

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 20982 - L2 Version 1
Chandra X-Ray Center

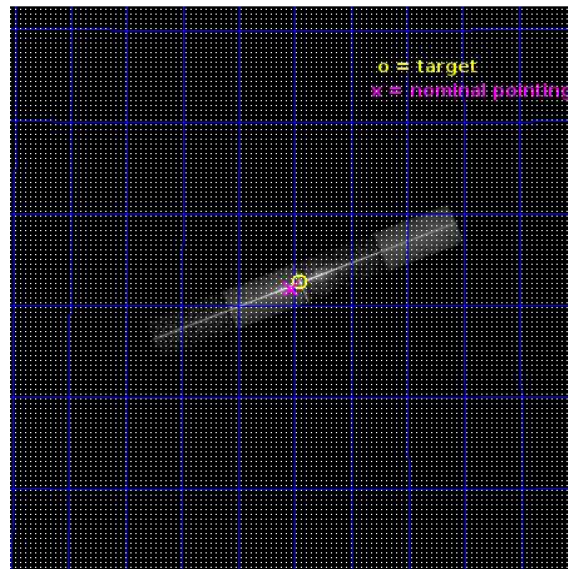
L2 Processing Date : Feb 21 2018

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1 Front

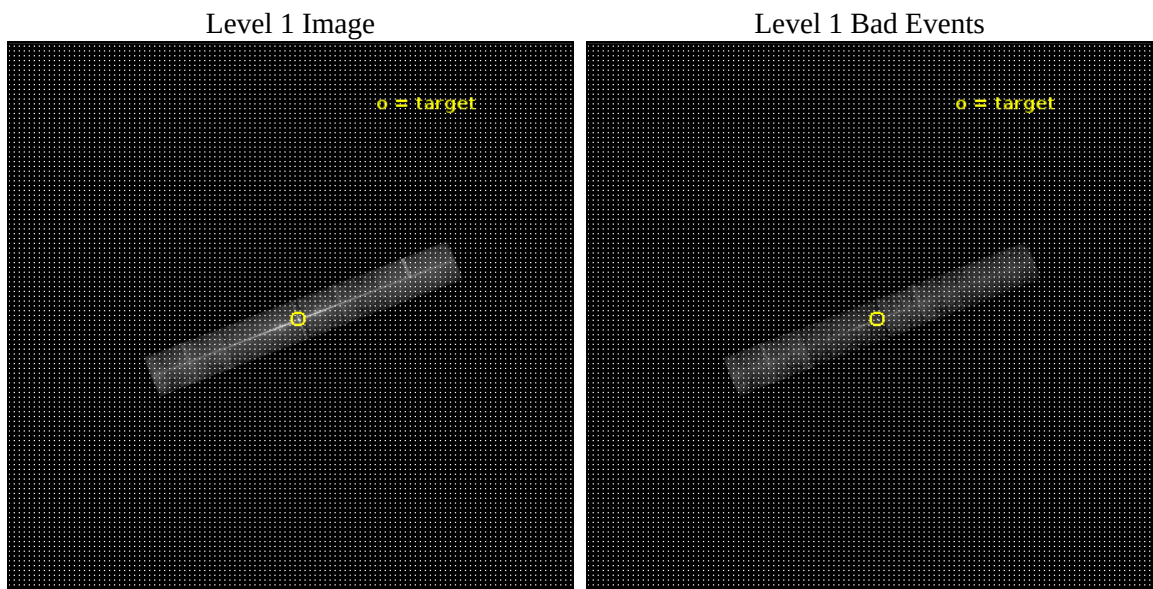
seq_num	790317	Sequence number
obs_id	20982	Observation id
title	AO-19 Big Dither Observation of Mkn421	Proposal title
observer	CXC Calibration	Principal investigator
object	MKN421	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	166.113333	Observer's specified target RA [deg]
dec_targ	38.208806	Observer's specified target Dec [deg]
ra_nom	166.13275400509	Nominal RA [deg]
dec_nom	38.197378326122	Nominal Dec [deg]
roll_nom	158.14463191878	Nominal Roll [deg]
revision	1	Processing version of data
ontime	16231.894013762	Sum of GTIs [s]
livetime	15591.998399449	Livetime [s]
ontime5	16231.852973819	Sum of GTIs [s]
ontime6	16231.811933756	Sum of GTIs [s]
ontime7	16231.894013762	Sum of GTIs [s]
ontime8	16230.729853749	Sum of GTIs [s]
l2events	316922	Number of level 2 events



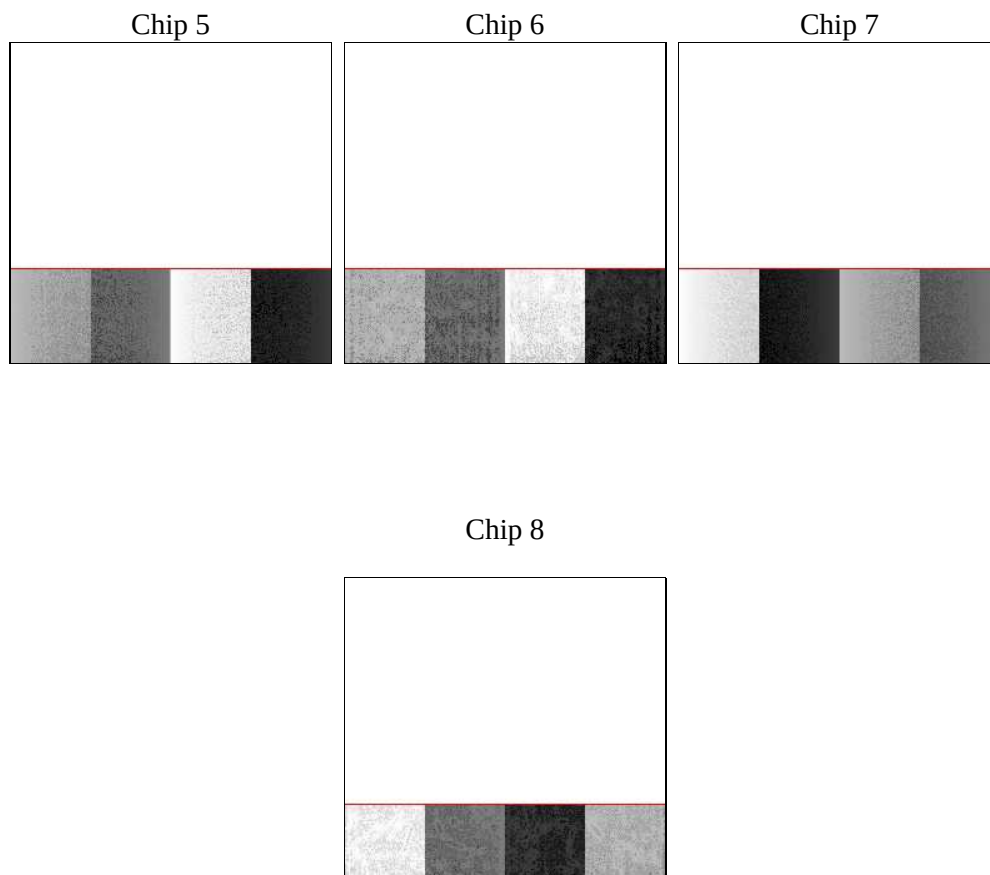
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	16159.255000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	16231.894013762	Sum of GTIs [s]
caldbver	4.7.7	 	ontime5	16231.852973819	Sum of GTIs [s]
date	2018-02-21T22:42:46	Date and time of file creation	ontime6	16231.811933756	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	16231.894013762	Sum of GTIs [s]
			ontime8	16230.729853749	Sum of GTIs [s]
			l1events	500360	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4204.38, 4181.18)	src1a sky pixel position
			zo_pos_tgd	(4204.34, 4182.00)	src1a sky pixel position via radetect

2.1.4 Events

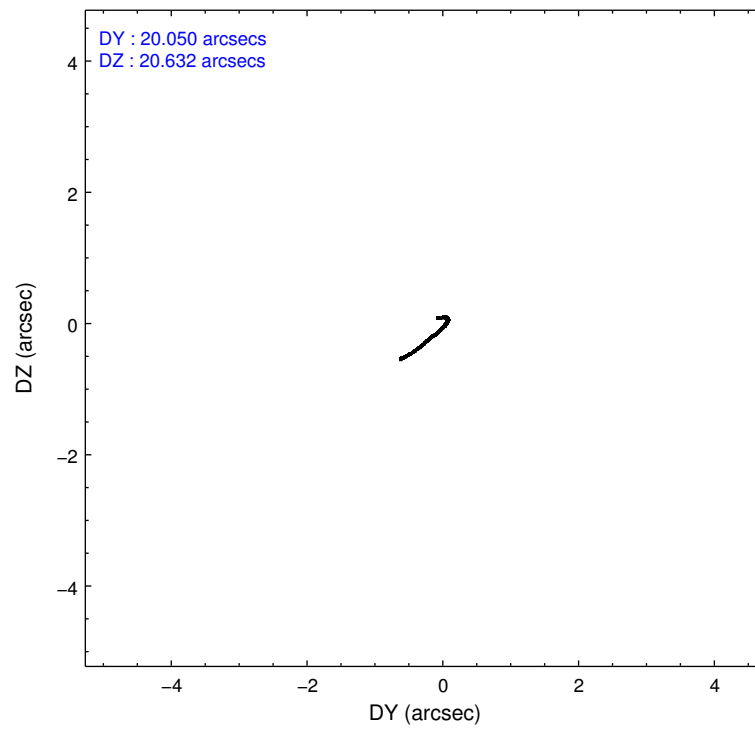
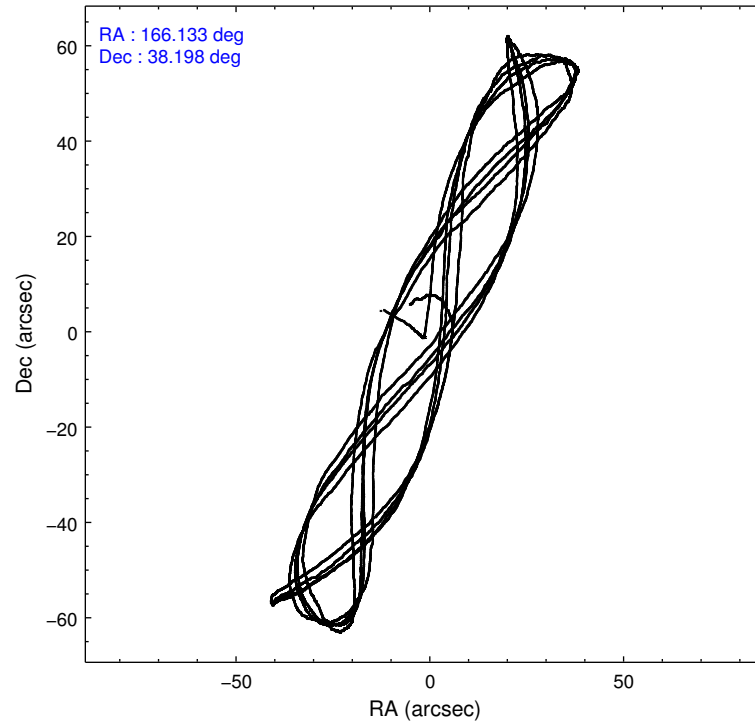
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	79111	144843	212333	64073
rejected events	30176	39851	42859	42484
rejected %	38%	27%	20%	66%

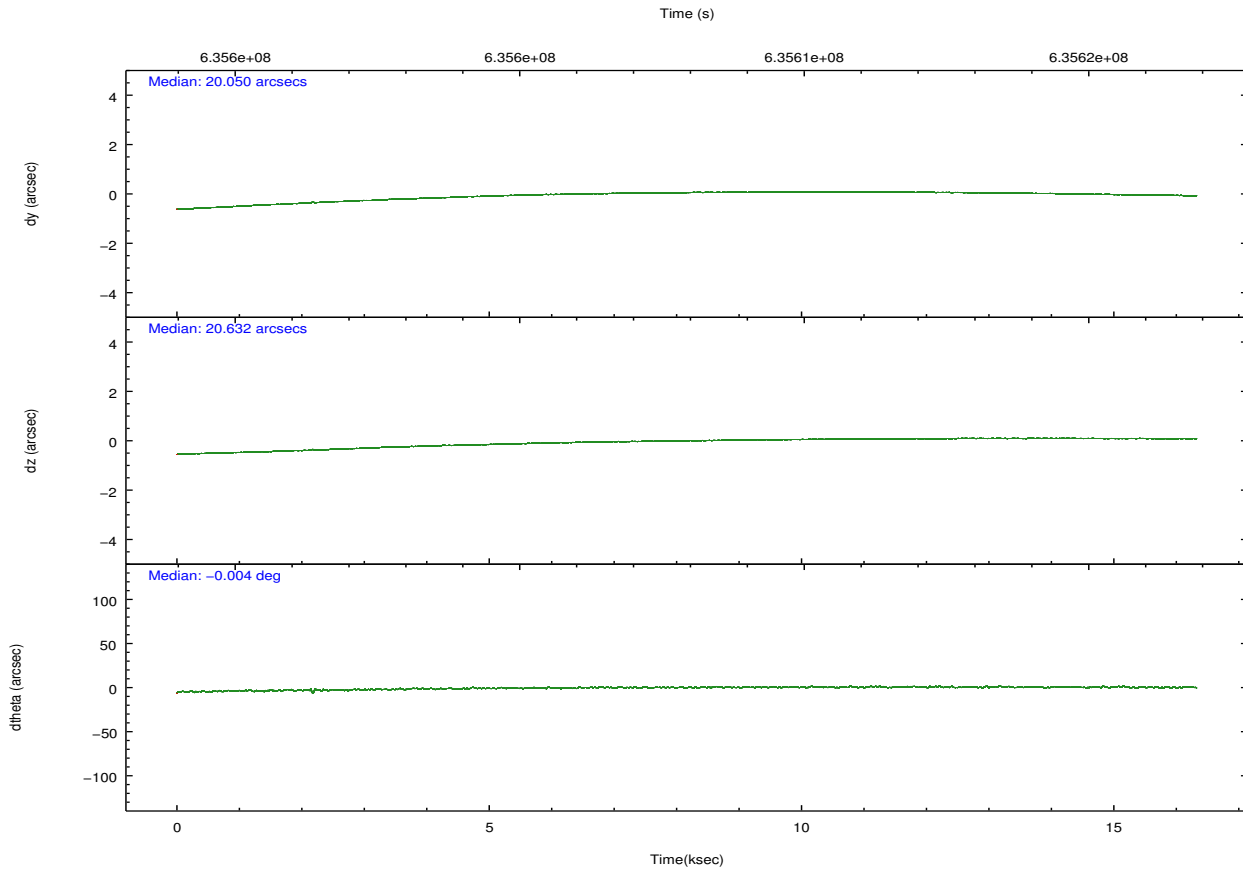
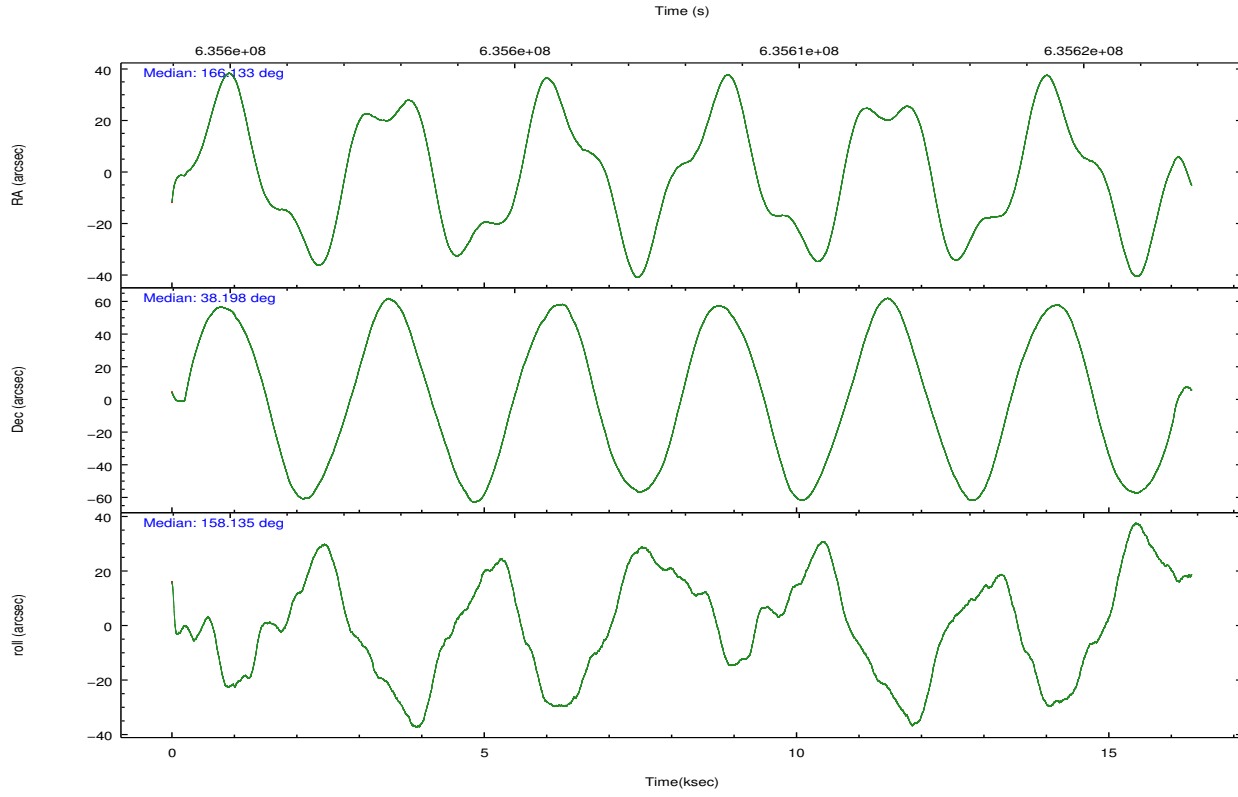
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	17583	79520	35863	9293
	22%	54%	16%	14%
grade 1 events	129	625	811	45
	0%	0%	0%	0%
grade 2 events	10278	12472	41446	3987
	12%	8%	19%	6%
grade 3 events	2332	4423	18799	1992
	2%	3%	8%	3%
grade 4 events	2364	4432	18468	1858
	2%	3%	8%	2%
grade 5 events	4435	2018	8550	2459
	5%	1%	4%	3%
grade 6 events	16382	4160	54908	4461
	20%	2%	25%	6%
grade 7 events	25608	37193	33488	39978
	32%	25%	15%	62%

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	166.167264	166.1327540050896	CCD I2 on	N	N
[deg] Pointing Dec	38.201599	38.19737832612168	CCD I3 on	N	N
[deg] Pointing Roll	157.966653	158.1446319187764	CCD S0 on	N	N
[s] Window start time (MET)	635040069.184000	635040069.184000	CCD S1 on	Y	Y
[s] Window stop time (MET)	637459269.184000	637459269.184000	CCD S2 on	Y	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S3 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S4 on	Y	Y
[mm] SIM translation stage pos	-181.282523	-181.2921905036822	CCD S5 on	O1	N
[mm] SIM translation stage offset	-8.85	-8.840332079325577	Number of optional ACIS chips dropped	1	1
[s] Observation start time (MET)	635599929.184000	635598581.28881	On-chip summing requested	N	N
Observation start date	2018-02-21T11:31:00	2018-02-21T11:09:41	Subarray requested	CUSTOM	CUSTOM
[s] Observation end time (MET)	635616088.184000	635617119.9524	Subarray start row	1	1
Observation end date	2018-02-21T16:00:19	2018-02-21T16:18:39	Subarray row count	300	300
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	1

2.3 Aspect



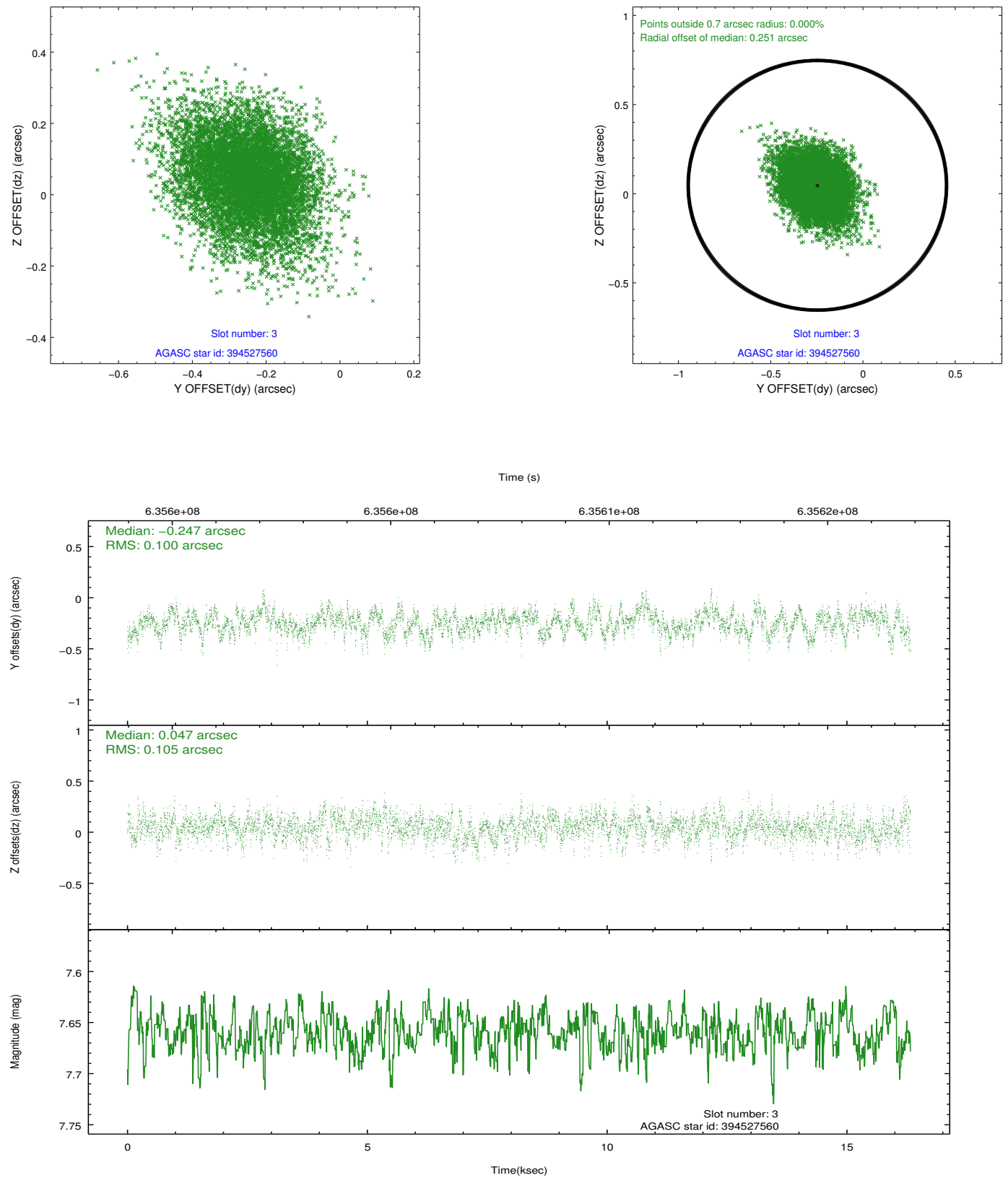


Slot Statistics

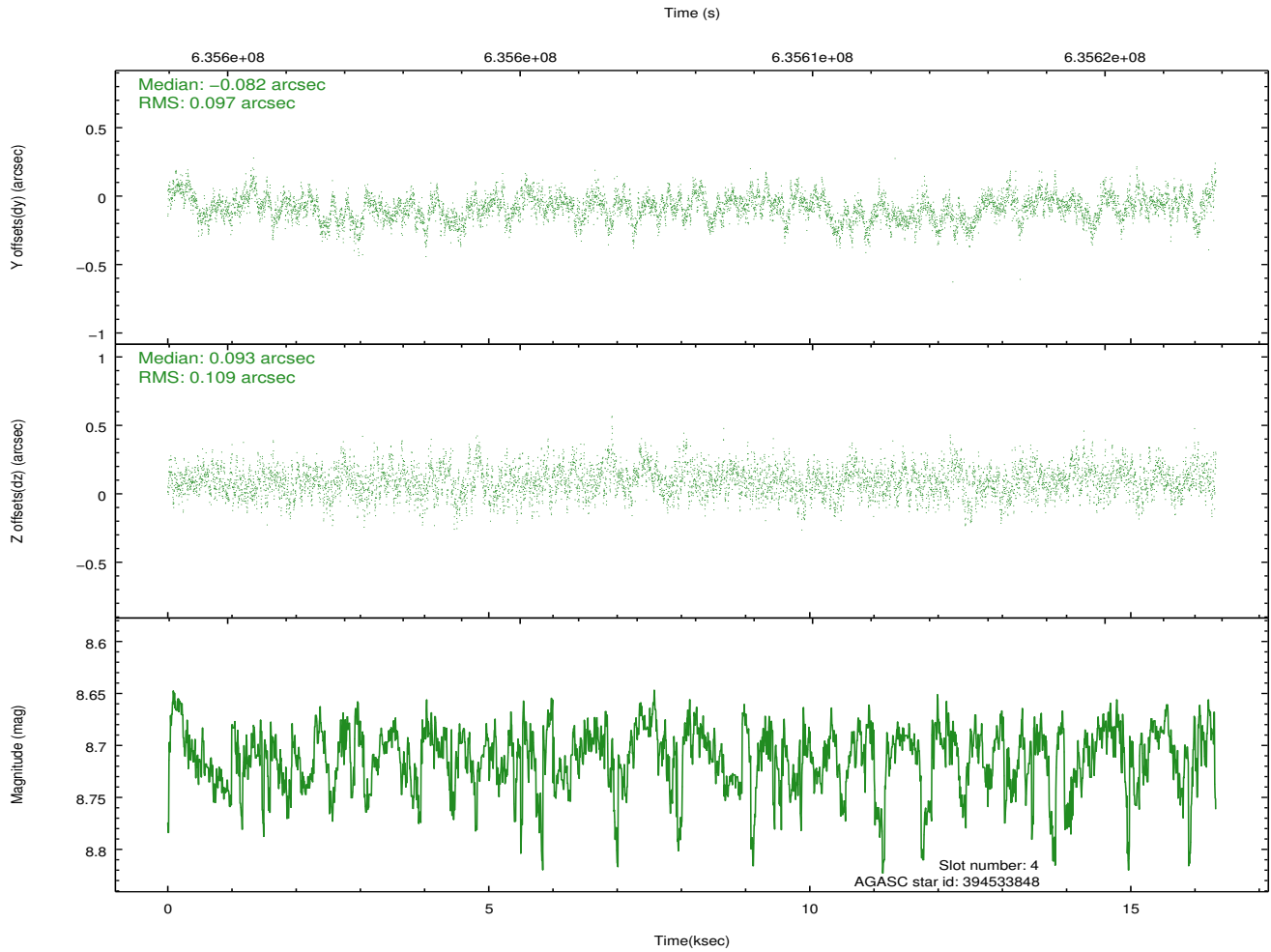
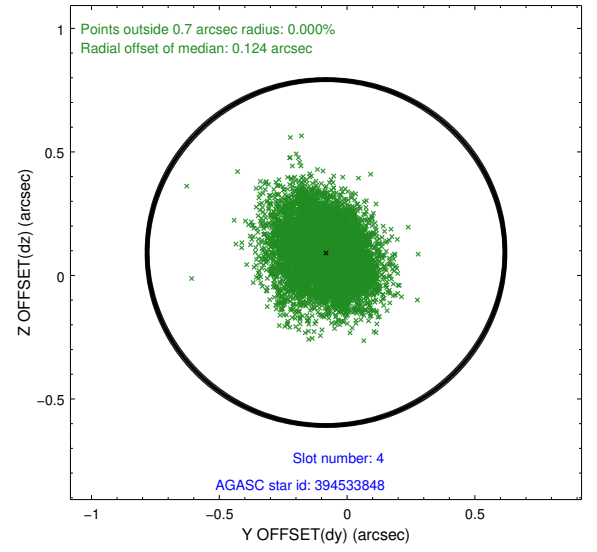
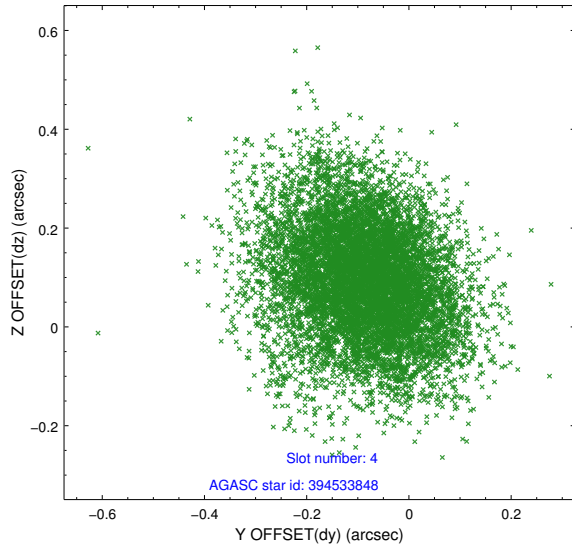
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-1	7.18	3983	0.252	0.221	0.012	0.023	0.000000	0.000000	923.82	-1919.58
1	FID		ACIS-S-2	7.06	3983	-0.418	-0.238	0.010	0.021	0.000000	0.000000	-772.60	-1924.88
2	FID		ACIS-S-6	7.39	3983	0.147	0.019	0.009	0.016	0.000000	0.000000	389.30	621.23
3	GUIDE	used	394527560	7.66	7963	-0.247	0.047	0.153	0.252	165.970713	38.960939	1536.11	-2327.46
4	GUIDE	used	394533848	8.71	7957	-0.082	0.093	0.153	0.257	166.382906	38.276007	-457.76	-476.22
5	GUIDE	used	394543960	9.76	7937	-0.424	-0.427	0.276	0.438	165.802757	37.787371	402.00	1769.39
6	GUIDE	used	394546712	6.59	7963	-0.164	-0.051	0.132	0.221	166.451462	38.394357	-481.17	-943.92
7	GUIDE	used	394546720	6.42	7964	0.933	0.348	0.162	0.265	166.130115	38.241361	152.11	-92.66

2.4 Star Slots

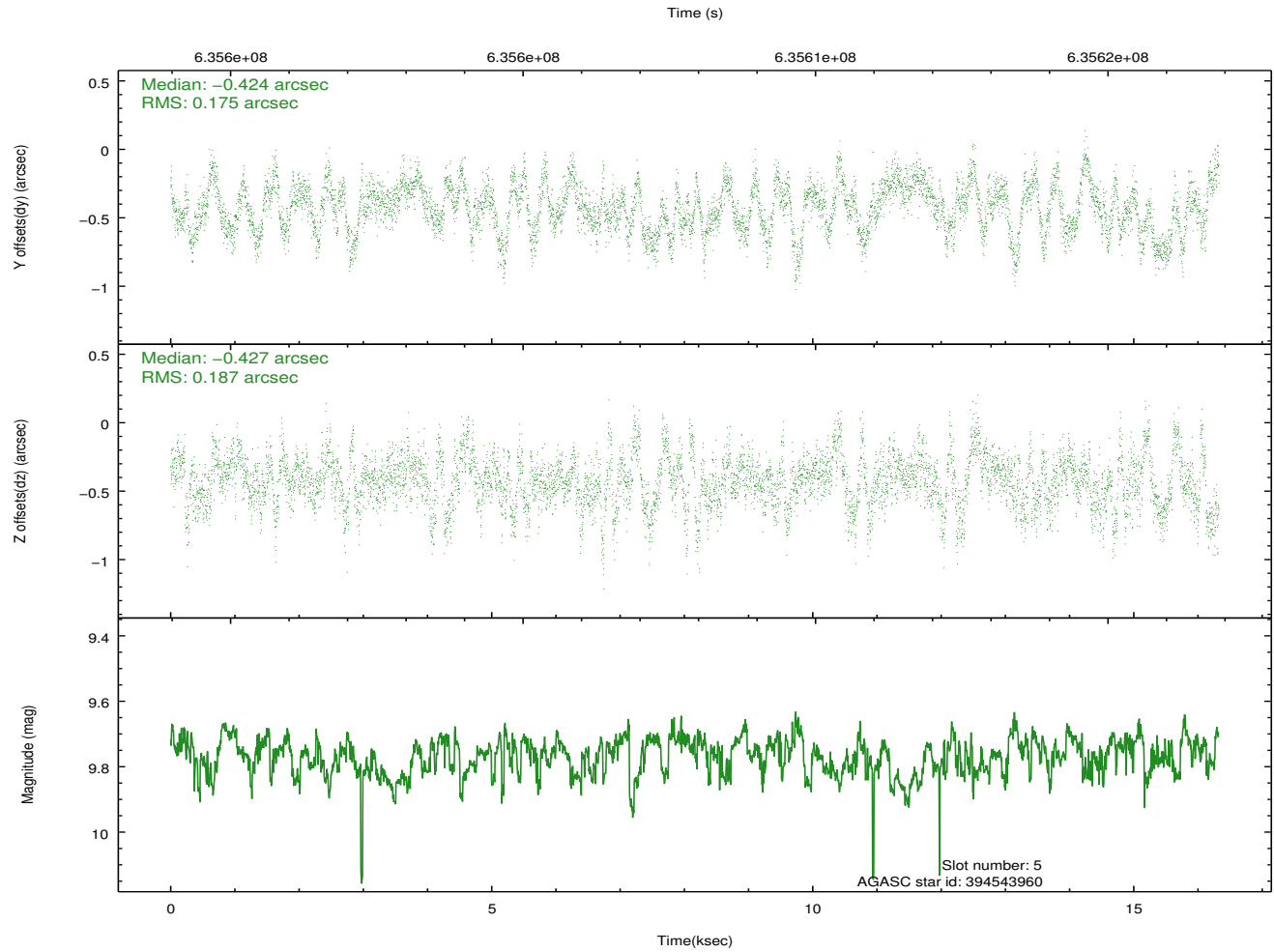
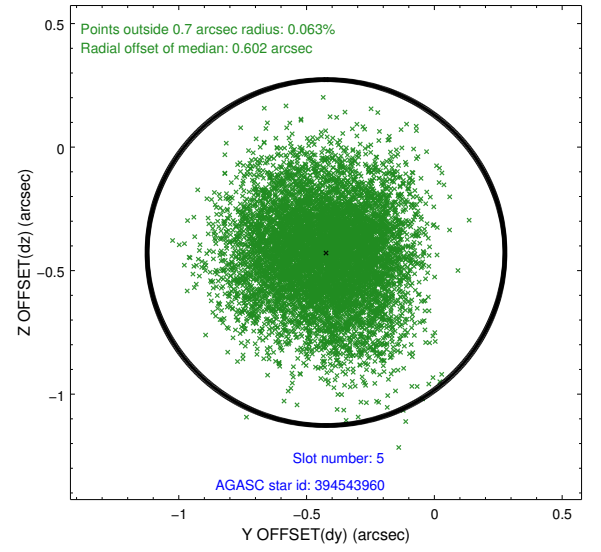
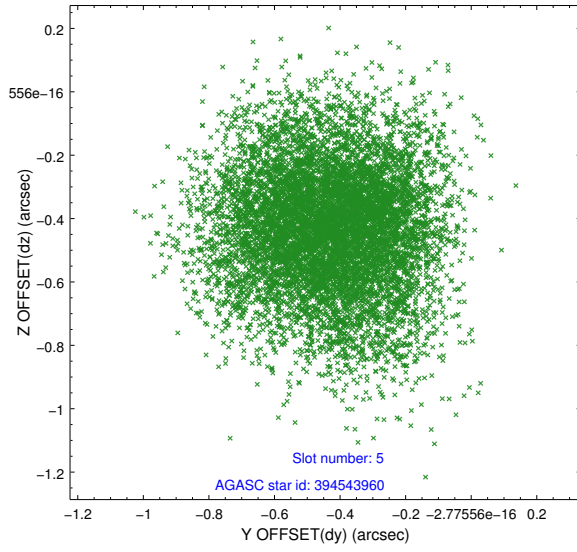
2.4.1 Slot 3



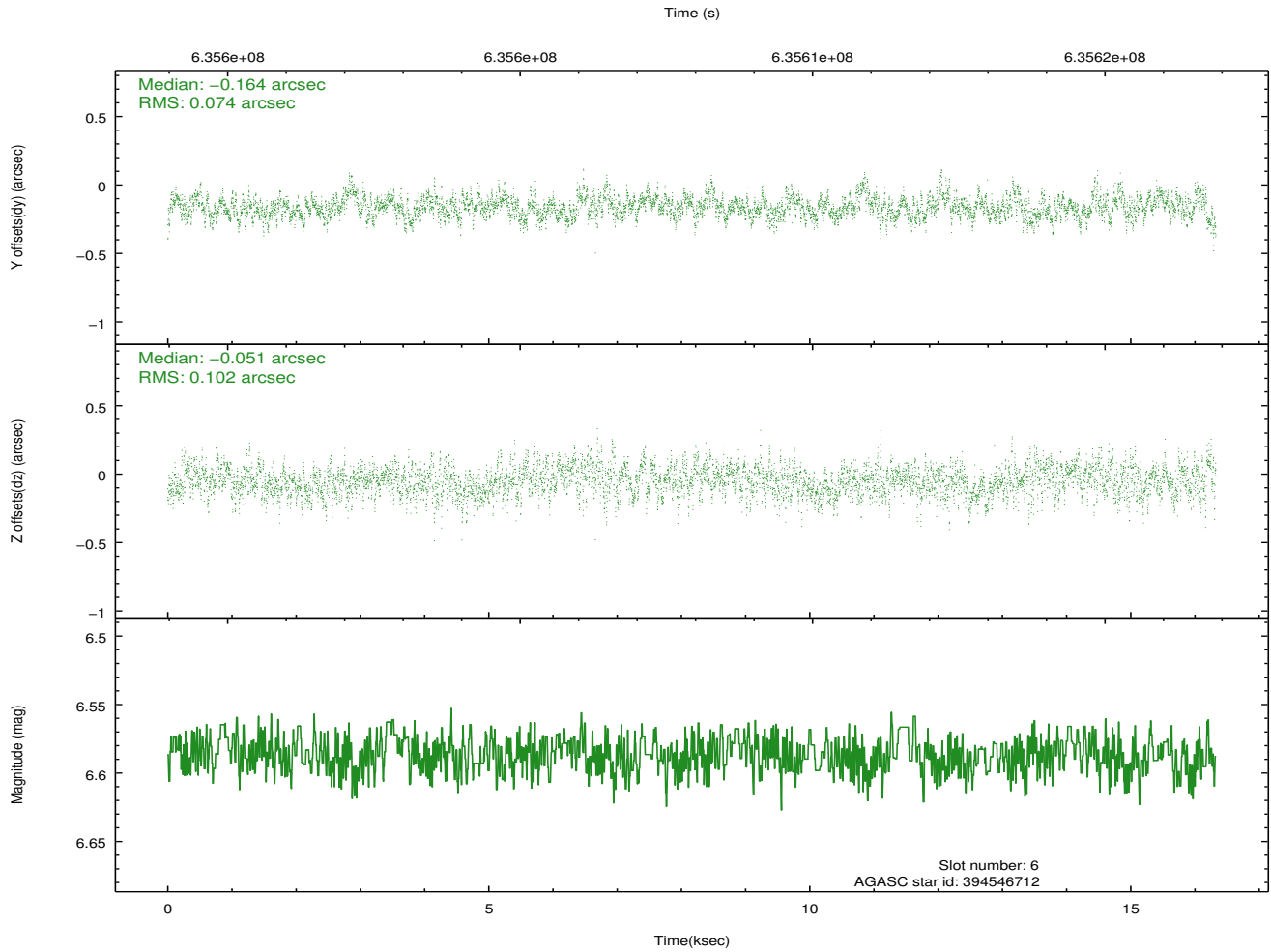
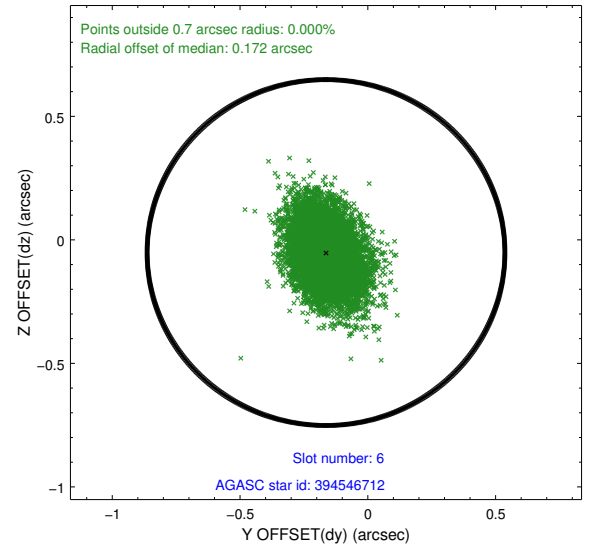
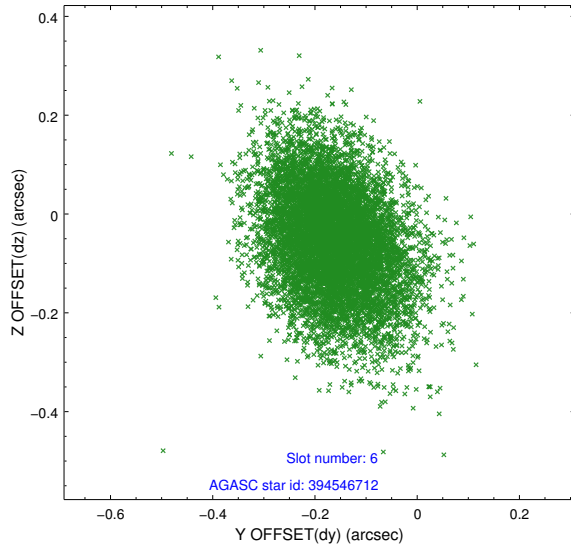
2.4.2 Slot 4



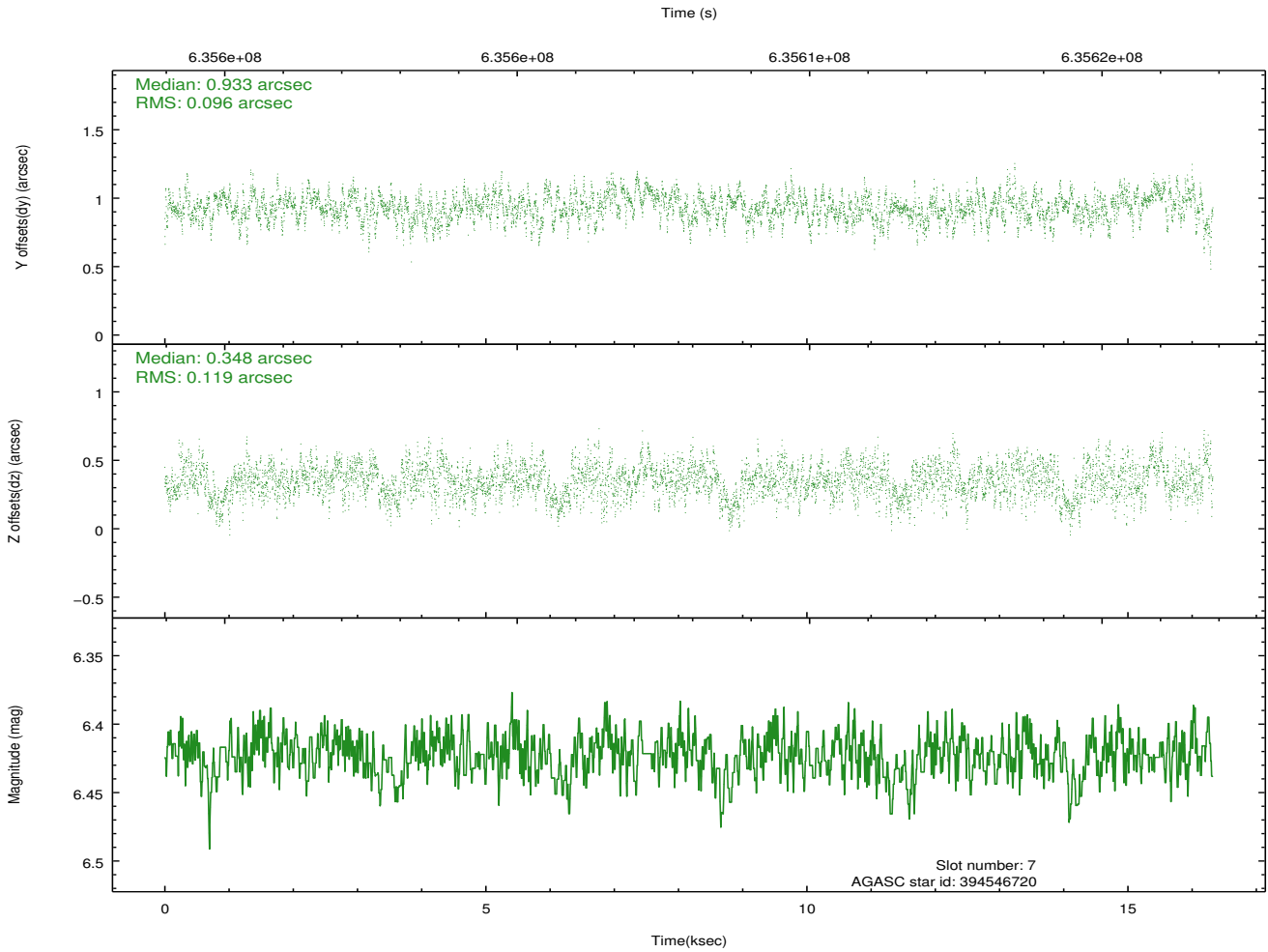
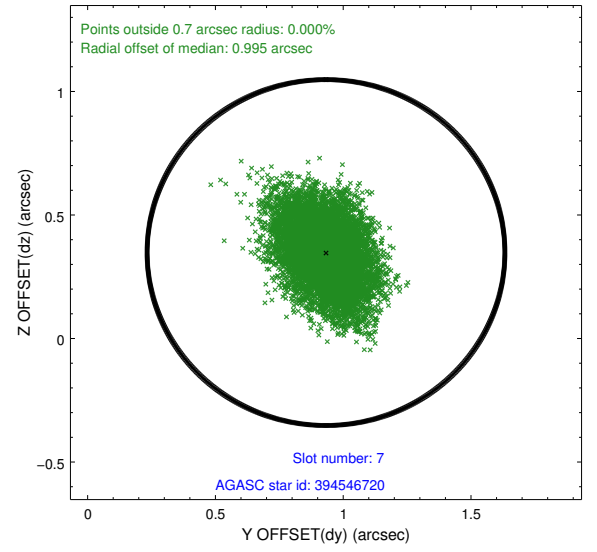
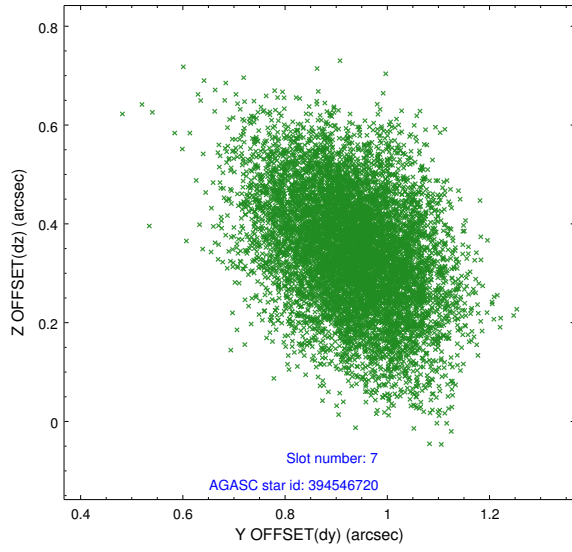
2.4.3 Slot 5



2.4.4 Slot 6

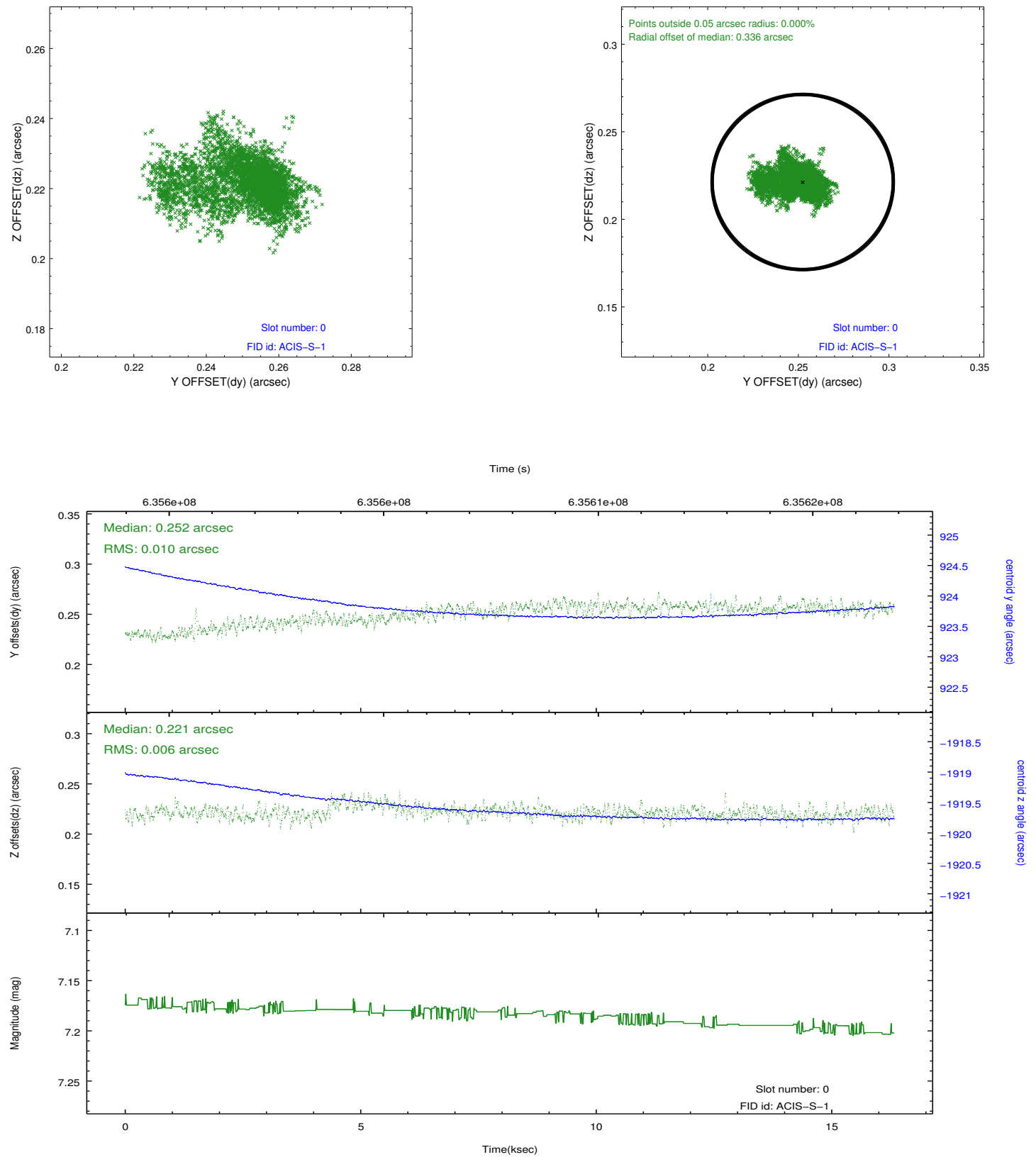


2.4.5 Slot 7

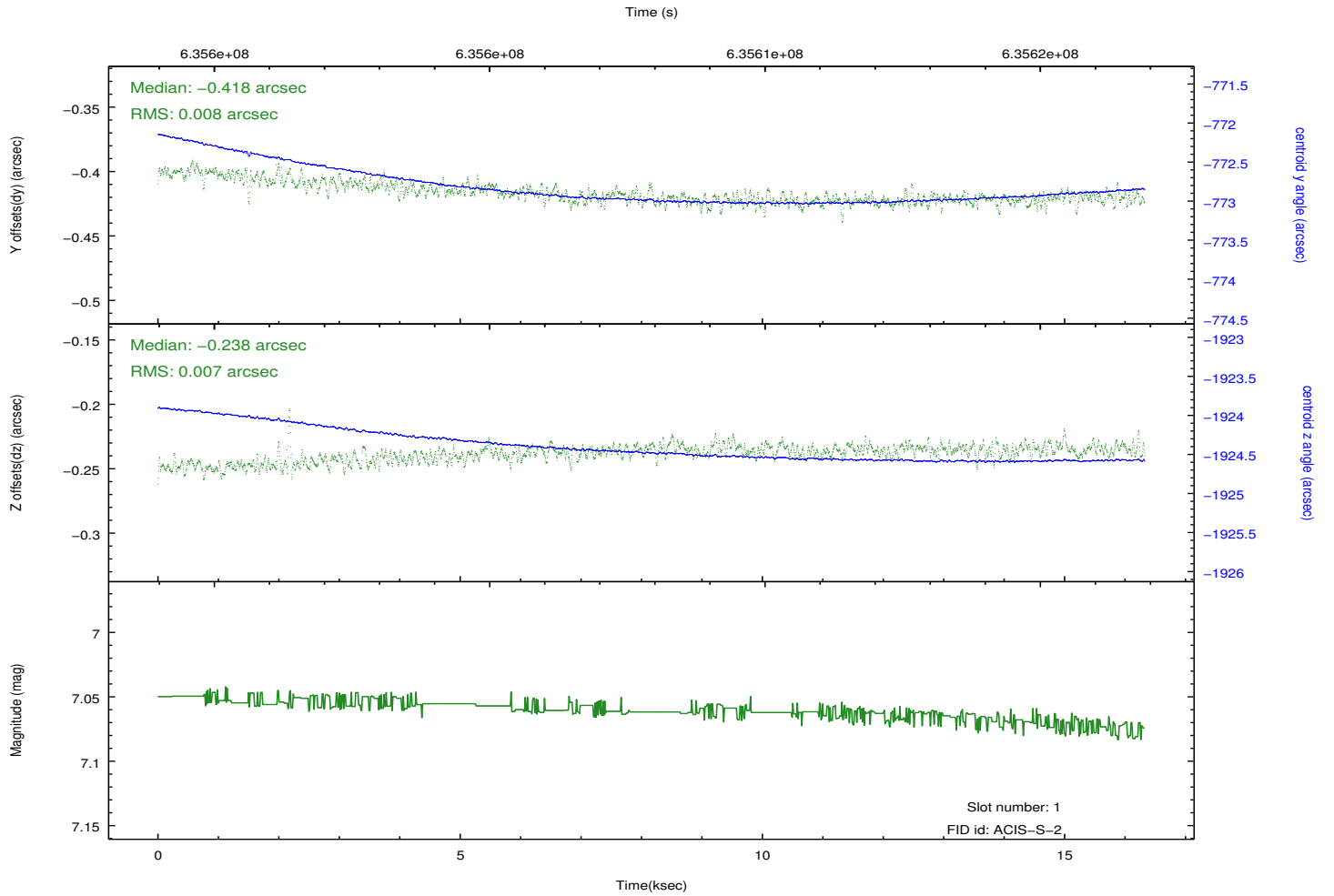
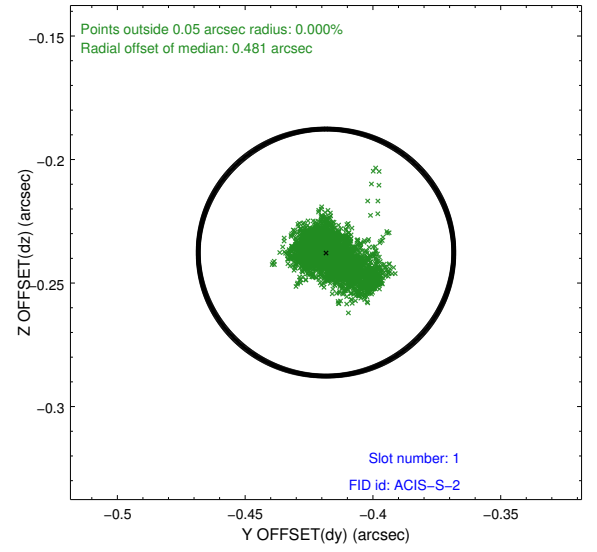
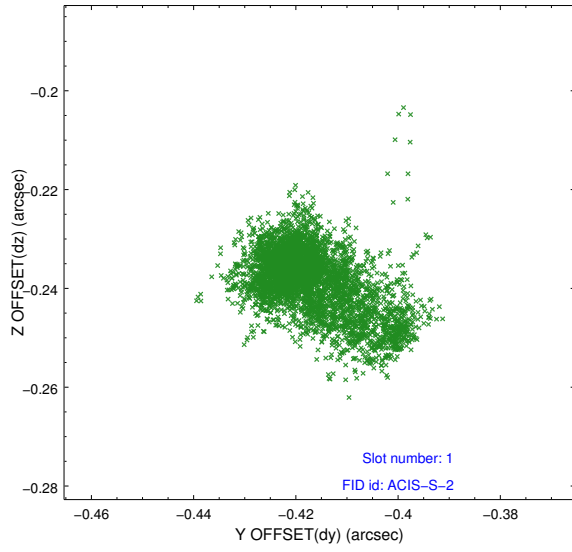


2.5 FID Slots

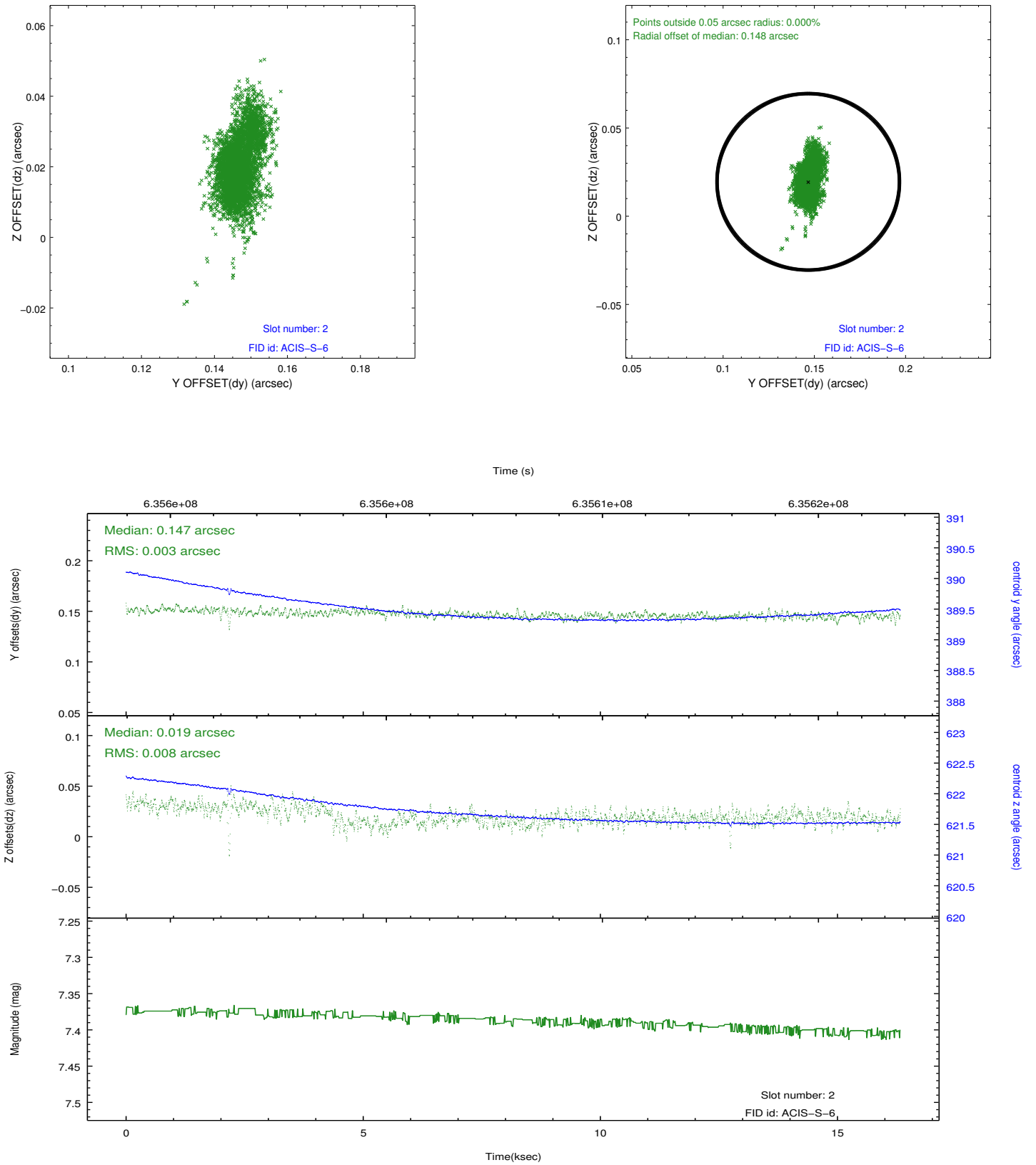
2.5.1 Slot 0



2.5.2 Slot 1

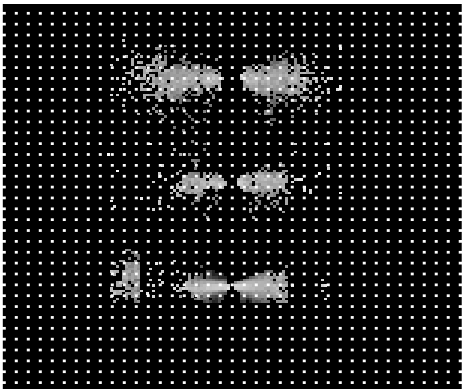


2.5.3 Slot 2

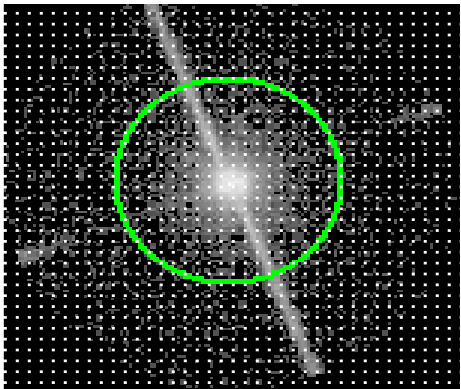


3 Gratings

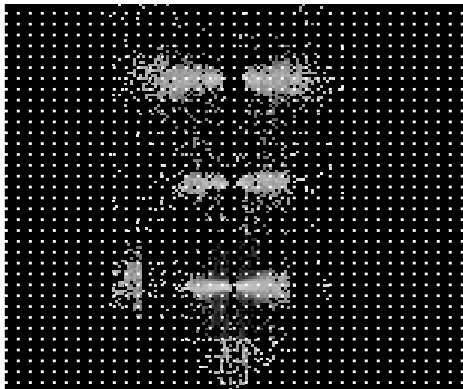
3.1 LETG Arm



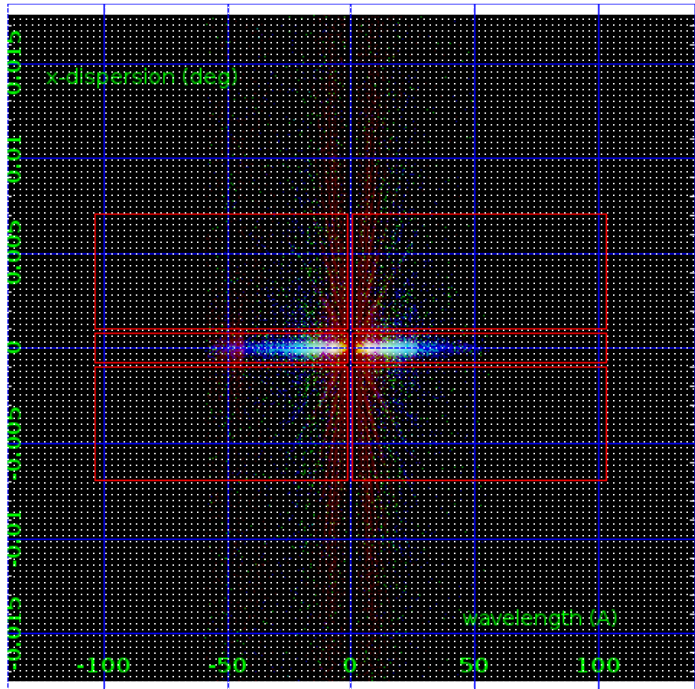
LETG Order Sort 123



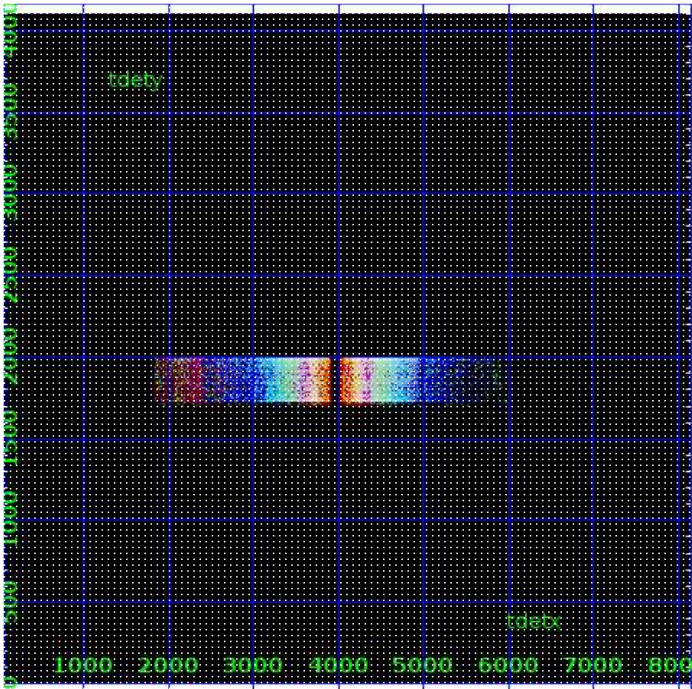
LETG Zero Order



LETG Order Sort ALL

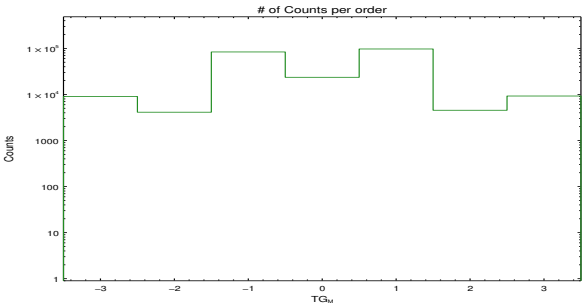


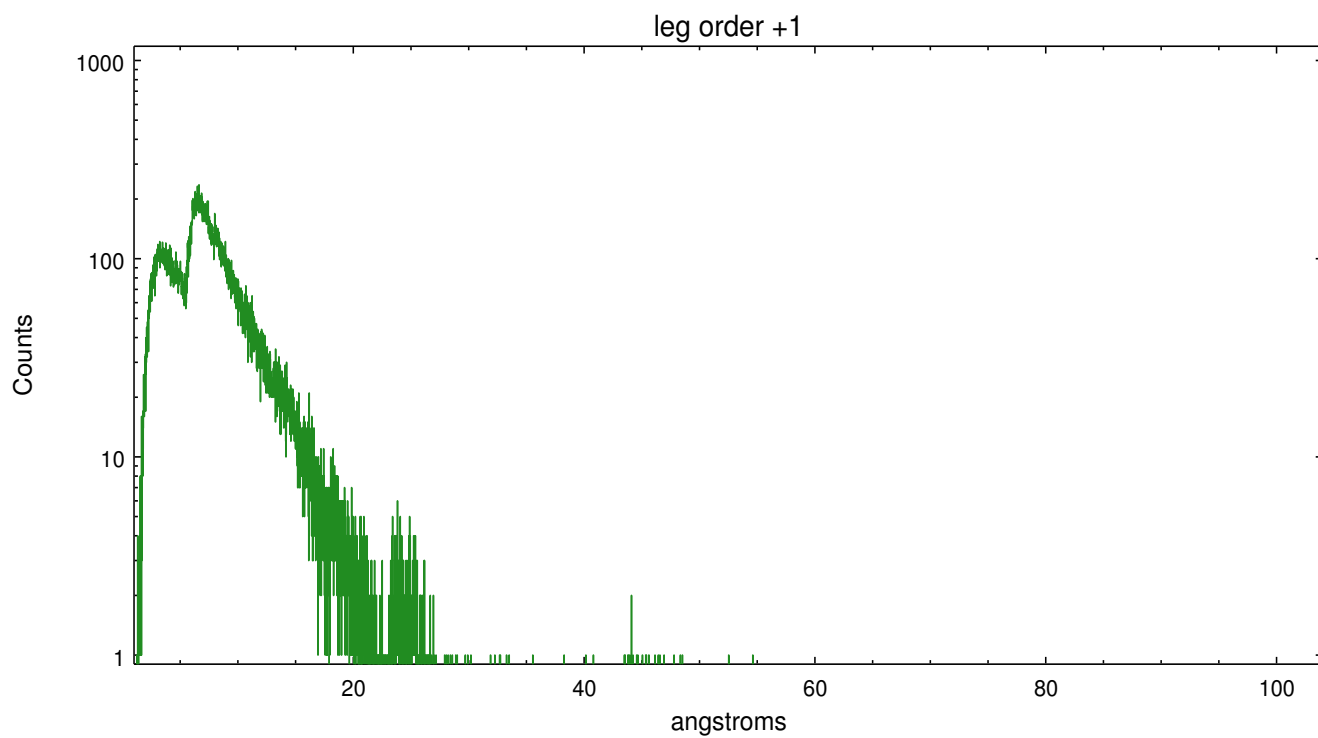
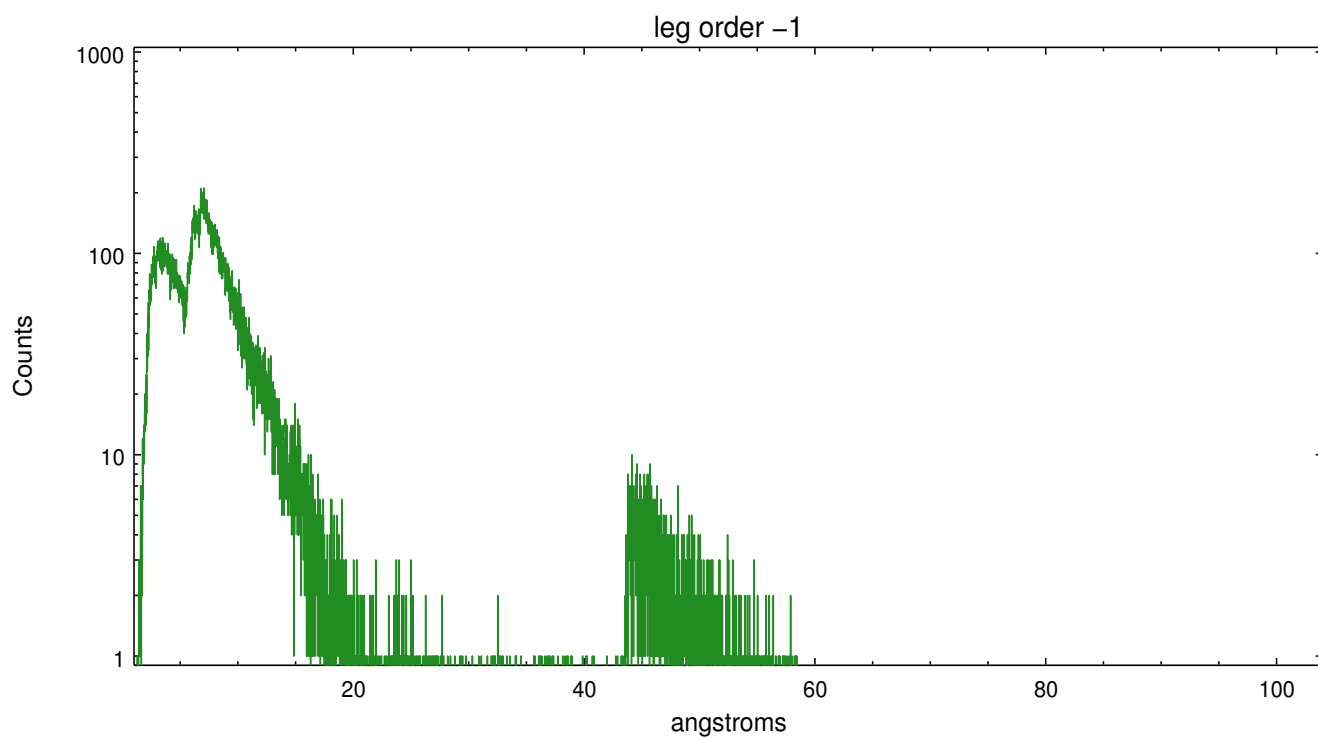
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	9029	4115	83758	23565	97152	4535	9249





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2018.02.22
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	16.231894013762

A.2 Comments

Note: this is a calibration observation with a large dither amplitude perpendicular to the dispersion; it will have a changing response with time due to the spatial non-uniformity of the filter contamination.