

V&V Reference Report

L2 ASCDS Version : 10.1.1

Observation 16505 - L2 Version 3
Chandra X-Ray Center

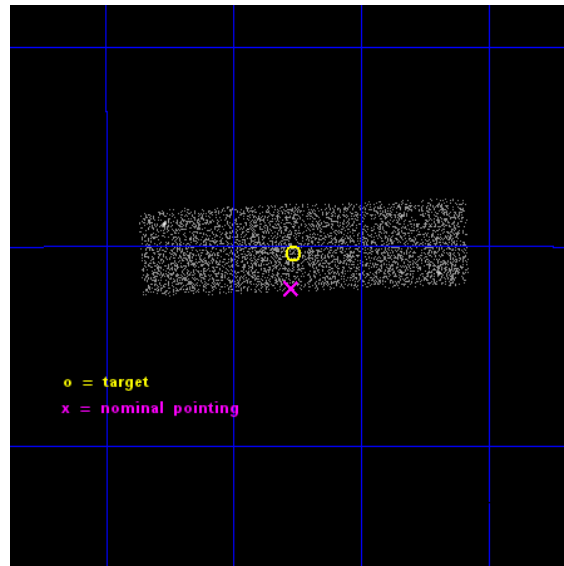
L2 Processing Date : Dec 7 2014

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 2	9
2.4.2	Slot 3	10
2.4.3	Slot 4	11
2.5	FID Slots	12
2.5.1	Slot 0	12
A	Summary	13
A.1	Status	13
A.2	Comments	13

1 Front

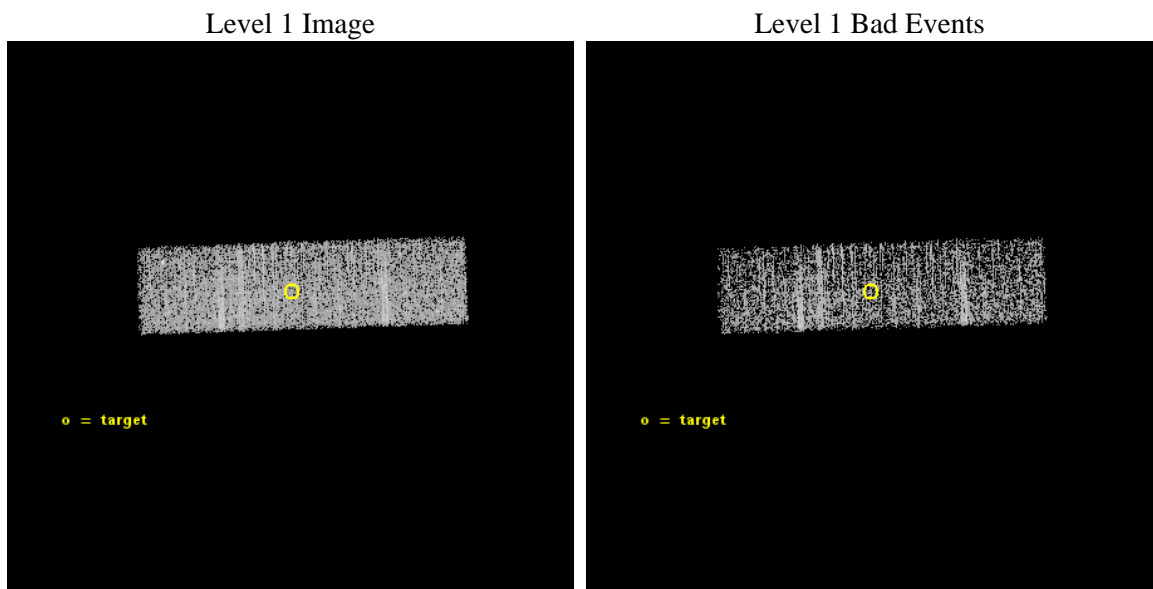
seq_num	100092	Sequence number
obs_id	16505	Observation id
title	Venus at Solar Maximum	Proposal title
observer	Dr. Peter Predehl	Principal investigator
object	Venus	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	273.69126	Observer's specified target RA [deg]
dec_targ	-27.17275	Observer's specified target Dec [deg]
ra_nom	273.69334992492	Nominal RA [deg]
dec_nom	-27.201925201077	Nominal Dec [deg]
roll_nom	268.15501413308	Nominal Roll [deg]
revision	3	Processing version of data
ontime	9076.5949950814	Sum of GTIs [s]
livetime	8849.6026861809	Livetime [s]
ontime1	9083.1591252089	Sum of GTIs [s]
ontime3	9076.5949950814	Sum of GTIs [s]
l2events	6042	Number of level 2 events



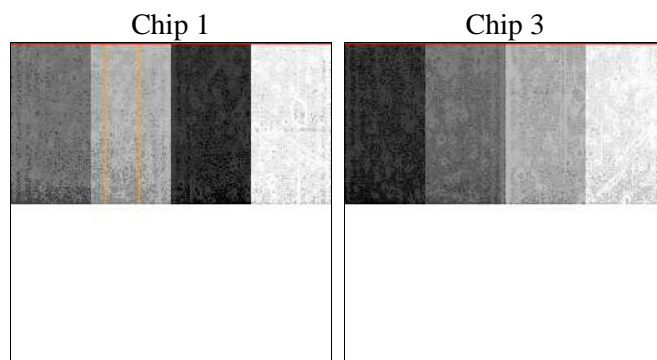
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	8900.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	9076.5949950814	Sum of GTIs [s]
caldsver	4.6.4	 	ontime1	9083.1591252089	Sum of GTIs [s]
date	2014-12-07T21:32:12	Date and time of file creation	ontime3	9076.5949950814	Sum of GTIs [s]
revision	3	Processing version of data	l1events	48964	Number of level 1 events

2.1.4 Events

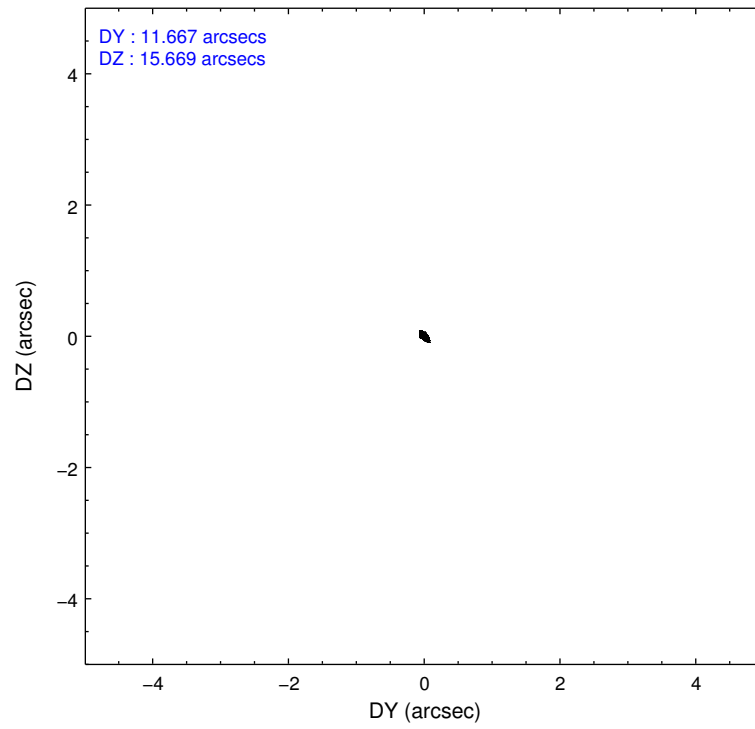
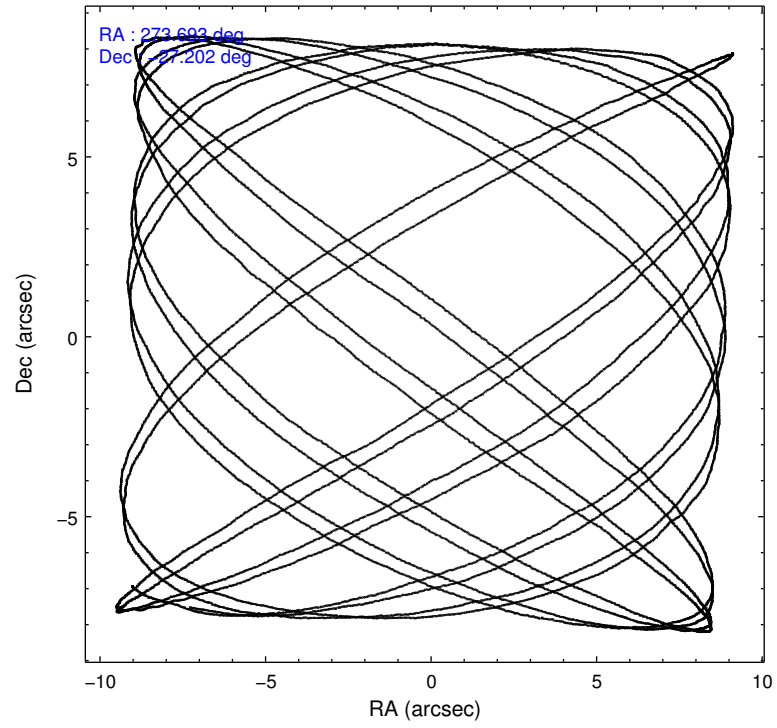
	ccd 1	ccd 3
level 1 events	23872	25092
rejected events	20253	21692
rejected %	84%	86%

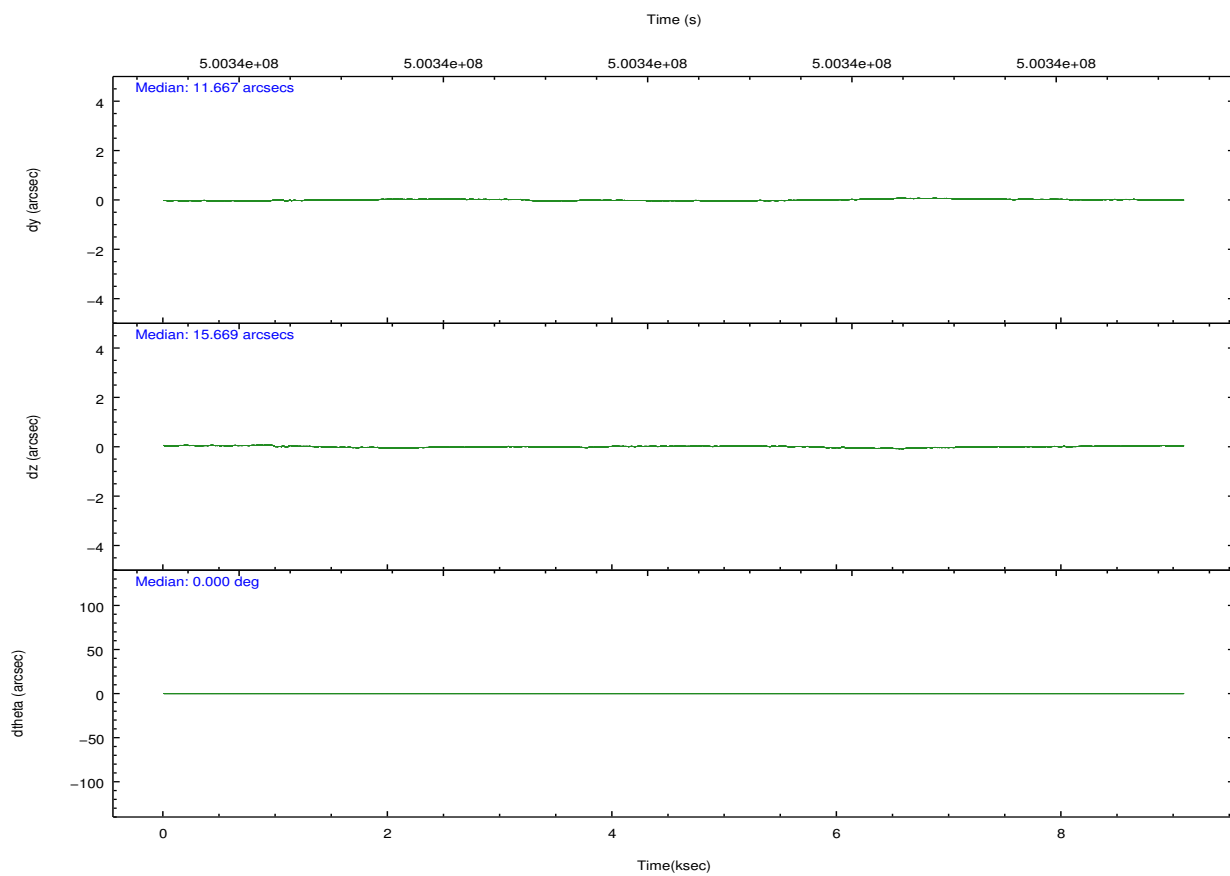
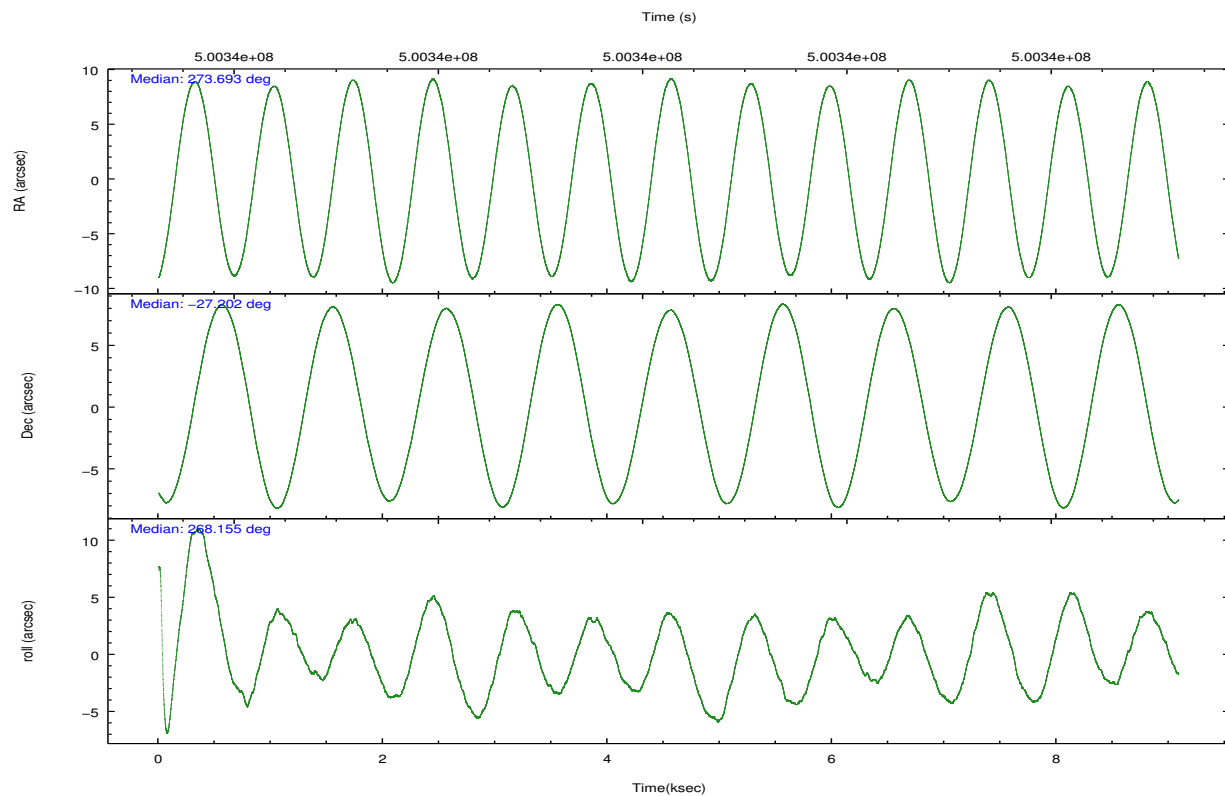
	ccd 1	ccd 3
grade 0 events	1445	1550
	6%	6%
grade 1 events	11	16
	0%	0%
grade 2 events	774	653
	3%	2%
grade 3 events	405	361
	1%	1%
grade 4 events	420	377
	1%	1%
grade 5 events	1268	1345
	5%	5%
grade 6 events	693	574
	2%	2%
grade 7 events	18856	20216
	78%	80%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-13	ACIS-13	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	273.678633	273.6933499249237	Subarray requested	CUSTOM	1/2
[deg] Pointing Dec	-27.177709	-27.20192520107684	Subarray start row	512	512
[deg] Pointing Roll	267.939610	268.1550141330803	Subarray row count	512	512
[s] Window start time (MET)	498009667.184000	498009667.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	501120067.184000	501120067.184000	[s] Primary exposure time	0.000000	1.6
[mm] SIM focus pos	-0.782348	-0.7809083437167272			
[mm] SIM defocus	0	0.001439871863259334			
[mm] SIM translation stage pos	-233.592463	-233.5874344608287			
[mm] SIM translation stage offset	0	-0.005018542100998502			
[s] Observation start time (MET)	500335906.184000	500335529.76747			
Observation start date	2013-11-08T22:10:39	2013-11-08T22:05:29			
[s] Observation end time (MET)	500344806.184000	500344939.78049			
Observation end date	2013-11-09T00:38:59	2013-11-09T00:42:19			
Read mode	TIMED	TIMED			

2.3 Aspect



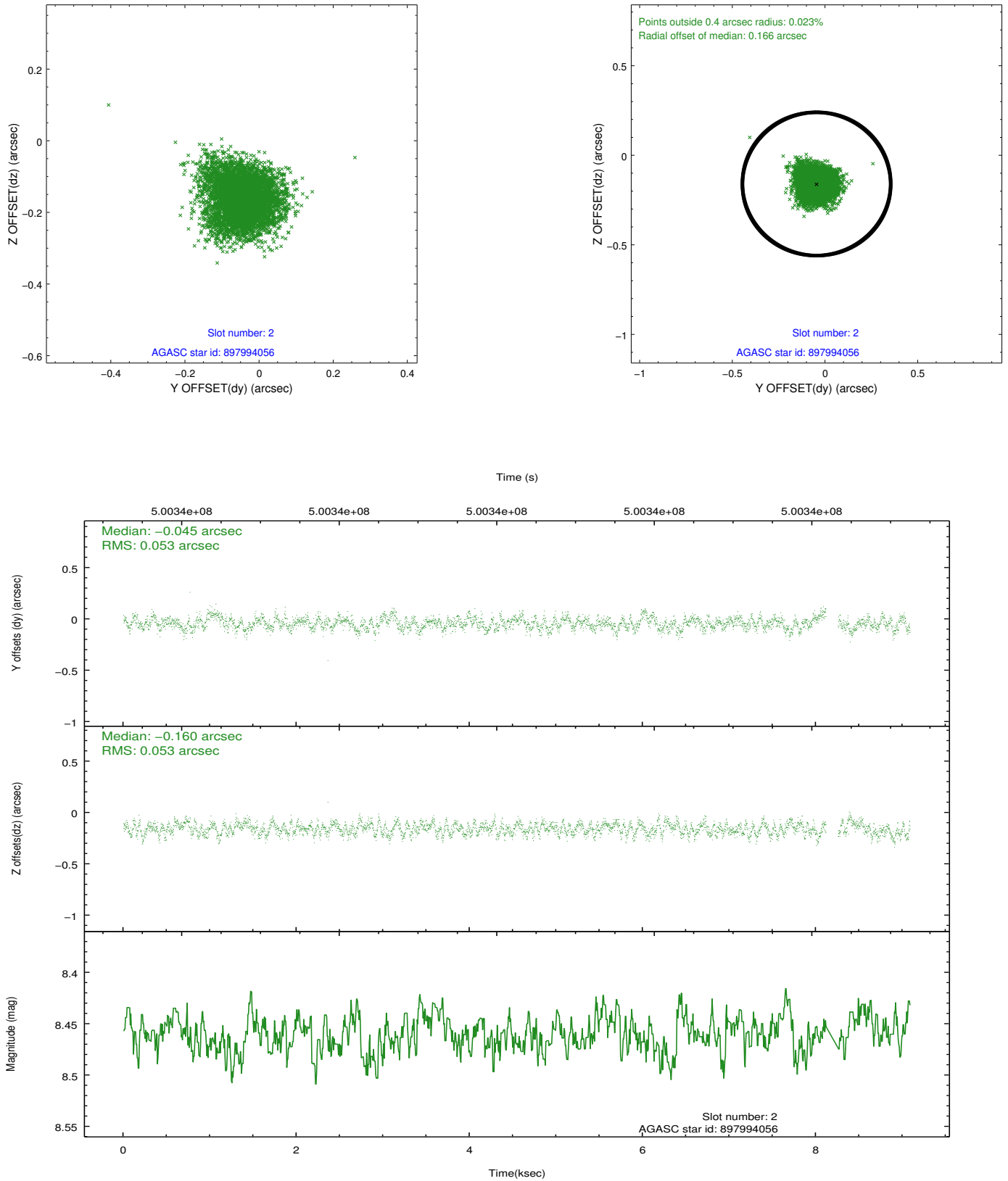


Slot Statistics

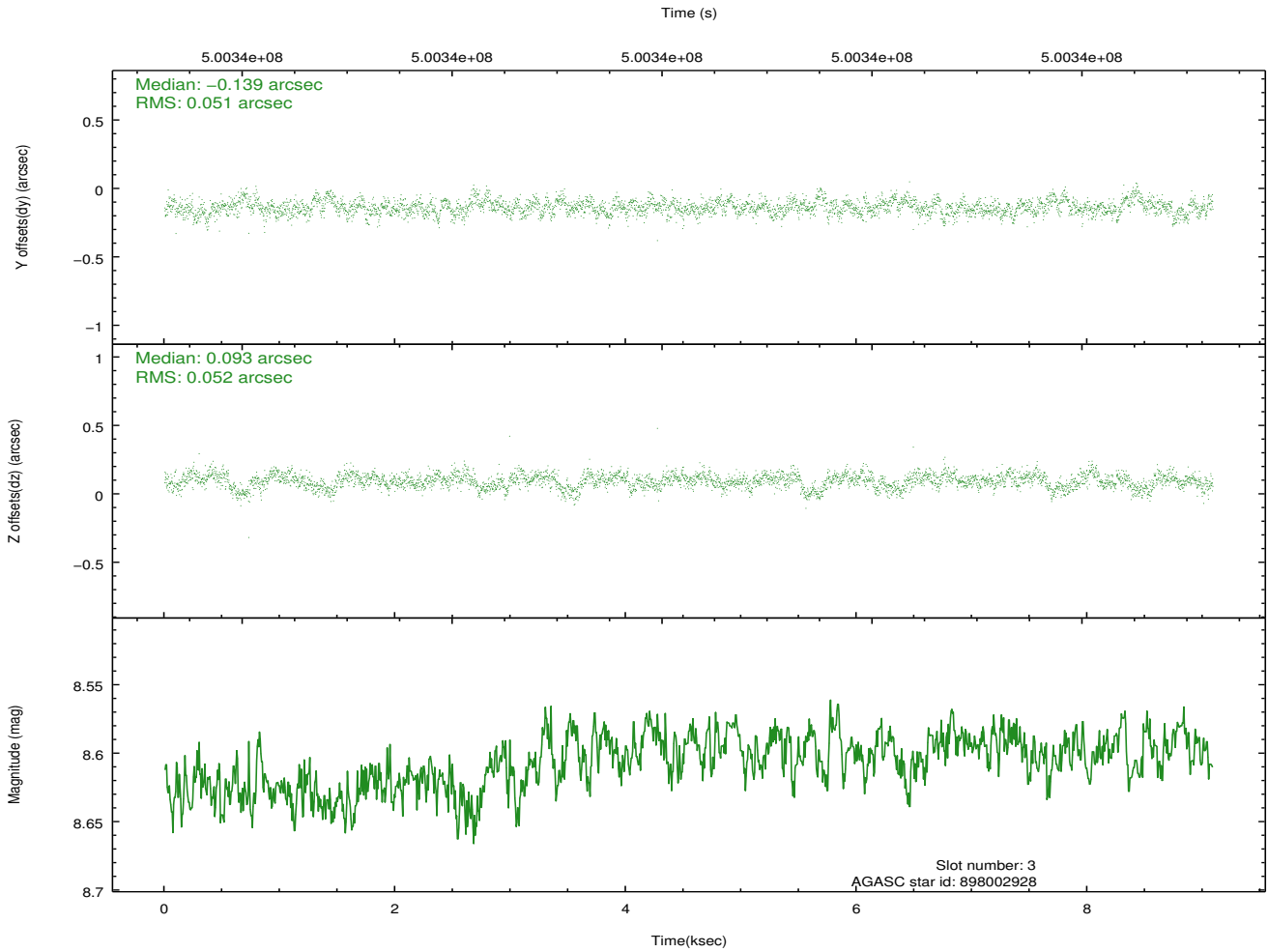
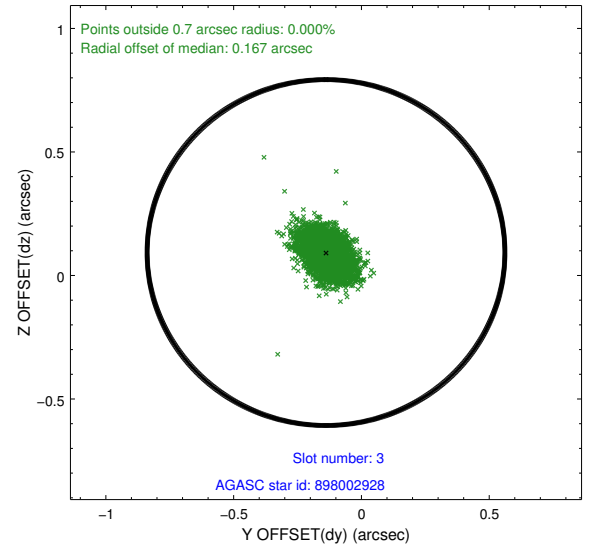
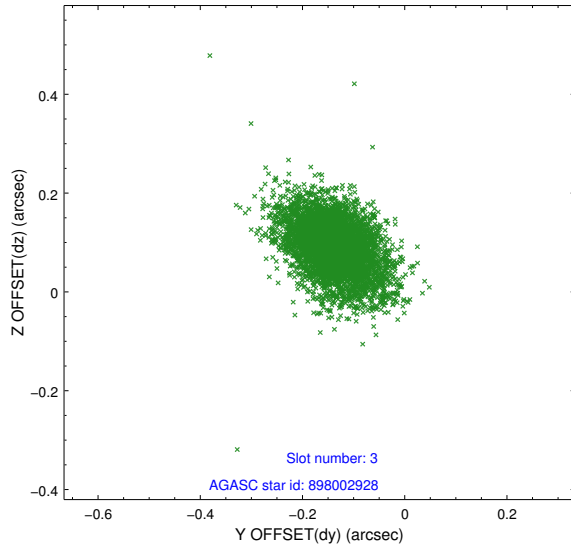
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.05	2216	-0.029	0.024	0.000	0.000	0.000000	0.000000	927.82	-839.29
1	UNUSED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
2	GUIDE	used	897994056	8.46	4362	-0.045	-0.160	0.081	0.127	273.329575	-27.215143	177.13	-1111.75
3	GUIDE	used	898002928	8.60	4433	-0.139	0.093	0.074	0.129	273.073267	-27.720977	2029.18	-1857.49
4	GUIDE	used	898026352	7.61	4432	0.183	0.069	0.067	0.112	273.545108	-27.502819	1186.52	-384.16
5	UNUSED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
6	UNUSED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
7	UNUSED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00

2.4 Star Slots

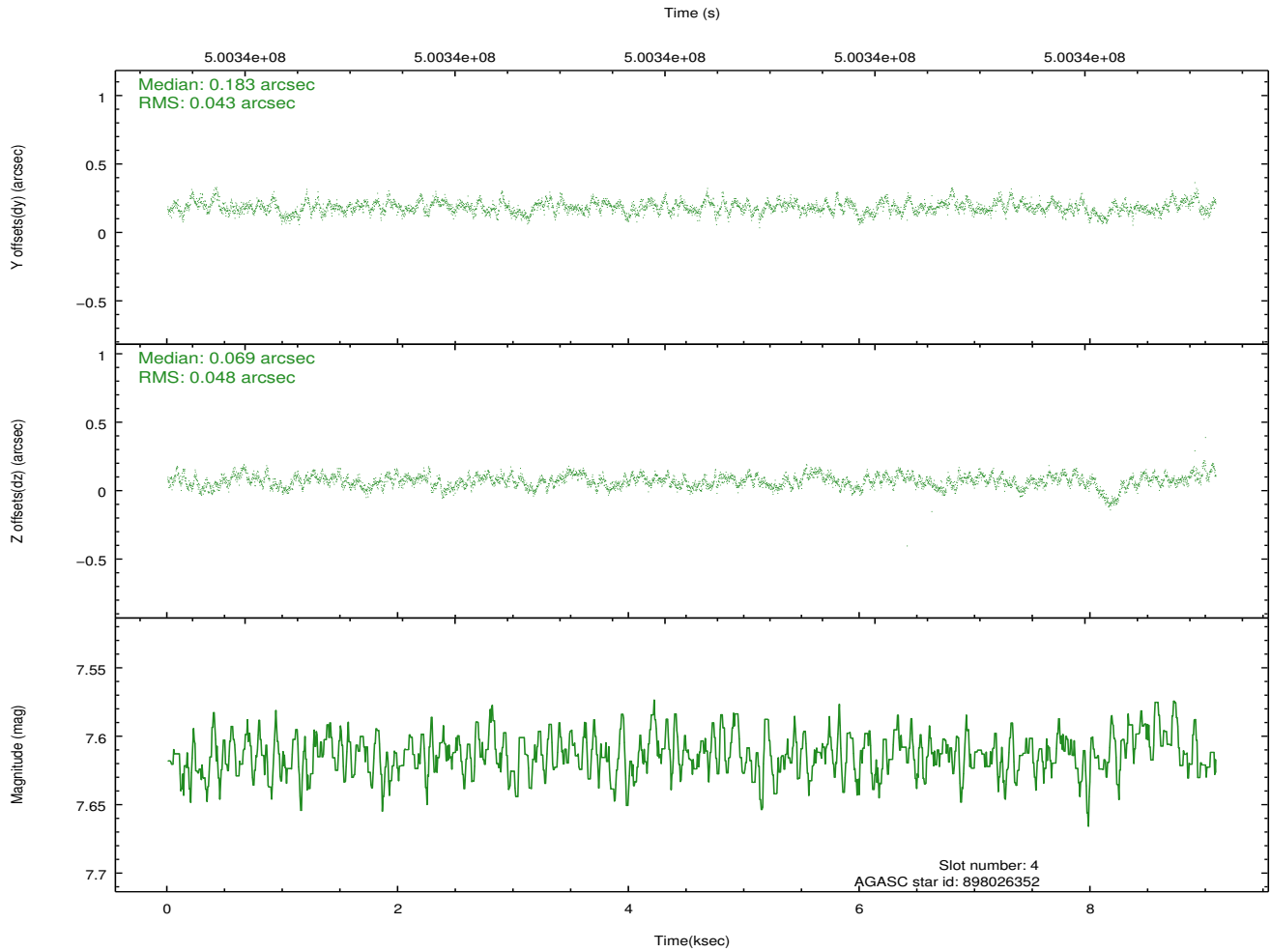
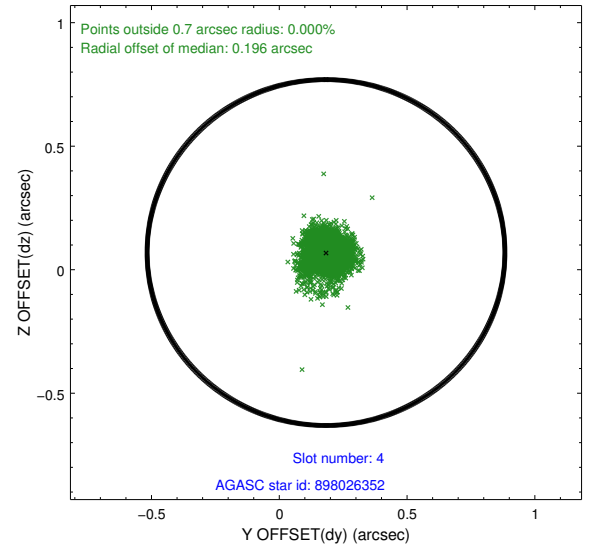
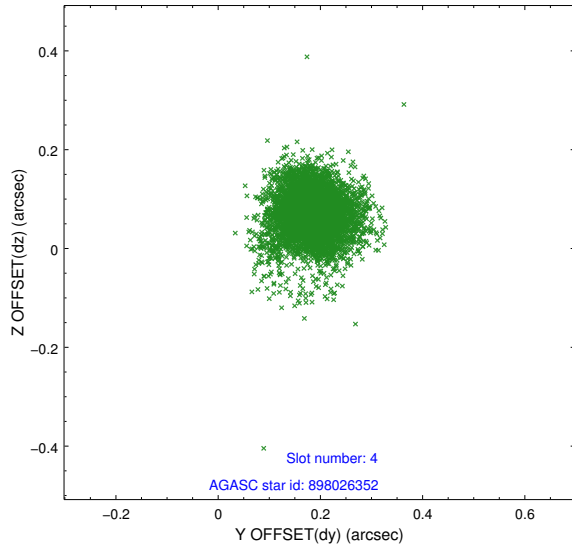
2.4.1 Slot 2



2.4.2 Slot 3

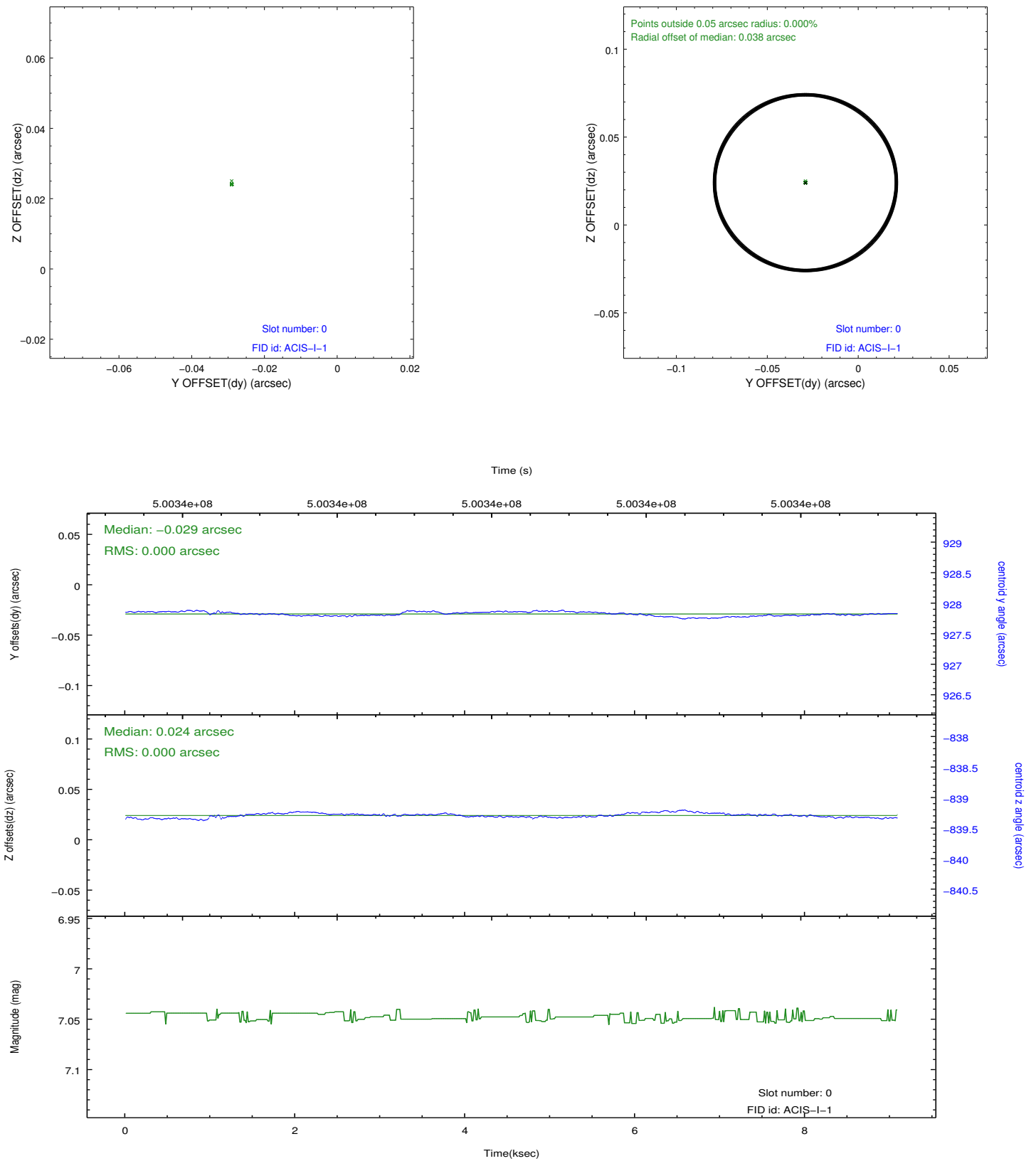


2.4.3 Slot 4



2.5 FID Slots

2.5.1 Slot 0



A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2014.12.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.0765949950814

A.2 Comments

Window constraint met.

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This is a moving target. Users will need to run sso_freeze or similar software to position the events in the reference frame of the target.

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The presence of the optically bright Venus on the aspect camera CCD significantly degraded the star tracking and fiducial light registration capabilities of the system. As only one fiducial light was successfully tracked, the aspect solution may have an uncompensated offset in roll. As a reduced number of stars were available for tracking, the image reconstruction is degraded and the astrometric accuracy may be reduced.

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These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.