

V&V Reference Report

L2 ASCDS Version : 10.5

Observation 18358 - L2 Version 1
Chandra X-Ray Center

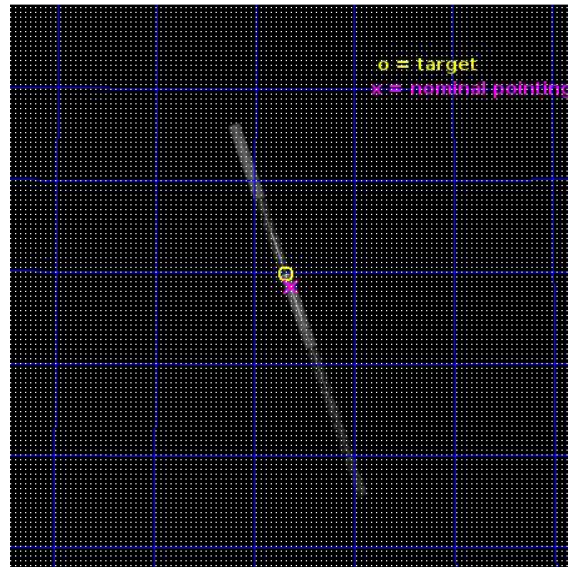
L2 Processing Date : Jul 26 2016

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1 Front

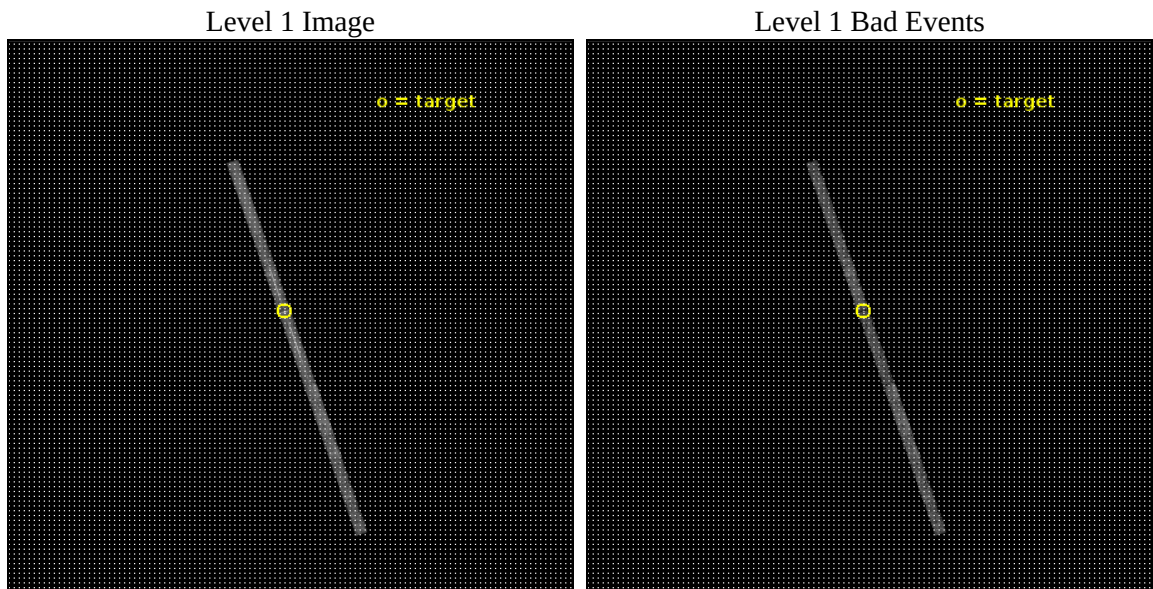
seq_num	291253	Sequence number
obs_id	18358	Observation id
title	AO-17 Internal Cross-Calibration Study	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	Capella	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	79.172917	Observer's specified target RA [deg]
dec_targ	45.996389	Observer's specified target Dec [deg]
ra_nom	79.158210368649	Nominal RA [deg]
dec_nom	45.973810813863	Nominal Dec [deg]
roll_nom	71.516583513738	Nominal Roll [deg]
revision	1	Processing version of data
ontime	10063.162831783	Sum of GTIs [s]
livetime	9418.909426978	Livetime [s]
ontime5	10063.12179184	Sum of GTIs [s]
ontime6	10063.080751777	Sum of GTIs [s]
ontime7	10063.162831783	Sum of GTIs [s]
ontime8	10063.039711833	Sum of GTIs [s]
ontime9	10062.99867177	Sum of GTIs [s]
l2events	37593	Number of level 2 events



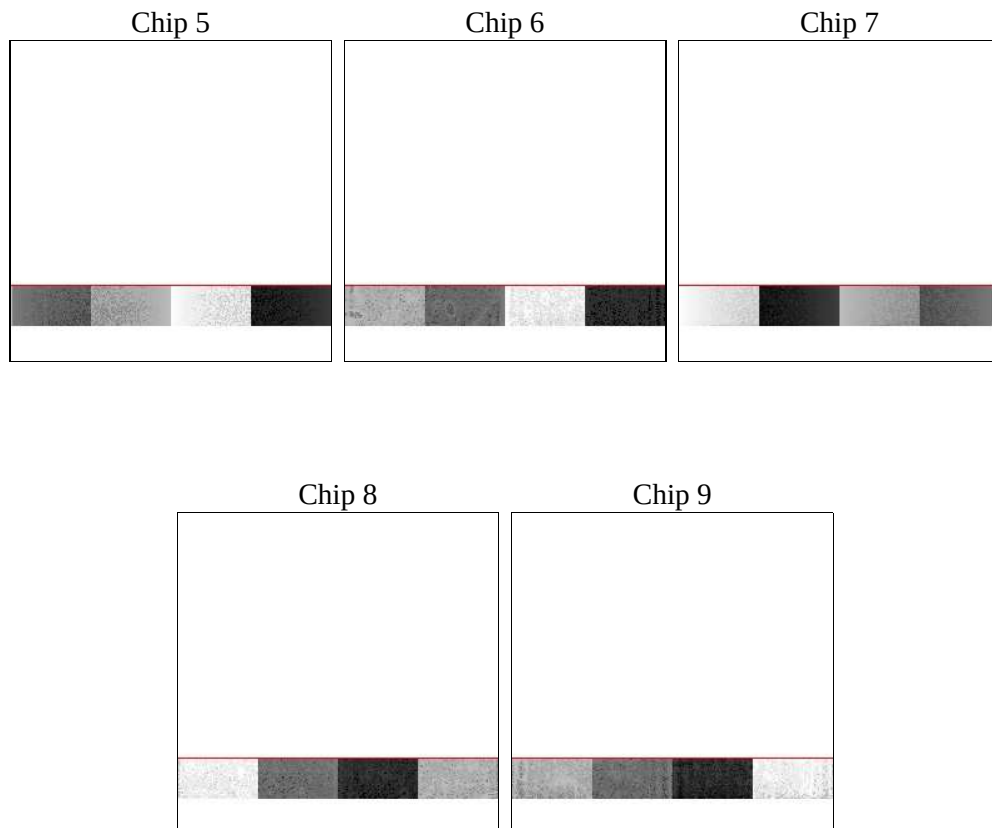
2 OBI

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	10.5	Processing system revision	ontime	10063.162831783	Sum of GTIs [s]
caldsver	4.7.2	 	ontime5	10063.12179184	Sum of GTIs [s]
date	2016-07-27T02:52:19	Date and time of file creation	ontime6	10063.080751777	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	10063.162831783	Sum of GTIs [s]
			ontime8	10063.039711833	Sum of GTIs [s]
			ontime9	10062.99867177	Sum of GTIs [s]
			l1events	84103	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4022.97, 4258.94)	src1a sky pixel position

2.1.4 Events

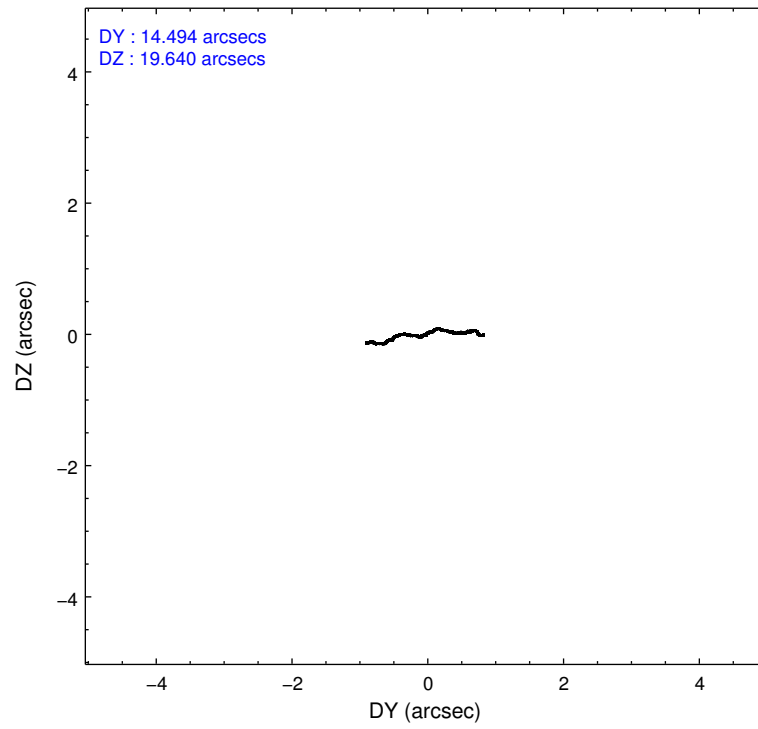
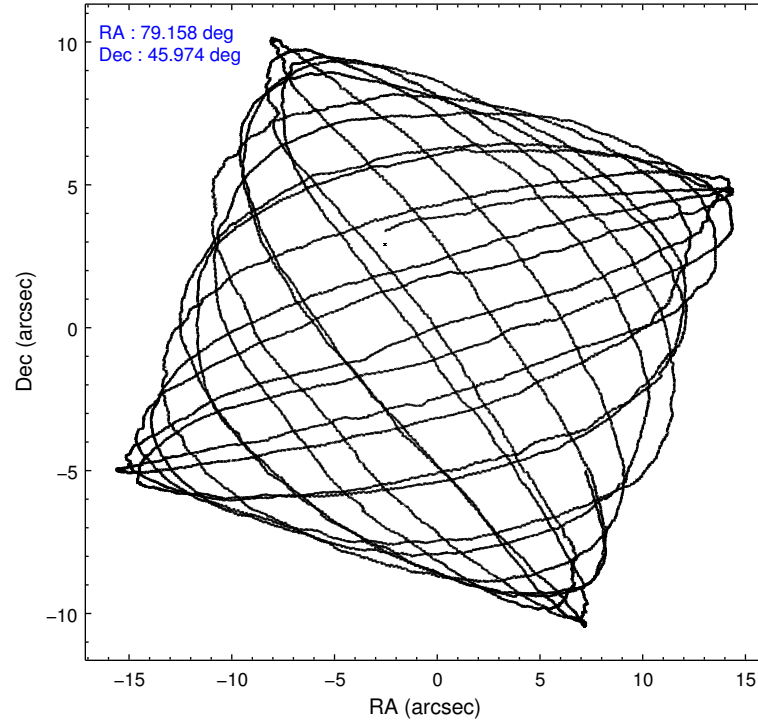
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	14623	15875	28238	15704	9663
rejected events	6756	9101	7119	11549	8210
rejected %	46%	57%	25%	73%	84%

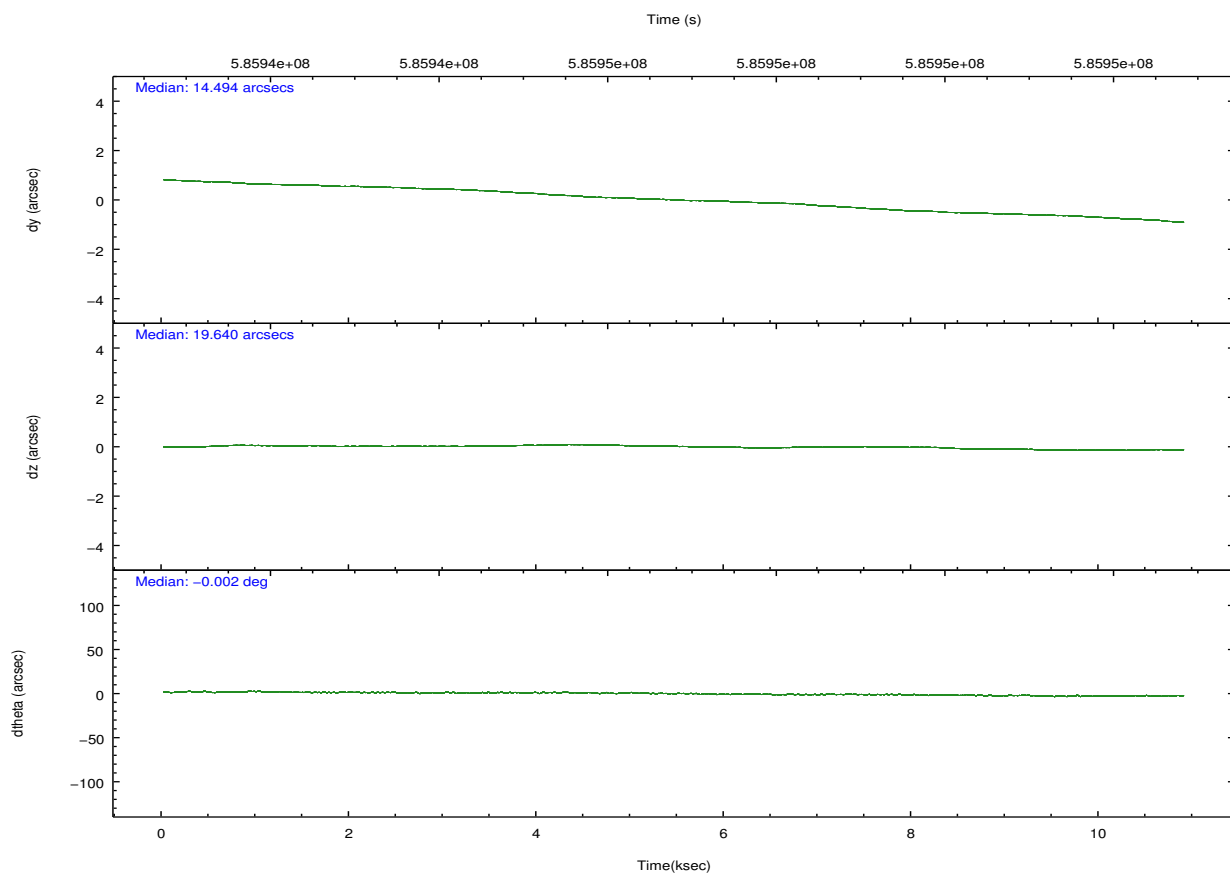
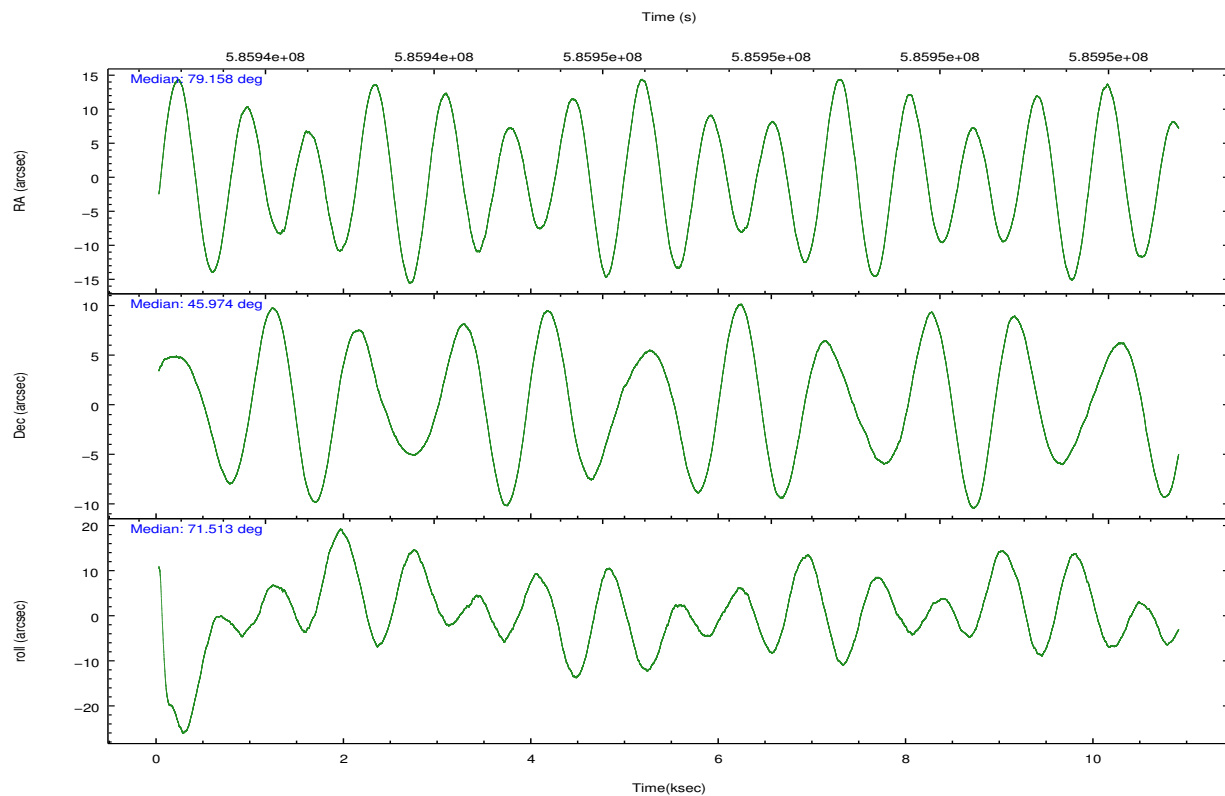
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	1182	5052	4905	1352	541
	8%	31%	17%	8%	5%
grade 1 events	31	8	150	3	4
	0%	0%	0%	0%	0%
grade 2 events	2104	720	5472	863	246
	14%	4%	19%	5%	2%
grade 3 events	632	329	2476	389	224
	4%	2%	8%	2%	2%
grade 4 events	626	370	2397	367	219
	4%	2%	8%	2%	2%
grade 5 events	1239	405	1681	581	409
	8%	2%	5%	3%	4%
grade 6 events	3325	303	5873	1184	223
	22%	1%	20%	7%	2%
grade 7 events	5484	8688	5284	10965	7797
	37%	54%	18%	69%	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	79.166560	79.15821036864911	CCD I2 on	N	N
[deg] Pointing Dec	45.947001	45.97381081386323	CCD I3 on	N	N
[deg] Pointing Roll	71.353968	71.51658351373847	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	-182.132523	-182.1370004450064	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-8	-7.995522138001405	CCD S4 on	Y	Y
[s] Observation start time (MET)	585942227.184000	585941029.16275	CCD S5 on	O1	Y
Observation start date	2016-07-26T17:42:39	2016-07-26T17:23:49	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	585952227.184000	585952450.7384	On-chip summing requested	N	N
Observation end date	2016-07-26T20:29:19	2016-07-26T20:34:10	Subarray requested	CUSTOM	1/8
Read mode	TIMED	TIMED	Subarray start row	113	113
			Subarray row count	128	128
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	0.6

2.3 Aspect



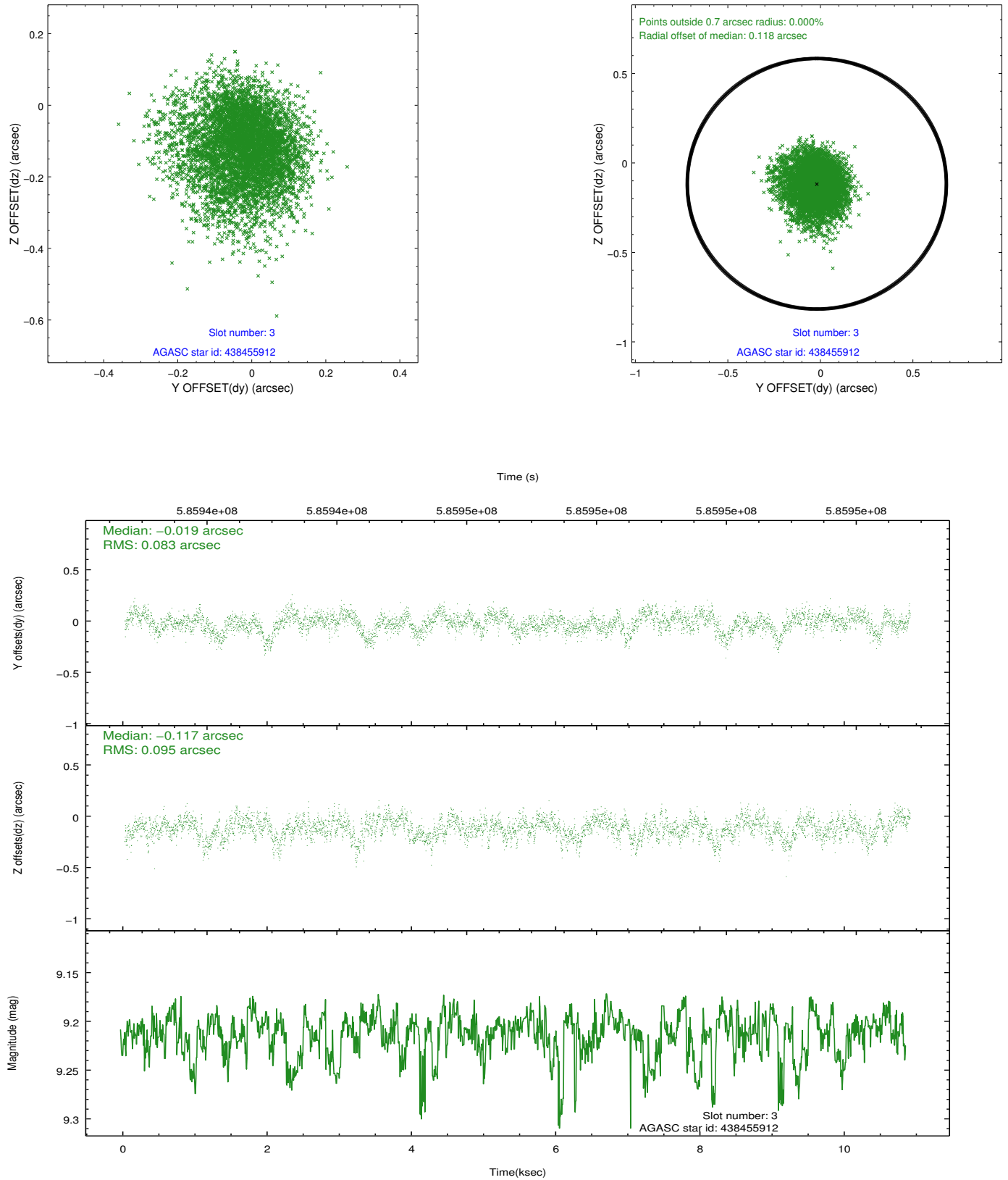


Slot Statistics

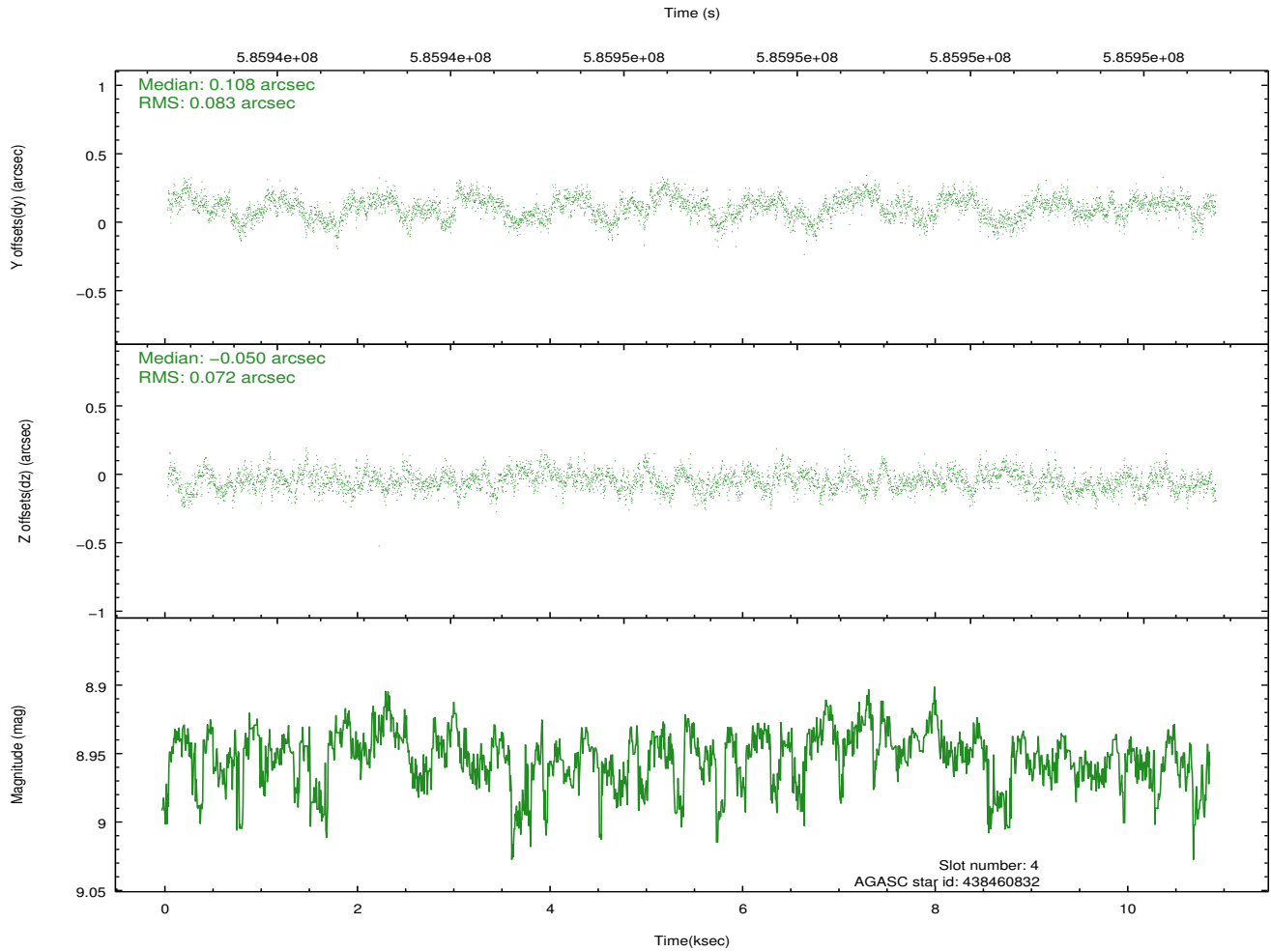
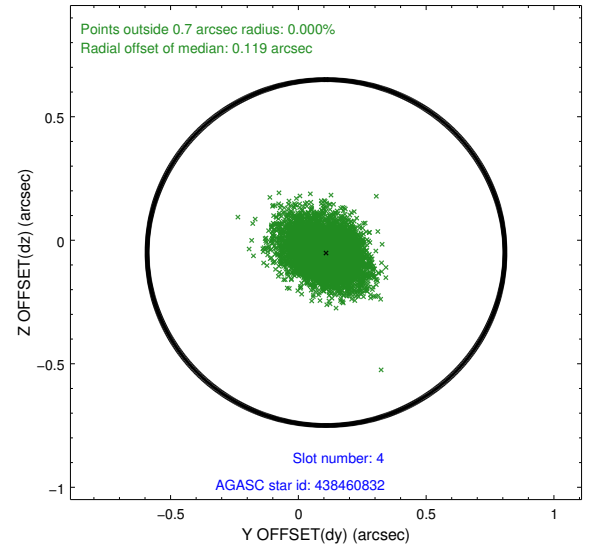
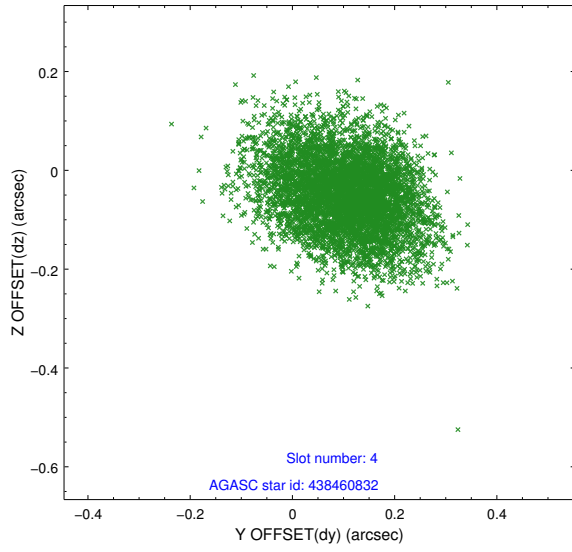
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.96	2655	-0.277	-0.170	0.025	0.046	0.000000	0.000000	-767.22	-1905.98
1	FID		ACIS-S-4	7.05	2655	0.284	0.175	0.025	0.044	0.000000	0.000000	2146.46	2.16
2	FID		ACIS-S-6	7.27	2655	-0.034	0.002	0.011	0.019	0.000000	0.000000	395.70	639.99
3	GUIDE	used	438455912	9.21	5306	-0.019	-0.117	0.133	0.221	78.251946	45.690923	-1596.45	1888.91
4	GUIDE	used	438460832	8.95	5305	0.108	-0.050	0.116	0.190	78.414614	45.554782	-1936.08	1347.76
5	GUIDE	used	440149480	9.13	5308	0.359	0.610	0.139	0.239	79.794341	45.220426	-1963.33	-2341.59
6	GUIDE	used	440150048	7.10	5311	-0.383	-0.302	0.087	0.153	79.112838	46.416060	1556.70	666.01
7	GUIDE	used	438461584	9.21	5305	-0.048	-0.134	0.142	0.249	78.061532	45.583834	-2110.72	2226.43

2.4 Star Slots

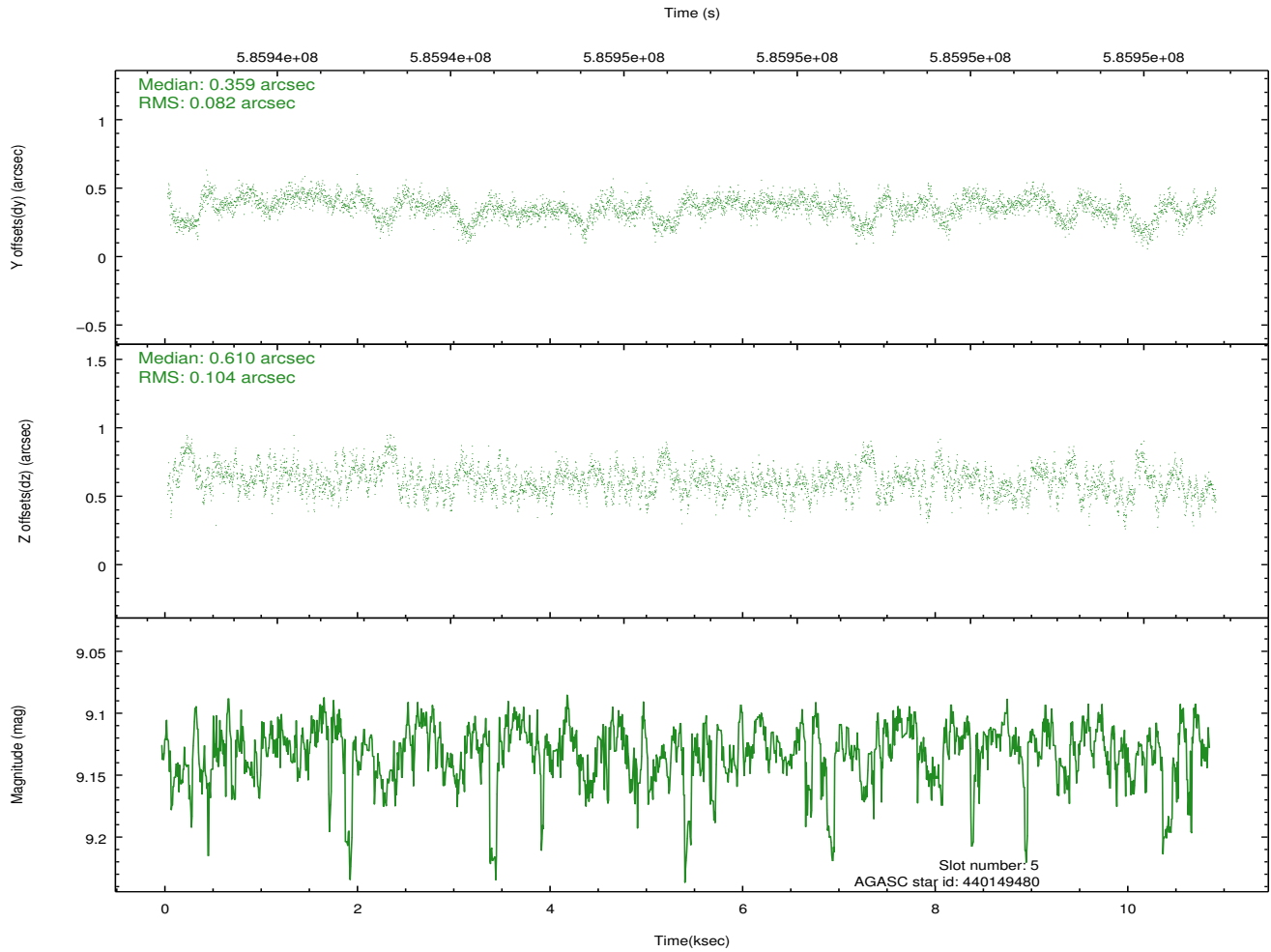
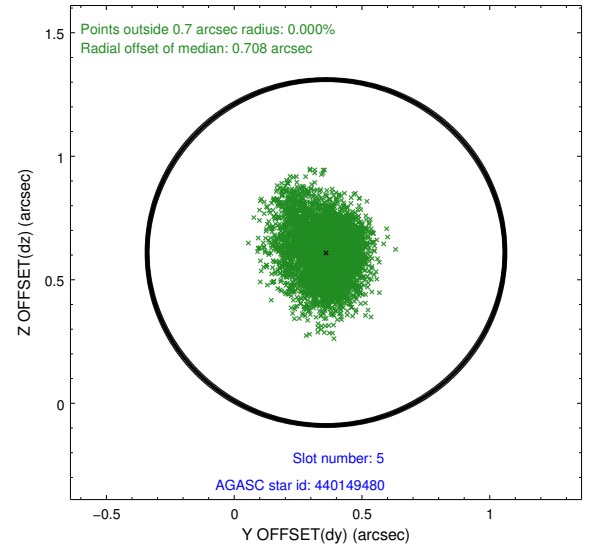
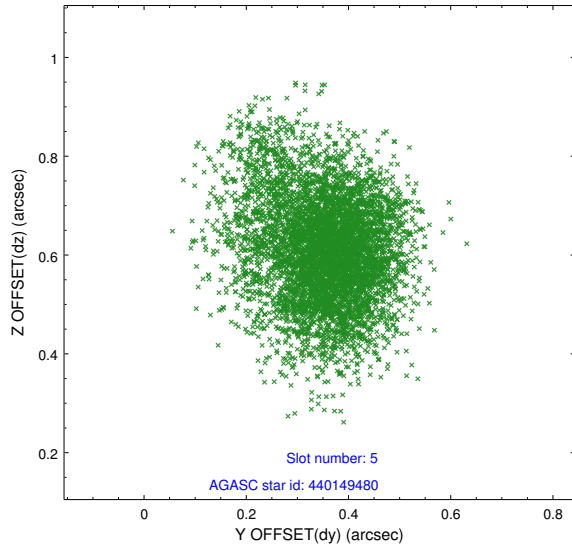
2.4.1 Slot 3



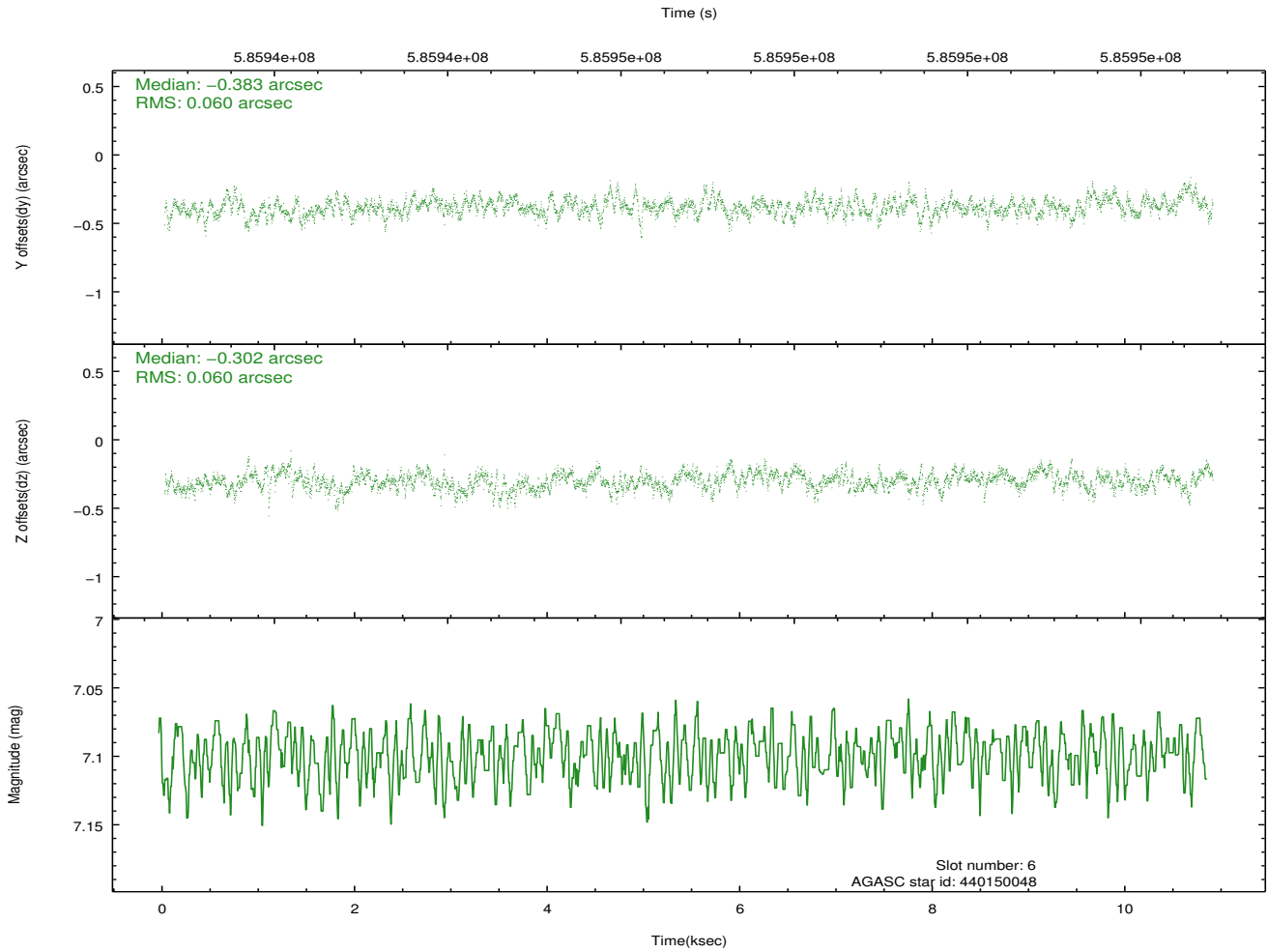
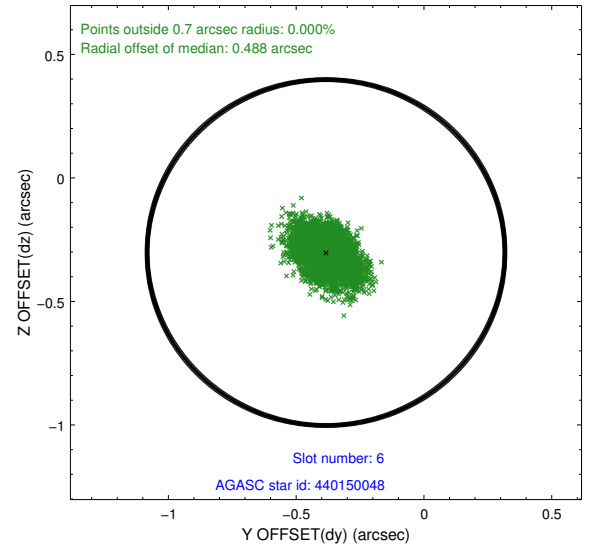
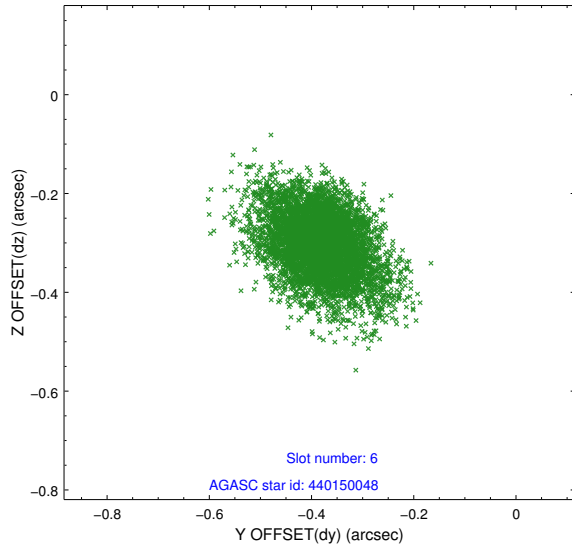
2.4.2 Slot 4



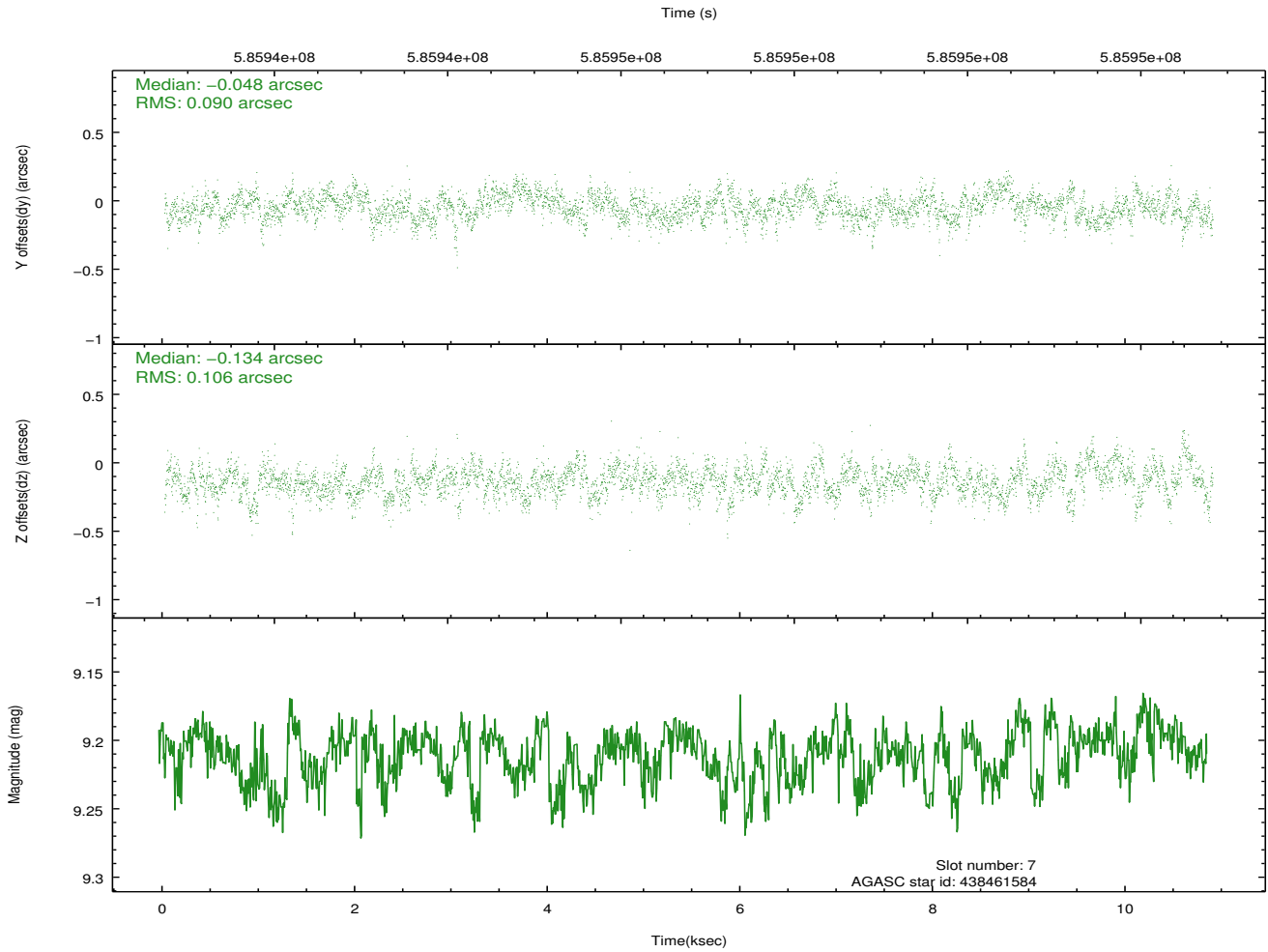
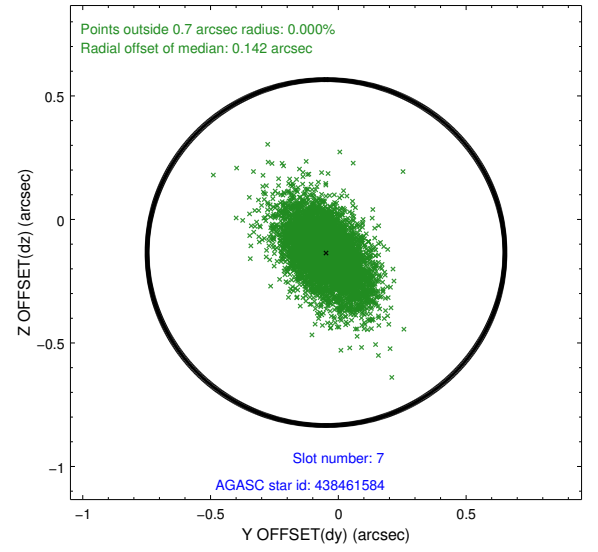
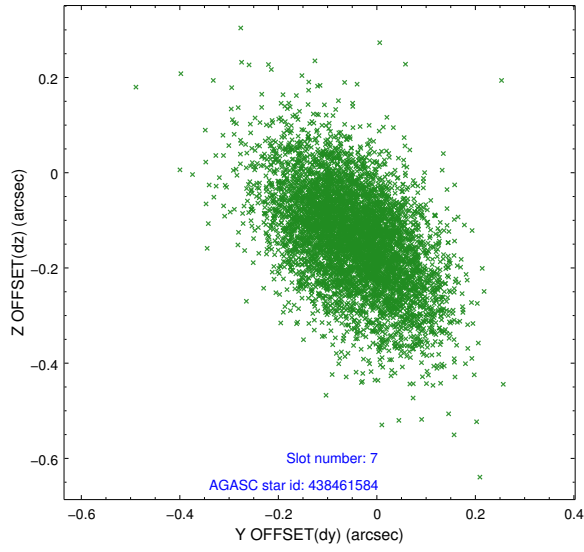
2.4.3 Slot 5



2.4.4 Slot 6

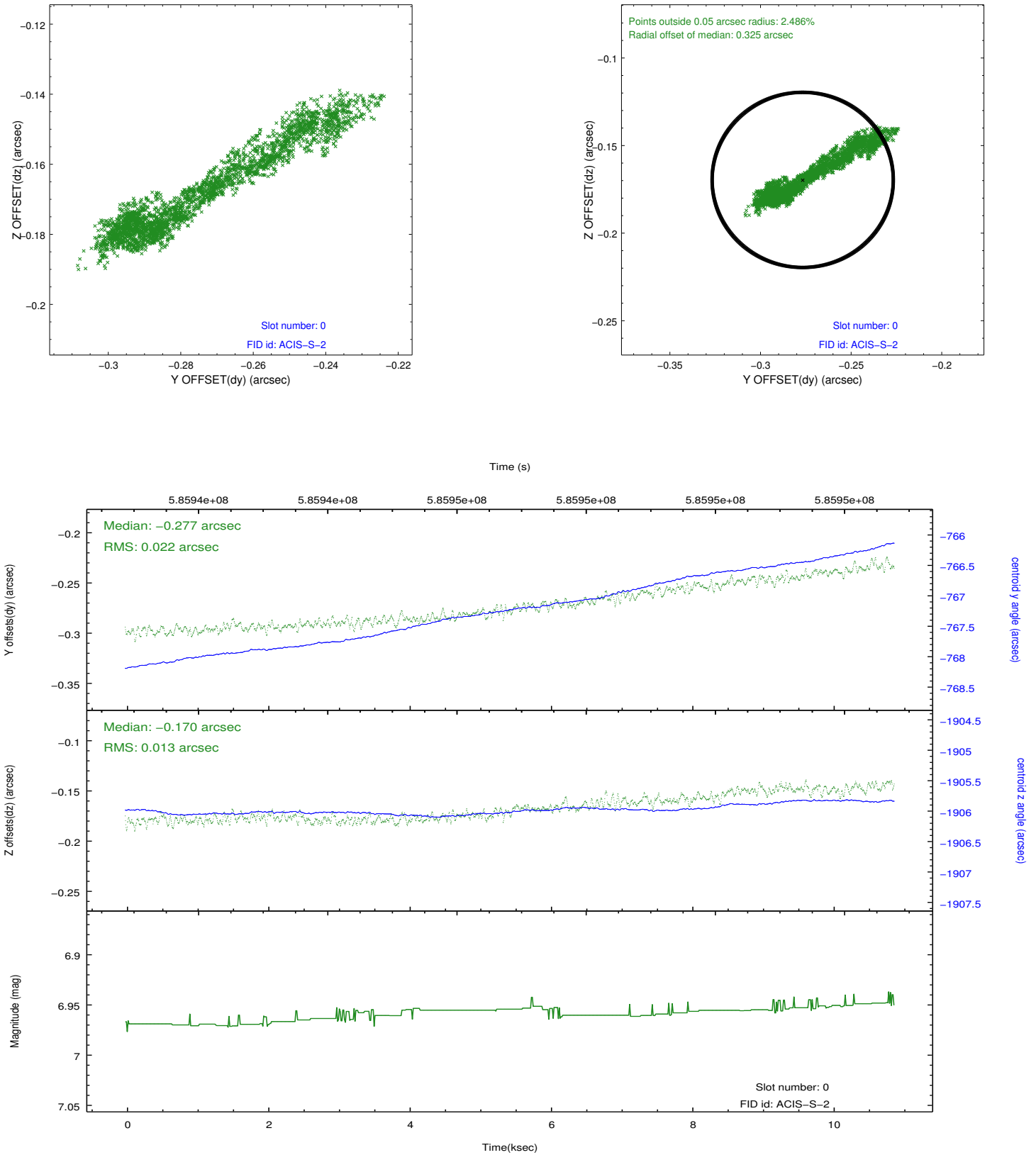


2.4.5 Slot 7

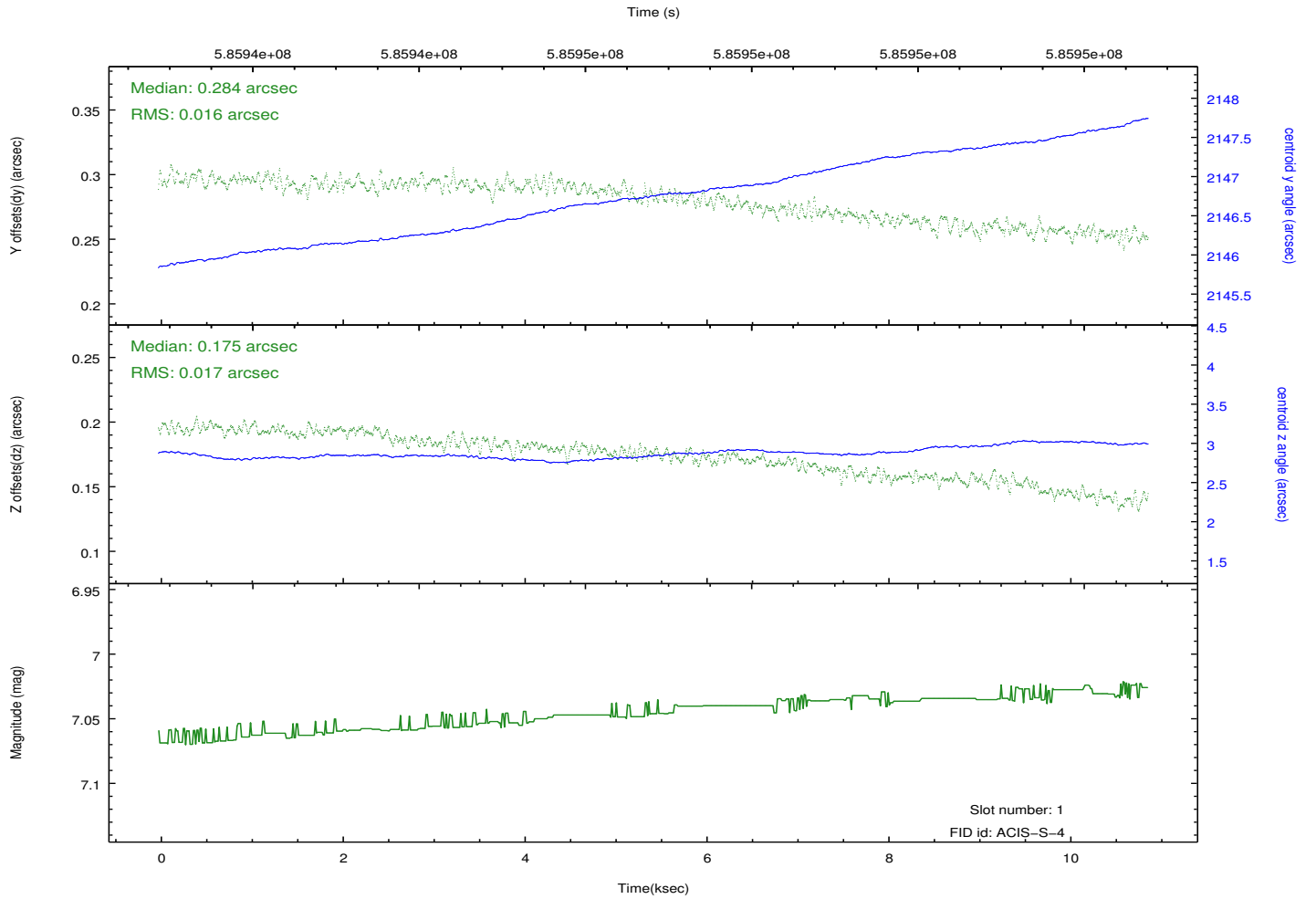
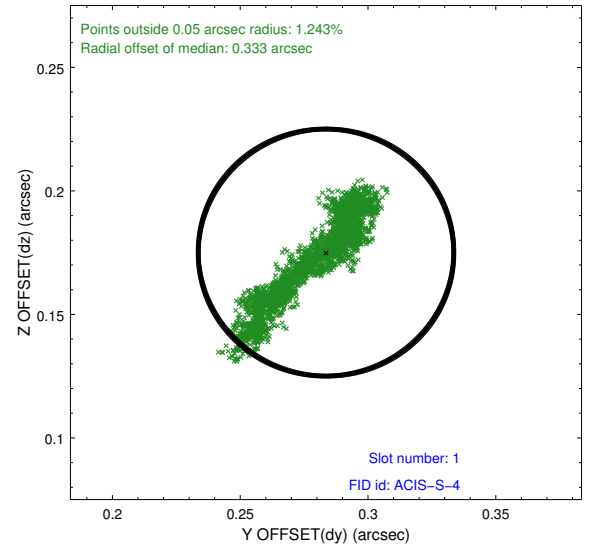
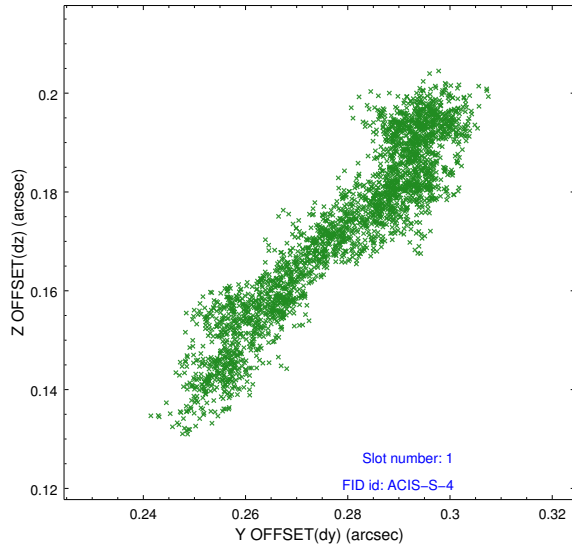


2.5 FID Slots

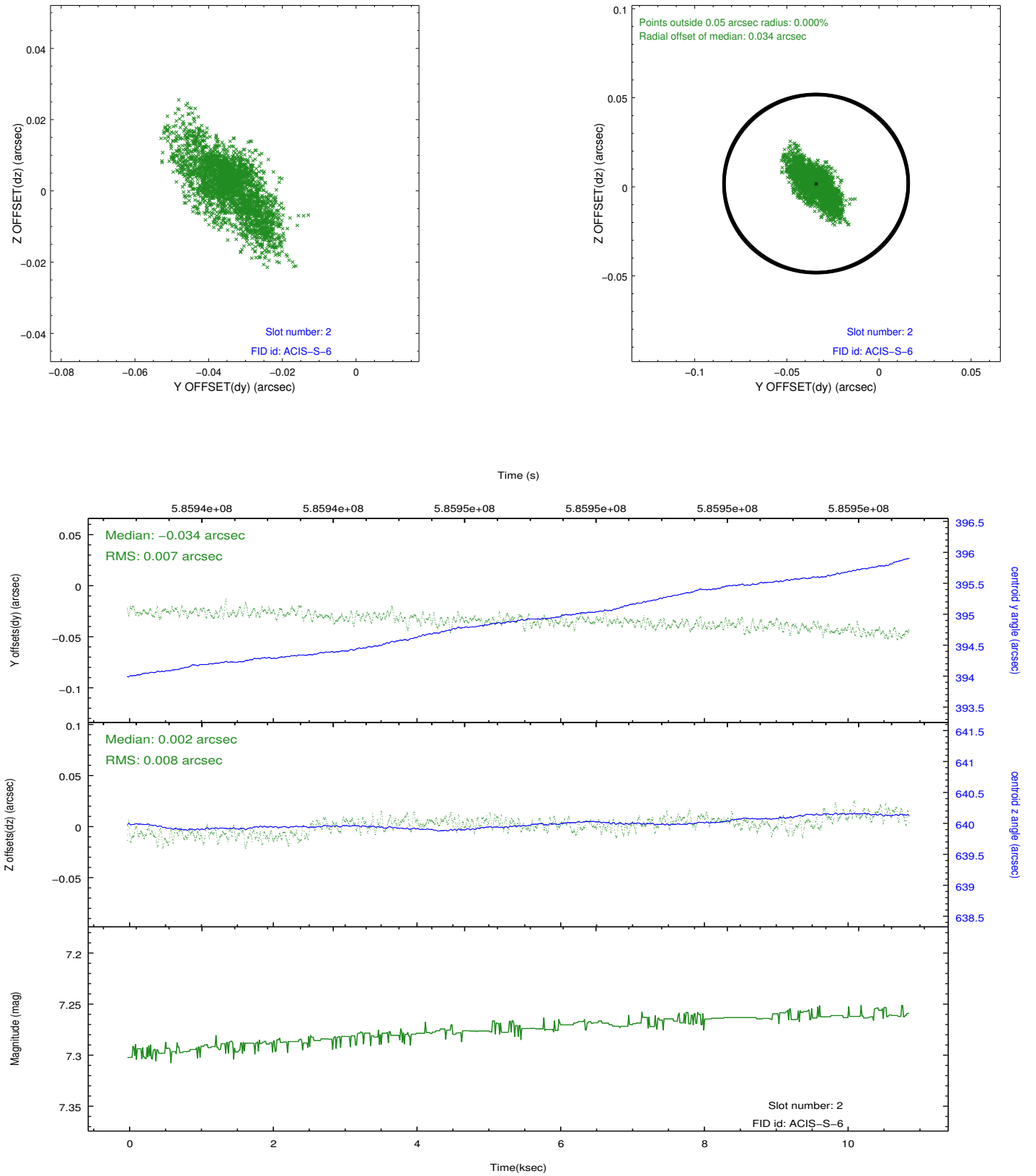
2.5.1 Slot 0



2.5.2 Slot 1

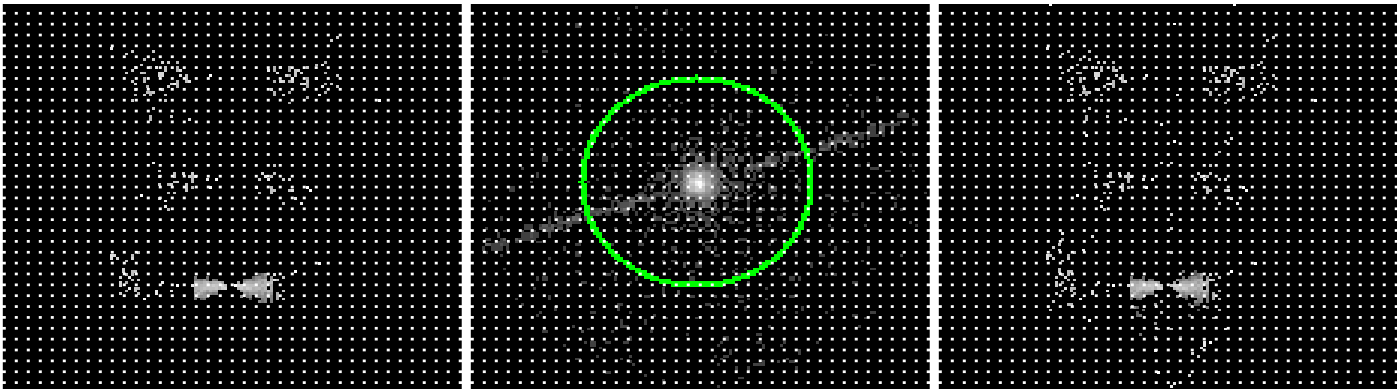


2.5.3 Slot 2



3 Gratings

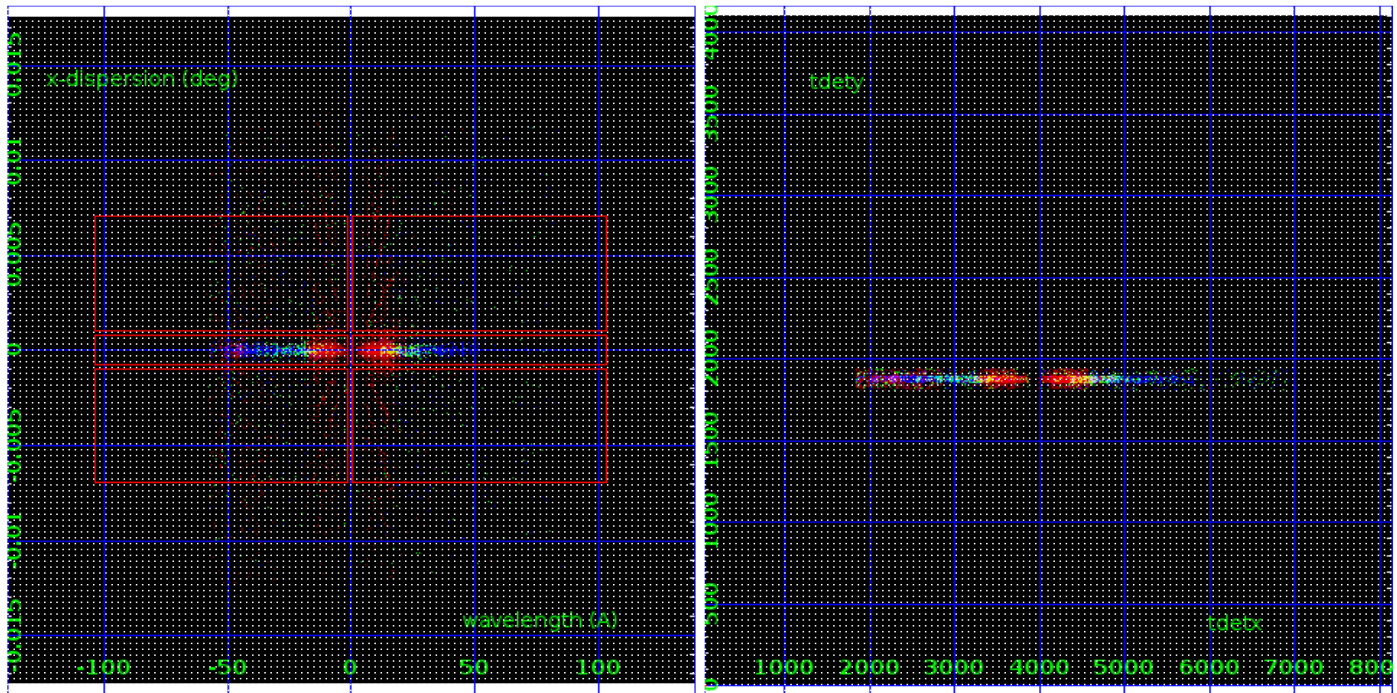
3.1 LETG Arm



LETG Order Sort 123

LETG Zero Order

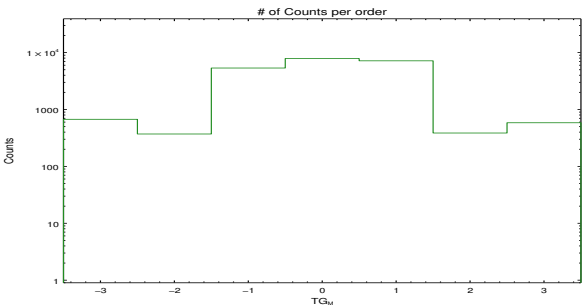
LETG Order Sort ALL

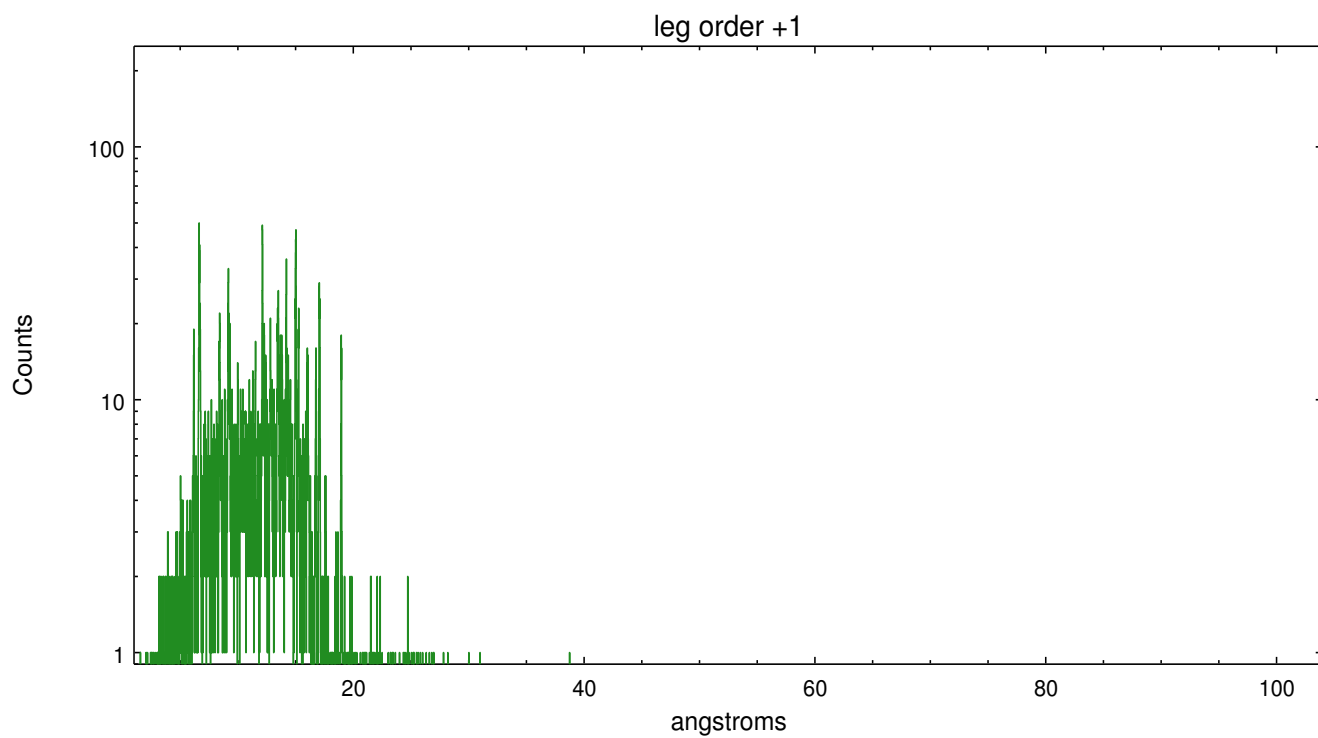
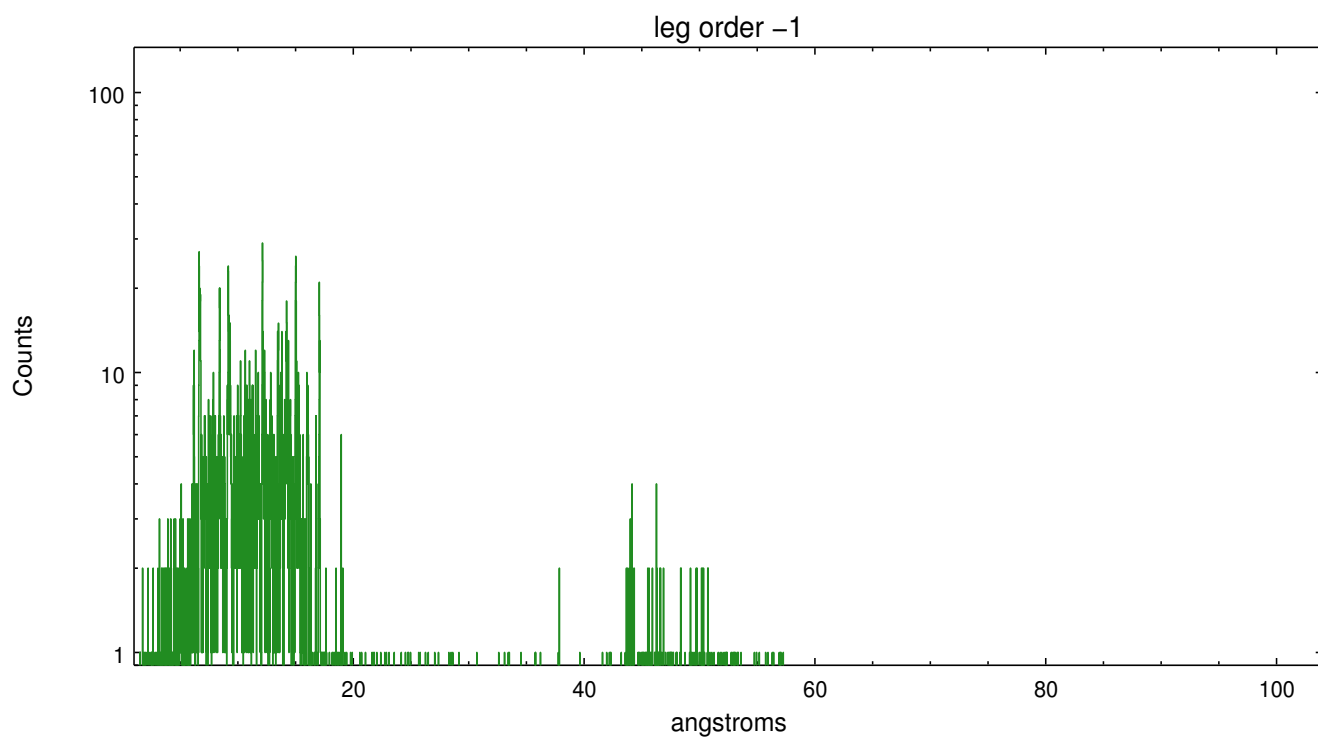


Spot Image LETG

Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	672	371	5356	7858	7173	386	585





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2016.07.27
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.063162831783

A.2 Comments

Gain and CTI correction are not well calibrated on CCD_ID 5 (ACIS-S1). Default order sorting can clip some regions, particularly longward of 30A (first order). User-specified custom processing parameters may be required in `tg_resolve_events` (`osipfile=None`, `osort_lo`, `osort_hi` ~0.5) though this can allow more zeroth order background at short wavelengths.