

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 19858 - L2 Version 1
Chandra X-Ray Center

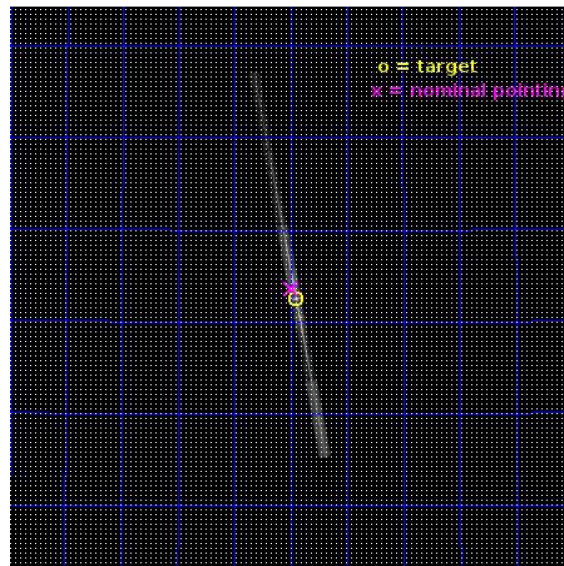
L2 Processing Date : Jun 23 2017

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1 Front

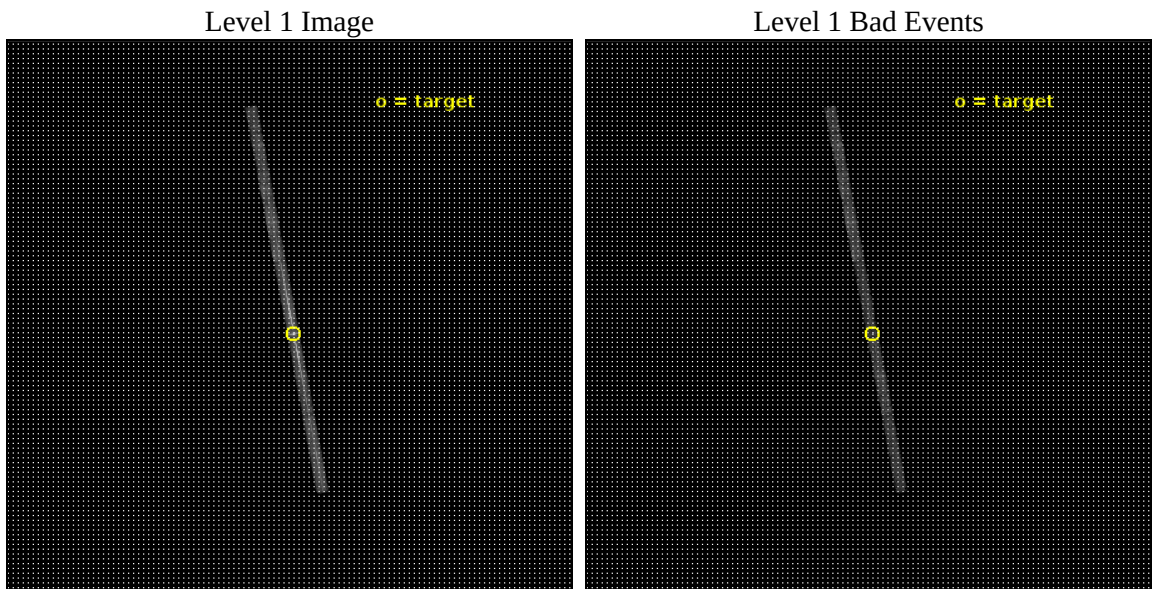
seq_num	790298	Sequence number
obs_id	19858	Observation id
title	AO-18 Calibration Observations of Mkn421	Proposal title
observer	CXC Calibration	Principal investigator
object	MKN421	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	166.113333	Observer's specified target RA [deg]
dec_targ	38.208806	Observer's specified target Dec [deg]
ra_nom	166.12343403141	Nominal RA [deg]
dec_nom	38.226647620268	Nominal Dec [deg]
roll_nom	259.85765541615	Nominal Roll [deg]
revision	1	Processing version of data
ontime	9786.0006666183	Sum of GTIs [s]
livetime	9244.0360393944	Livetime [s]
ontime5	9786.0006666183	Sum of GTIs [s]
ontime6	9786.0006666183	Sum of GTIs [s]
ontime7	9786.0006666183	Sum of GTIs [s]
ontime8	9785.9704267979	Sum of GTIs [s]
ontime9	9785.929386735	Sum of GTIs [s]
l2events	109540	Number of level 2 events



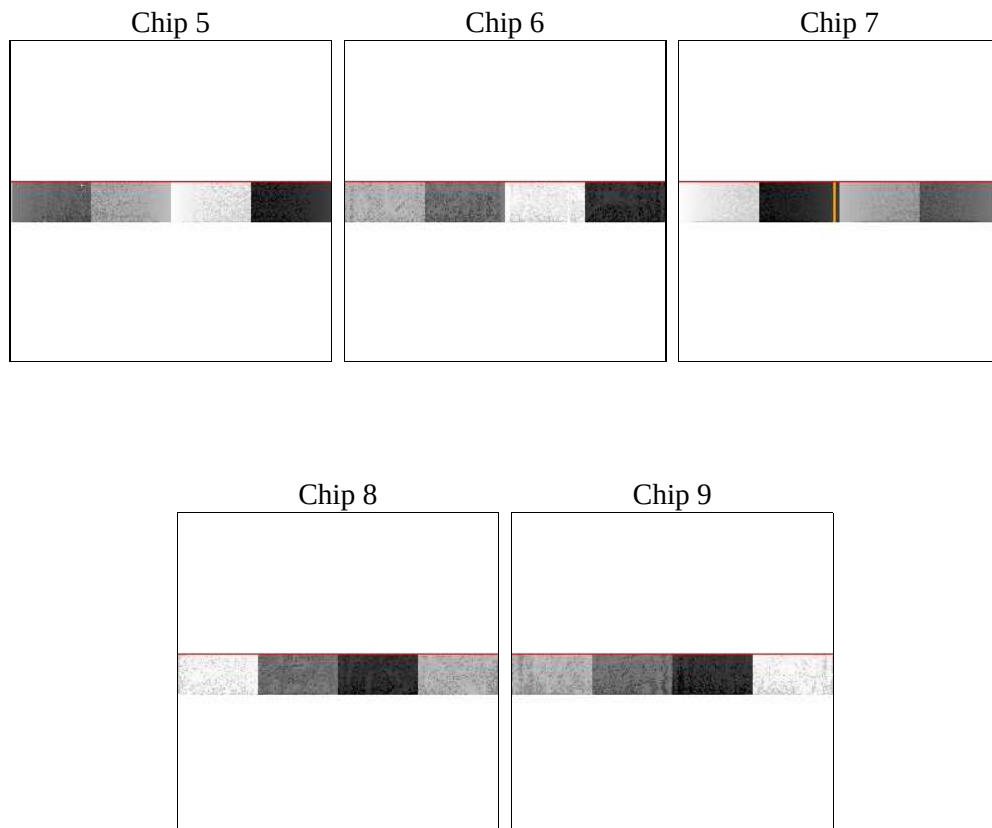
2 OBI

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	Processing system revision	ontime	9786.0006666183	Sum of GTIs [s]
caldsver	4.7.5	 	ontime5	9786.0006666183	Sum of GTIs [s]
date	2017-06-23T15:04:53	Date and time of file creation	ontime6	9786.0006666183	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	9786.0006666183	Sum of GTIs [s]
			ontime8	9785.9704267979	Sum of GTIs [s]
			ontime9	9785.929386735	Sum of GTIs [s]
			l1events	172503	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4152.00, 3966.45)	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	20051	41858	78908	19401	12285
rejected events	7914	10496	15956	12985	10158
rejected %	39%	25%	20%	66%	82%

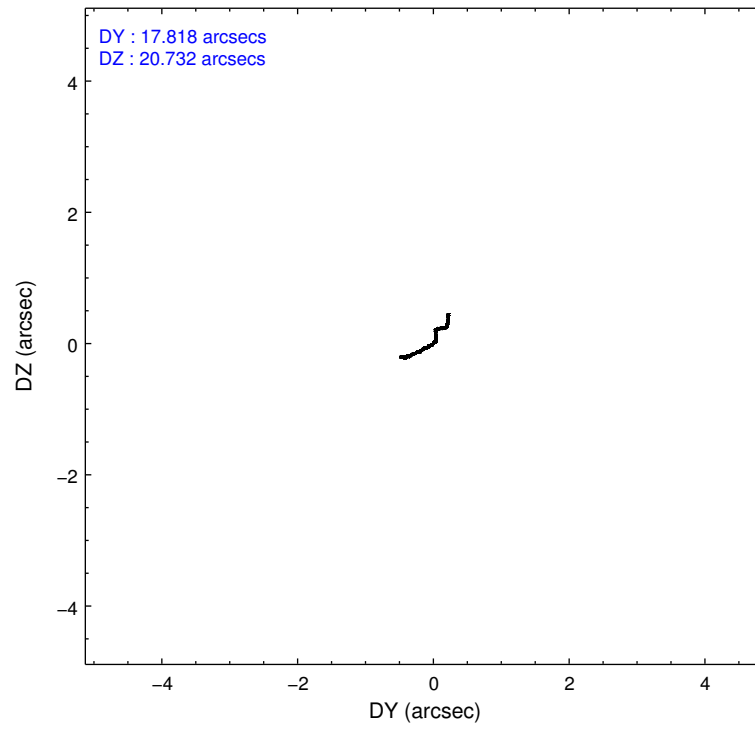
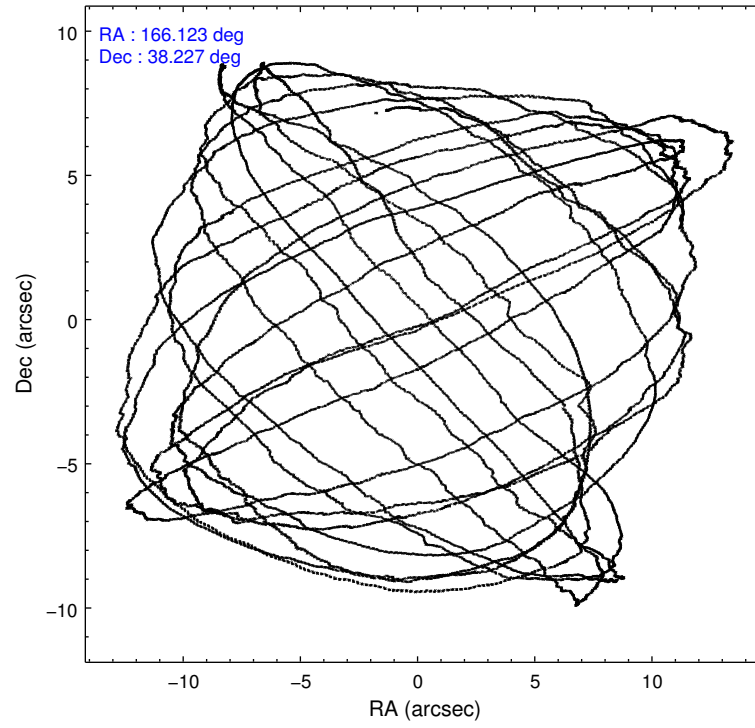
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	3341	24902	17044	3018	1058
	16%	59%	21%	15%	8%
grade 1 events	38	104	646	13	7
	0%	0%	0%	0%	0%
grade 2 events	3152	3267	15505	1076	355
	15%	7%	19%	5%	2%
grade 3 events	765	1149	6866	523	236
	3%	2%	8%	2%	1%
grade 4 events	726	1158	6830	478	239
	3%	2%	8%	2%	1%
grade 5 events	1463	484	3833	679	513
	7%	1%	4%	3%	4%
grade 6 events	4153	892	16715	1321	239
	20%	2%	21%	6%	1%
grade 7 events	6413	9902	11469	12293	9638
	31%	23%	14%	63%	78%

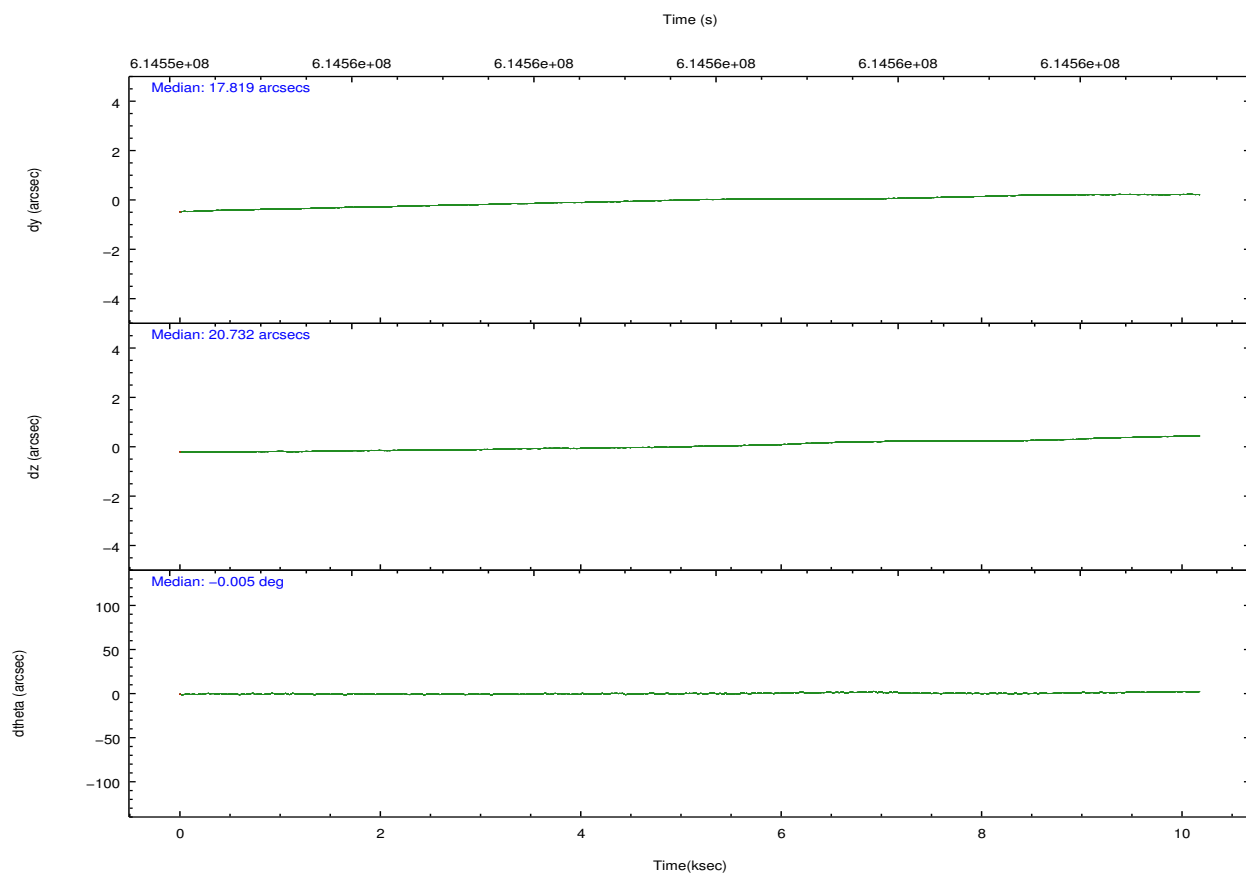
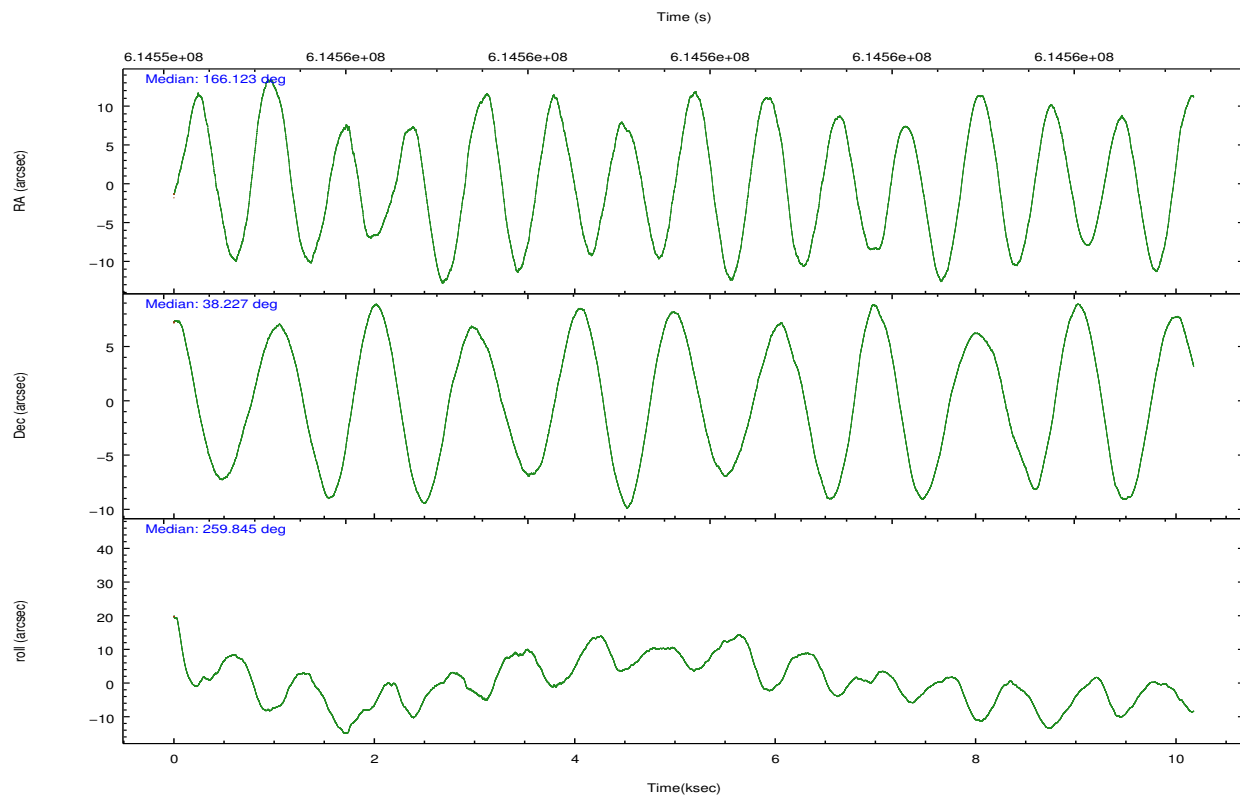
2.2 Compared Parameters

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	166.111097	166.1234340314145
[deg] Pointing Dec	38.252308	38.22664762026752
[deg] Pointing Roll	259.708660	259.857655416145
[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)	614554801.184000	614554294.80548
Observation start date	2017-06-22T21:38:52	2017-06-22T21:31:34
[s] Observation end time (MET)	614564801.184000	614565027.0686001
Observation end date	2017-06-23T00:25:32	2017-06-23T00:30:27
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



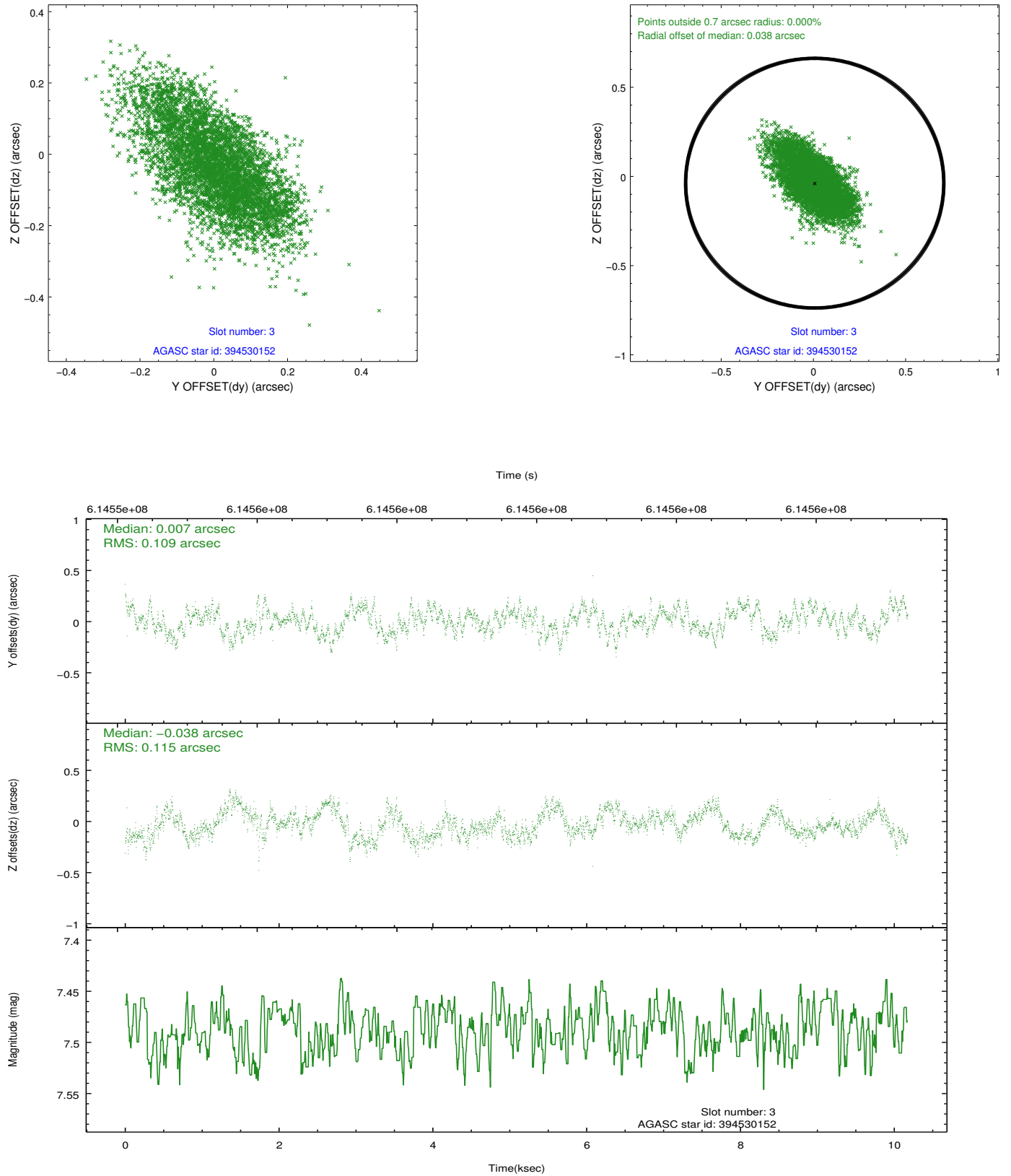


Slot Statistics

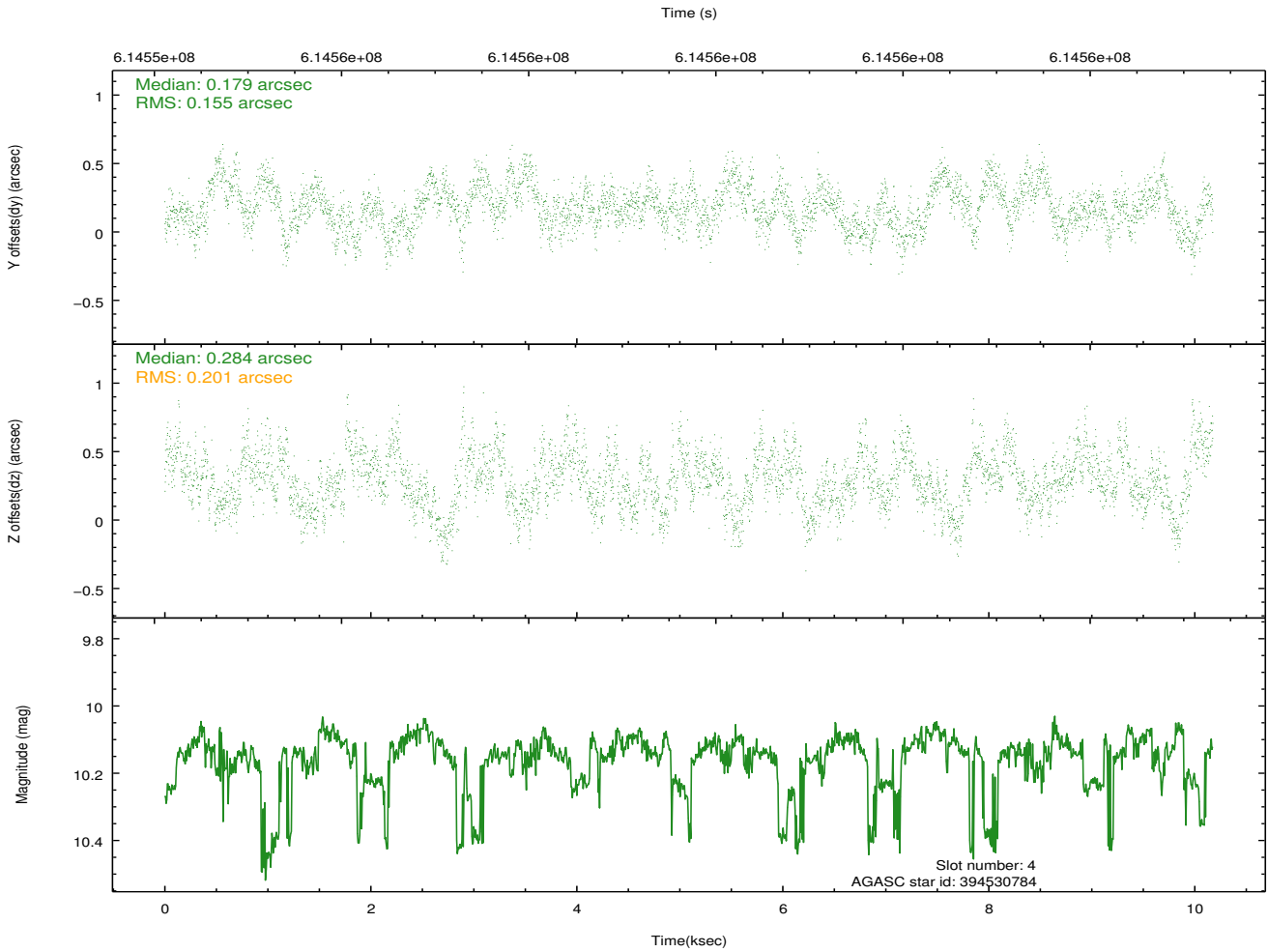
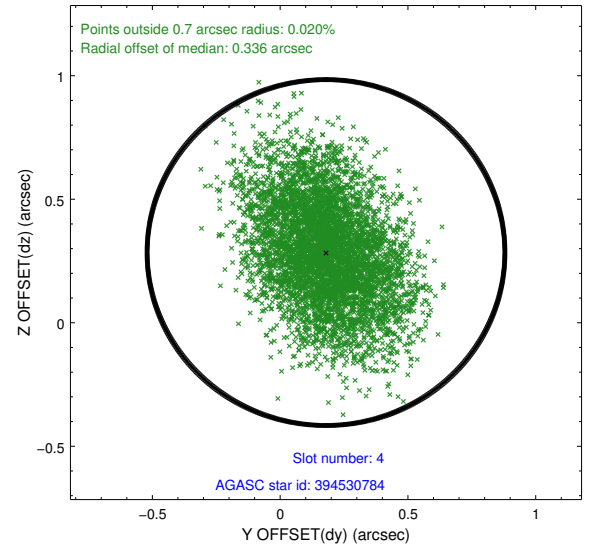
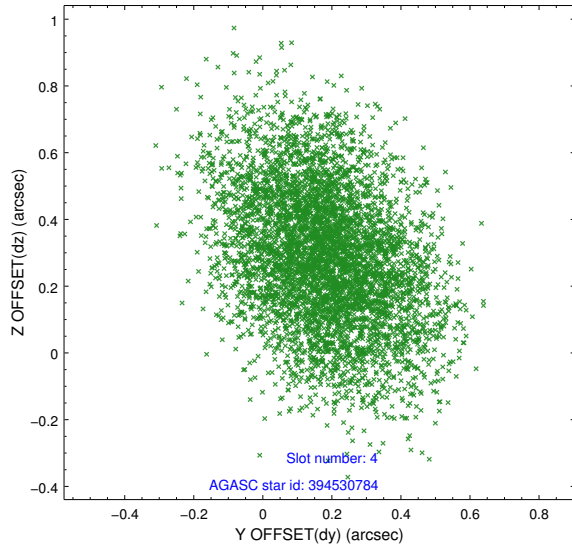
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.91	2483	-0.200	-0.065	0.008	0.013	0.000000	0.000000	-770.96	-1742.40
1	FID		ACIS-S-4	7.01	2483	0.459	0.114	0.007	0.014	0.000000	0.000000	2142.69	165.79
2	FID		ACIS-S-5	7.00	2483	-0.289	-0.041	0.008	0.015	0.000000	0.000000	-1823.28	159.80
3	GUIDE	used	394530152	7.49	4964	0.007	-0.038	0.168	0.279	166.075805	38.868252	-2163.59	-493.57
4	GUIDE	used	394530784	10.15	4938	0.179	0.284	0.271	0.440	165.569172	38.418674	-320.17	-1611.20
5	GUIDE	used	394533848	8.70	4959	0.065	0.010	0.128	0.209	166.382906	38.276007	-222.07	734.46
6	GUIDE	used	394543960	9.75	4954	0.030	-0.260	0.178	0.292	165.802757	37.787371	1802.62	-563.68
7	GUIDE	used	394546712	6.58	4964	-0.278	-0.008	0.122	0.205	166.451462	38.394357	-675.65	852.14

2.4 Star Slots

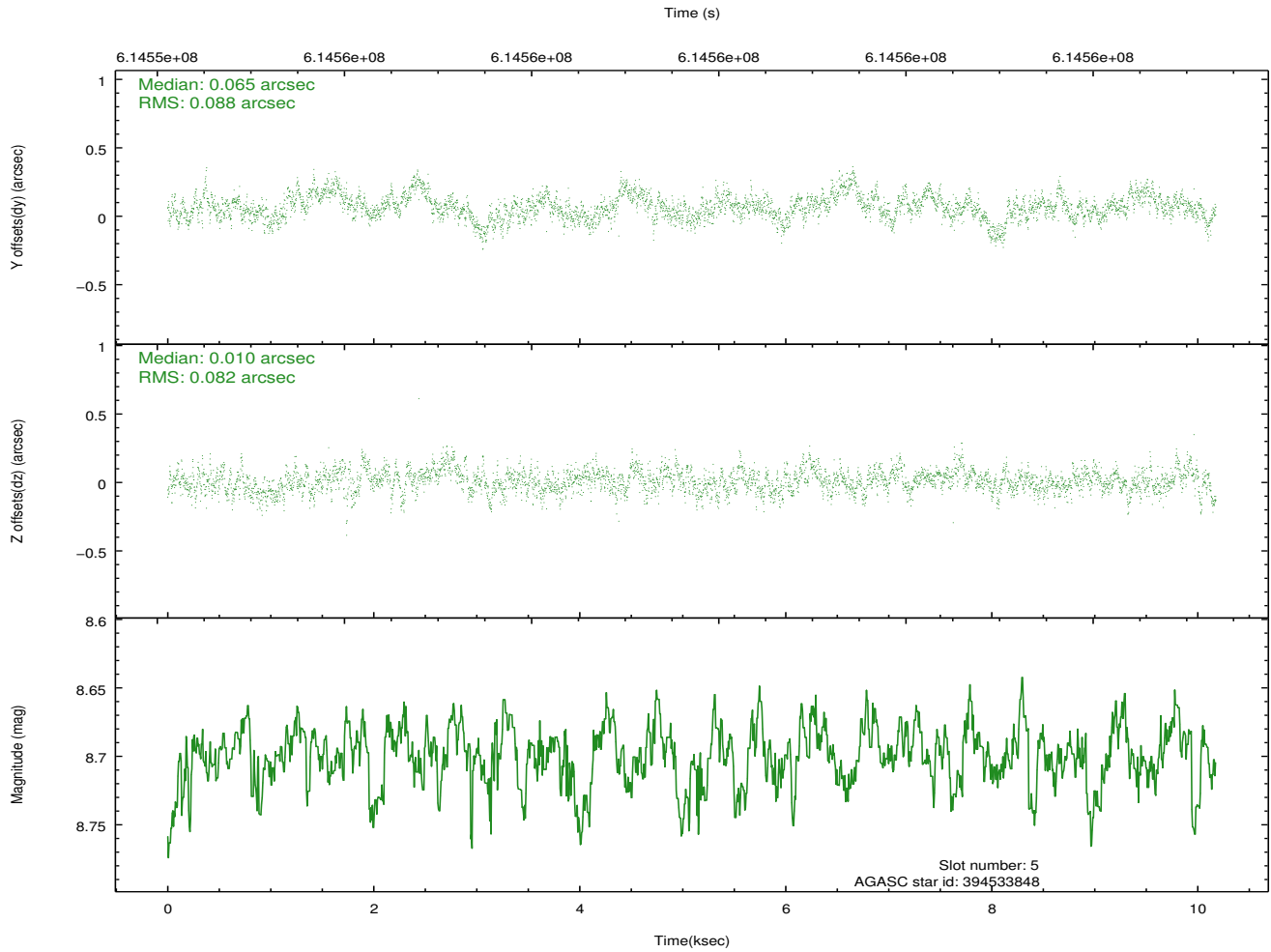
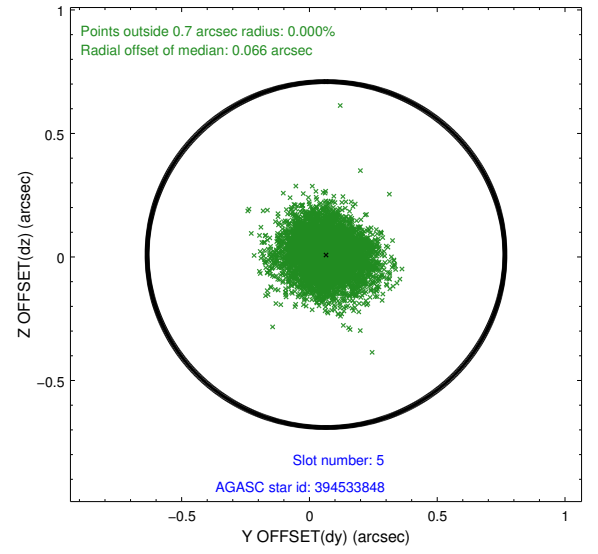
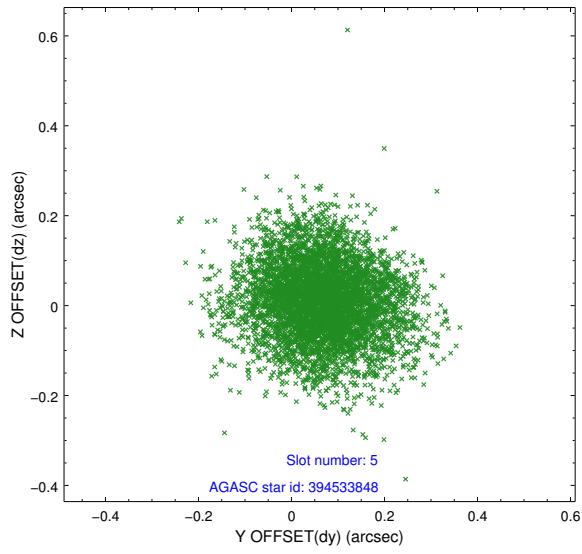
2.4.1 Slot 3



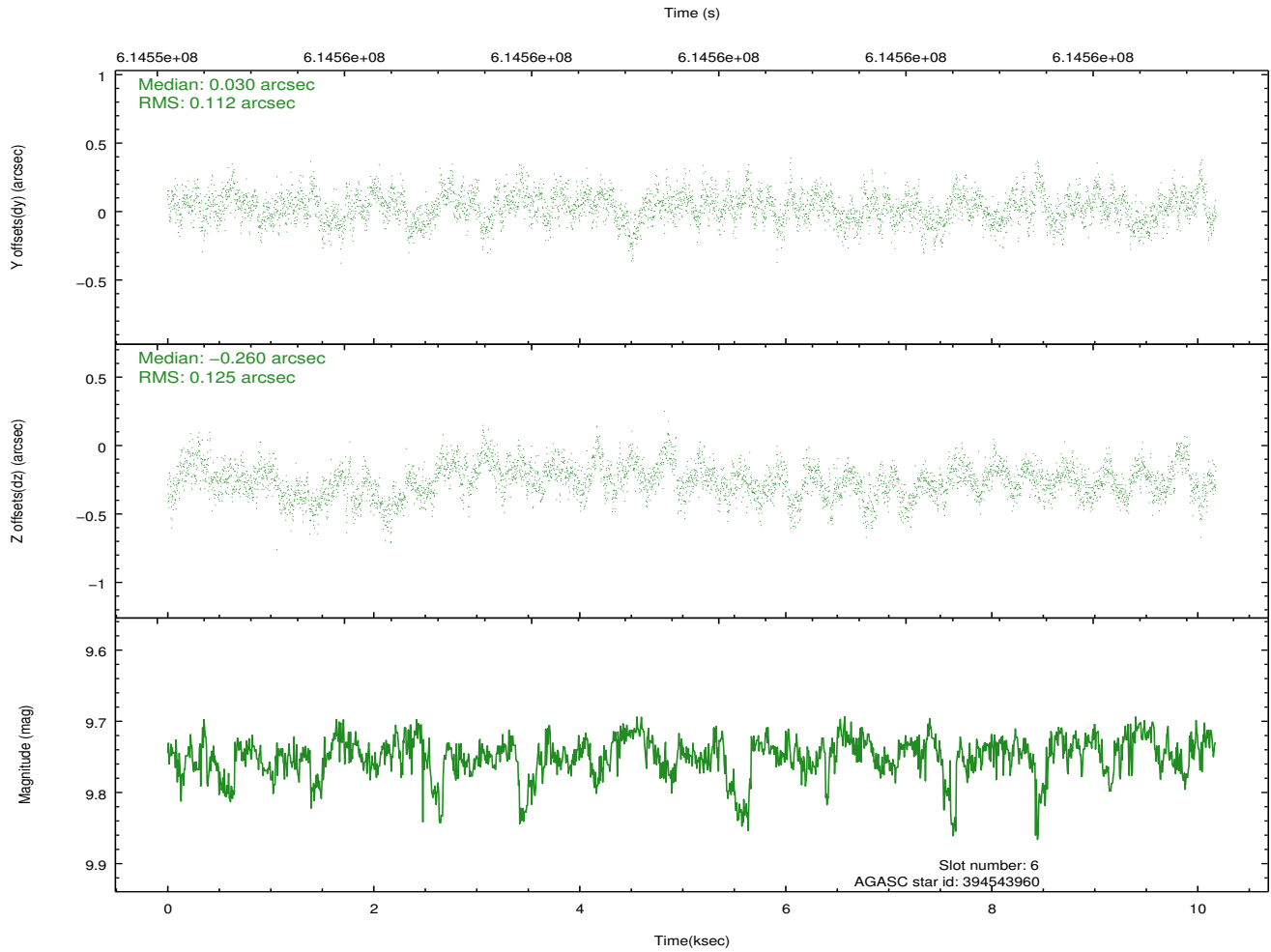
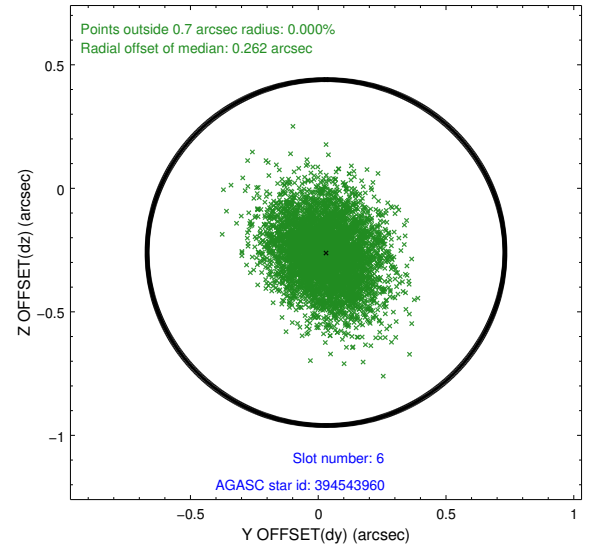
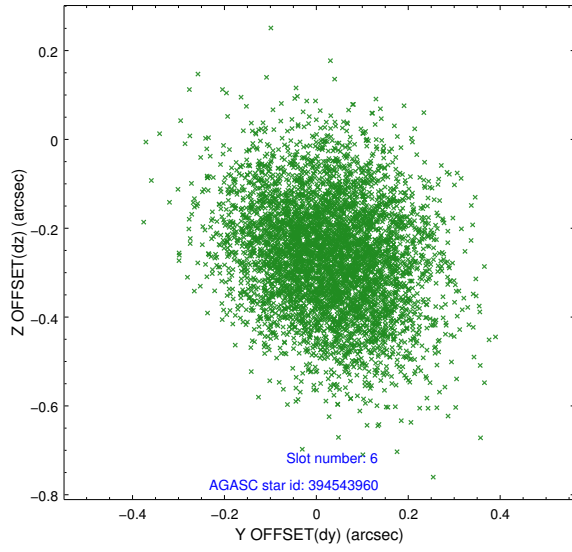
2.4.2 Slot 4



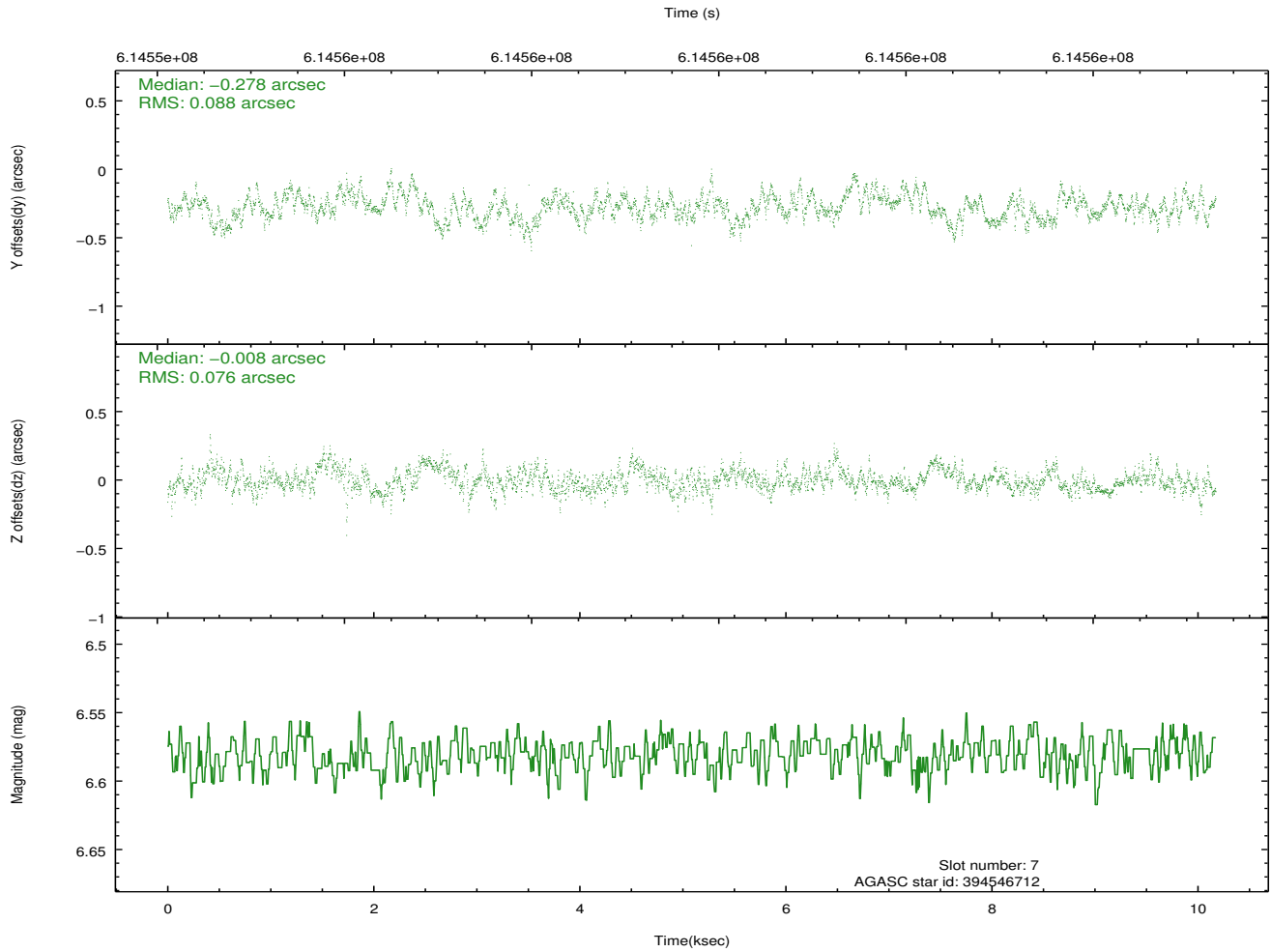
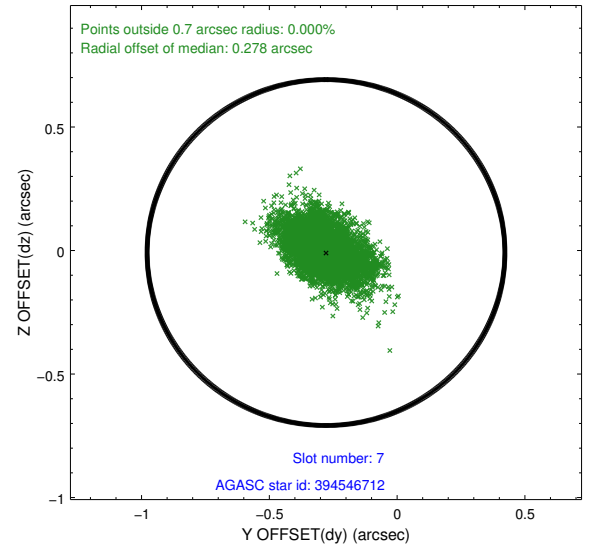
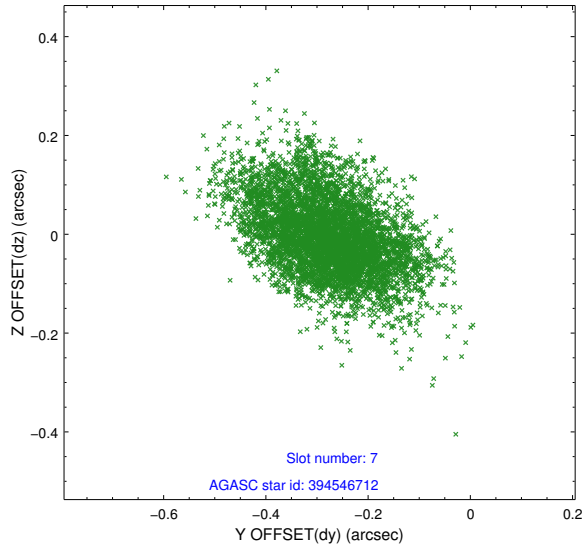
2.4.3 Slot 5



2.4.4 Slot 6

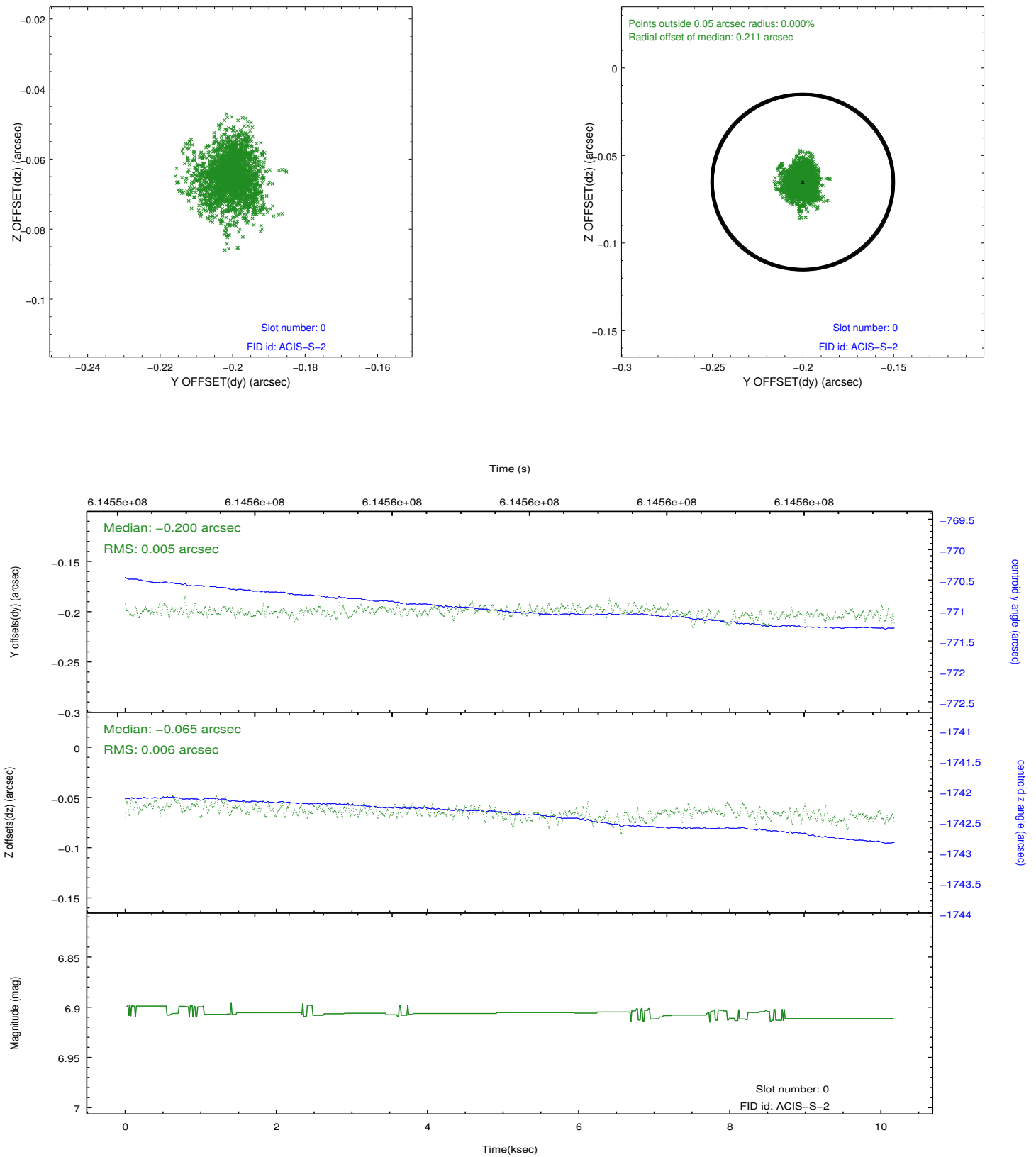


2.4.5 Slot 7

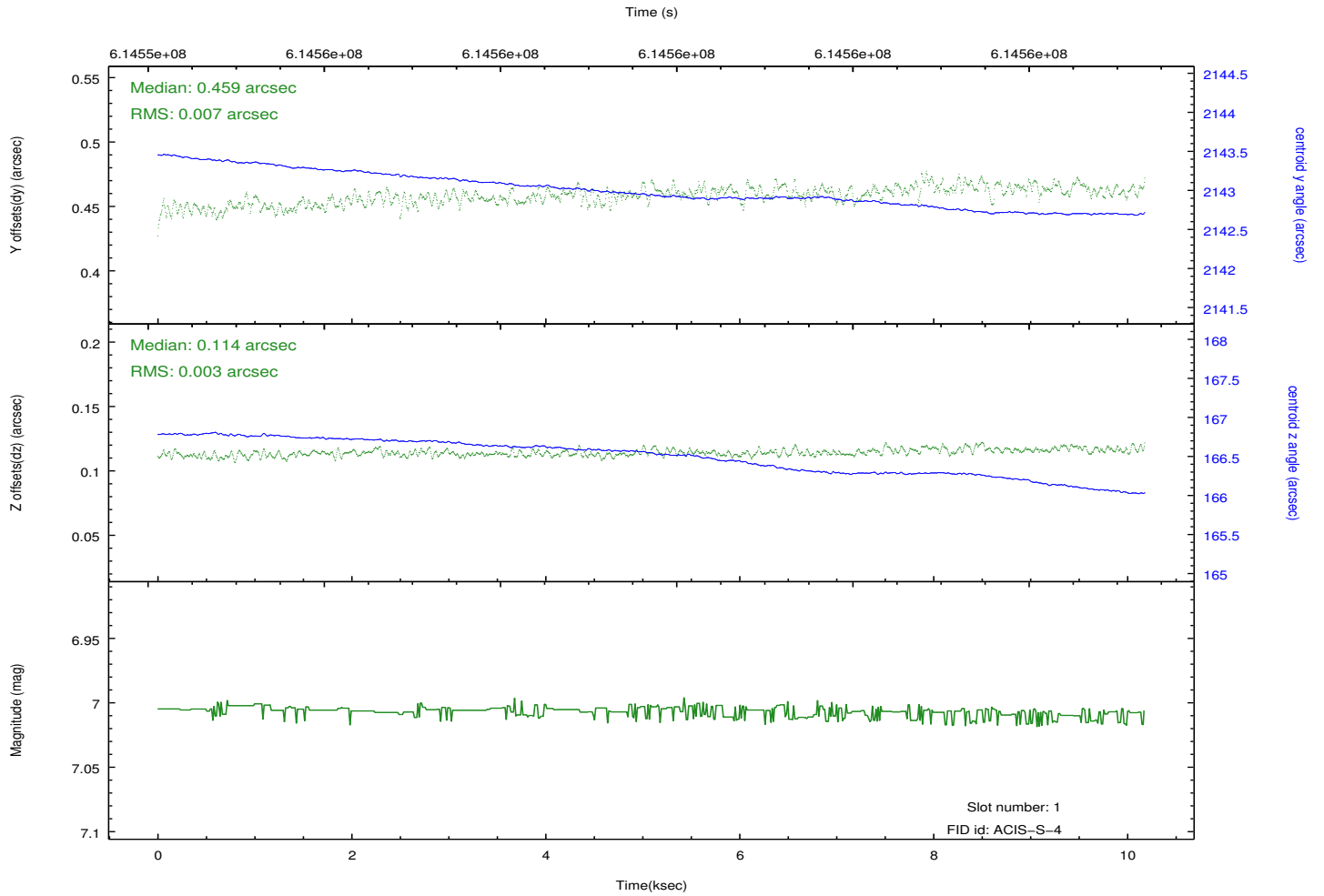
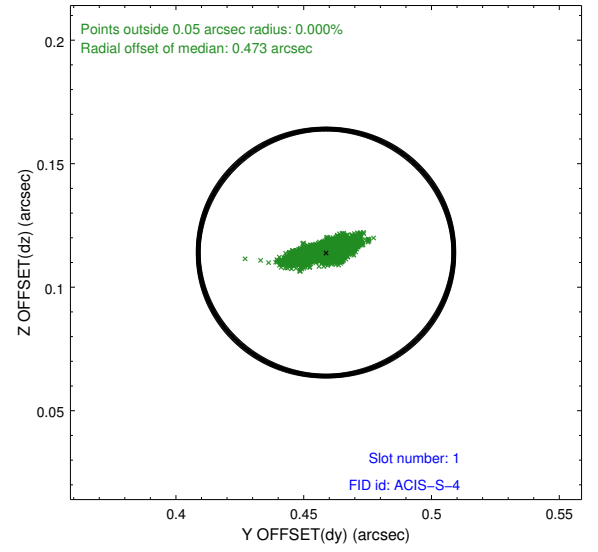
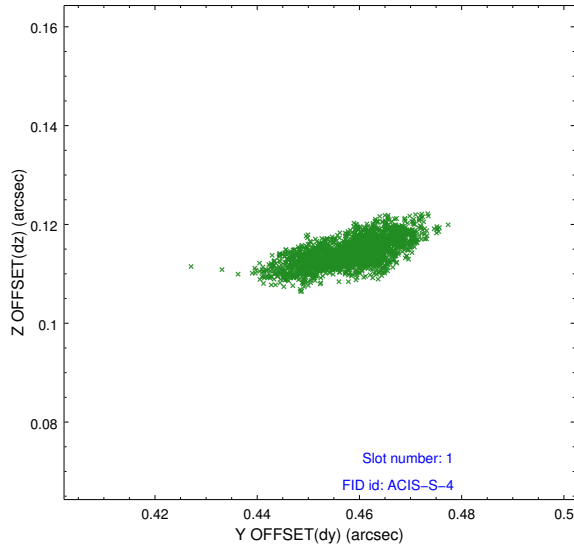


2.5 FID Slots

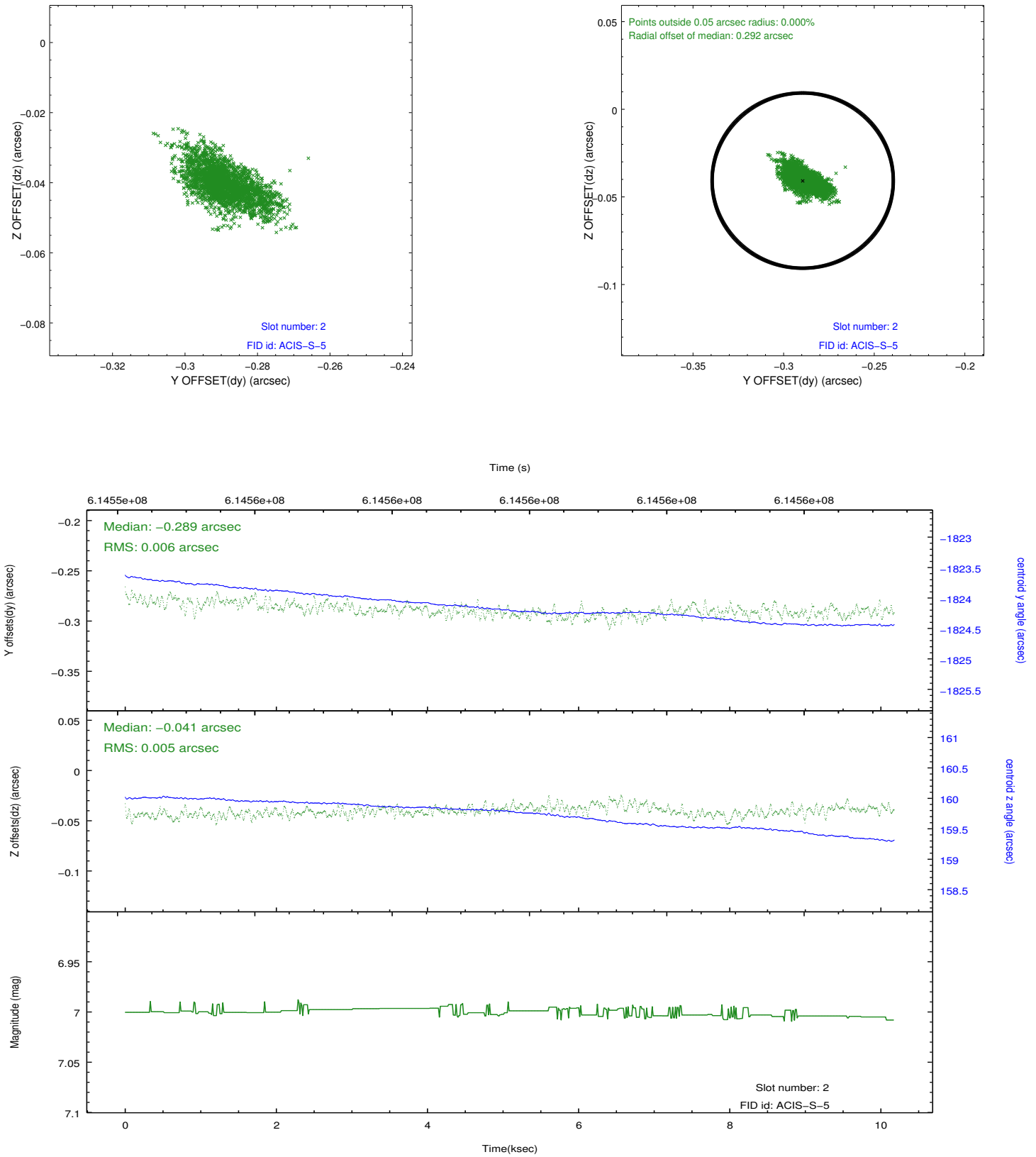
2.5.1 Slot 0



2.5.2 Slot 1

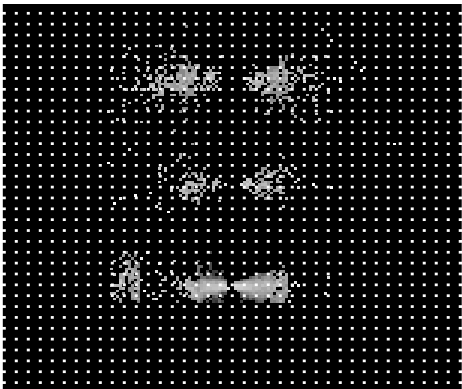


2.5.3 Slot 2

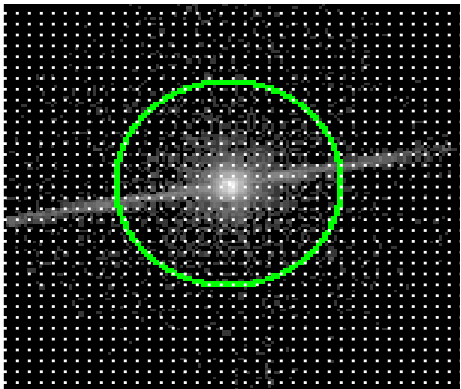


3 Gratings

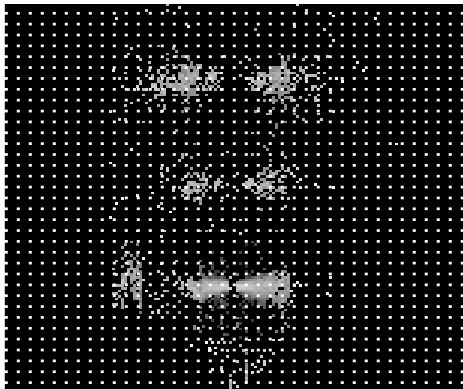
3.1 LETG Arm



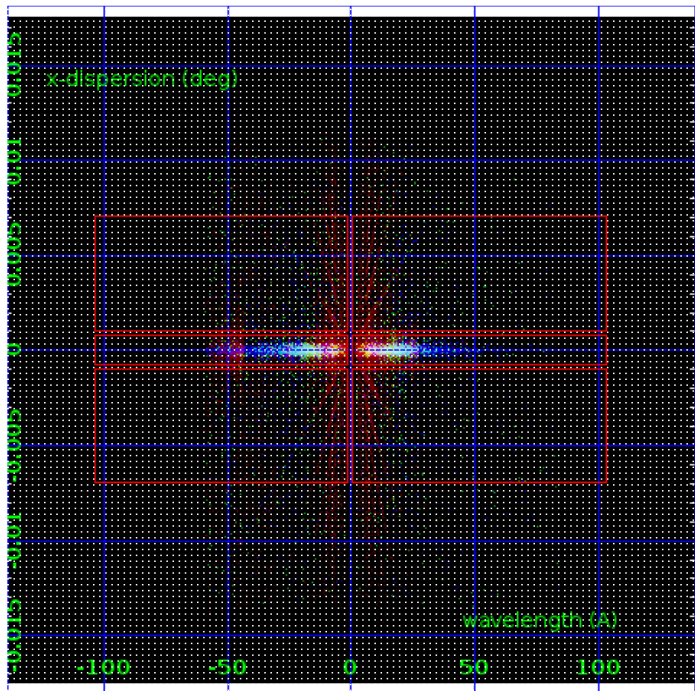
LETG Order Sort 123



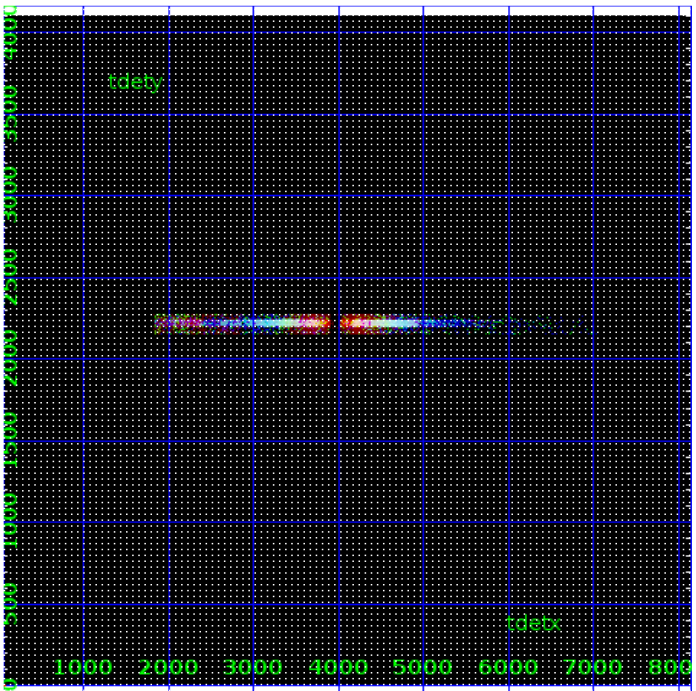
LETG Zero Order



LETG Order Sort ALL

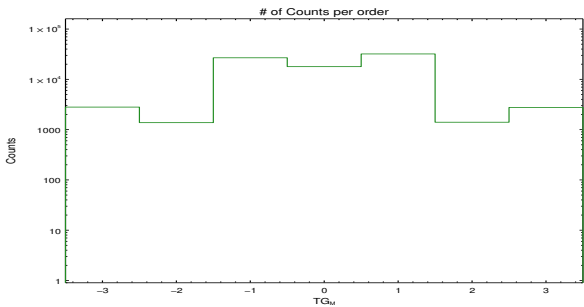


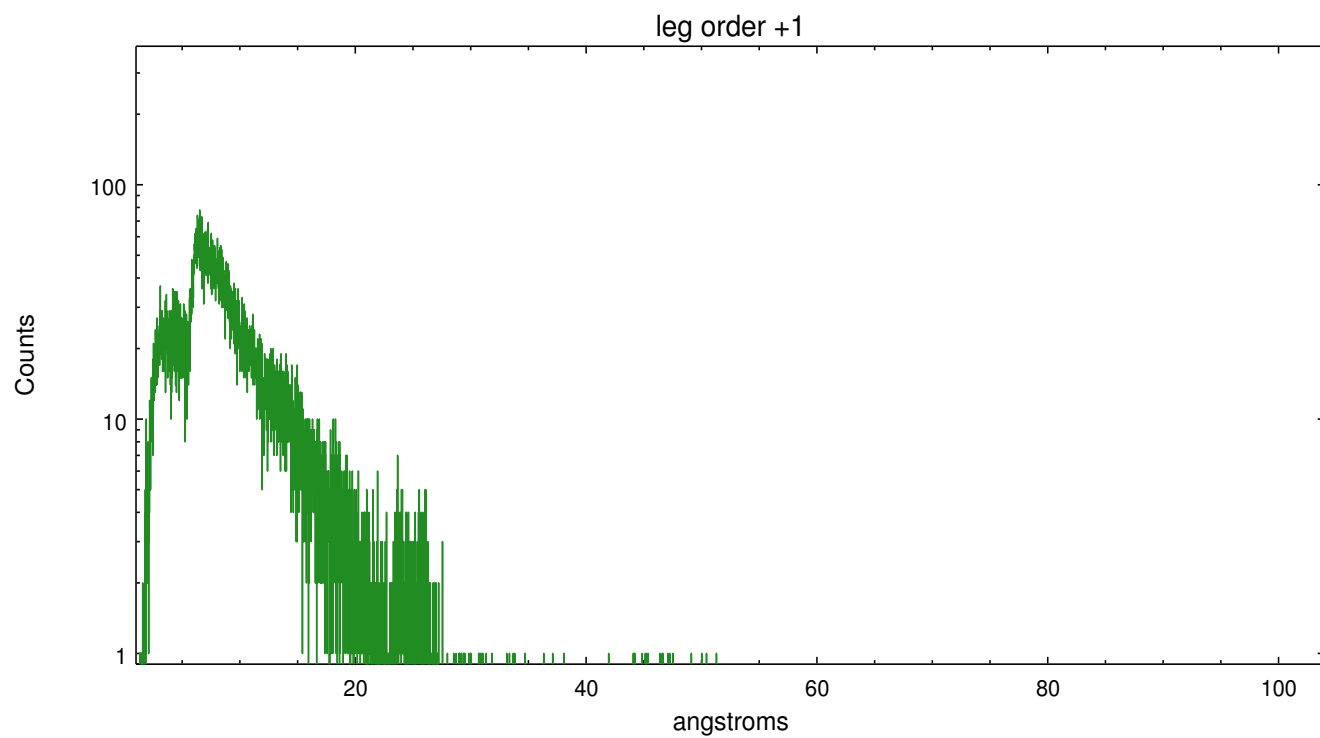
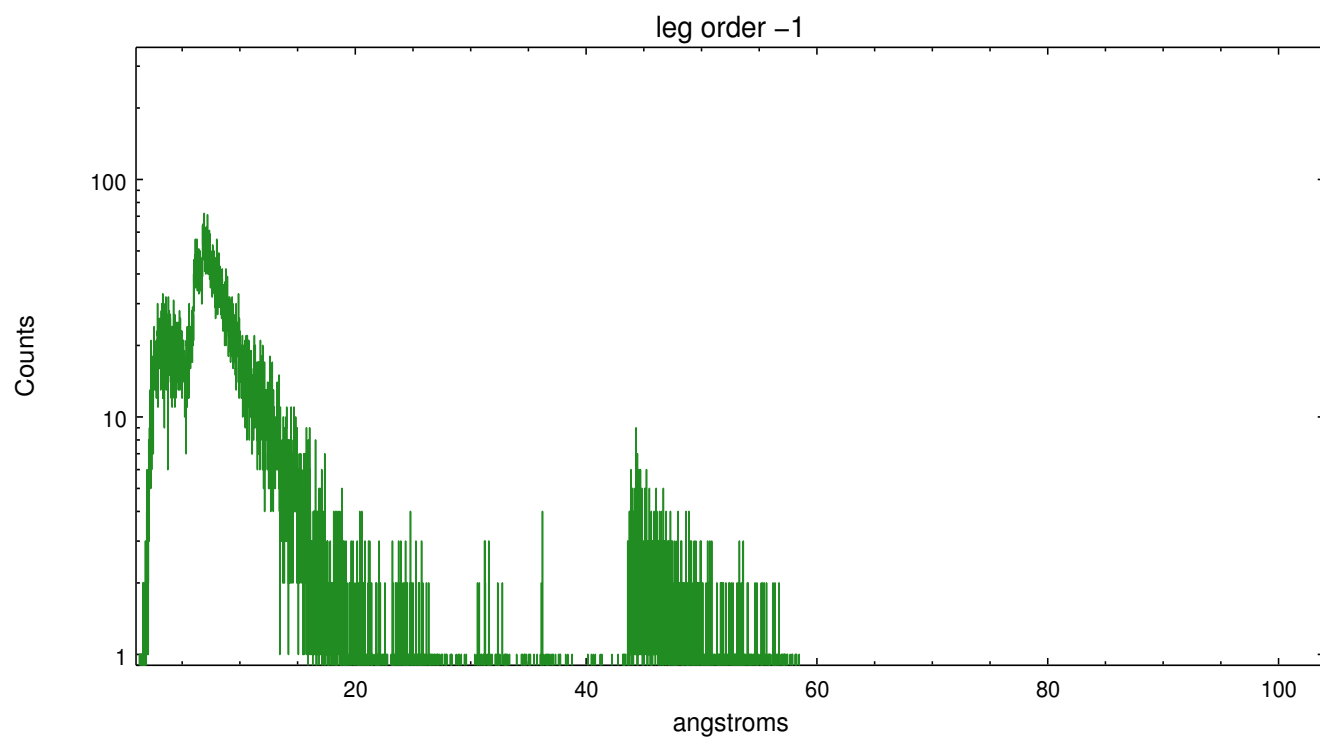
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2806	1377	26845	17895	32014	1403	2762





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2017.06.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.7860006666183

A.2 Comments

Comments for Obi 0

Star in slot 4 has an RMS deviation > 0.200000 arcsec