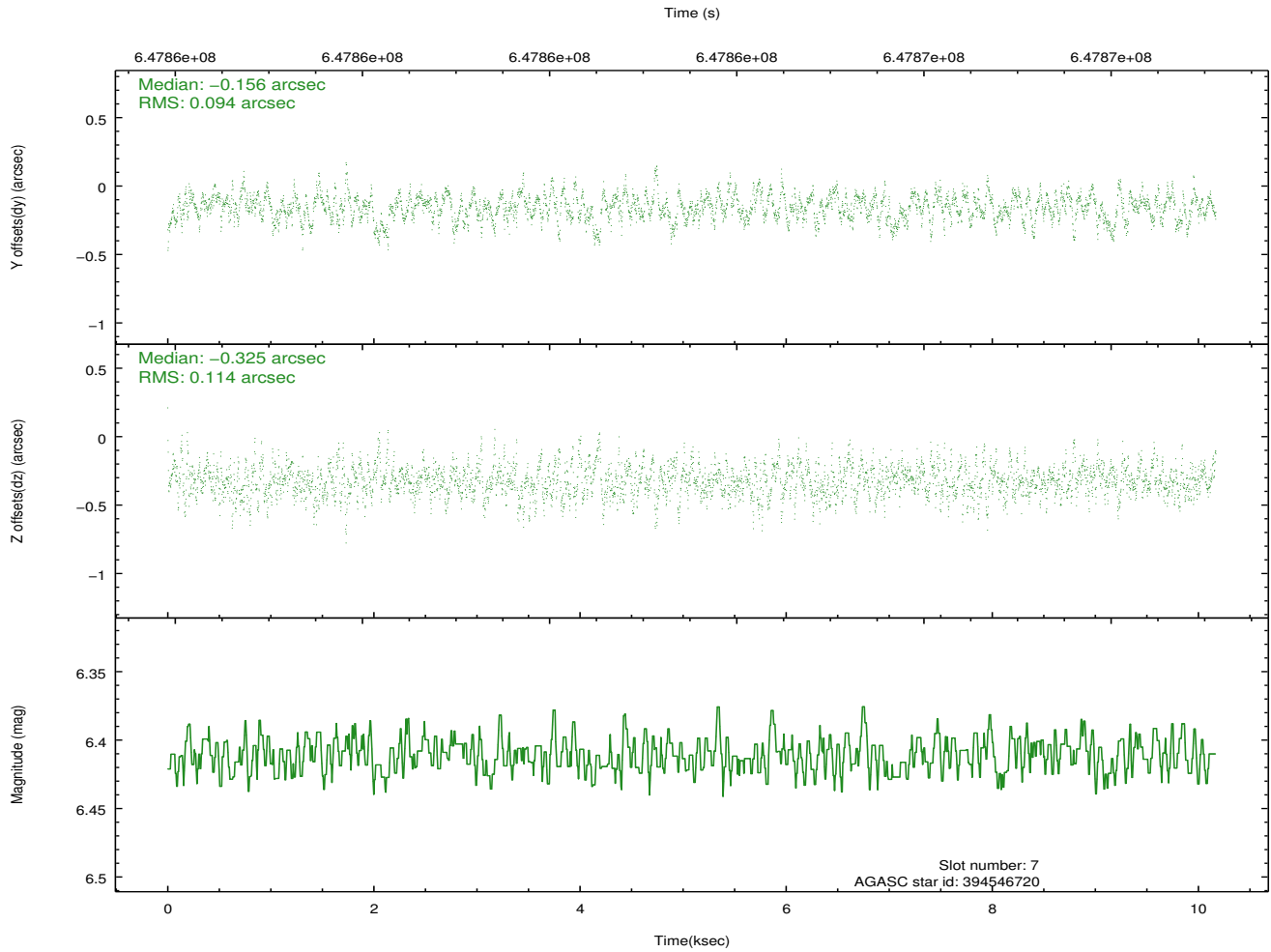
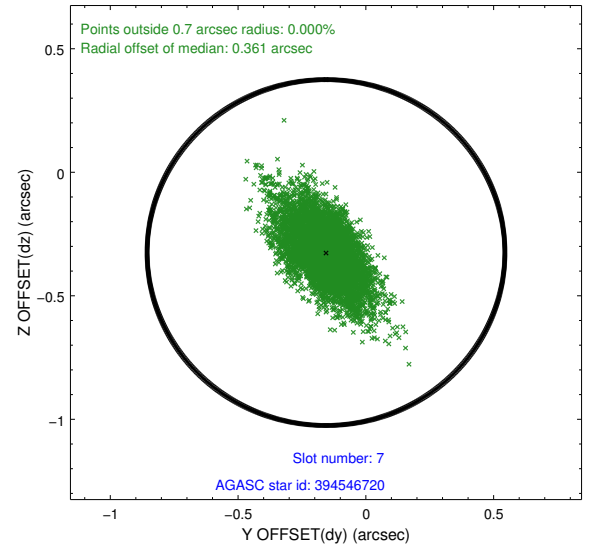
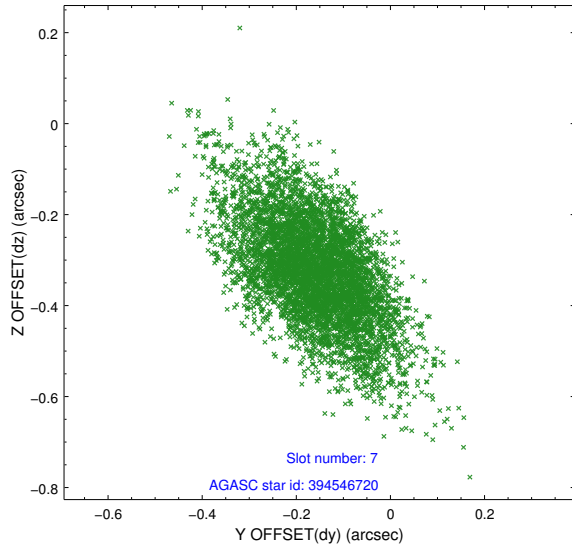
2.4.3 Slot 5



2.4.4 Slot 6

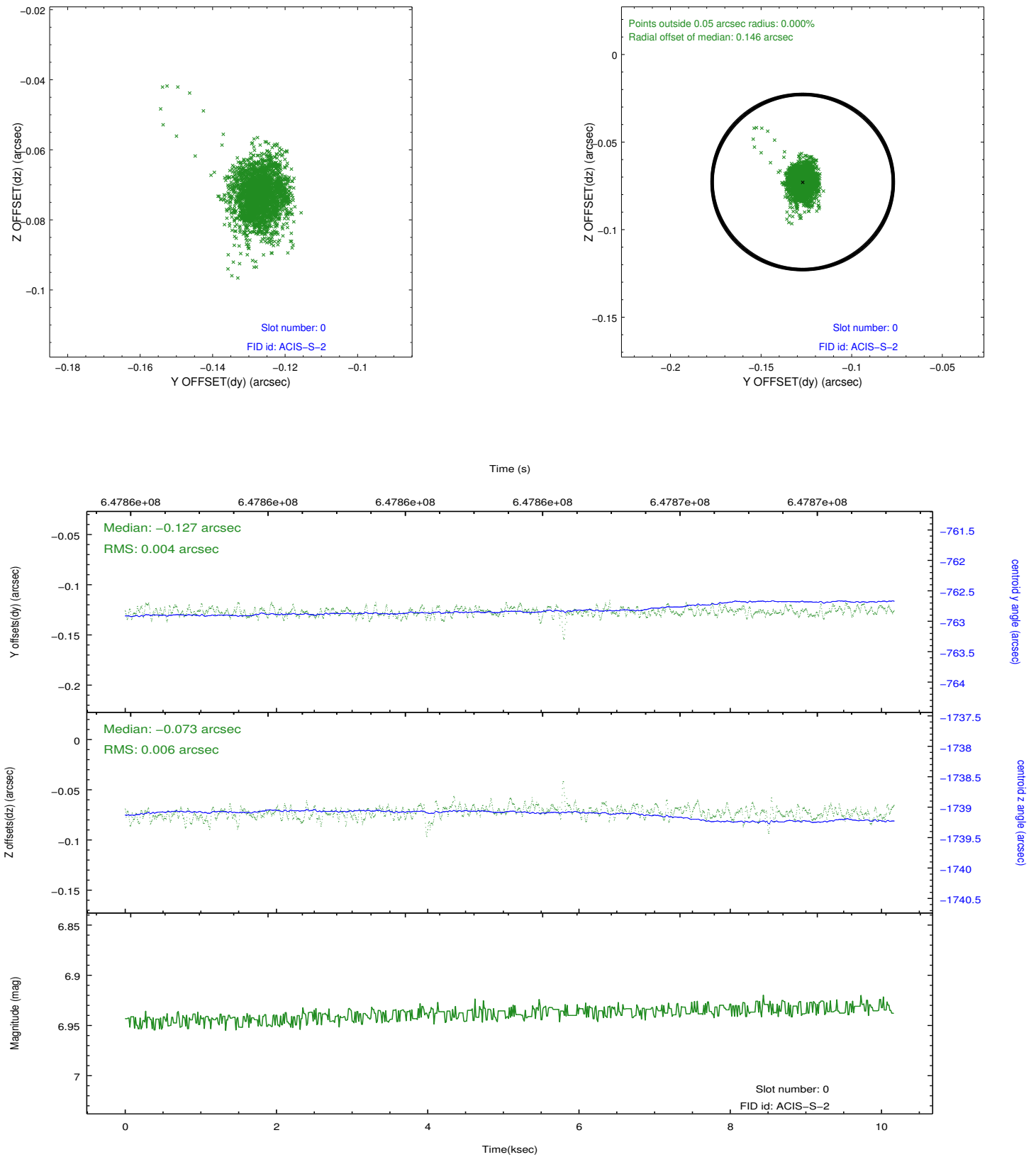


2.4.5 Slot 7

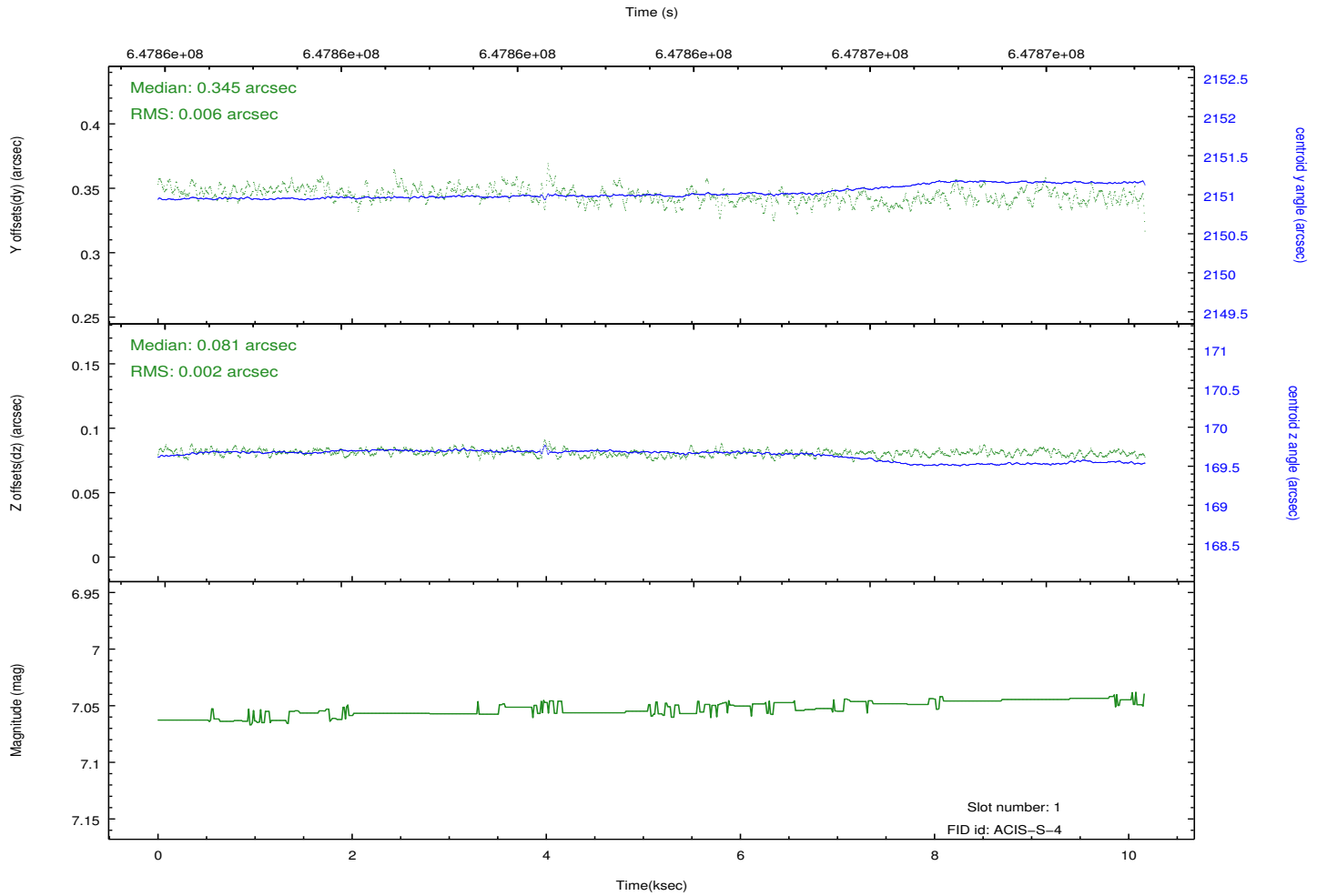
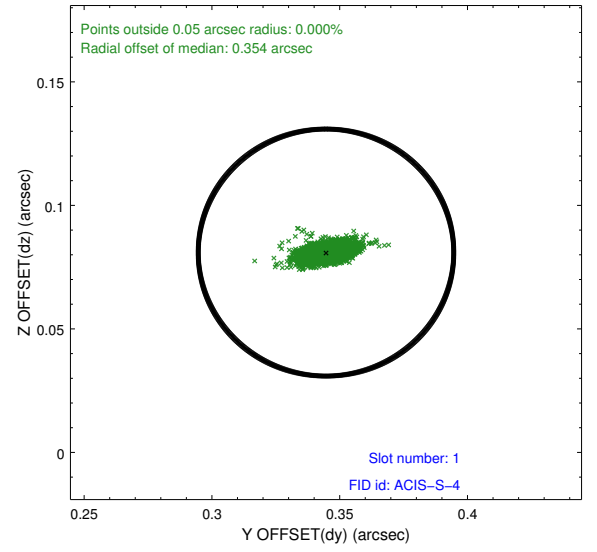
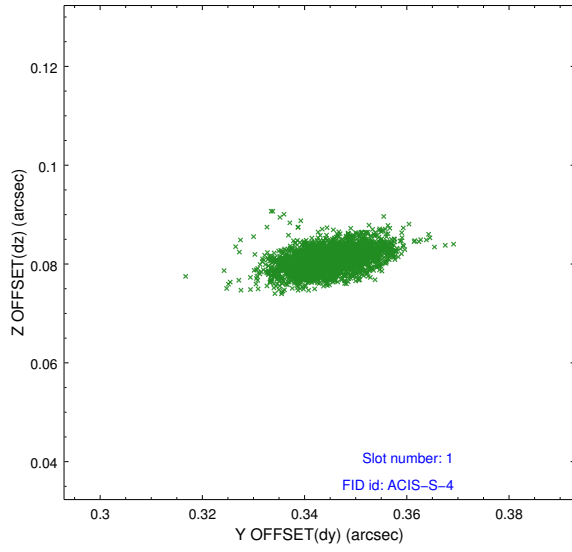


2.5 FID Slots

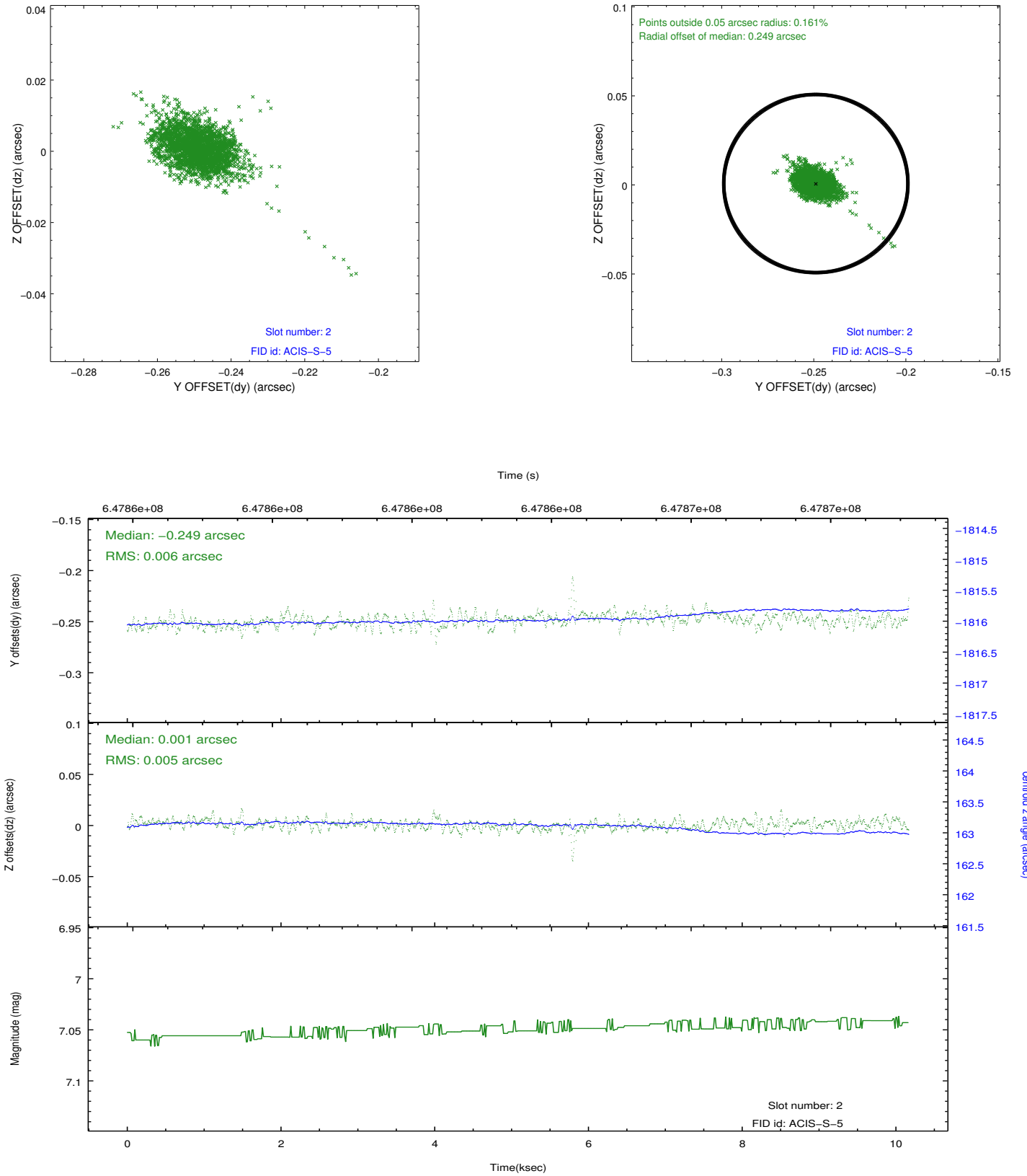
2.5.1 Slot 0



2.5.2 Slot 1

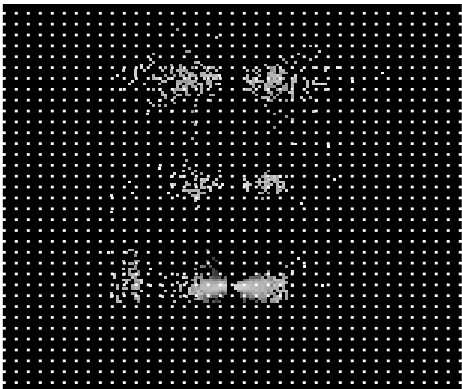


2.5.3 Slot 2

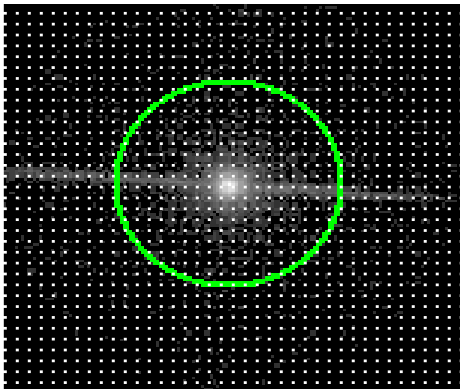


3 Gratings

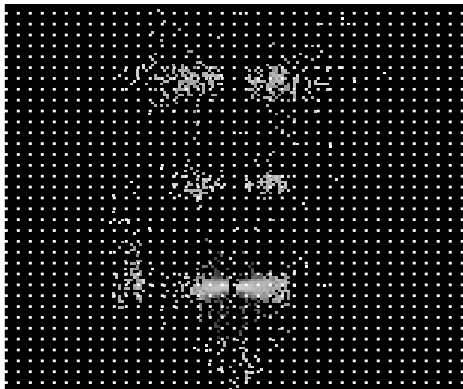
3.1 LETG Arm



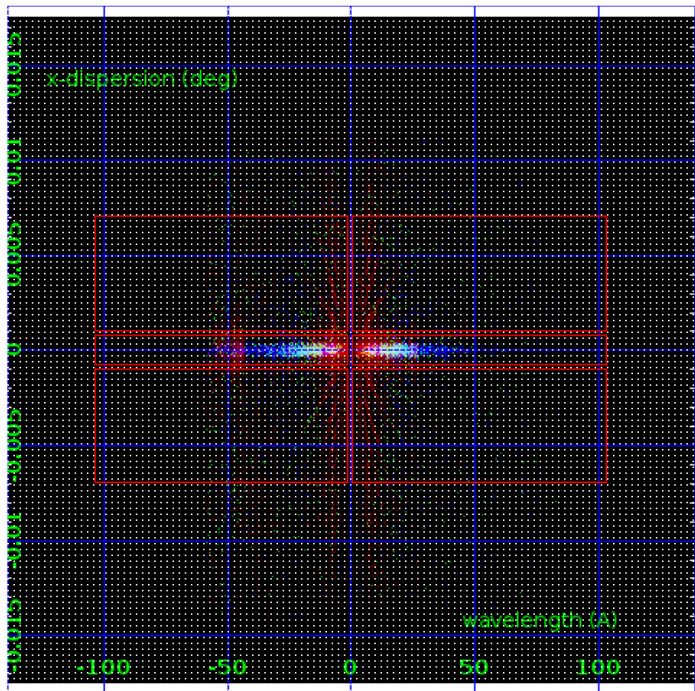
LETG Order Sort 123



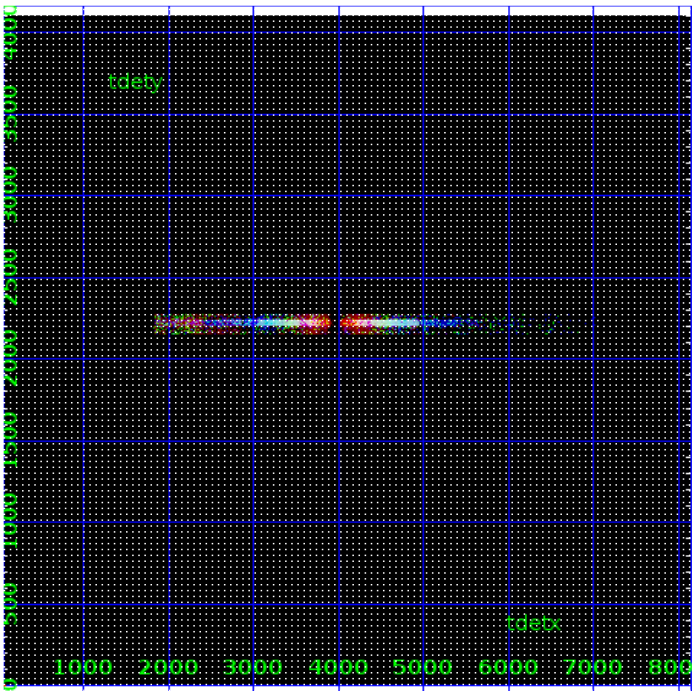
LETG Zero Order



LETG Order Sort ALL

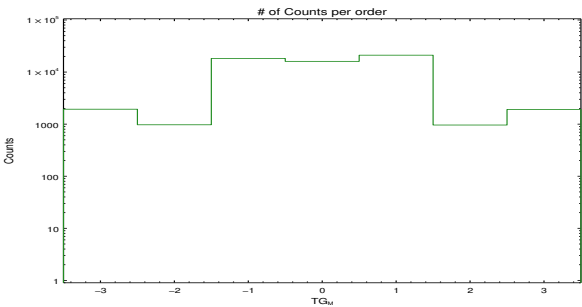


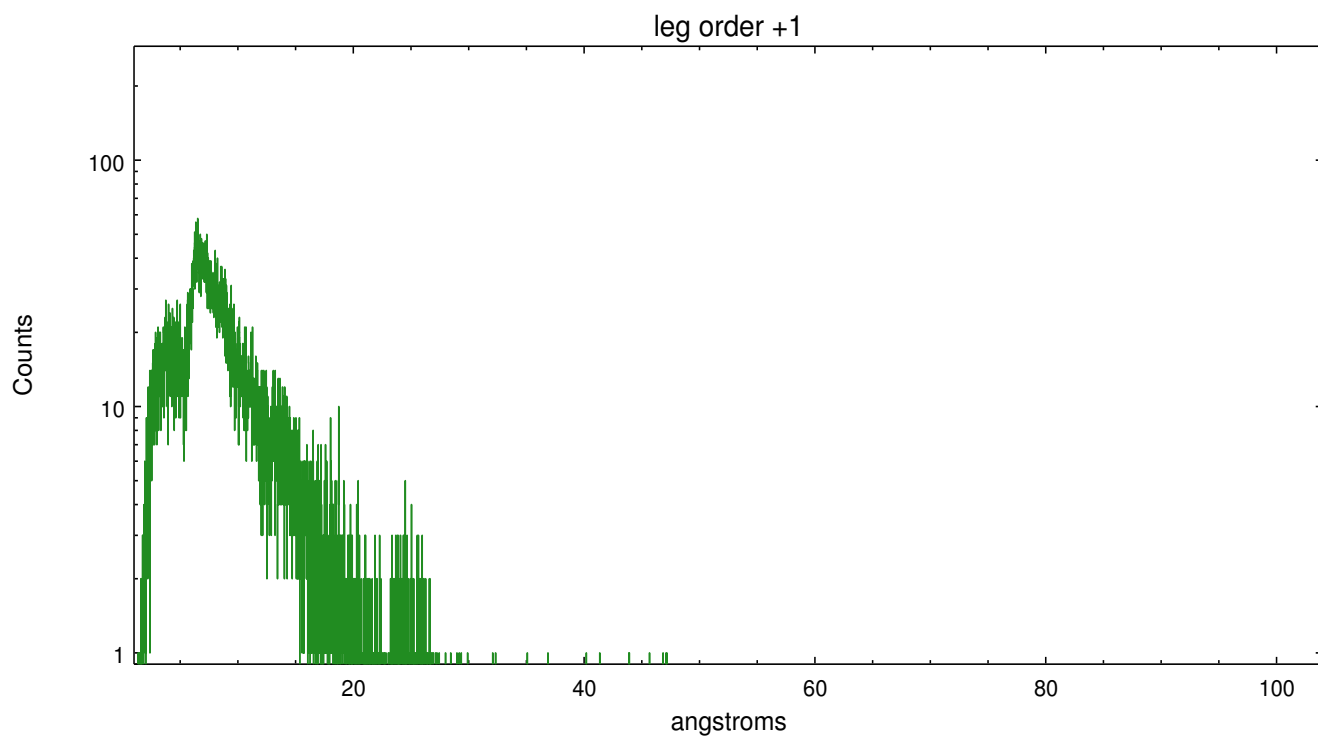
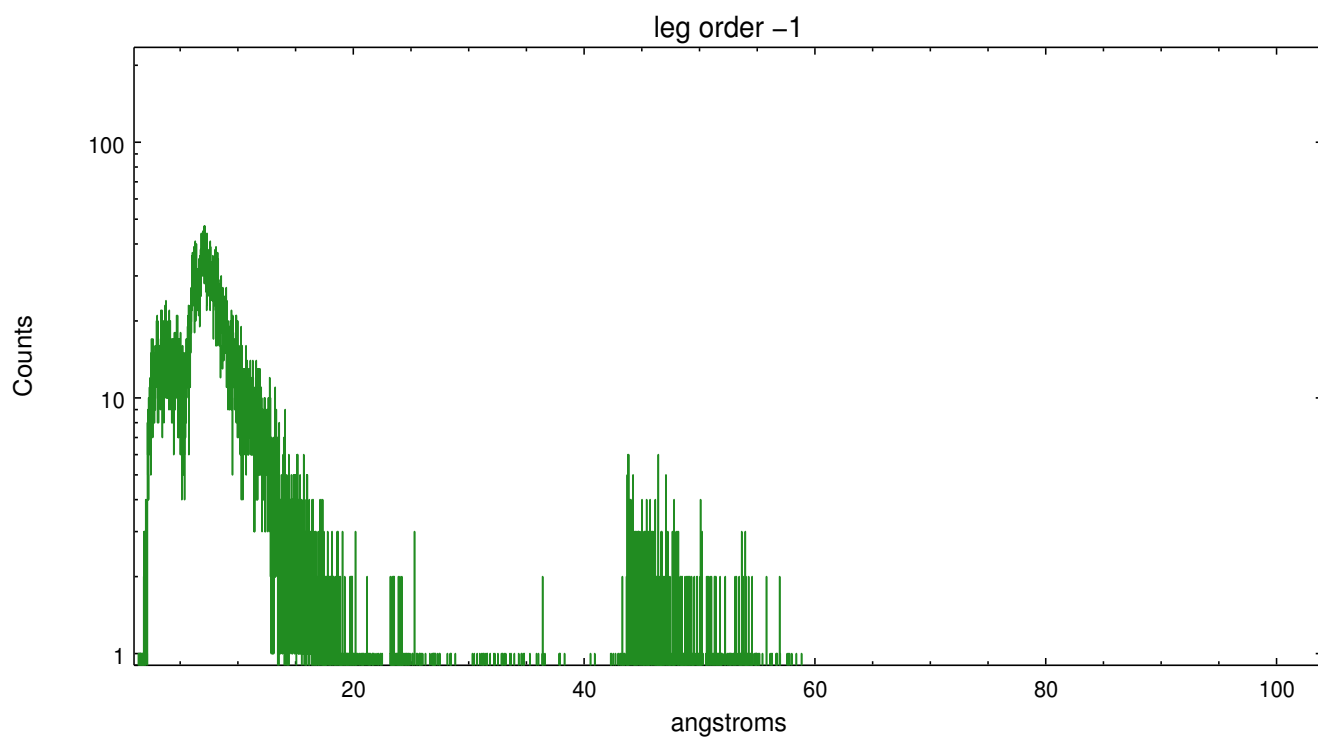
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1935	973	18282	16042	21089	962	1914





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	9.8777006728649

A.2 Comments