

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 14537 - L2 Version 2  
Chandra X-Ray Center

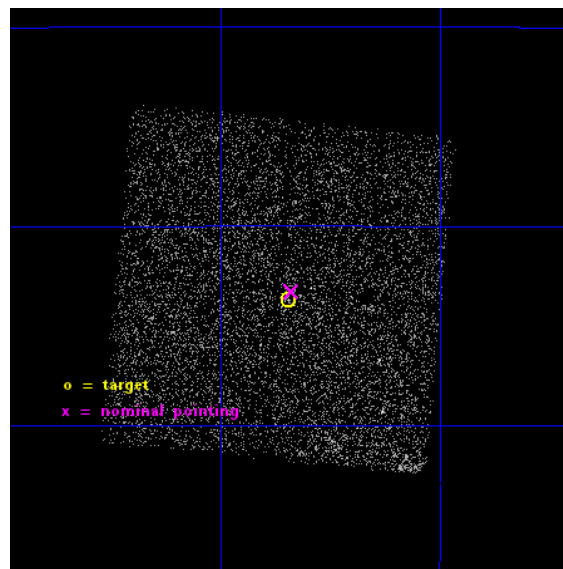
L2 Processing Date : Dec 1 2014

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# 1 Front

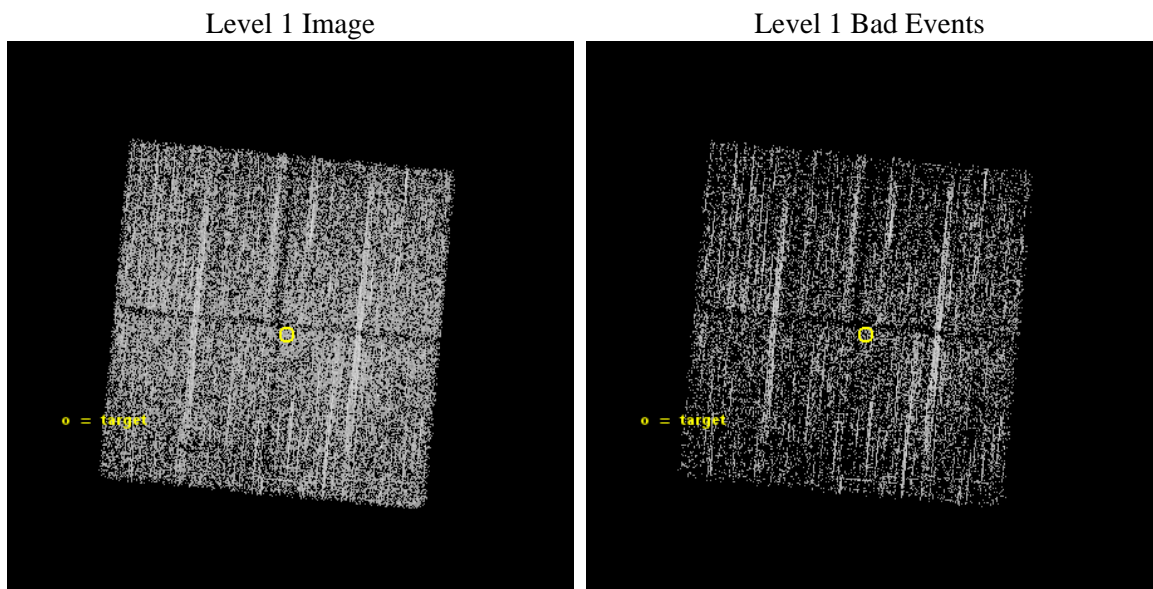
seq_num	200838	Sequence number
obs_id	14537	Observation id
title	X-Rays from the Massive Protostar IRAS 16562-3959	Proposal title
observer	Dr. Peter Hofner	Principal investigator
object	IRAS 16562-3959	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	254.923333	Observer's specified target RA [deg]
dec_targ	-40.062111	Observer's specified target Dec [deg]
ra_nom	254.91922969085	Nominal RA [deg]
dec_nom	-40.054694285134	Nominal Dec [deg]
roll_nom	95.450497095329	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5083.9589887261	Sum of GTIs [s]
livetime	5017.5333217823	Livetime [s]
ontime0	5087.0454711318	Sum of GTIs [s]
ontime1	5087.0865111351	Sum of GTIs [s]
ontime2	5087.1000391245	Sum of GTIs [s]
ontime3	5083.9589887261	Sum of GTIs [s]
l2events	11028	Number of level 2 events



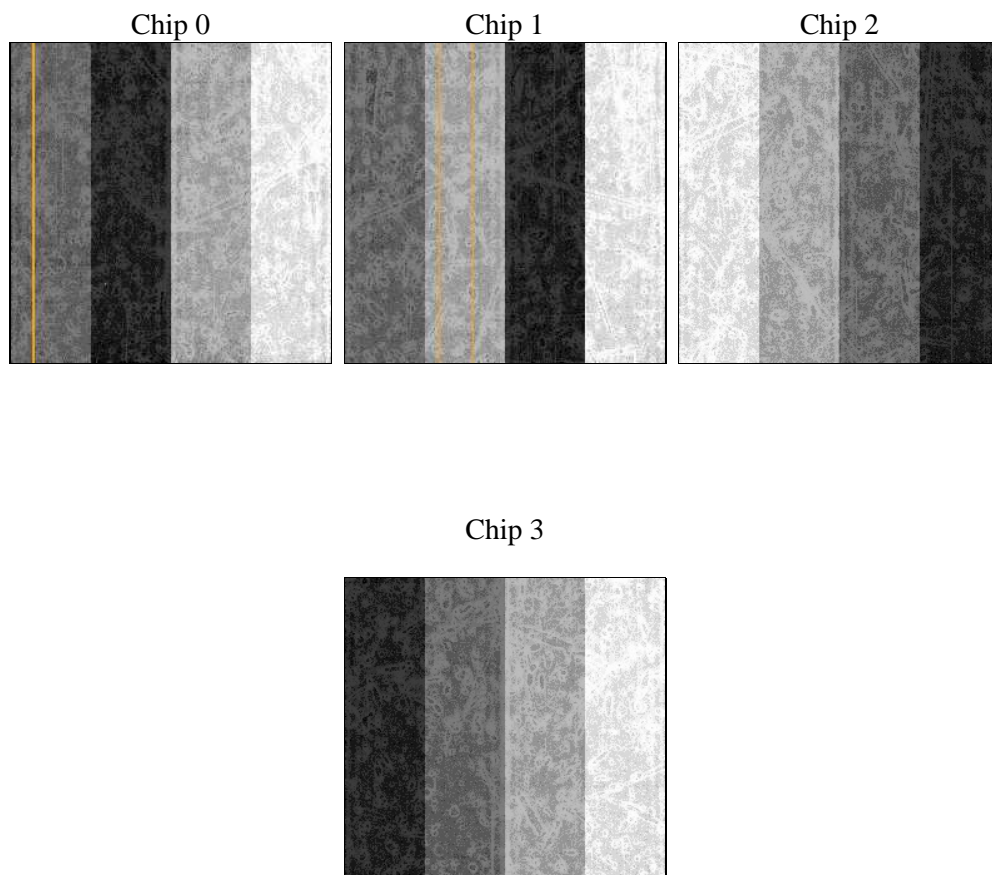
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	5083.9589887261	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime0	5087.0454711318	Sum of GTIs [s]
date	2014-12-01T08:38:15	Date and time of file creation	ontime1	5087.0865111351	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	5087.1000391245	Sum of GTIs [s]
			ontime3	5083.9589887261	Sum of GTIs [s]
			l1events	101438	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3
level 1 events	25549	23336	25005	27548
rejected events	22353	20050	21964	23855
rejected %	87%	85%	87%	86%

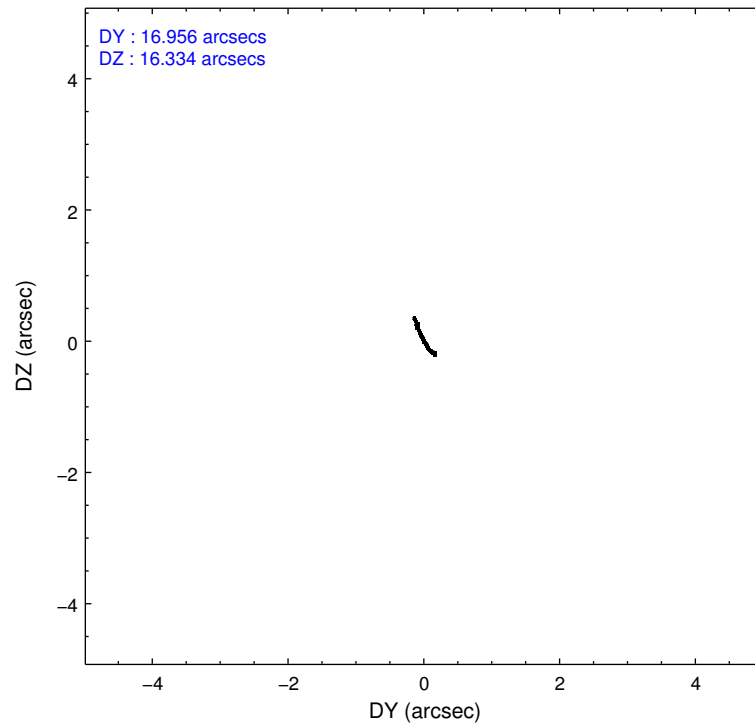
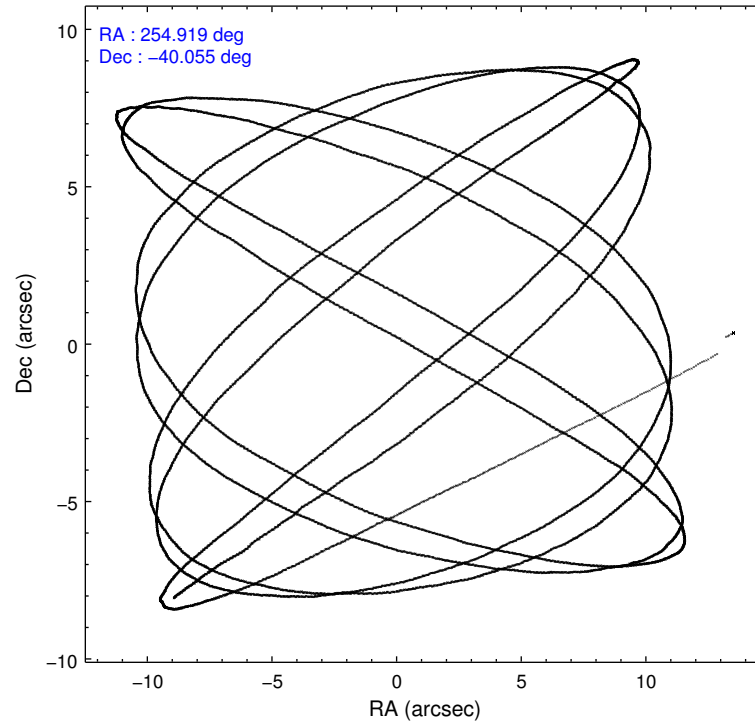
	ccd 0	ccd 1	ccd 2	ccd 3
grade 0 events	1183	1115	1213	1642
	4%	4%	4%	5%
grade 1 events	10	11	13	21
	0%	0%	0%	0%
grade 2 events	750	767	732	727
	2%	3%	2%	2%
grade 3 events	339	354	299	316
	1%	1%	1%	1%
grade 4 events	315	348	292	350
	1%	1%	1%	1%
grade 5 events	1053	1061	903	1214
	4%	4%	3%	4%
grade 6 events	611	704	507	661
	2%	3%	2%	2%
grade 7 events	21288	18976	21046	22617
	83%	81%	84%	82%

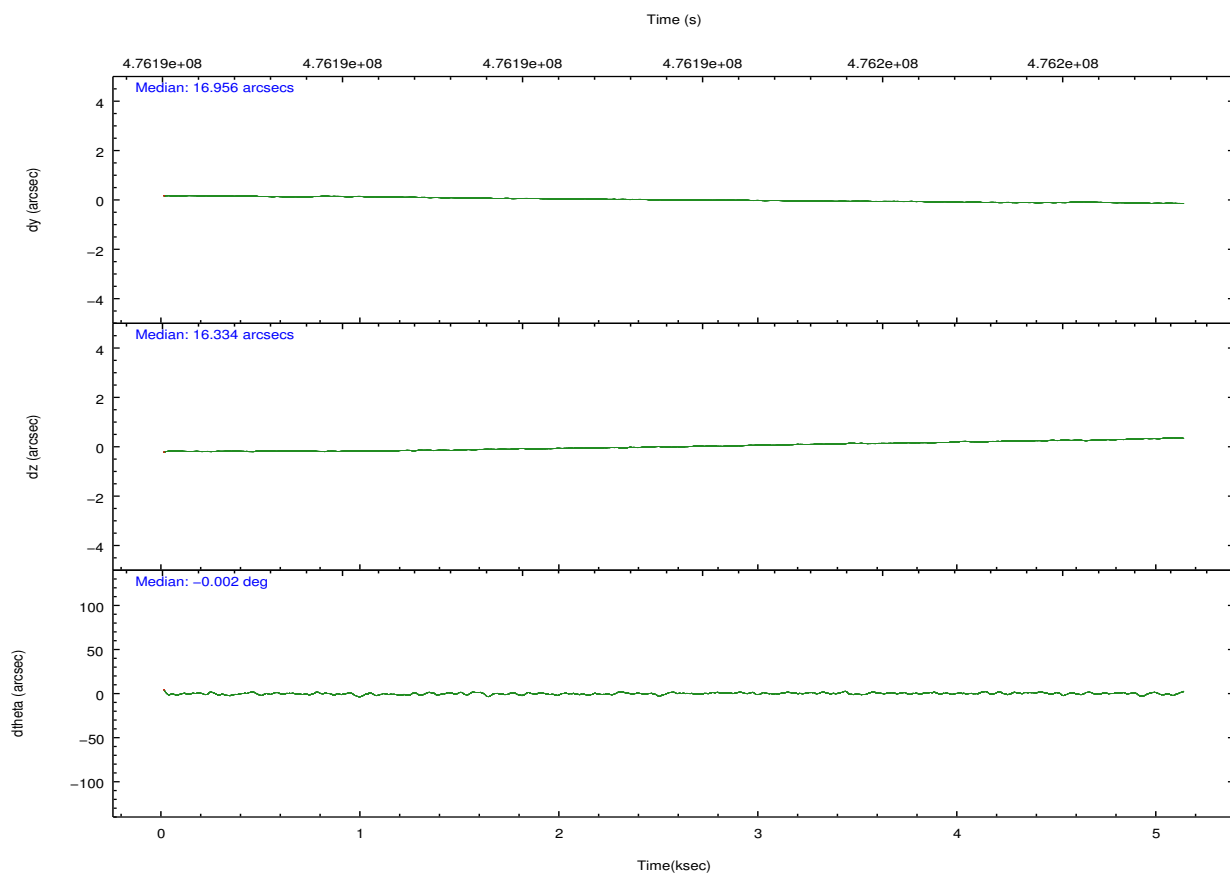
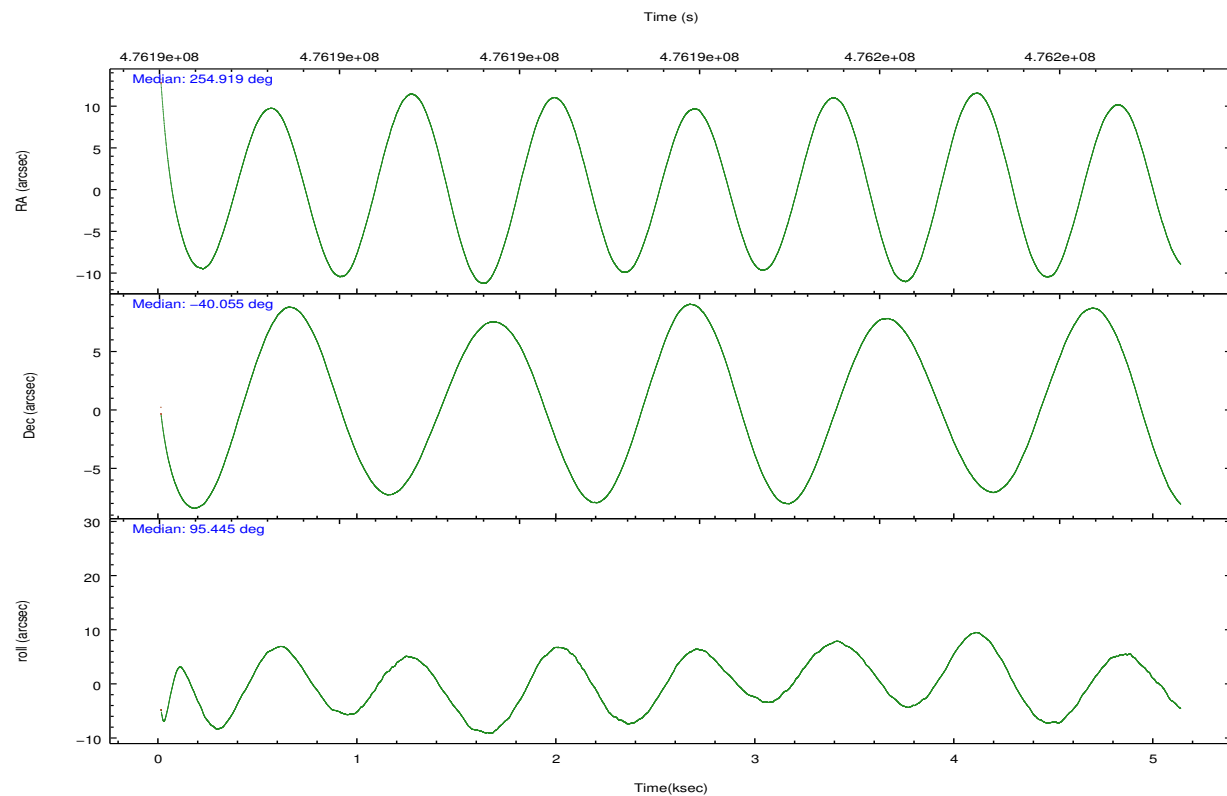


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-0123	ACIS-0123	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	254.940207	254.9192296908453	Subarray requested	NONE	NONE
[deg] Pointing Dec	-40.076990	-40.05469428513354	Alternating exposures requested	N	N
[deg] Pointing Roll	95.255374	95.45049709532854	[s] Primary exposure time	0.000000	3.1
[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)	476191404.184000	476190174.38001			
Observation start date	2013-02-02T11:22:17	2013-02-02T11:02:54			
[s] Observation end time (MET)	476196404.184000	476197215.61789			
Observation end date	2013-02-02T12:45:37	2013-02-02T13:00:15			
Read mode	TIMED	TIMED			

## 2.3 Aspect



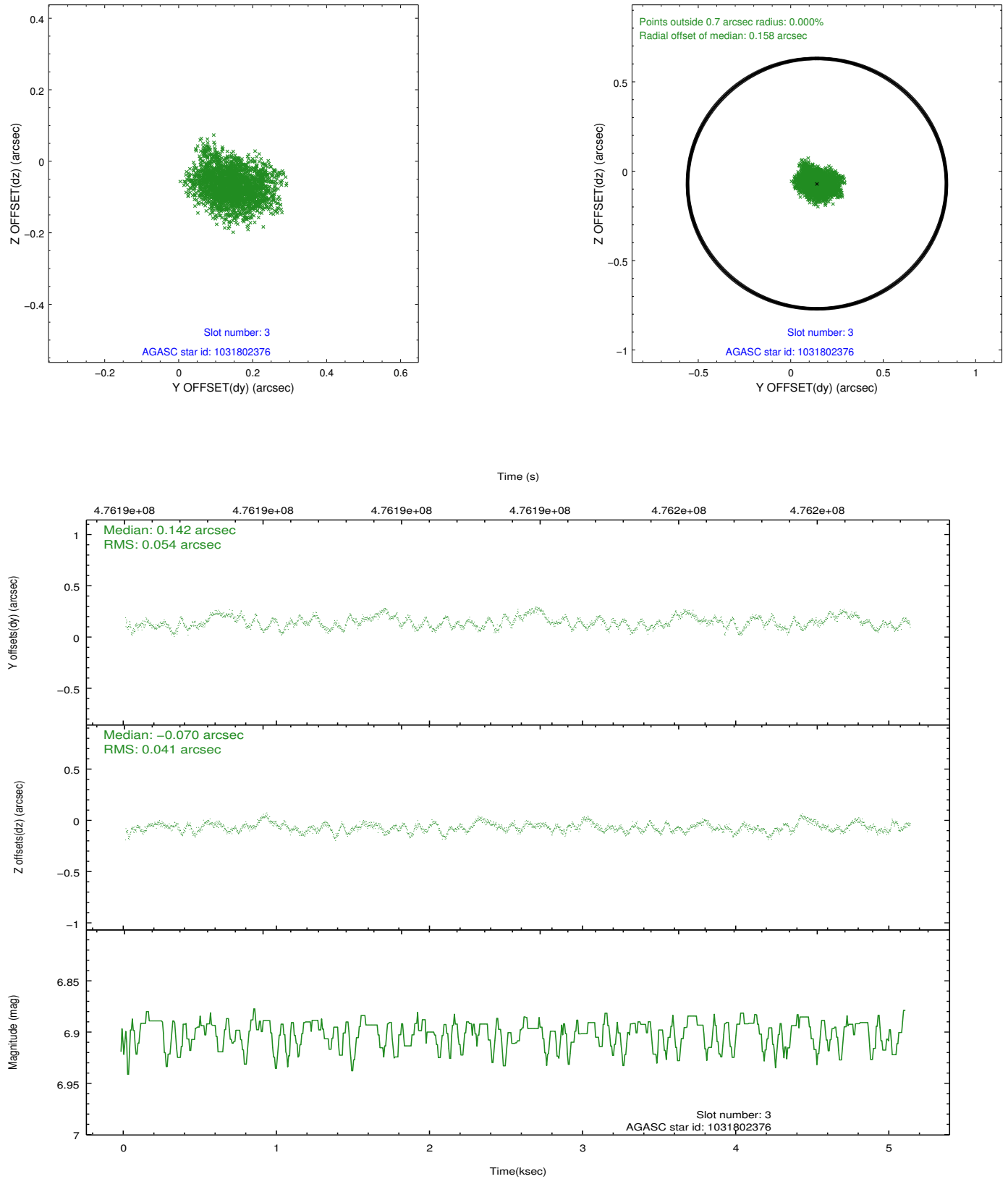


### Slot Statistics

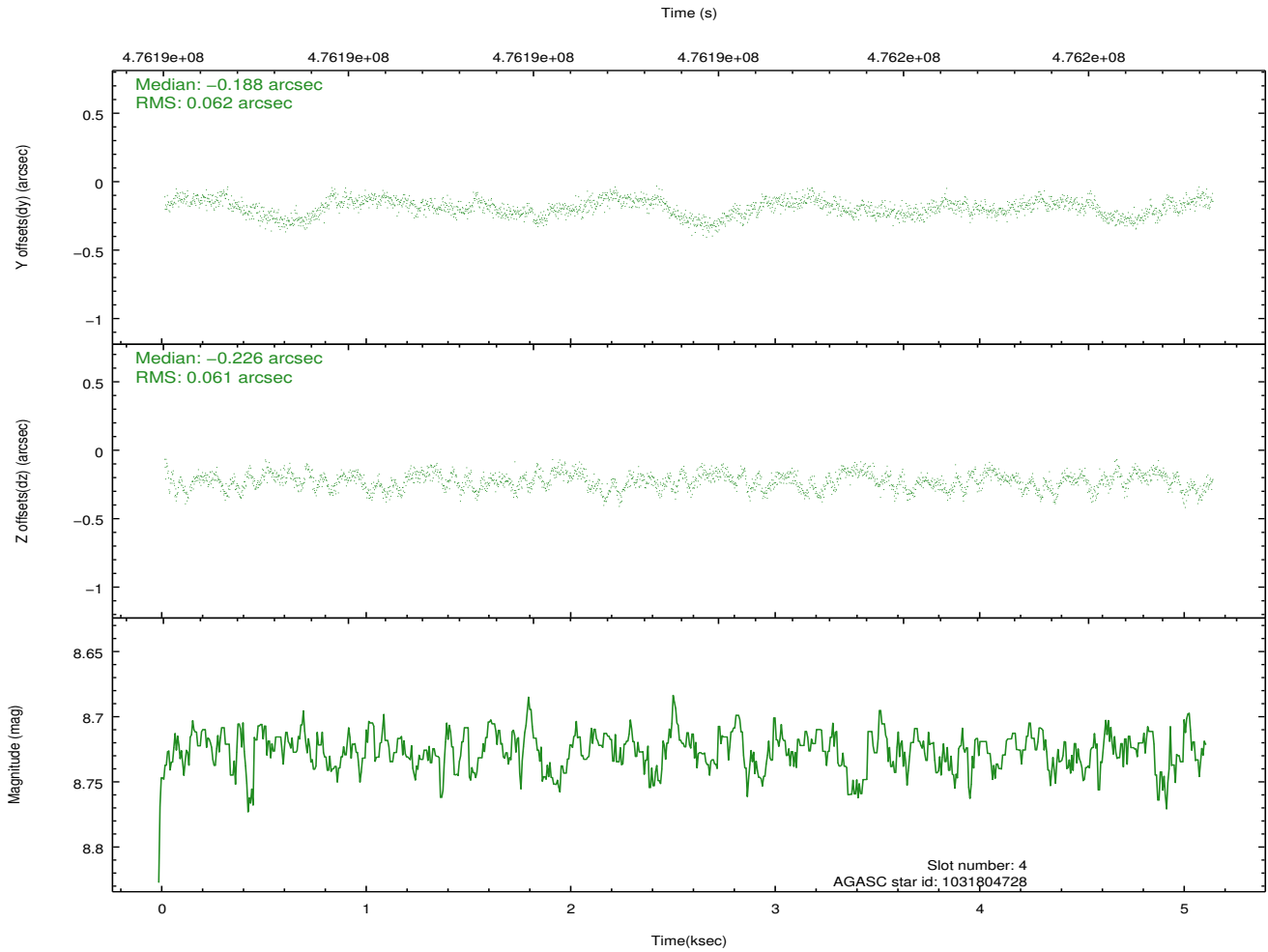
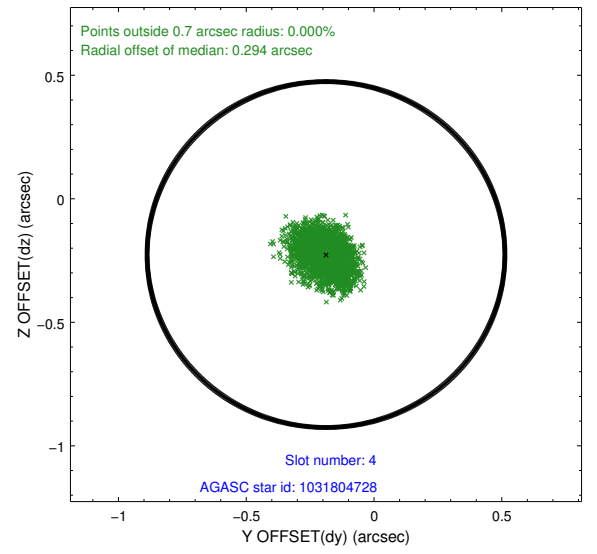
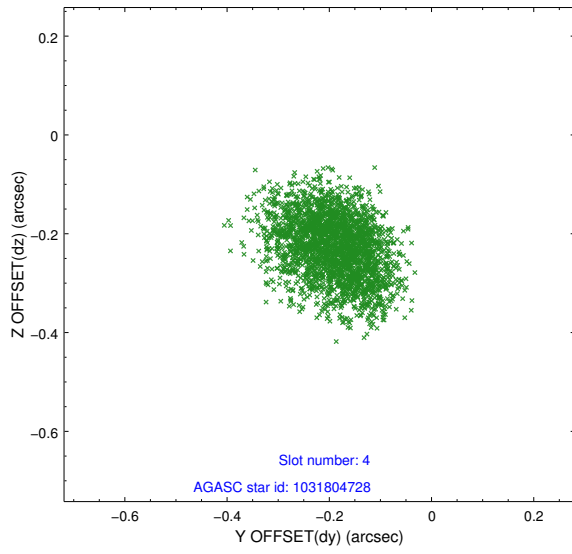
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.16	1251	-0.063	-0.029	0.014	0.023	0.000000	0.000000	922.37	-840.02
1	FID		ACIS-I-2	7.08	1251	-0.196	-0.084	0.012	0.017	0.000000	0.000000	-771.20	-847.11
2	FID		ACIS-I-4	7.08	1251	0.160	0.182	0.010	0.016	0.000000	0.000000	2141.94	1059.39
3	GUIDE	used	1031802376	6.90	2501	0.142	-0.070	0.074	0.117	254.526844	-40.352616	-886.33	1220.26
4	GUIDE	used	1031804728	8.73	2497	-0.188	-0.226	0.094	0.149	254.103364	-39.579793	1983.72	2149.67
5	GUIDE	used	1031813808	8.28	2499	0.083	0.036	0.073	0.111	254.789150	-40.300097	-761.17	487.34
6	GUIDE	used	1031810336	9.53	2497	0.085	0.044	0.149	0.240	254.485442	-40.352443	-876.55	1333.59
7	GUIDE	used	1031934544	9.16	2498	-0.125	0.214	0.103	0.163	255.278125	-39.381282	2405.95	-1164.76

## 2.4 Star Slots

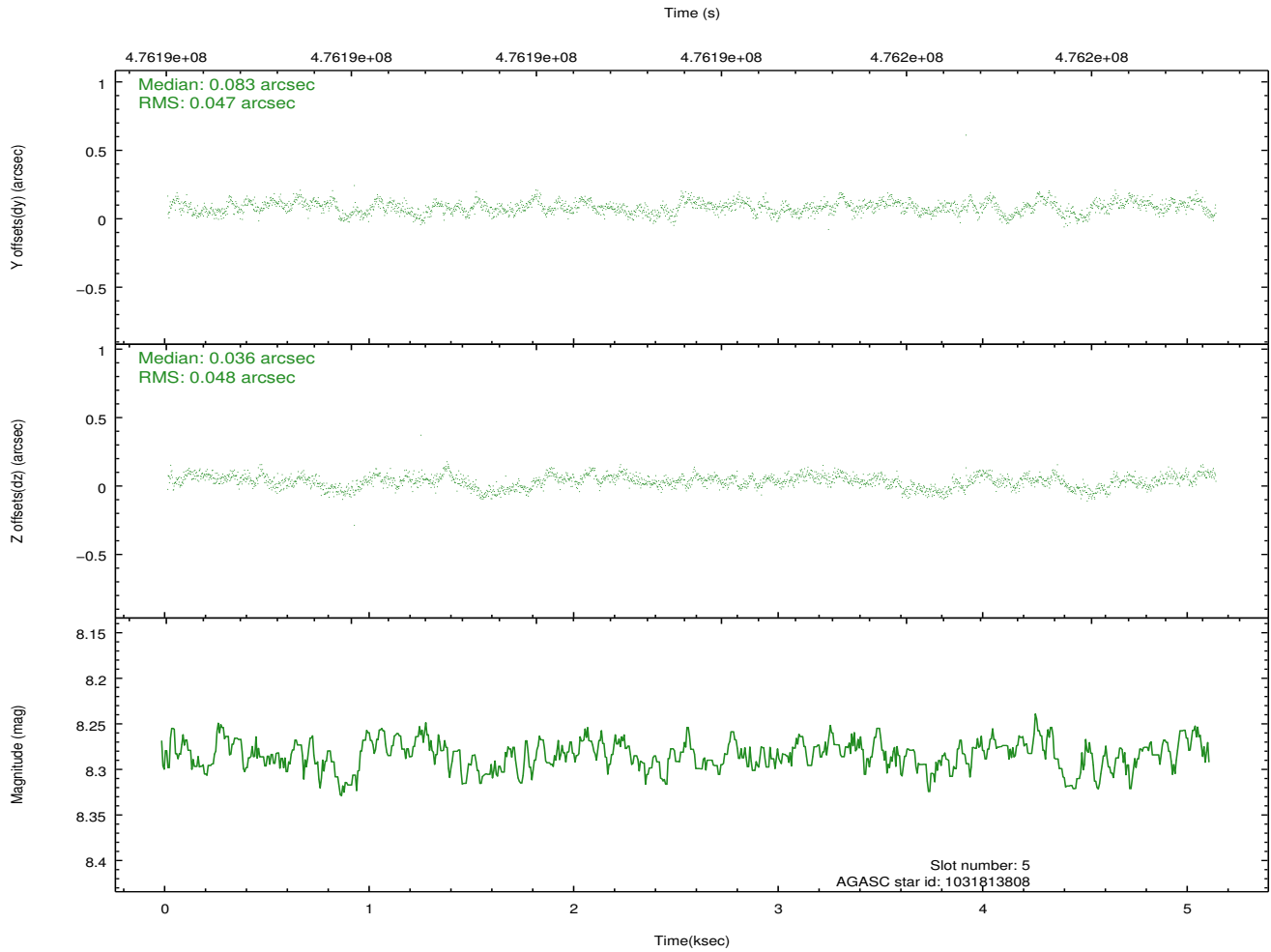
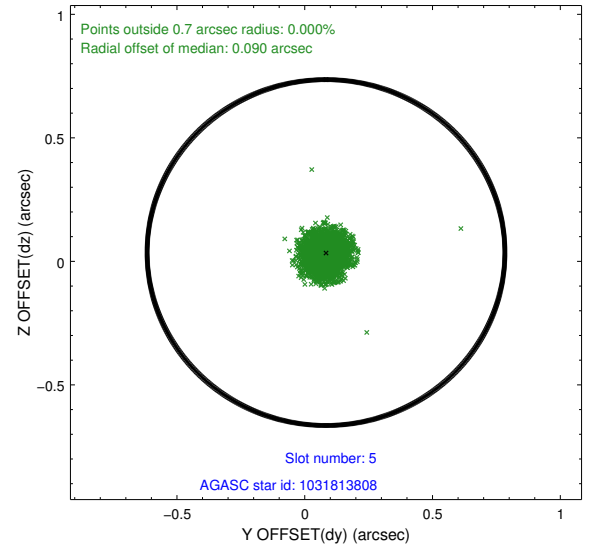
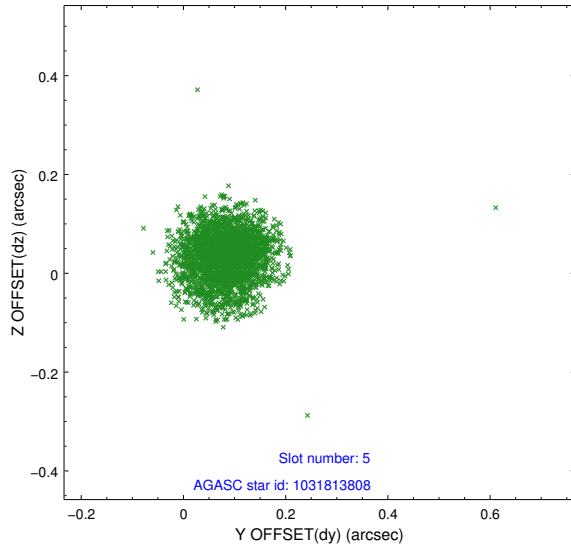
### 2.4.1 Slot 3



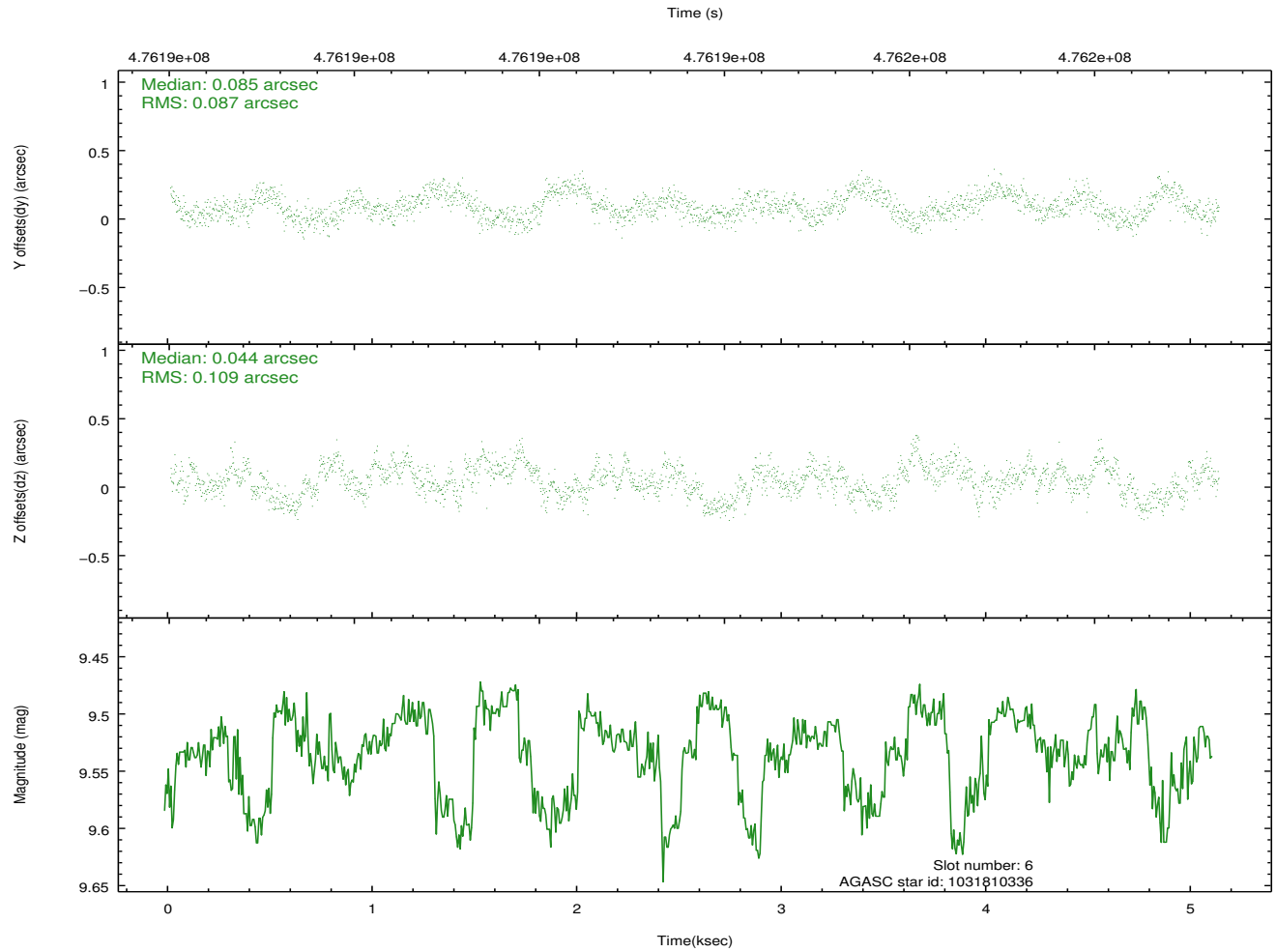
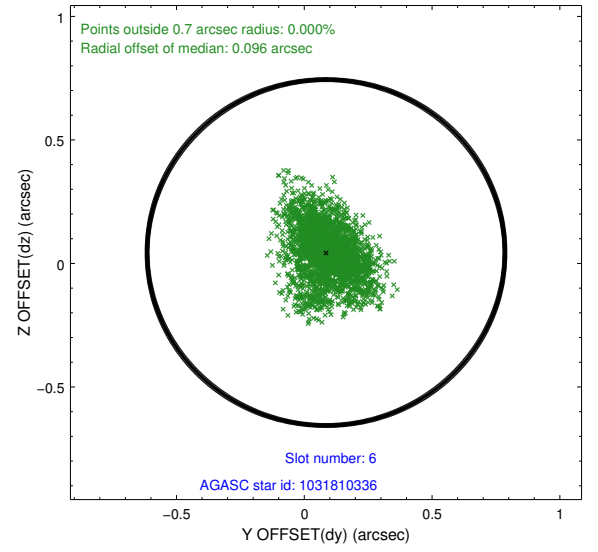
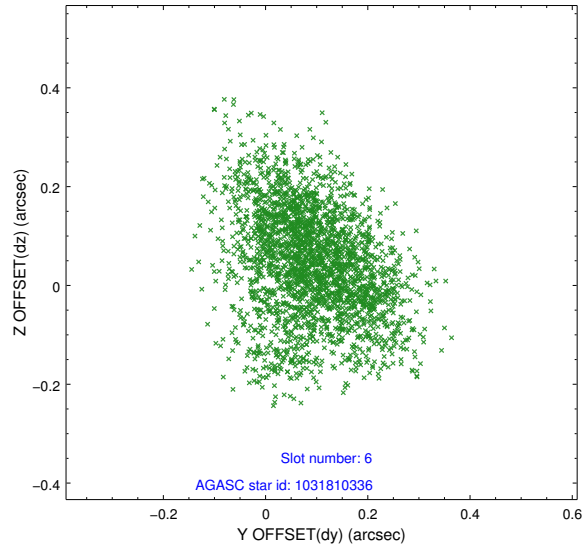
## 2.4.2 Slot 4



### 2.4.3 Slot 5

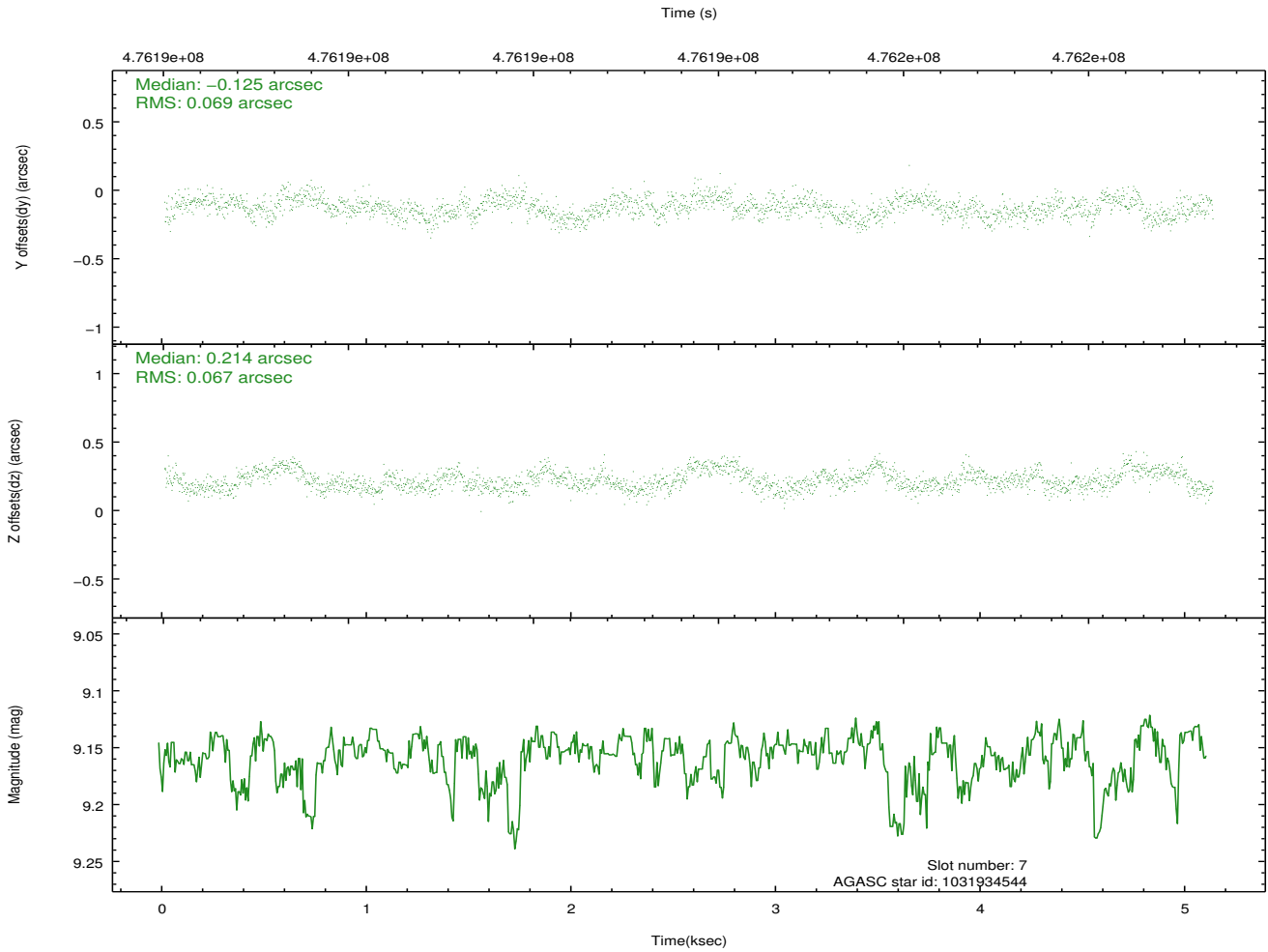
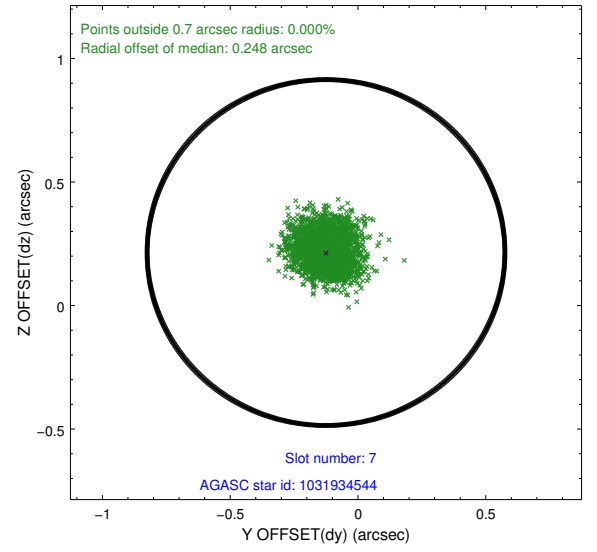
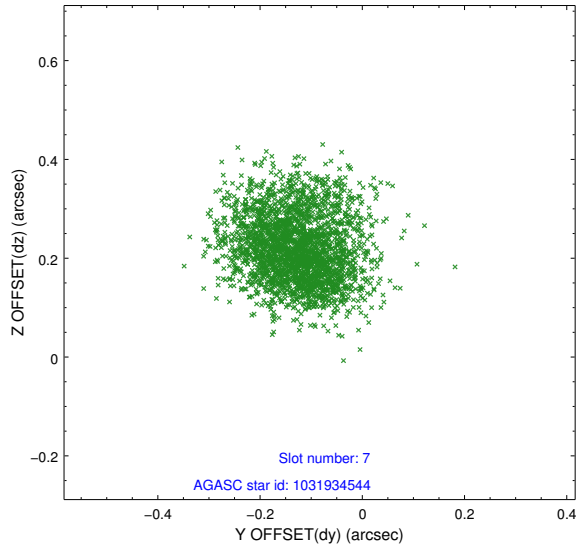


## 2.4.4 Slot 6



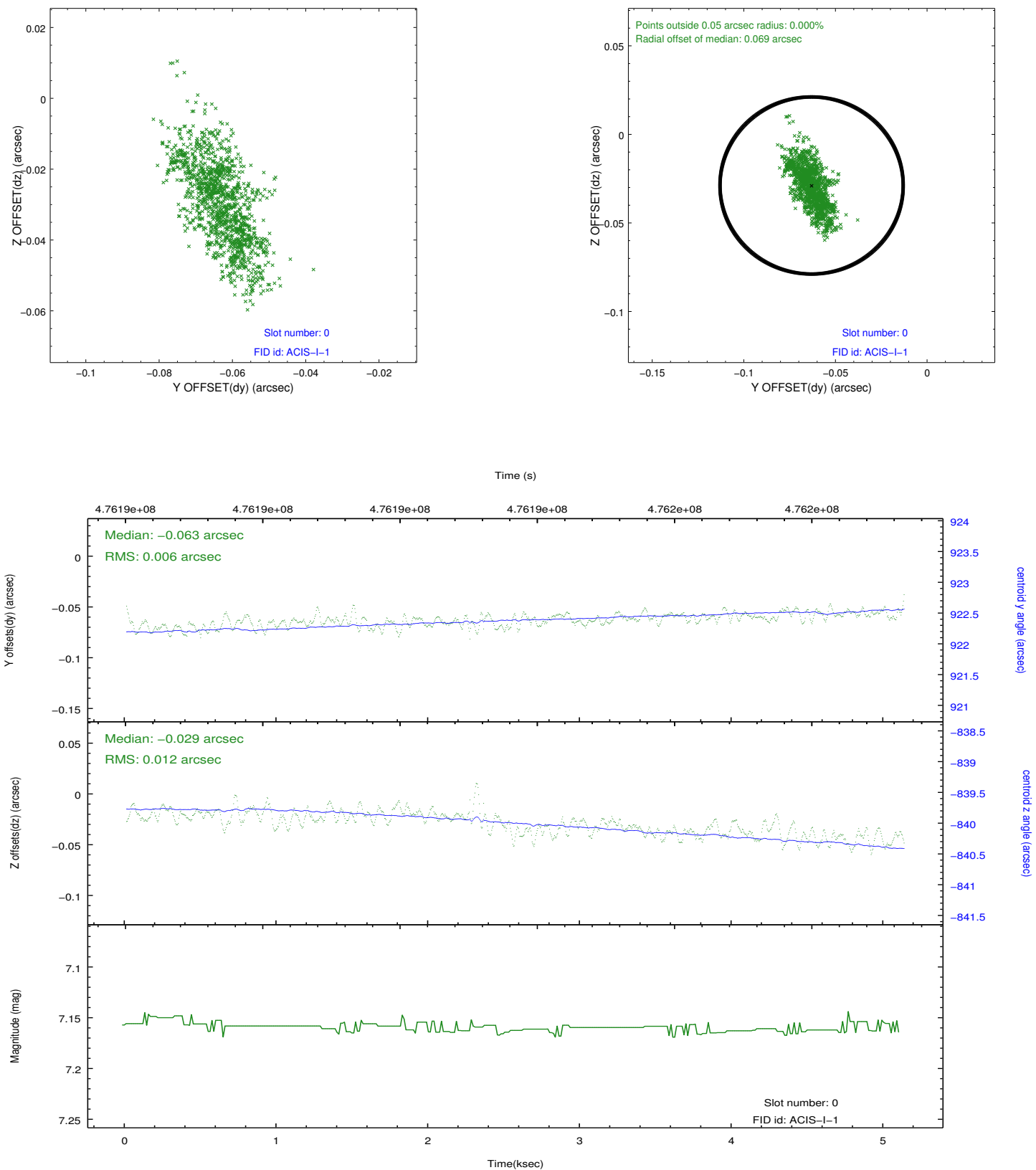


## 2.4.5 Slot 7

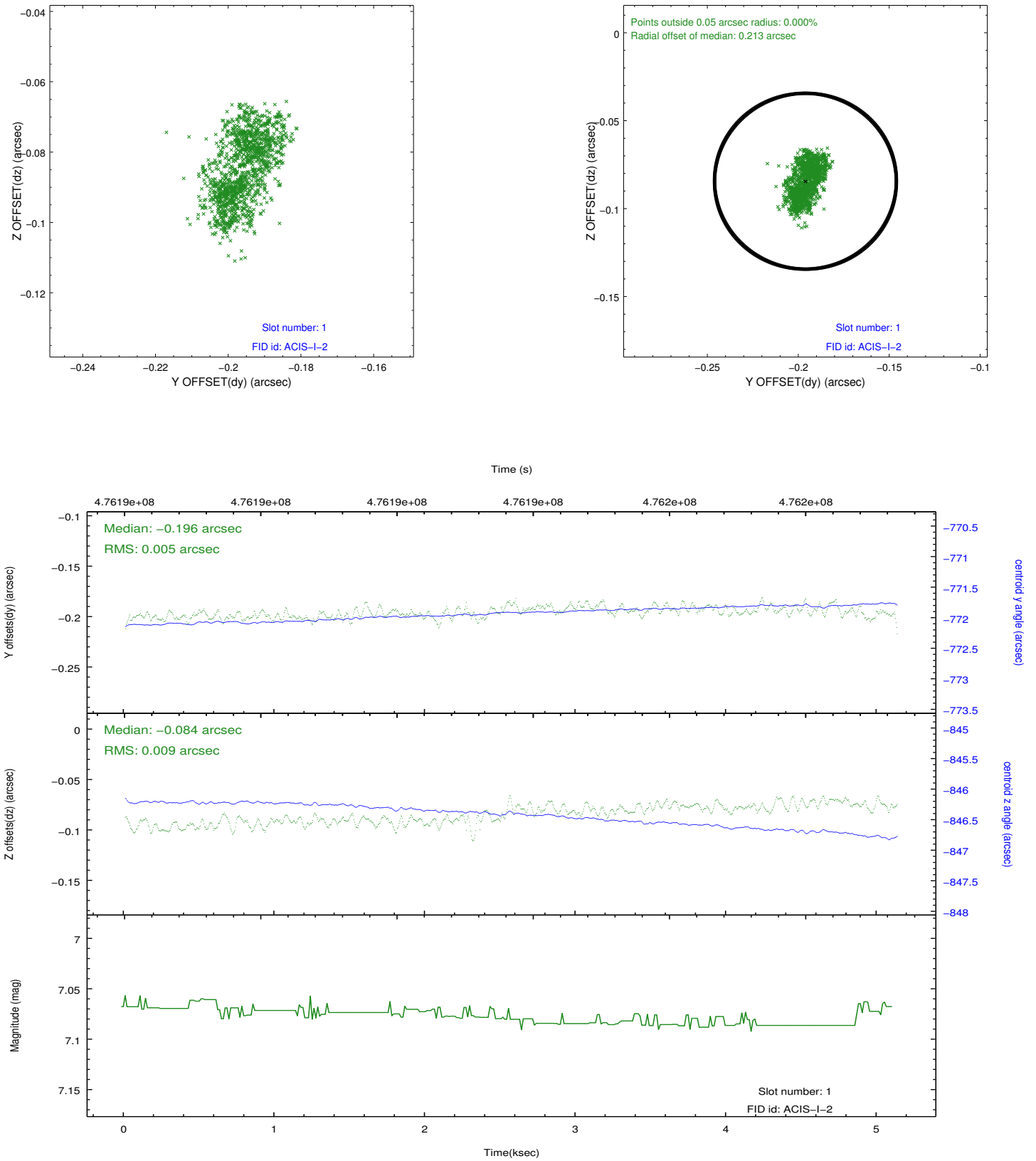


## 2.5 FID Slots

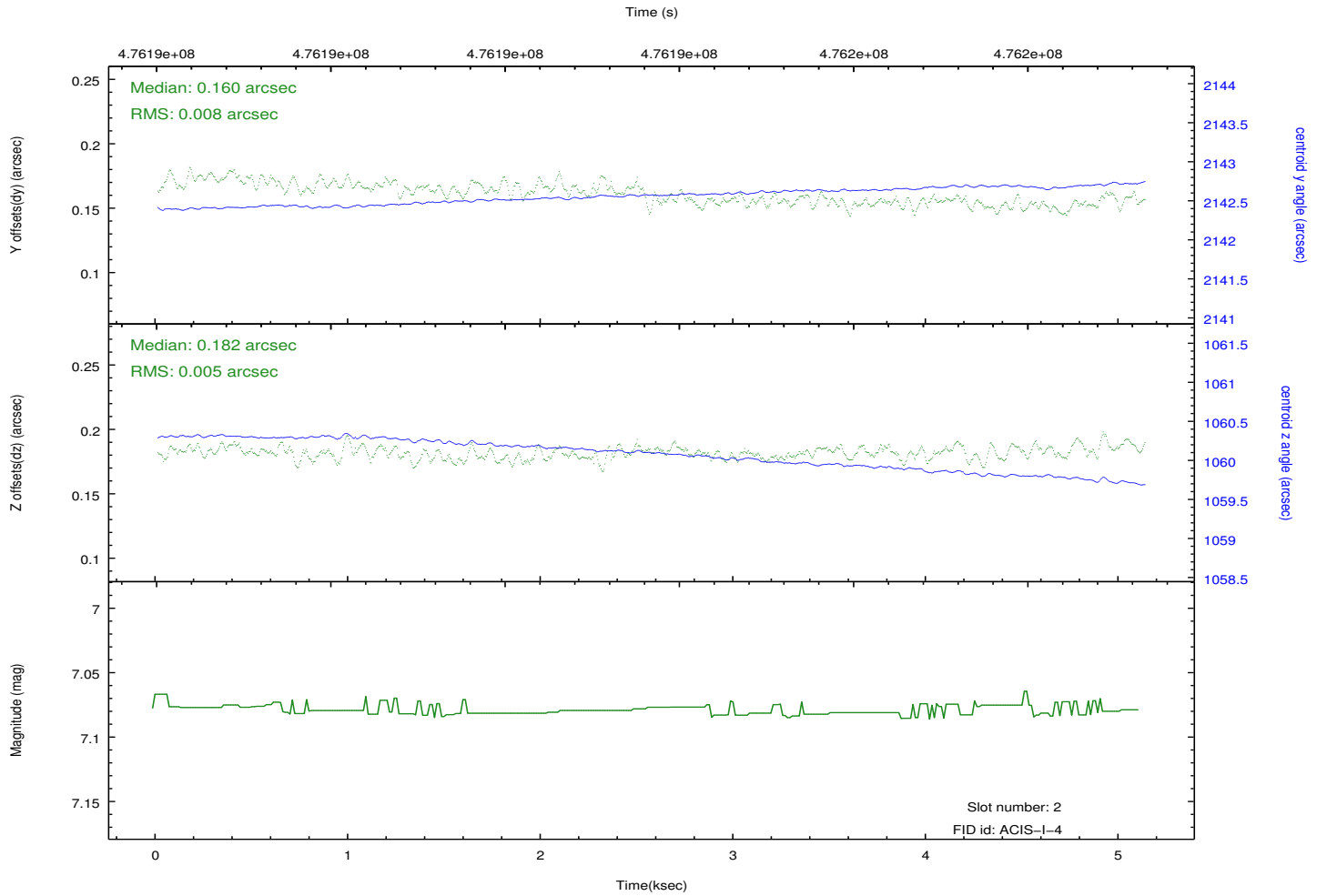
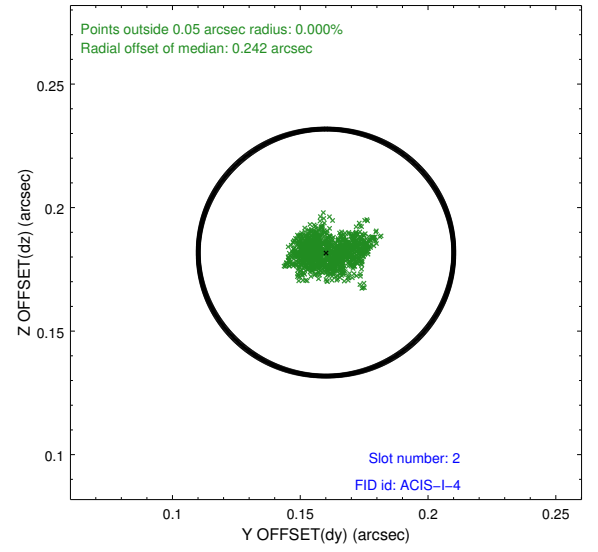
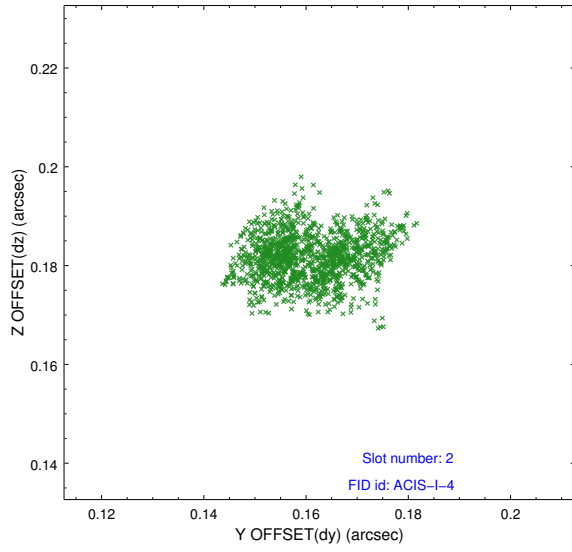
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2014.12.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.0839589887261

## A.2 Comments

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.