

V&V Reference Report

L2 ASCDS Version : 10.6.4

Observation 20715 - L2 Version 1
Chandra X-Ray Center

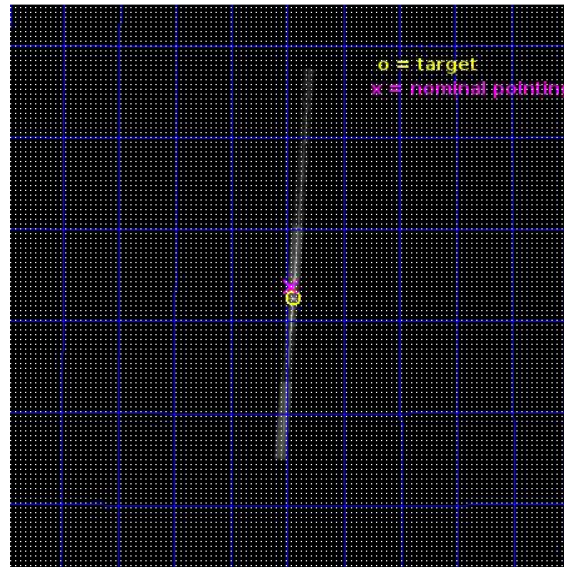
L2 Processing Date : Jul 14 2018

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1 Front

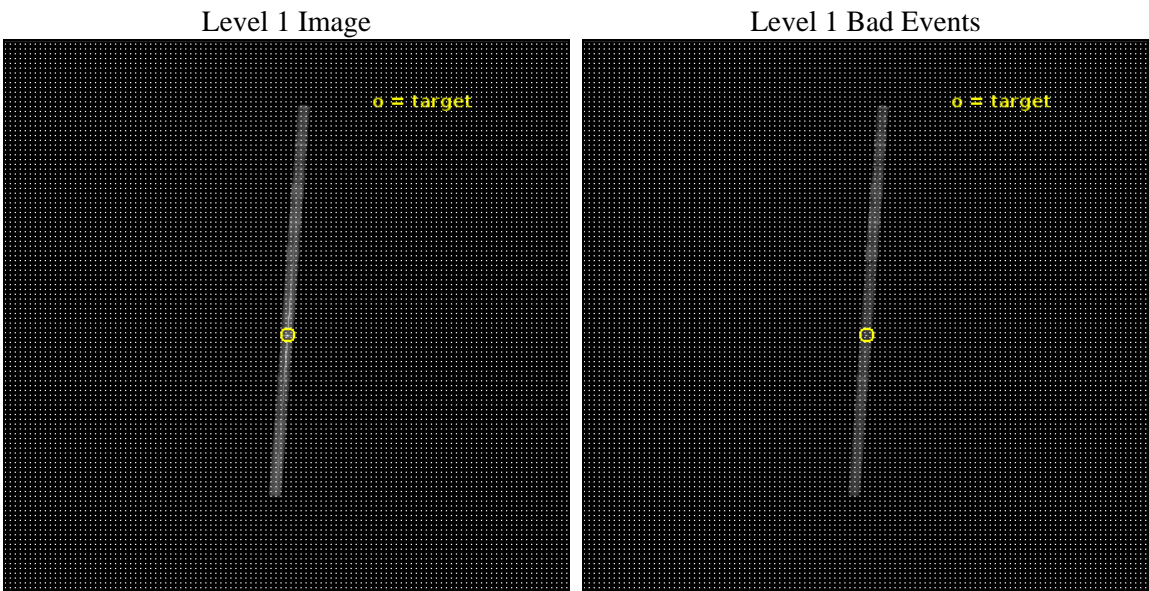
seq_num	790314	Sequence number
obs_id	20715	Observation id
title	AO-19 Calibration Observations of Mkn421	Proposal title
observer	CXC Calibration	Principal investigator
object	MKN421	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	166.113333	Observer's specified target RA [deg]
dec_targ	38.208806	Observer's specified target Dec [deg]
ra_nom	166.11628665153	Nominal RA [deg]
dec_nom	38.229950583762	Nominal Dec [deg]
roll_nom	274.0512097181	Nominal Roll [deg]
revision	1	Processing version of data
ontime	9900.8006744385	Sum of GTIs [s]
livetime	9352.4782361369	Livetime [s]
ontime5	9900.8006744385	Sum of GTIs [s]
ontime6	9900.8006744385	Sum of GTIs [s]
ontime7	9900.8006744385	Sum of GTIs [s]
ontime8	9900.8006744385	Sum of GTIs [s]
ontime9	9900.8006744385	Sum of GTIs [s]
l2events	82189	Number of level 2 events



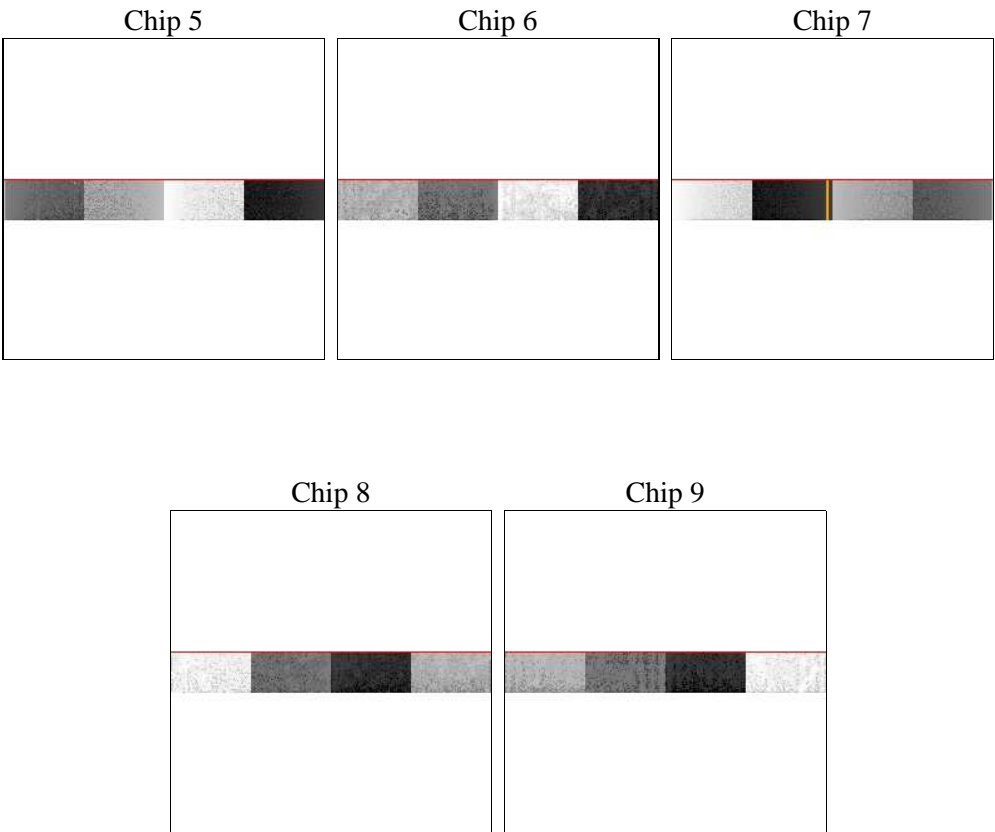
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



Chip 8



Chip 9



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	9900.8006744385	Sum of GTIs [s]
caldsver	4.7.8	 	ontime5	9900.8006744385	Sum of GTIs [s]
date	2018-07-14T06:25:42	Date and time of file creation	ontime6	9900.8006744385	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	9900.8006744385	Sum of GTIs [s]
			ontime8	9900.8006744385	Sum of GTIs [s]
			ontime9	9900.8006744385	Sum of GTIs [s]
			l1events	140804	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4110.26, 3940.91)	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	19075	31195	59741	19701	11092
rejected events	8181	10038	12356	13685	9216
rejected %	42%	32%	20%	69%	83%

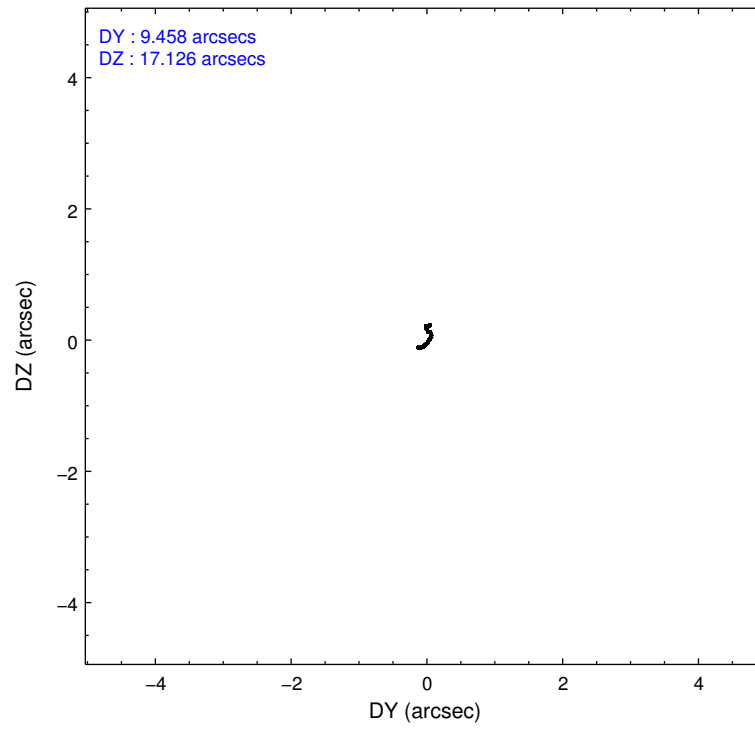
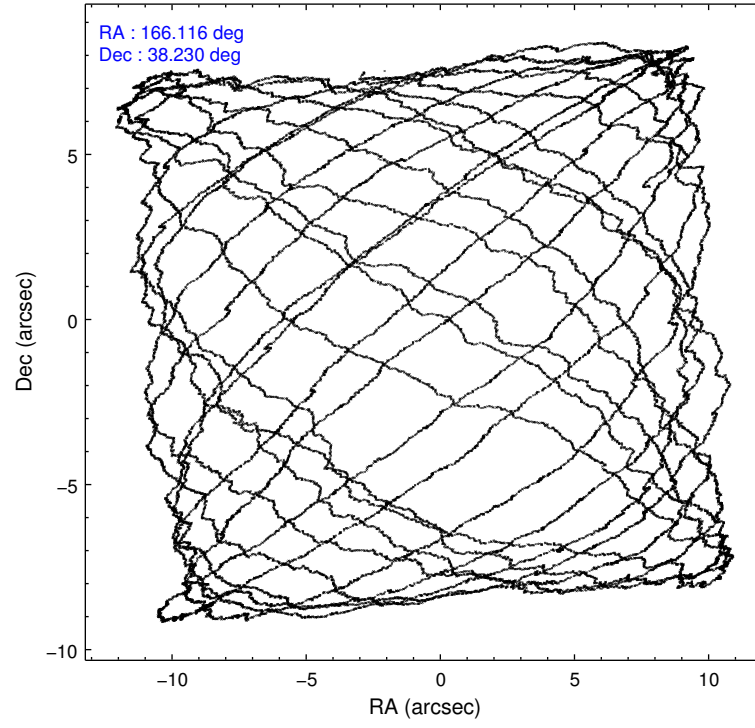
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	2371	16604	12661	2398	820
	12%	53%	21%	12%	7%
grade 1 events	48	44	510	12	9
	0%	0%	0%	0%	0%
grade 2 events	2996	2229	11697	1056	331
	15%	7%	19%	5%	2%
grade 3 events	736	830	5138	544	253
	3%	2%	8%	2%	2%
grade 4 events	678	819	4998	461	225
	3%	2%	8%	2%	2%
grade 5 events	1521	499	3146	701	508
	7%	1%	5%	3%	4%
grade 6 events	4114	678	12898	1557	247
	21%	2%	21%	7%	2%
grade 7 events	6611	9492	8693	12972	8699
	34%	30%	14%	65%	78%

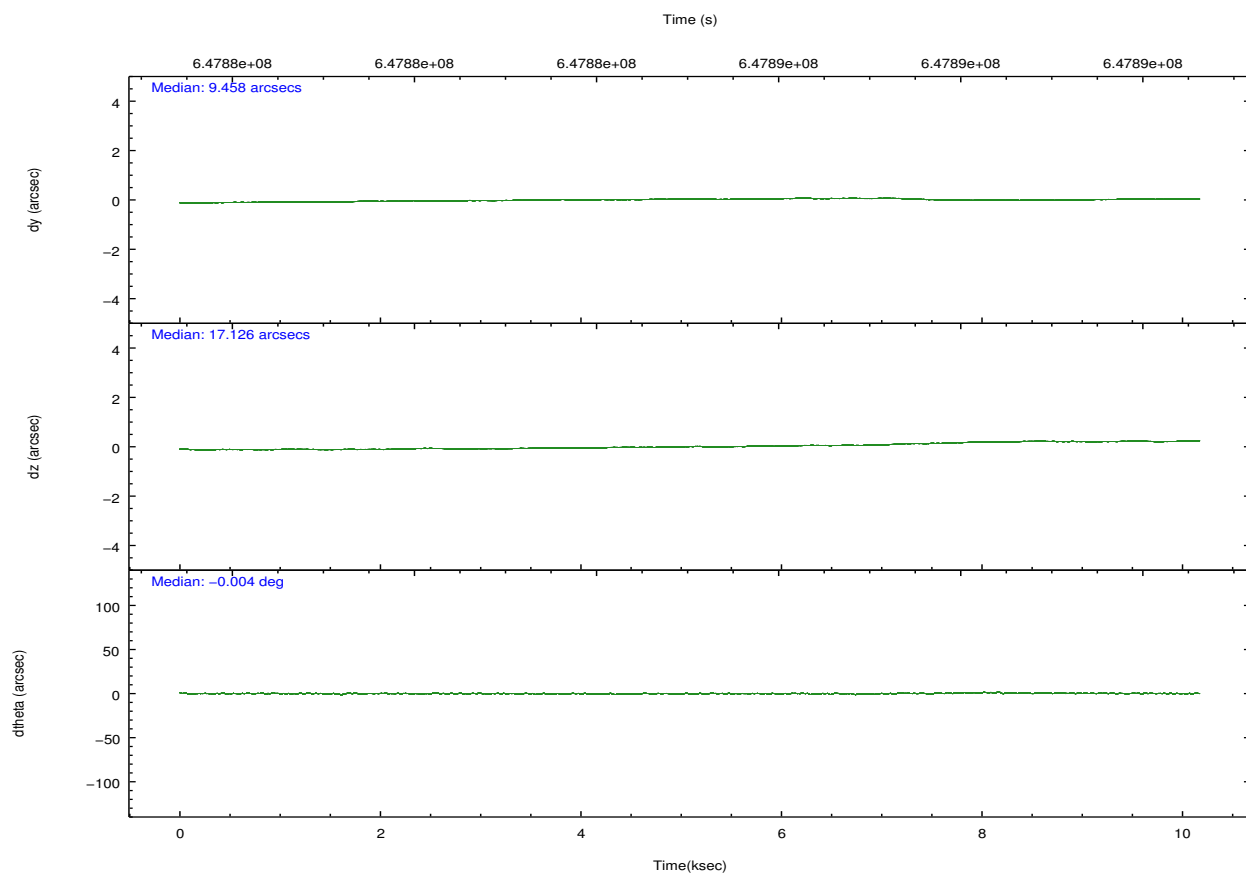
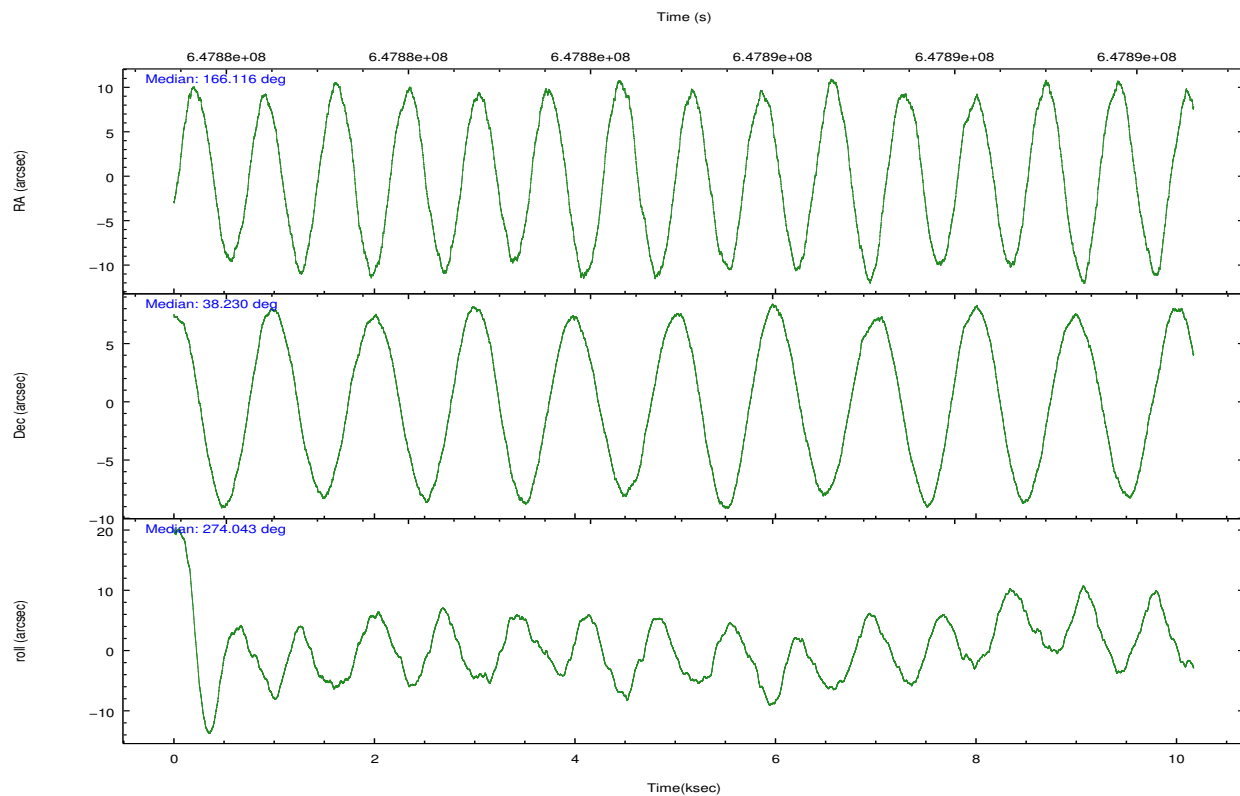
2.2 Compared Parameters

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	166.096294	166.1162866515329
[deg] Pointing Dec	38.252446	38.22995058376213
[deg] Pointing Roll	273.906959	274.0512097181014
[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)	647880090.184000	647879583.12682
Observation start date	2018-07-13T14:40:21	2018-07-13T14:33:03
[s] Observation end time (MET)	647890090.184000	647890316.9274499
Observation end date	2018-07-13T17:27:01	2018-07-13T17:31:56
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



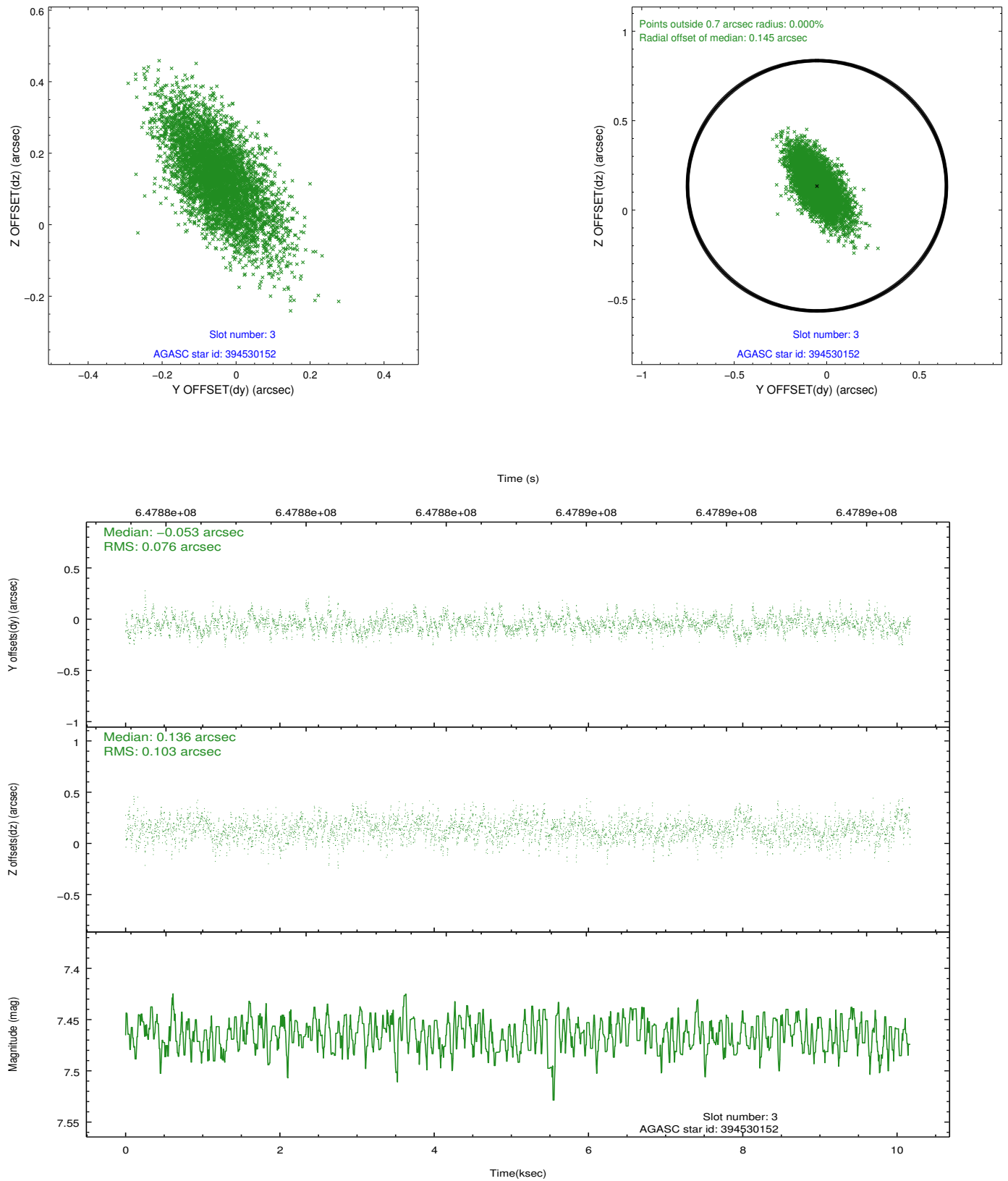


Slot Statistics

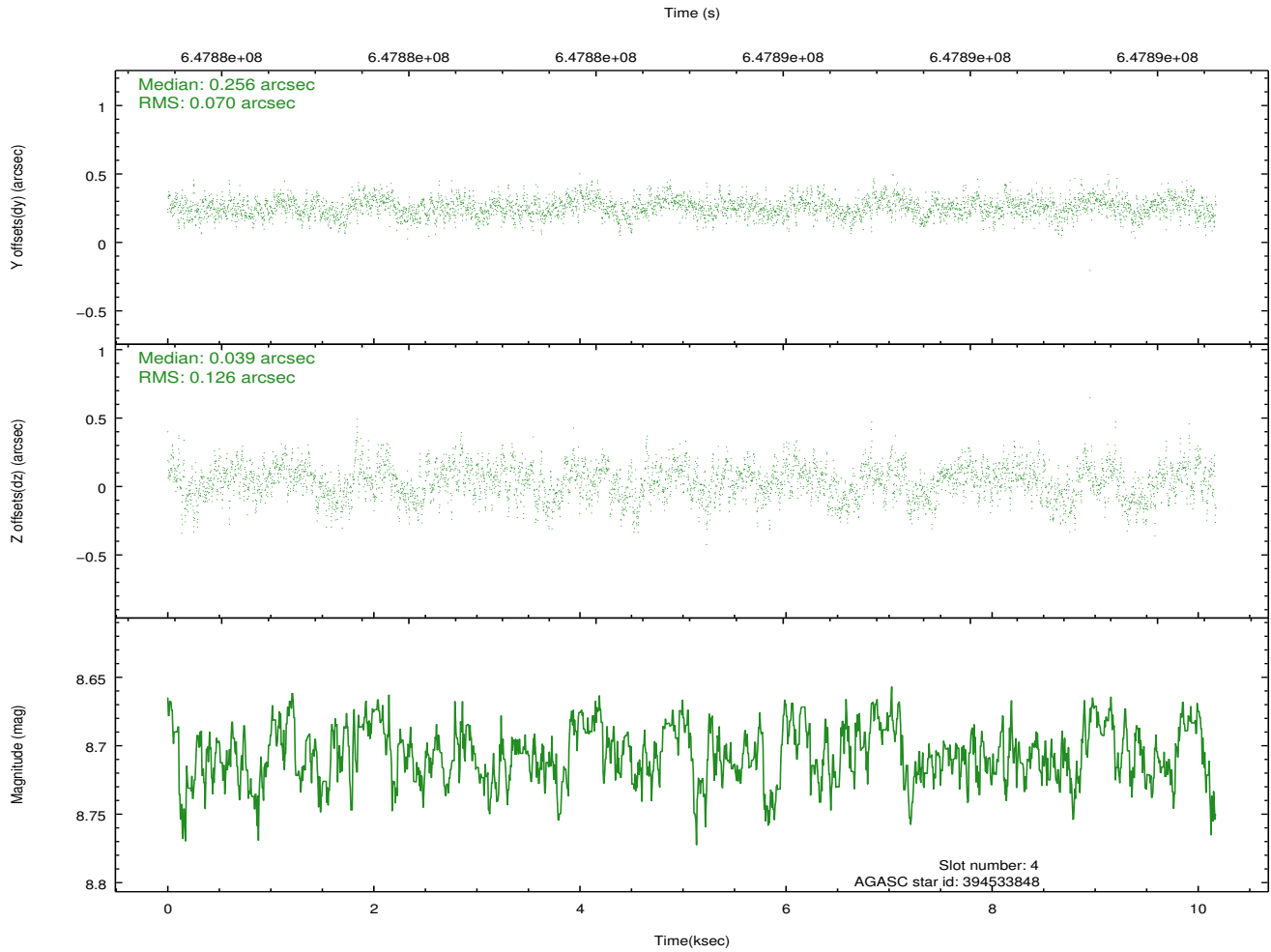
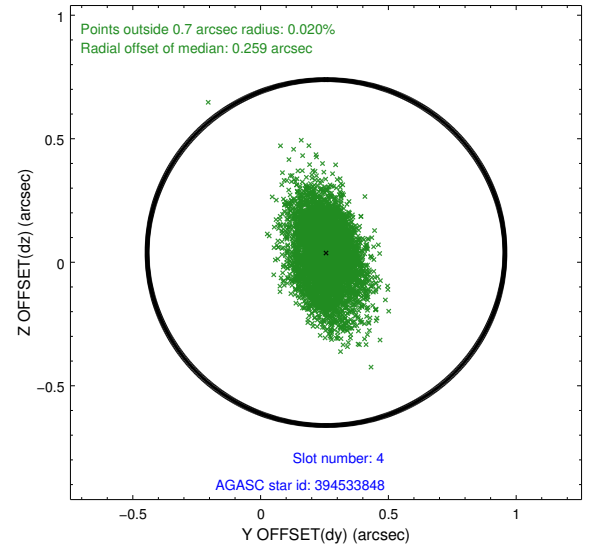
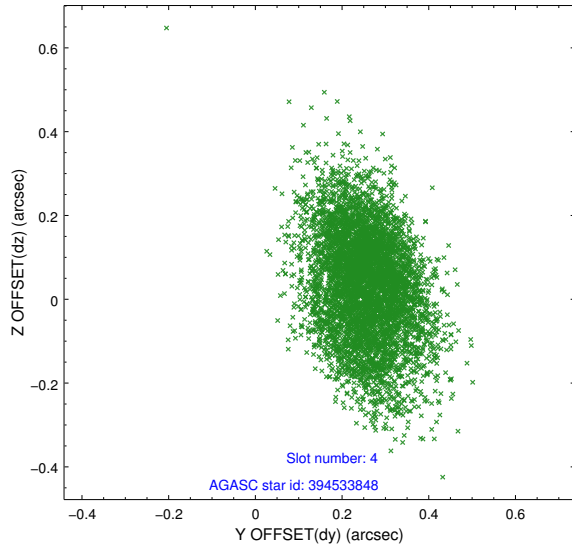
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	6.90	2481	1.000	-0.131	-0.061	0.008	0.013	0.000000	0.000000	-762.41	-1738
1	FID		ACIS-S-4	7.01	2481	1.000	0.358	0.080	0.008	0.015	0.000000	0.000000	2151.13	169
2	FID		ACIS-S-5	7.00	2481	1.000	-0.258	-0.010	0.009	0.015	0.000000	0.000000	-1814.70	163
3	GUIDE	used	394530152	7.46	4963	1.000	-0.053	0.136	0.130	0.235	166.075805	38.868252	-2215.26	92
4	GUIDE	used	394533848	8.71	4962	1.000	0.256	0.039	0.150	0.257	166.382906	38.276007	-32.03	808
5	GUIDE	used	394543960	9.75	4948	1.000	0.076	0.174	0.208	0.367	165.802757	37.787371	1612.89	-946
6	GUIDE	used	394546712	6.58	4963	1.000	-0.135	-0.032	0.148	0.259	166.451462	38.394357	-442.56	1033
7	GUIDE	used	394546720	6.40	4962	1.000	-0.154	-0.300	0.148	0.258	166.130115	38.241361	46.49	91

2.4 Star Slots

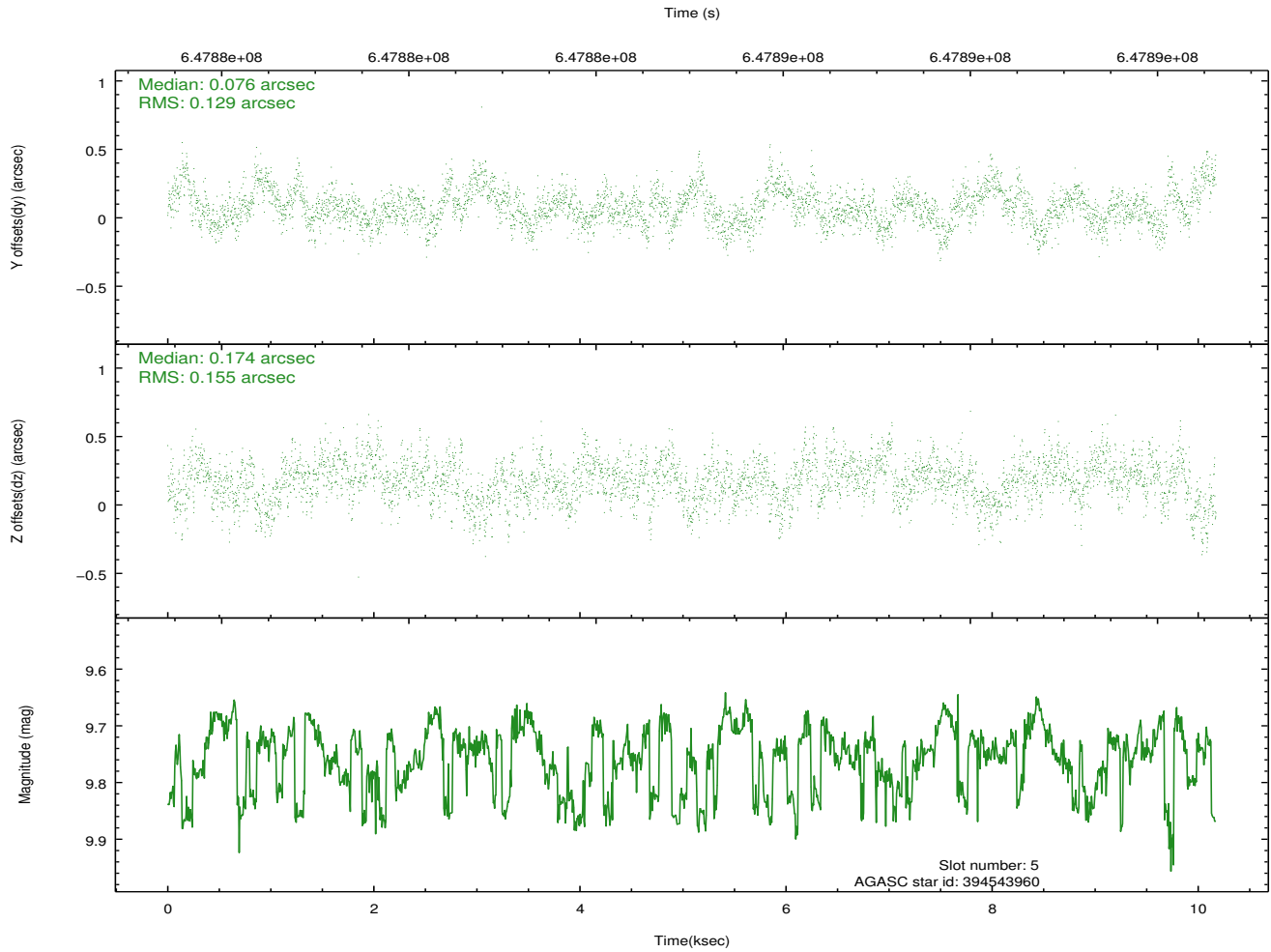
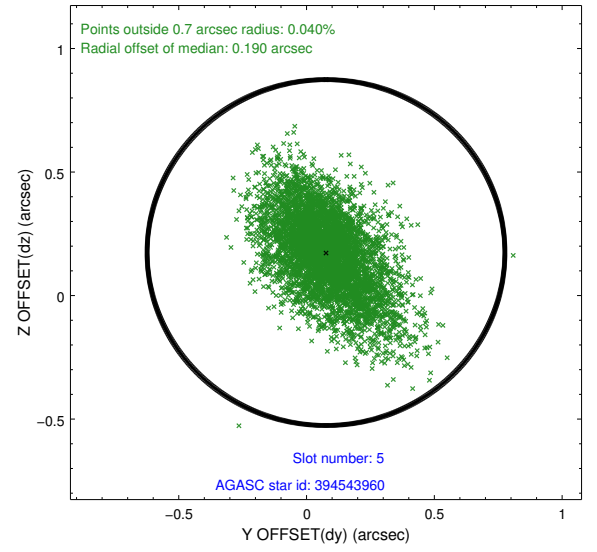
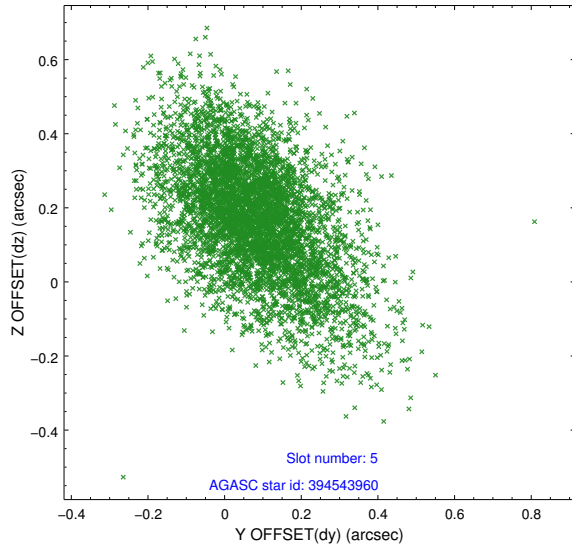
2.4.1 Slot 3



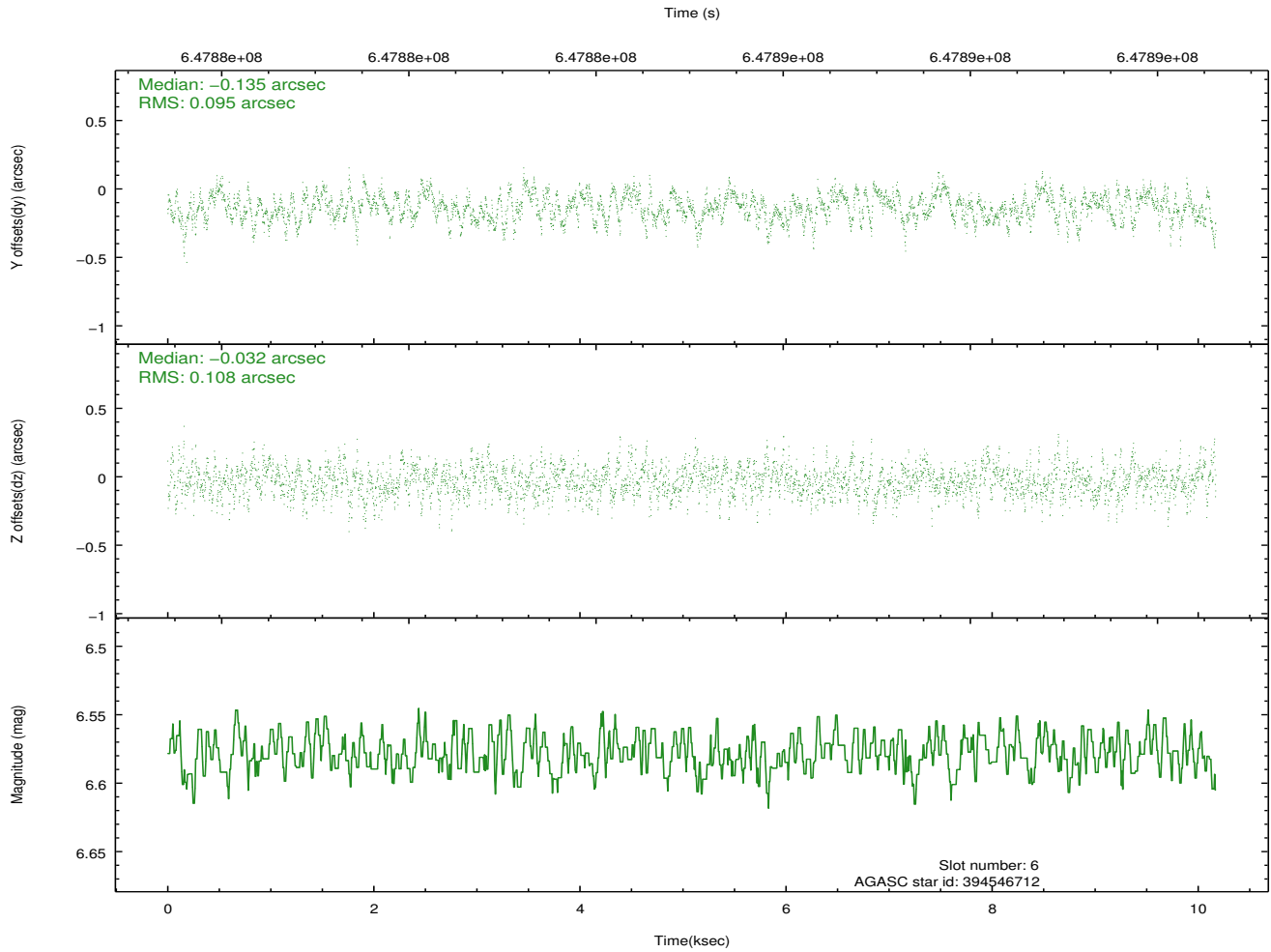
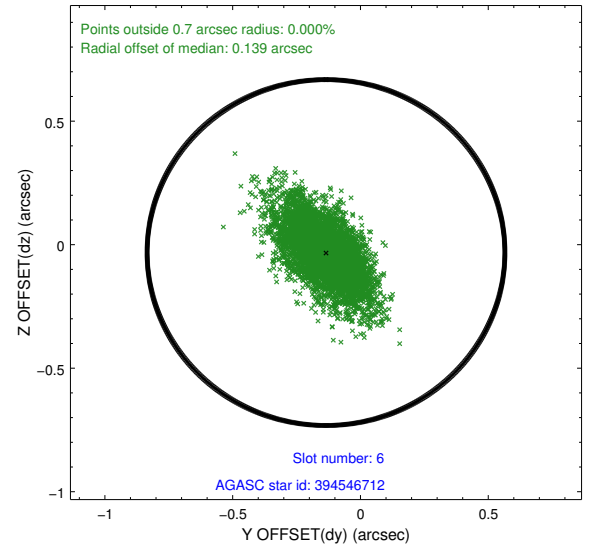
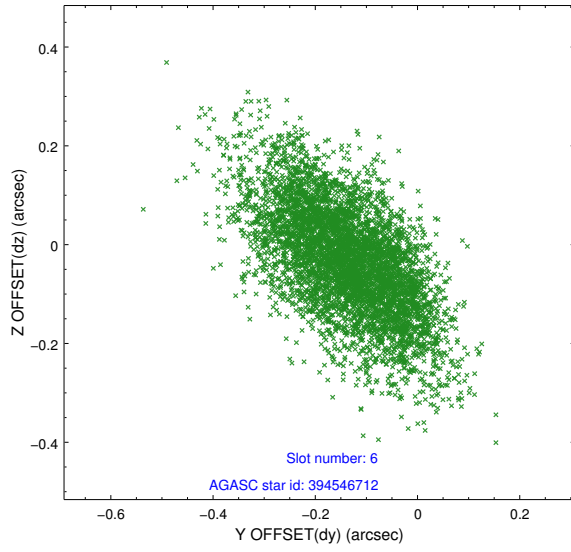
2.4.2 Slot 4



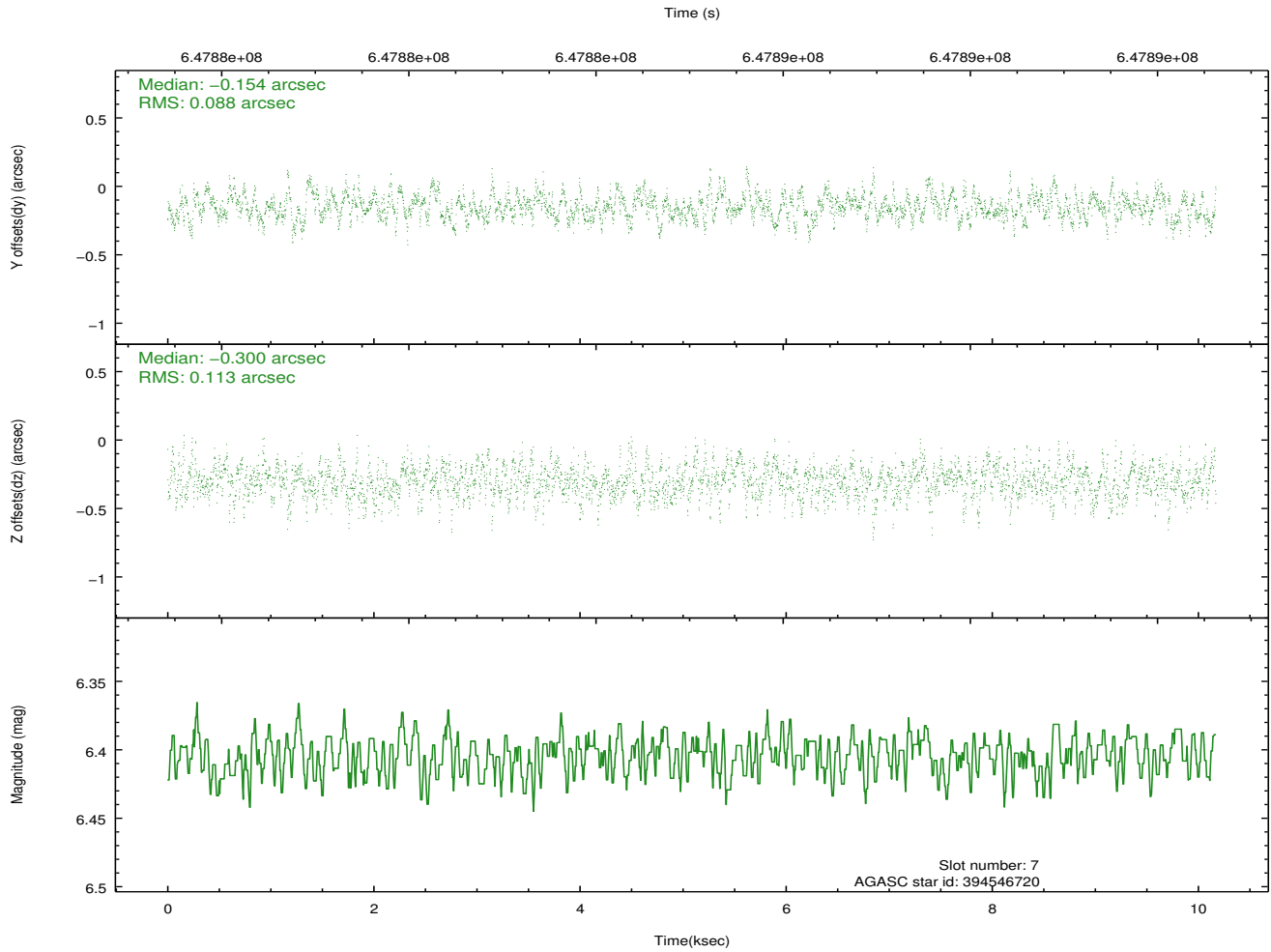
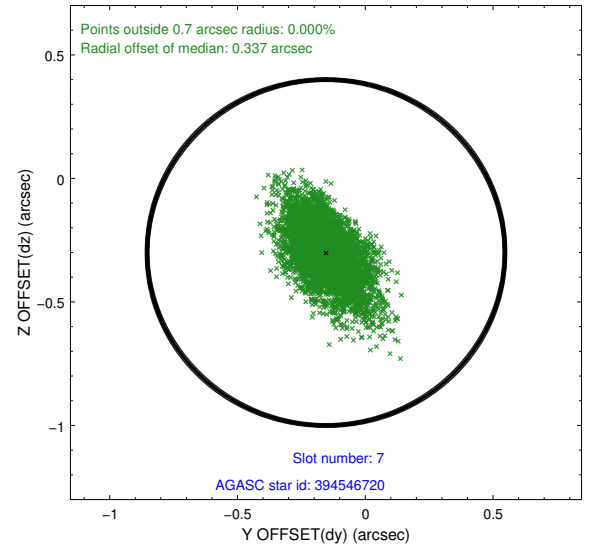
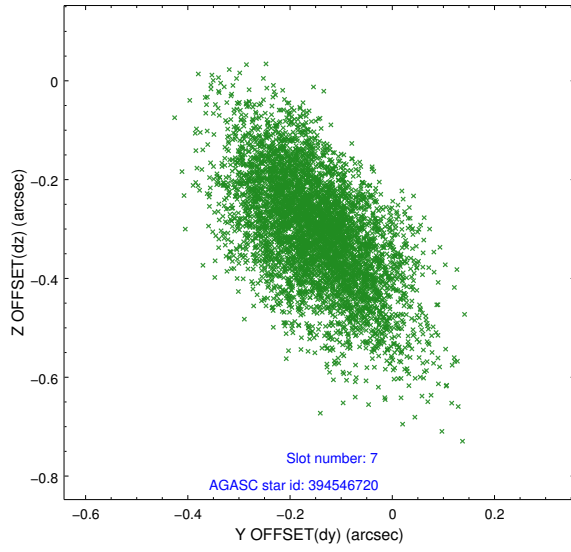
2.4.3 Slot 5



2.4.4 Slot 6

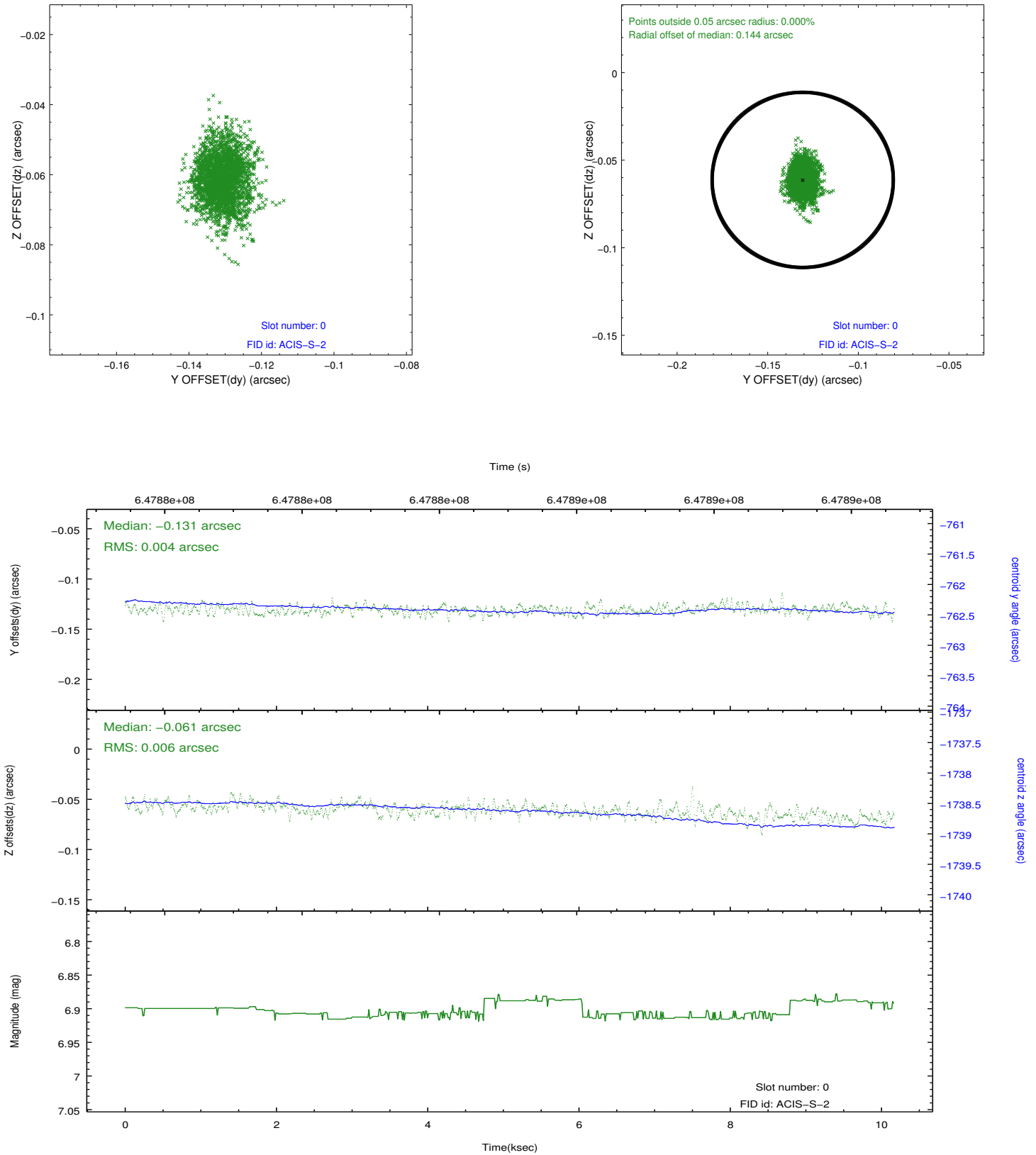


2.4.5 Slot 7

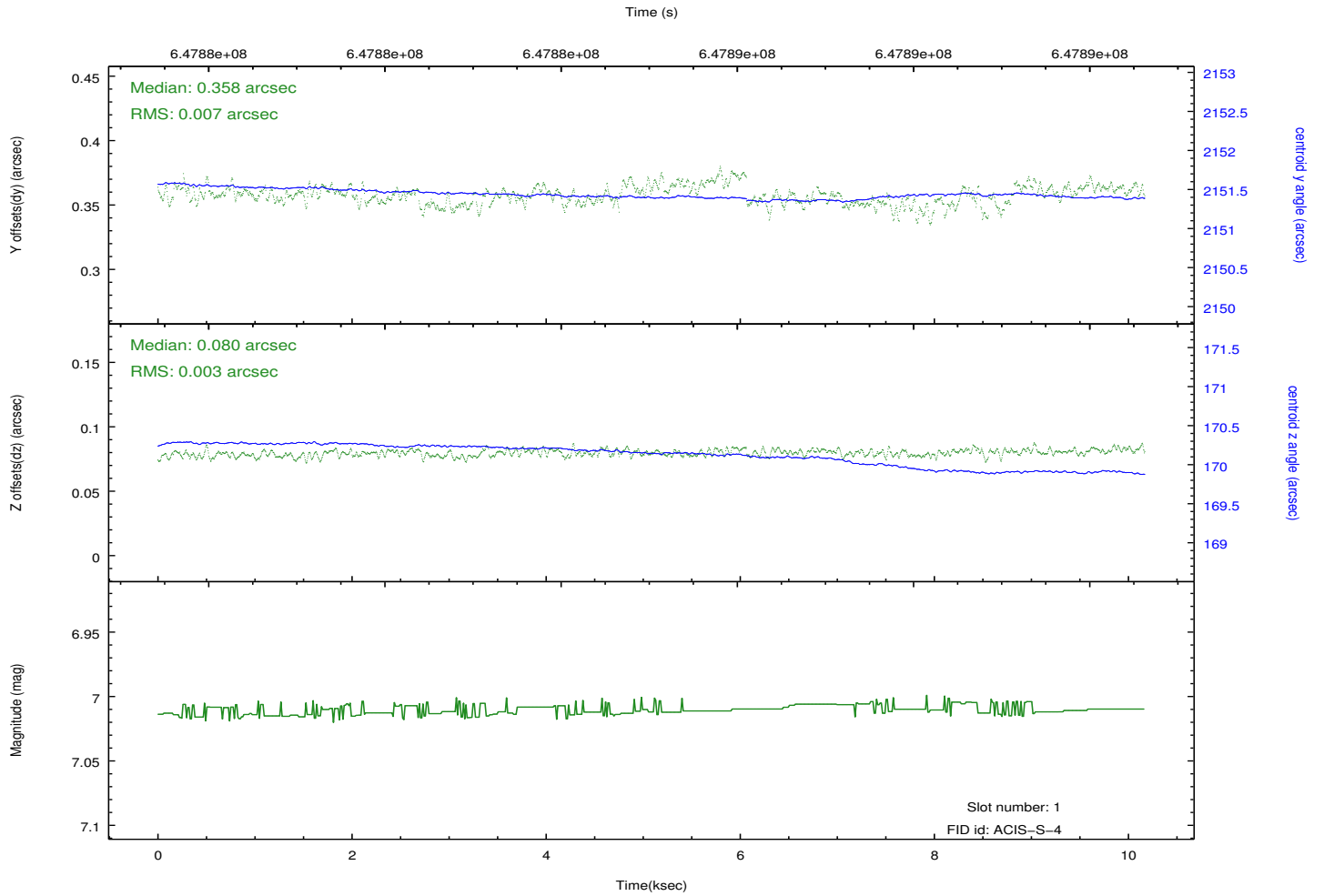
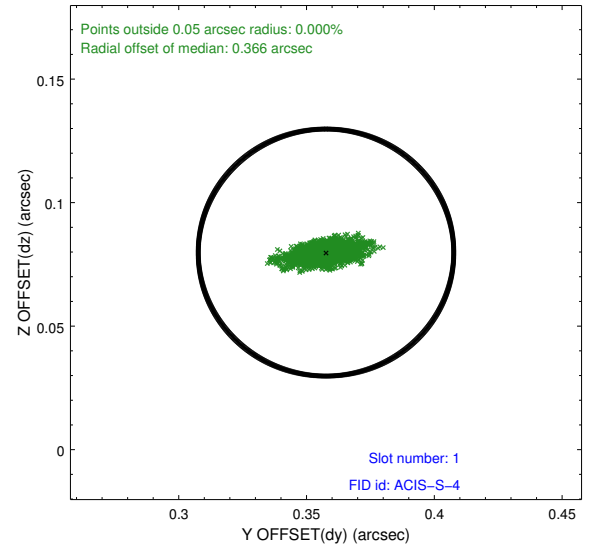
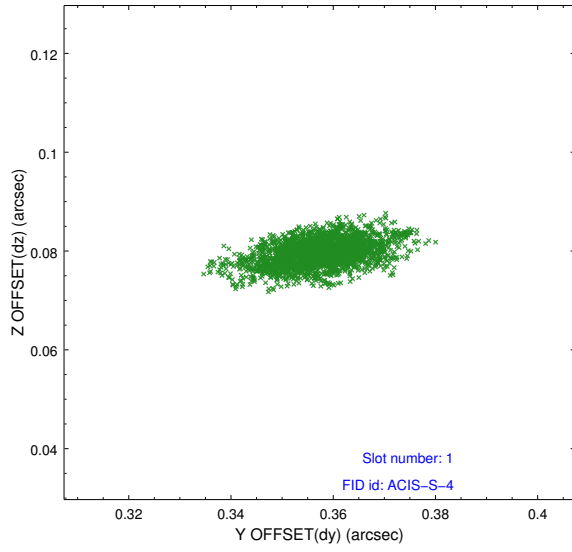


2.5 FID Slots

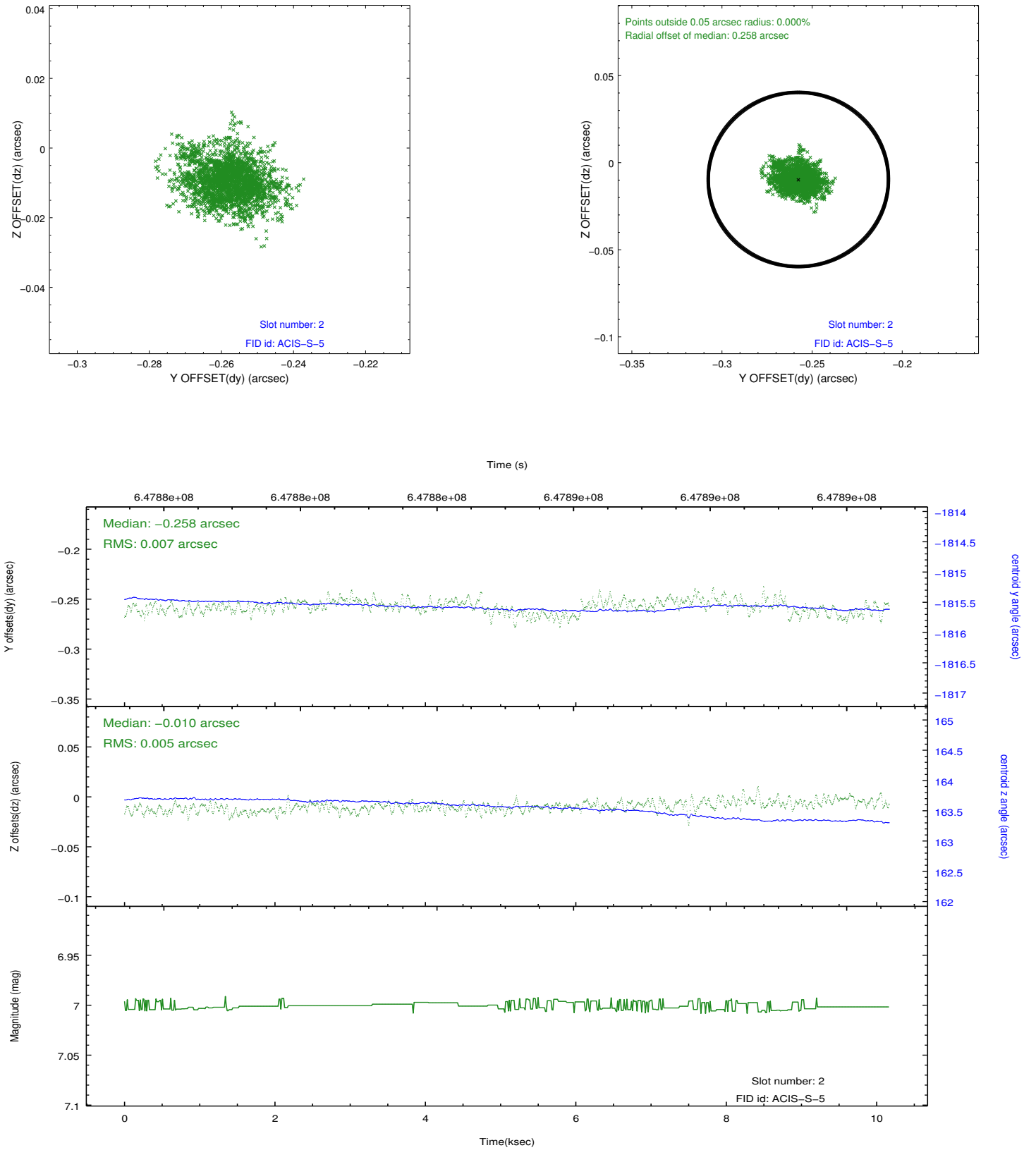
2.5.1 Slot 0



2.5.2 Slot 1

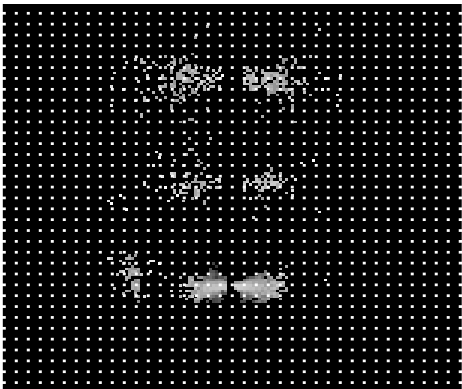


2.5.3 Slot 2

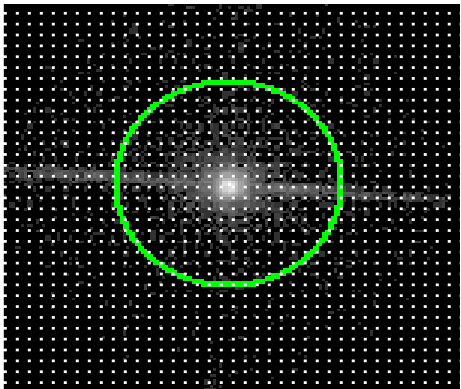


3 Gratings

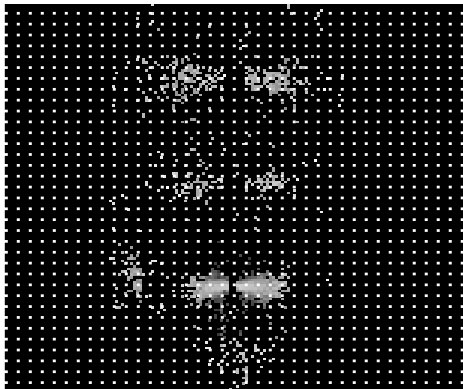
3.1 LETG Arm



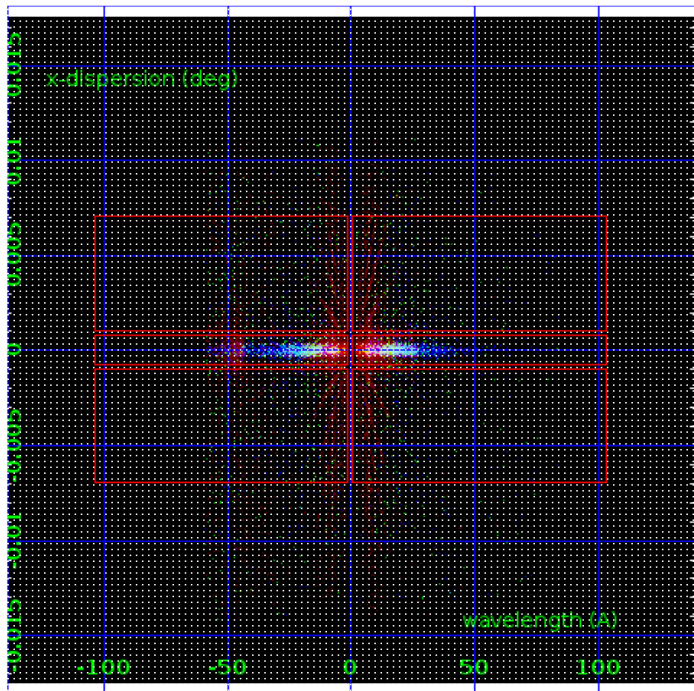
LETG Order Sort 123



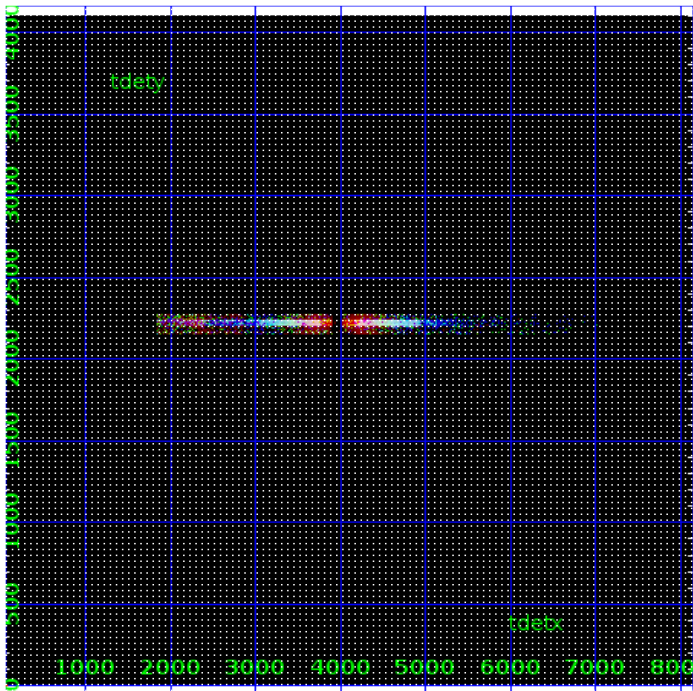
LETG Zero Order



LETG Order Sort ALL

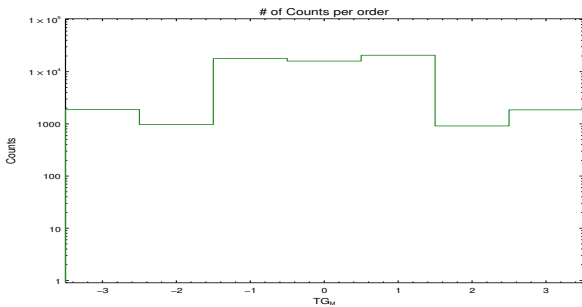


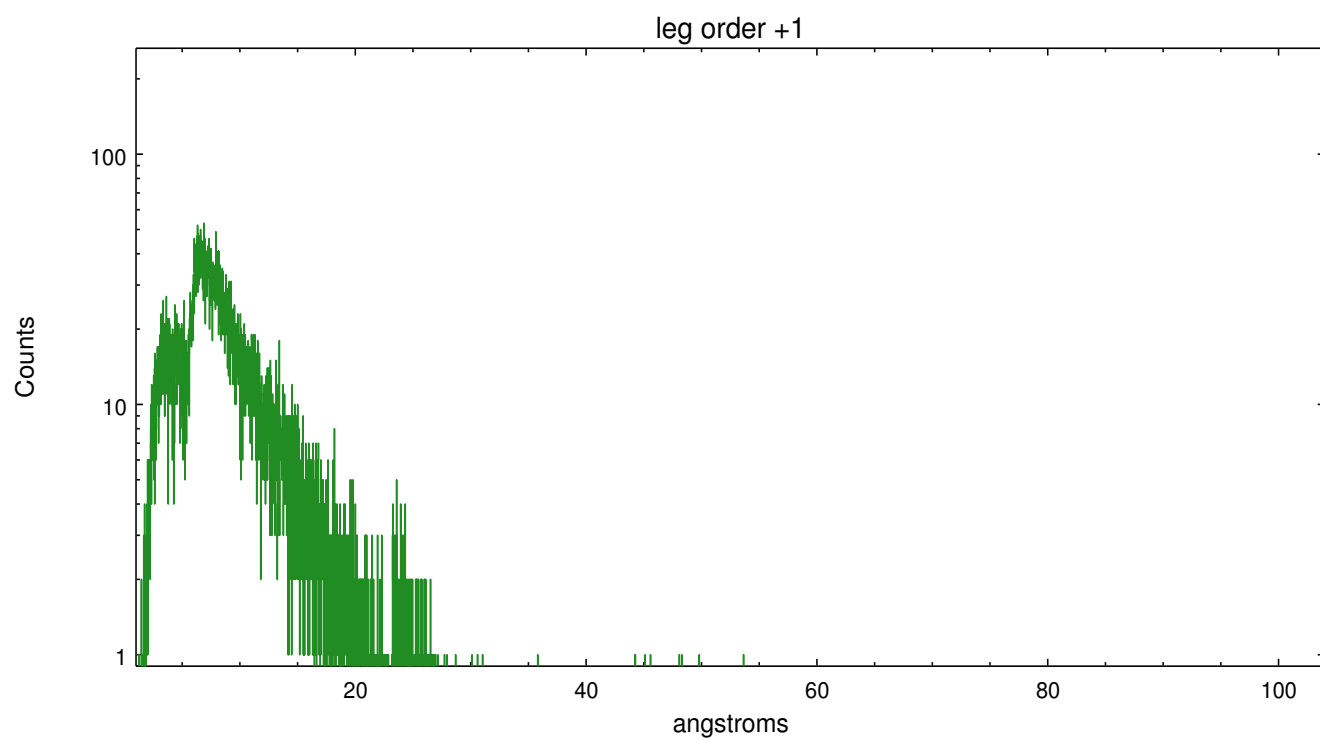
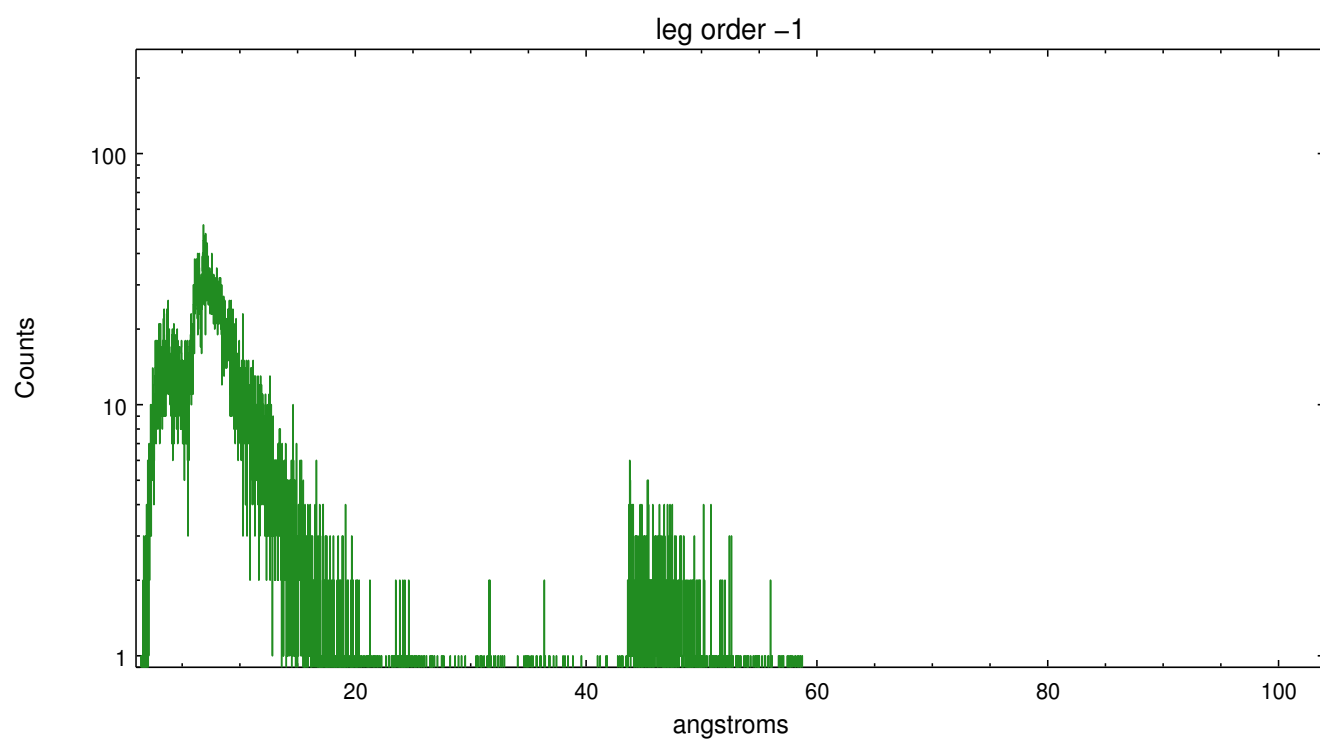
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1886	971	17837	15981	20659	912	1858





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	9.9008006744385

A.2 Comments