

# V&V Reference Report

## L2 ASCDS Version : 10.2.1

Observation 14903 - L2 Version 2  
Chandra X-Ray Center

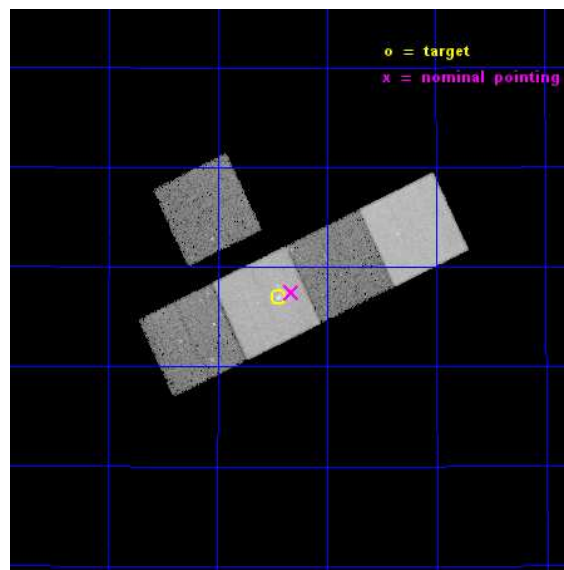
L2 Processing Date : Dec 10 2014

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# 1 Front

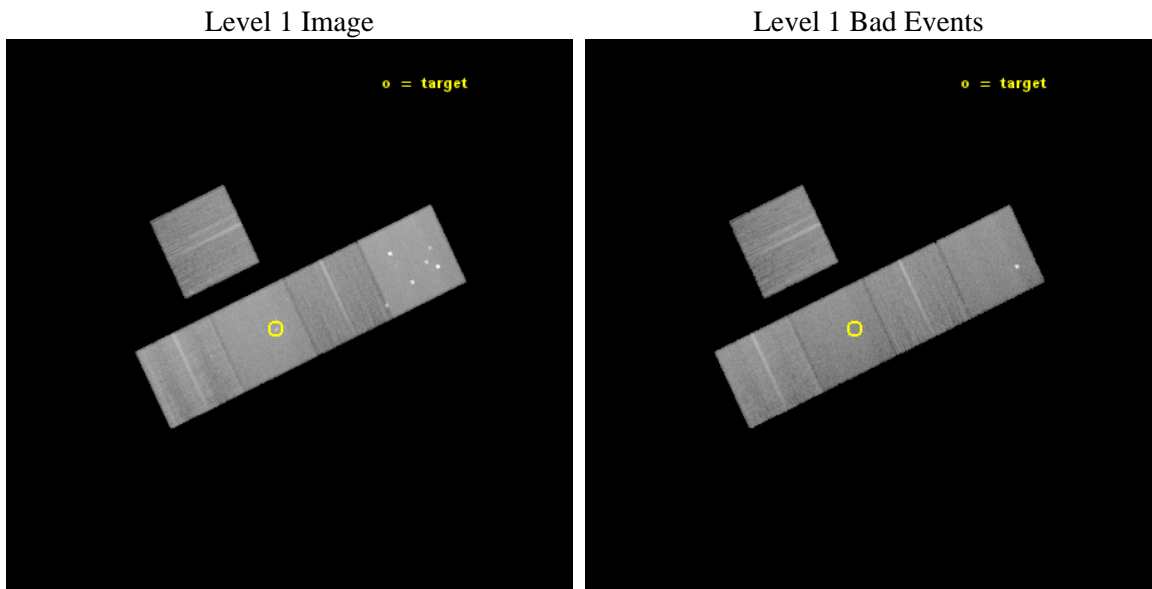
seq_num	601033	Sequence number
obs_id	14903	Observation id
title	PROBING GALAXY FORMATION WITH FAST ROTATING ELLIPTICAL GALAXIES	Pr
observer	Dr Rebecca Canning	Principal investigator
object	NGC5353	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	208.36125	Observer's specified target RA [deg]
dec_targ	40.283111	Observer's specified target Dec [deg]
ra_nom	208.33132386909	Nominal RA [deg]
dec_nom	40.291293984734	Nominal Dec [deg]
roll_nom	154.38934543123	Nominal Roll [deg]
revision	2	Processing version of data
ontime	40799.100313783	Sum of GTIs [s]
livetime	40266.030032322	Livetime [s]
ontime3	40799.100313783	Sum of GTIs [s]
ontime5	40799.100313783	Sum of GTIs [s]
ontime6	40799.100313783	Sum of GTIs [s]
ontime7	40799.100313783	Sum of GTIs [s]
ontime8	40799.100313783	Sum of GTIs [s]
l2events	330234	Number of level 2 events



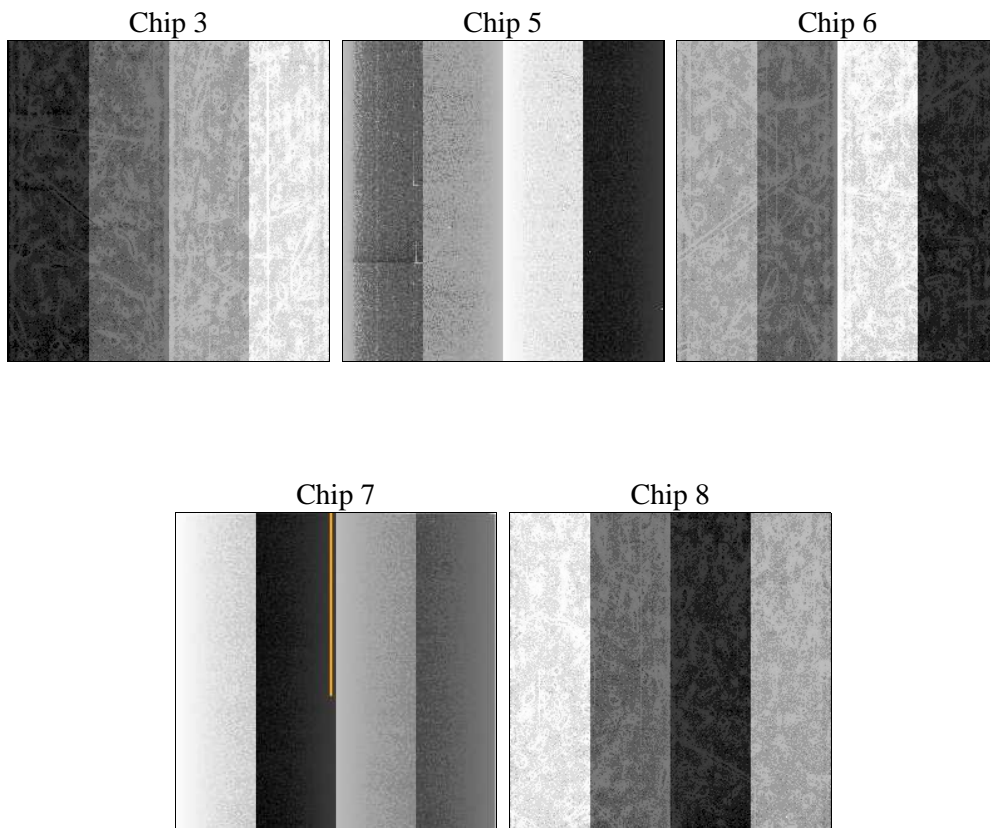
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	40733.227000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	40799.100313783	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime3	40799.100313783	Sum of GTIs [s]
date	2014-12-10T20:10:42	Date and time of file creation	ontime5	40799.100313783	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	40799.100313783	Sum of GTIs [s]
			ontime7	40799.100313783	Sum of GTIs [s]
			ontime8	40799.100313783	Sum of GTIs [s]
			l1events	1265792	Number of level 1 events

### 2.1.4 Events

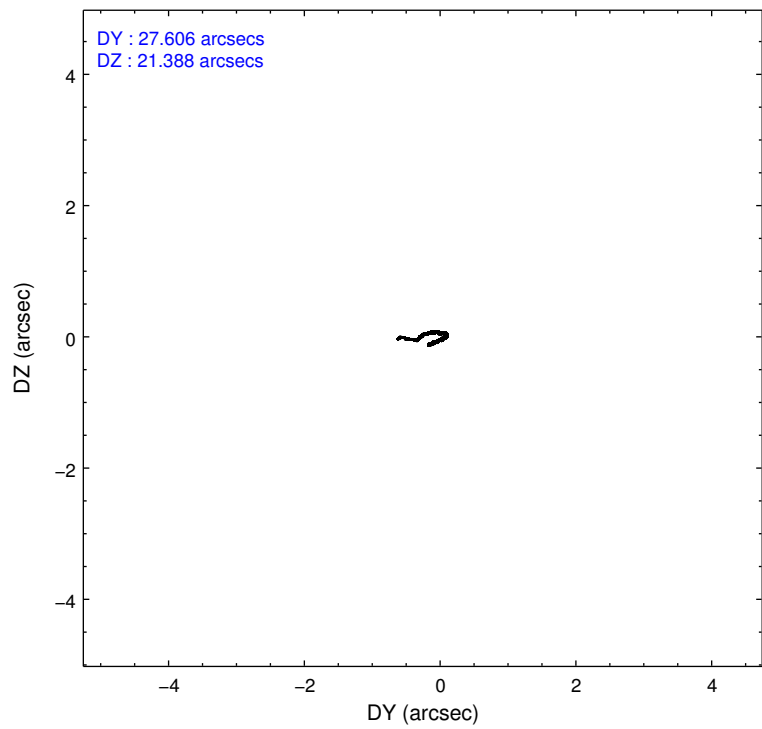
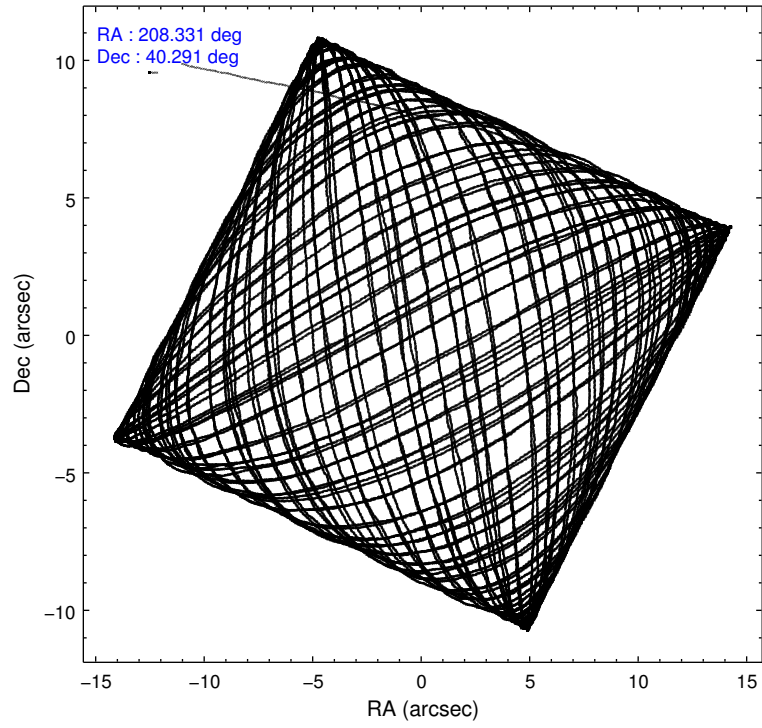
	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	185420	356975	193805	274142	255450
rejected events	163746	176562	169725	152889	187243
rejected %	88%	49%	87%	55%	73%

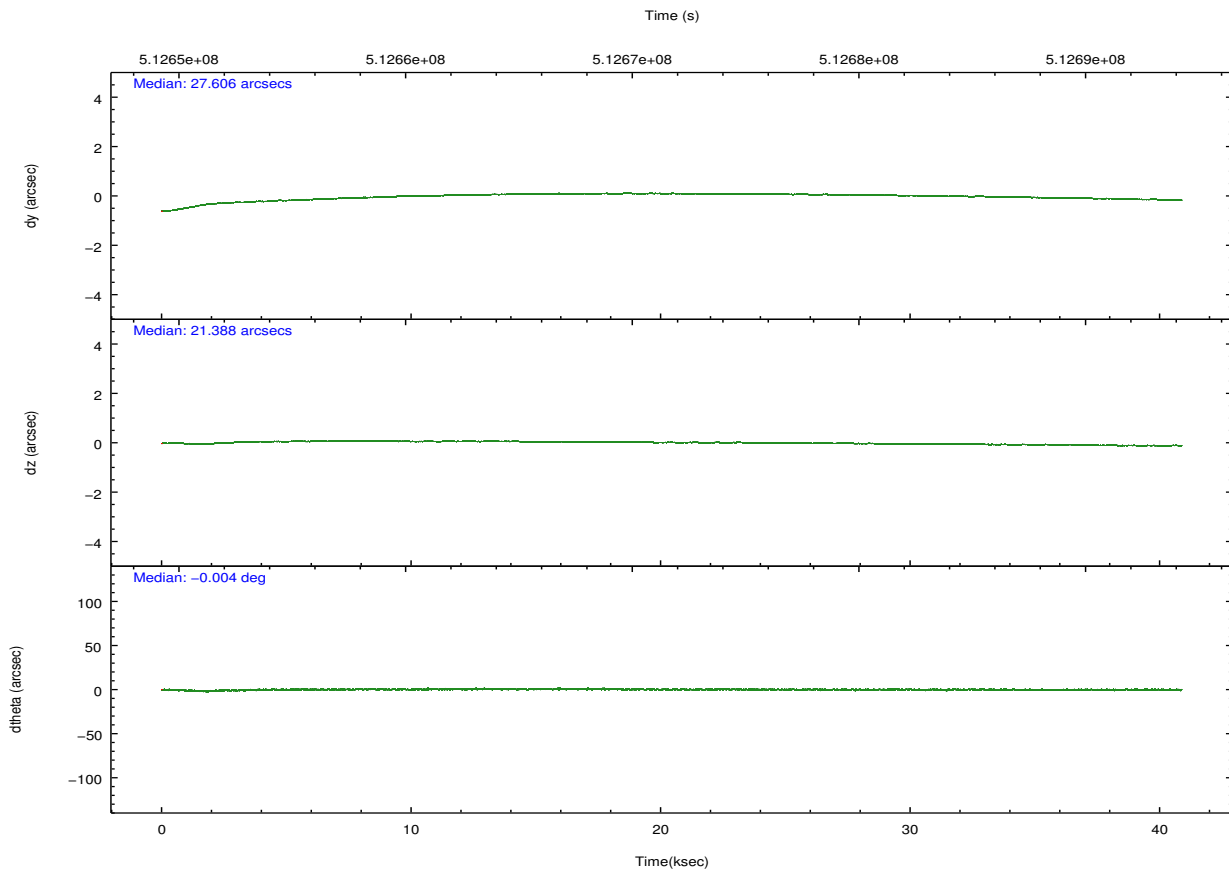
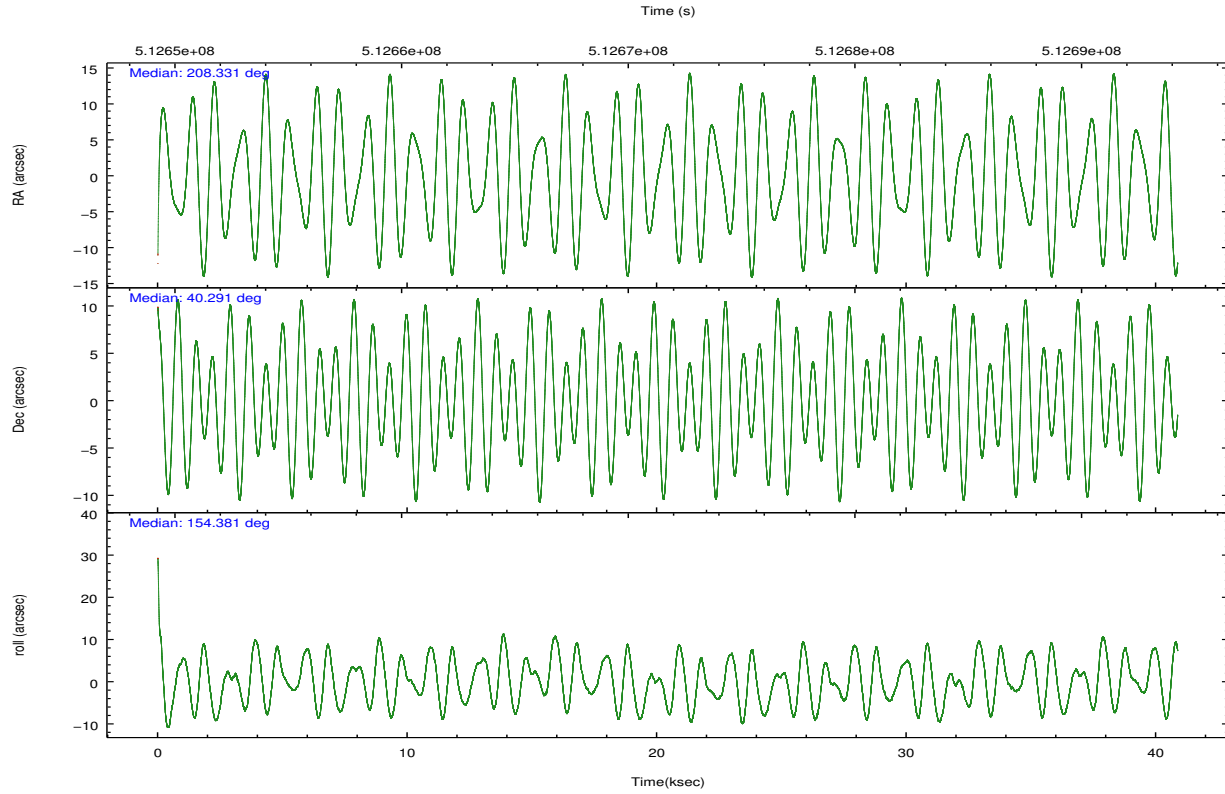
	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	7592	32116	8256	12037	19406
	4%	8%	4%	4%	7%
grade 1 events	93	625	105	290	173
	0%	0%	0%	0%	0%
grade 2 events	4731	53194	5460	25209	16373
	2%	14%	2%	9%	6%
grade 3 events	2376	5523	2507	10377	7213
	1%	1%	1%	3%	2%
grade 4 events	2249	5376	2427	10408	6857
	1%	1%	1%	3%	2%
grade 5 events	10311	25728	10321	27834	15079
	5%	7%	5%	10%	5%
grade 6 events	4728	84234	5431	63234	18360
	2%	23%	2%	23%	7%
grade 7 events	153340	150179	159298	124753	171989
	82%	42%	82%	45%	67%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-35678	ACIS-35678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	208.367025	208.3313238690945	CCD I2 on	N	N
[deg] Pointing Dec	40.293752	40.29129398473388	CCD I3 on	Y	Y
[deg] Pointing Roll	154.209626	154.389345431232	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	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	O1	Y
[s] Observation start time (MET)	512651448.184000	512650180.76933	CCD S5 on	N	N
Observation start date	2014-03-31T11:09:41	2014-03-31T10:49:40	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	512692181.184000	512692406.67166	On-chip summing requested	N	N
Observation end date	2014-03-31T22:28:34	2014-03-31T22:33:26	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



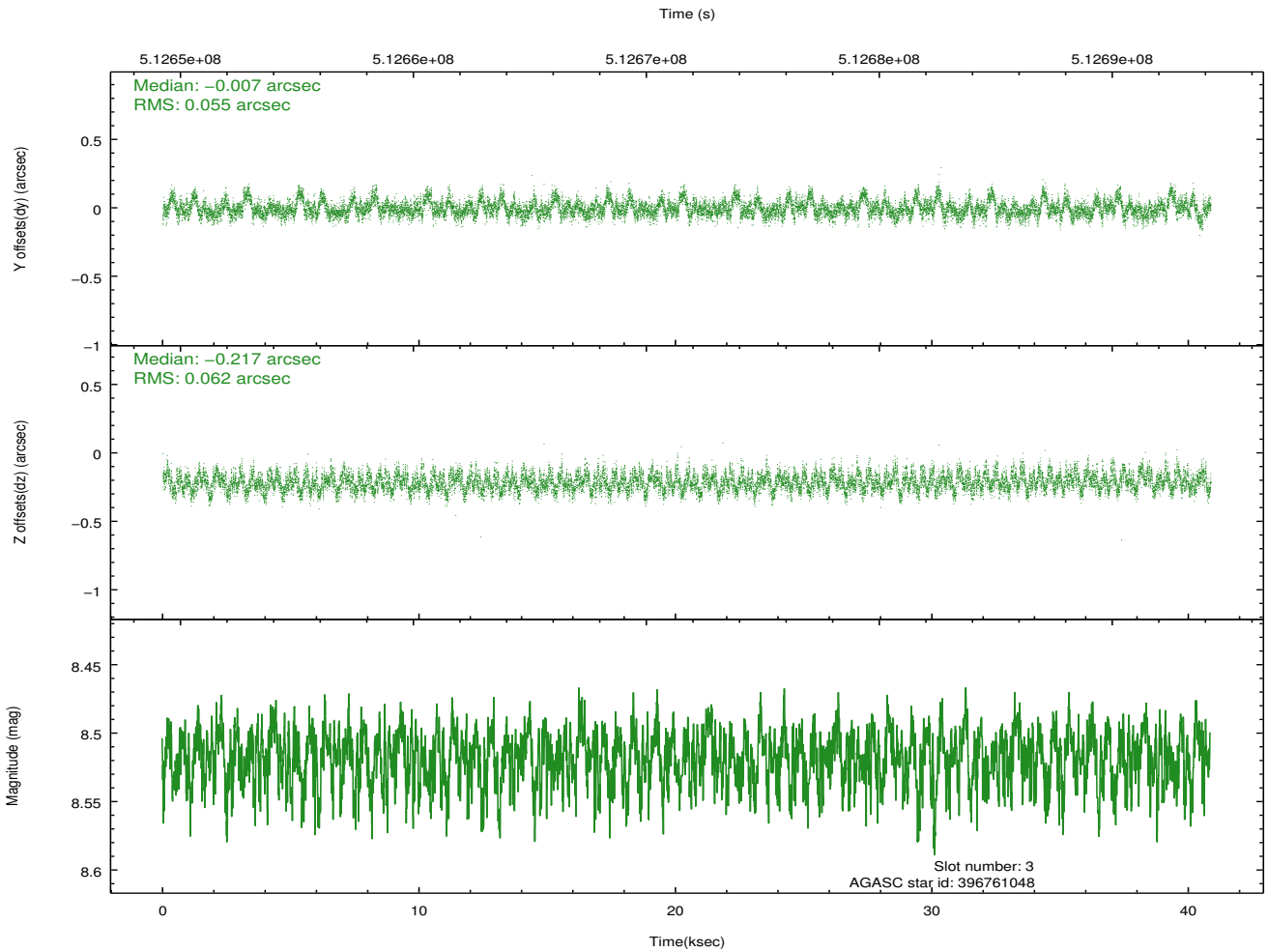
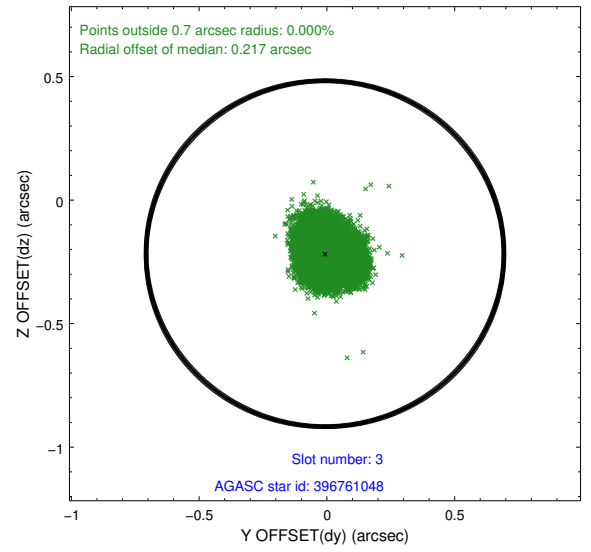
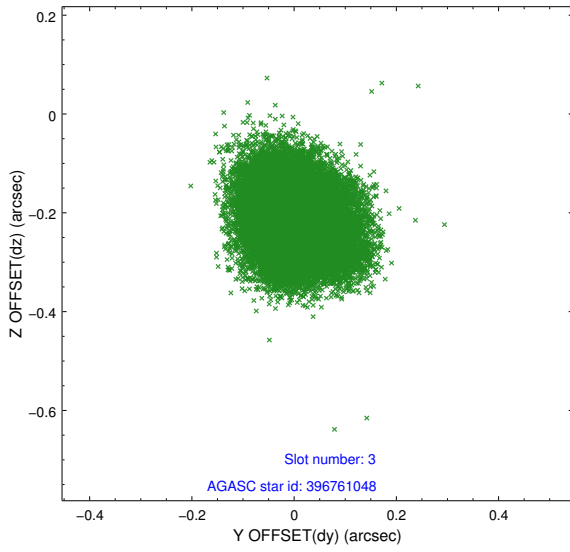


### Slot Statistics

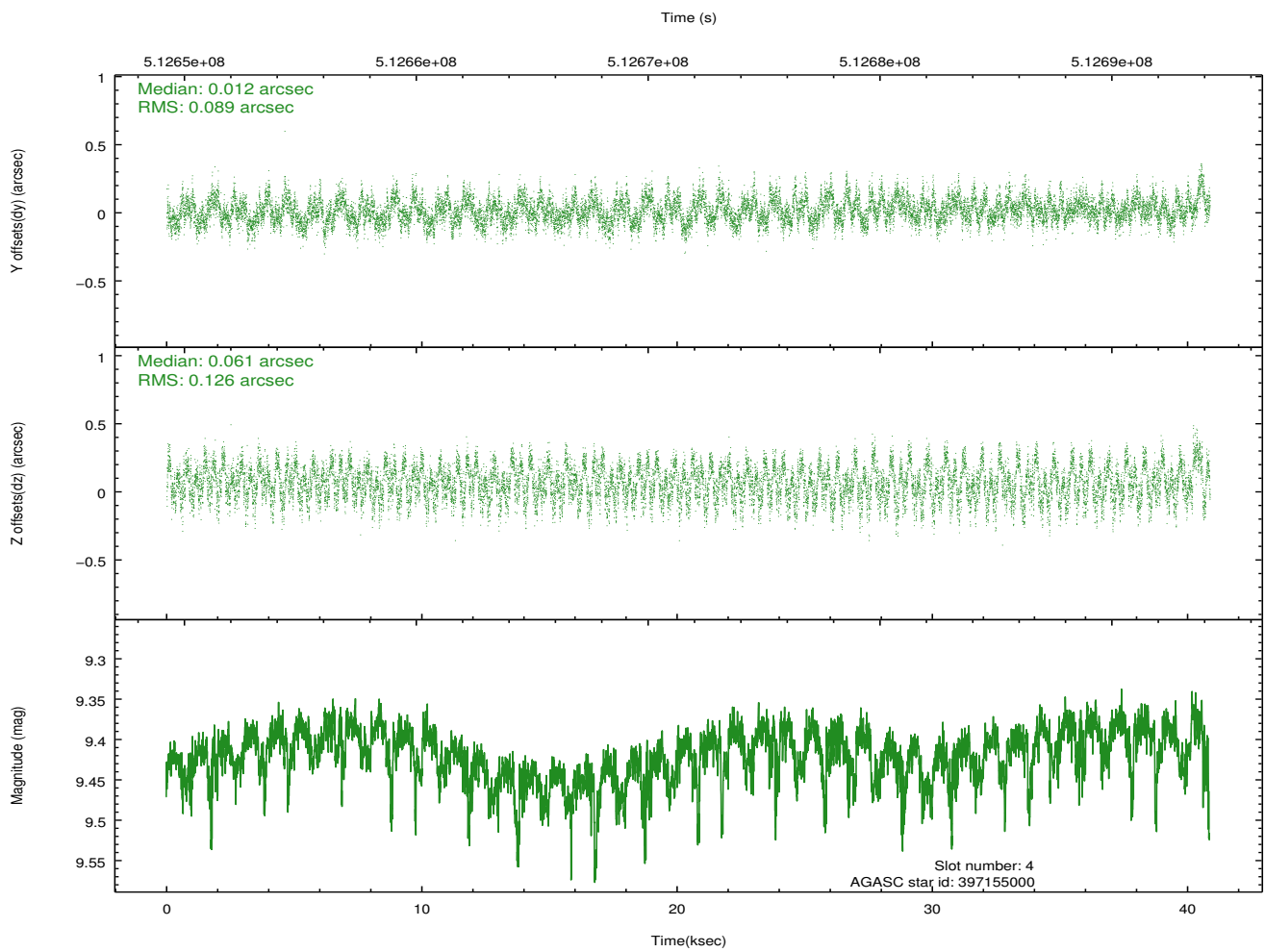
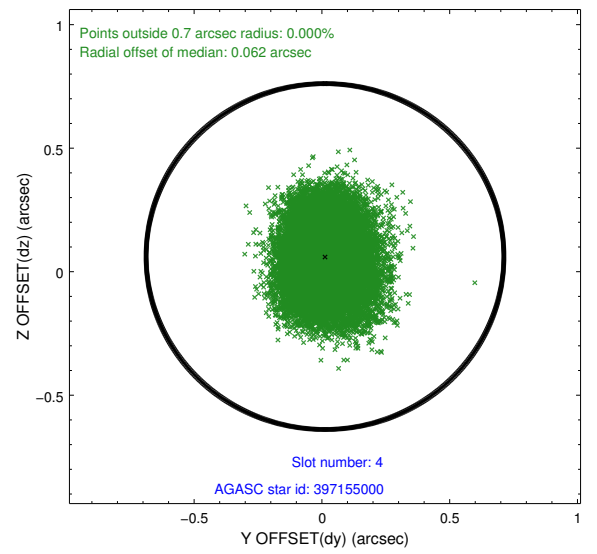
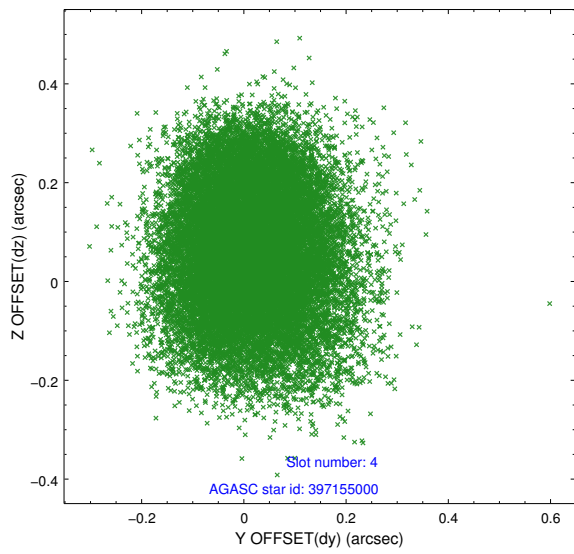
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.01	9969	-0.184	-0.030	0.009	0.016	0.000000	0.000000	-781.06	-1742.96
1	FID		ACIS-S-4	7.10	9969	0.408	0.097	0.010	0.029	0.000000	0.000000	2132.80	165.64
2	FID		ACIS-S-5	7.12	9969	-0.255	-0.058	0.009	0.020	0.000000	0.000000	-1833.96	159.16
3	GUIDE	used	396761048	8.52	19928	-0.007	-0.217	0.089	0.142	208.356917	39.848251	-672.53	1456.33
4	GUIDE	used	397155000	9.42	19908	0.012	0.061	0.166	0.262	208.578535	40.761769	216.04	-1766.88
5	GUIDE	used	397156112	8.16	19935	0.017	-0.087	0.078	0.128	208.309778	40.715583	802.26	-1299.23
6	GUIDE	used	397157096	8.66	19934	0.049	0.165	0.137	0.216	208.961272	40.488605	-1156.82	-1344.15
7	GUIDE	used	397155408	8.97	19924	-0.084	0.084	0.146	0.217	208.418603	40.421280	72.12	-474.21

## 2.4 Star Slots

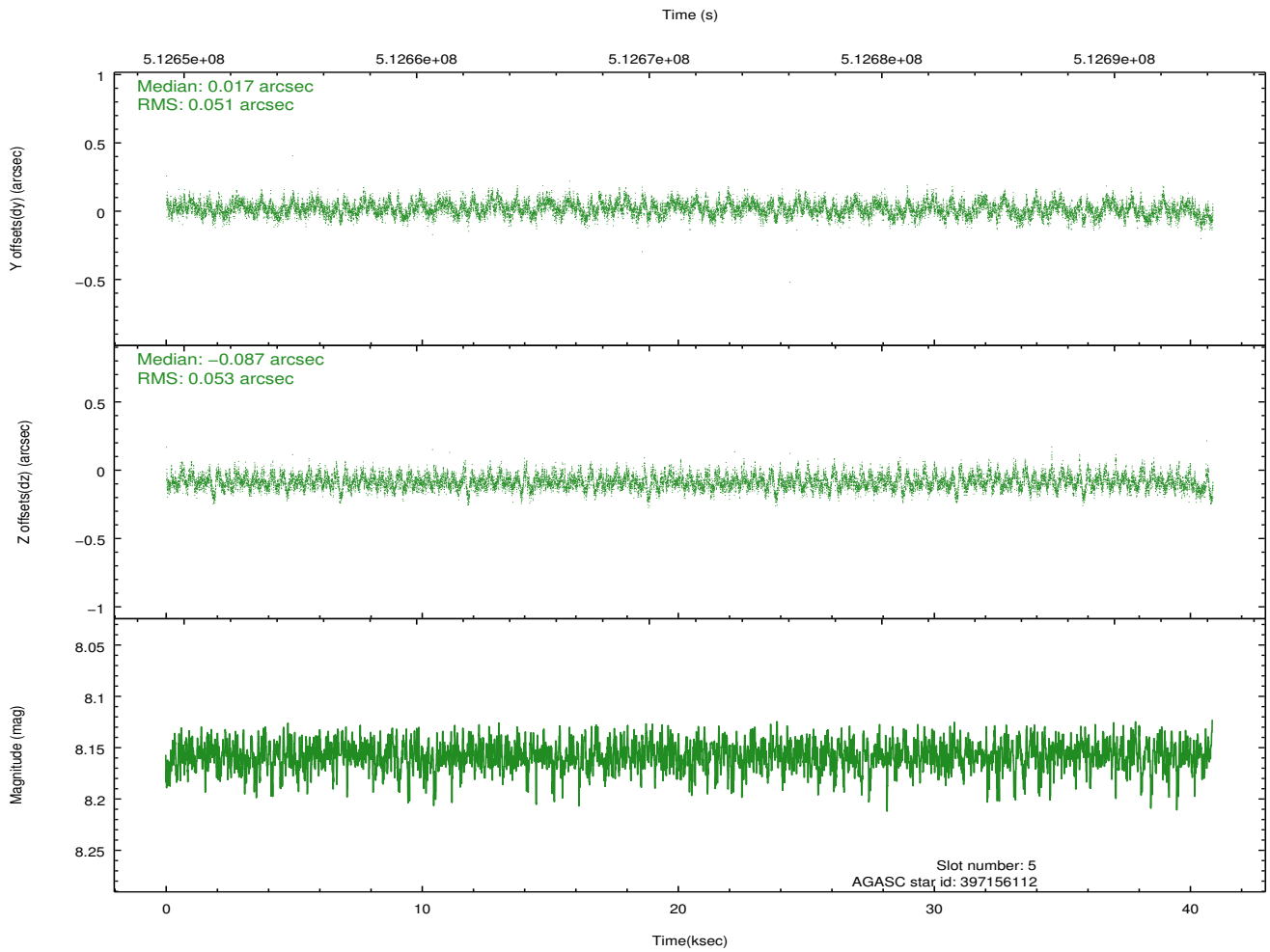
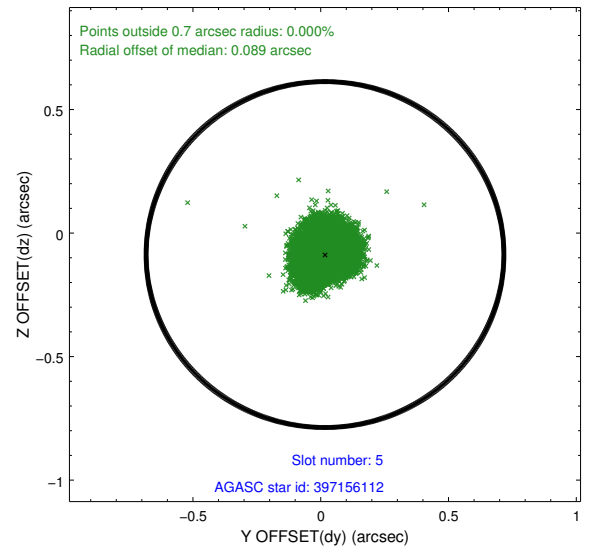
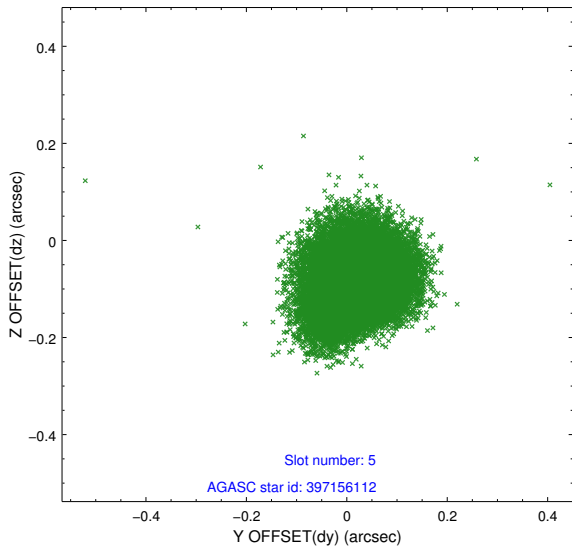
### 2.4.1 Slot 3



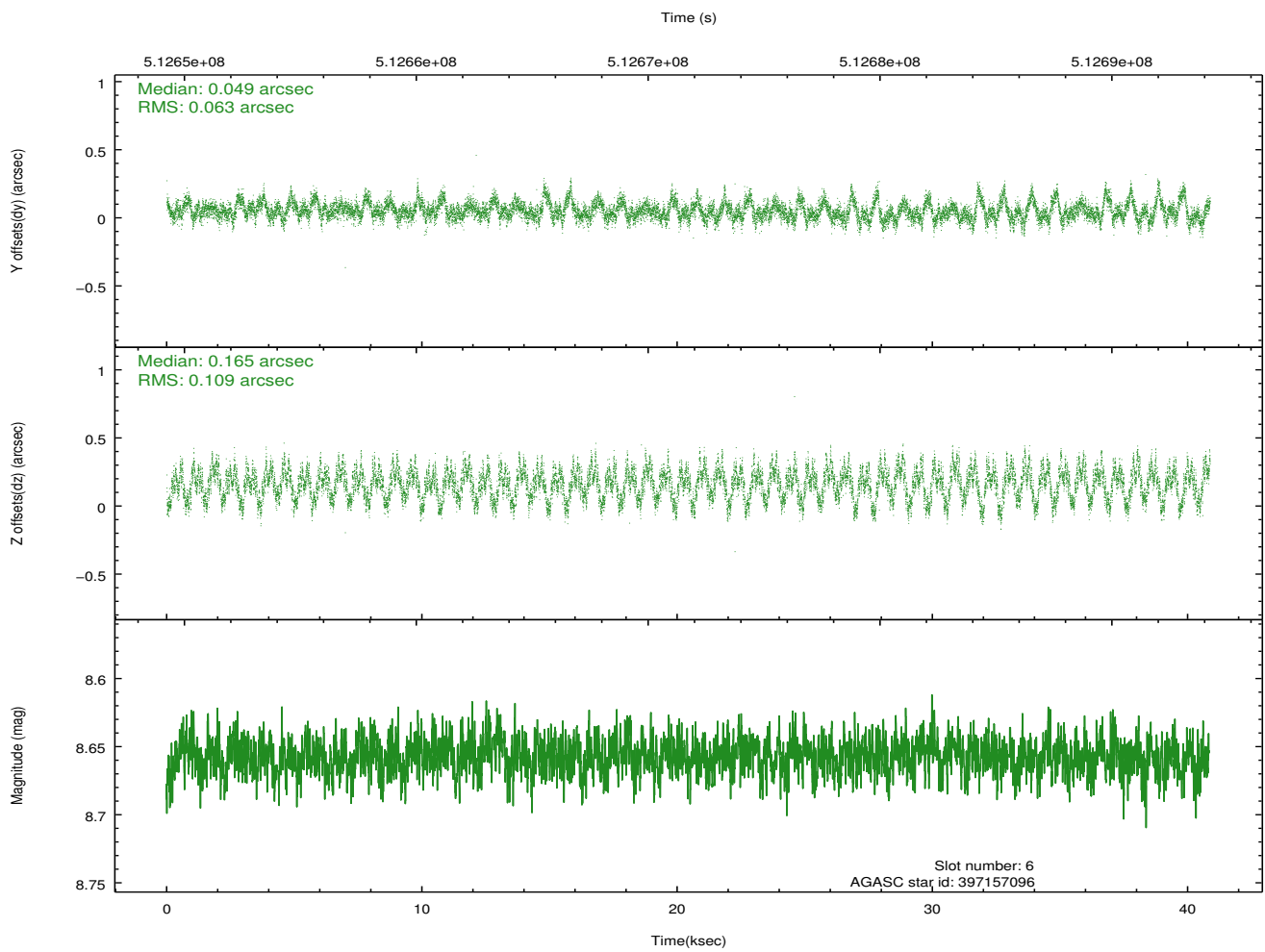
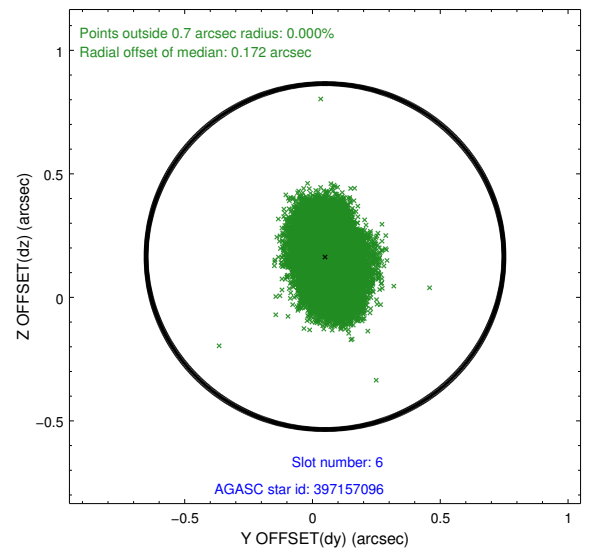
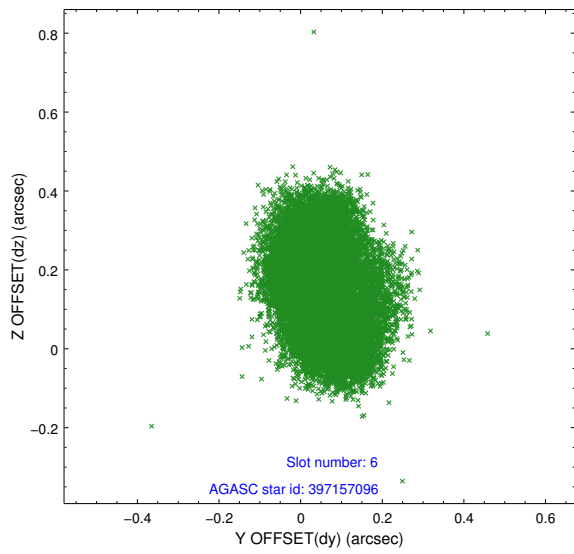
## 2.4.2 Slot 4



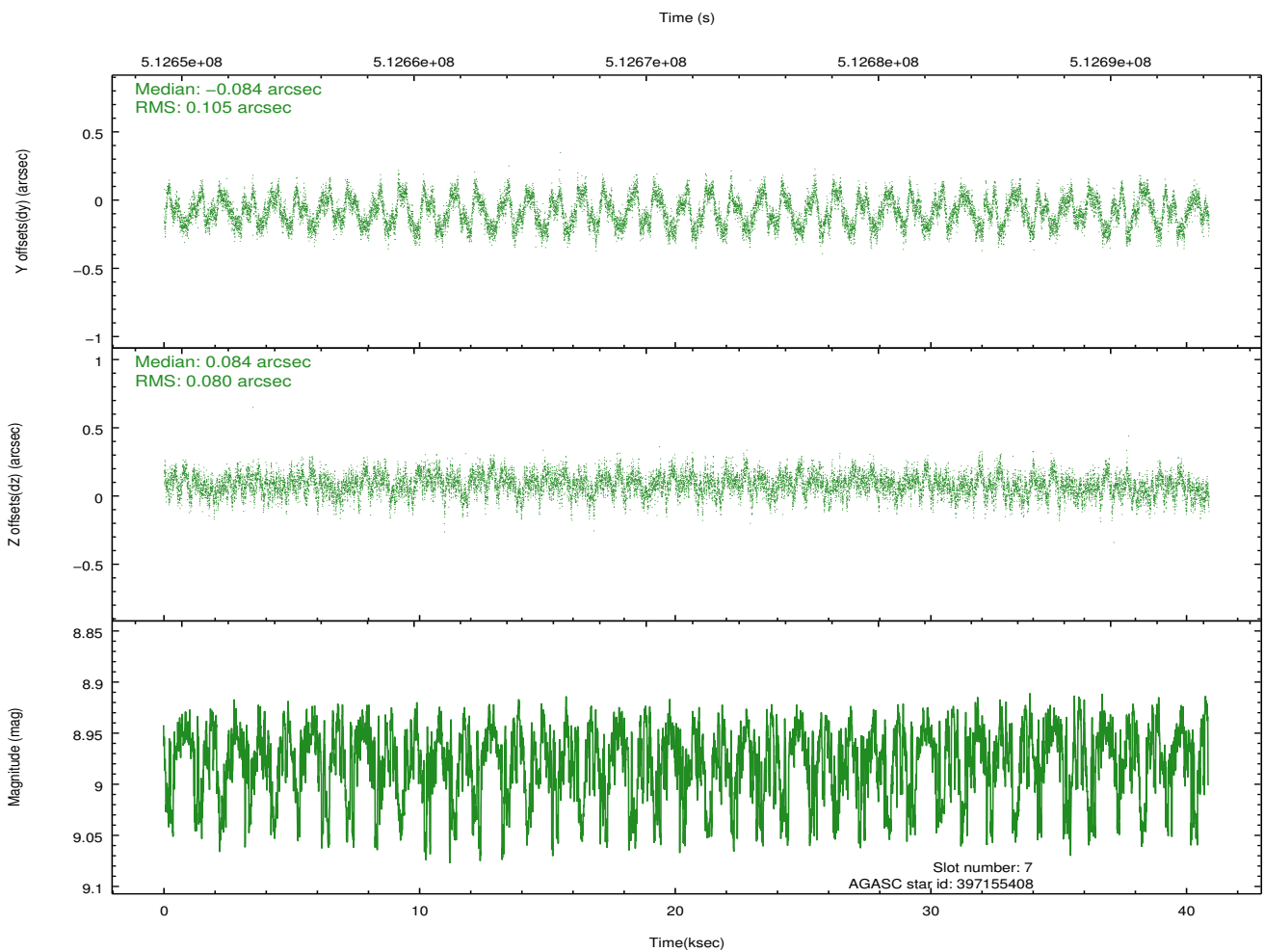
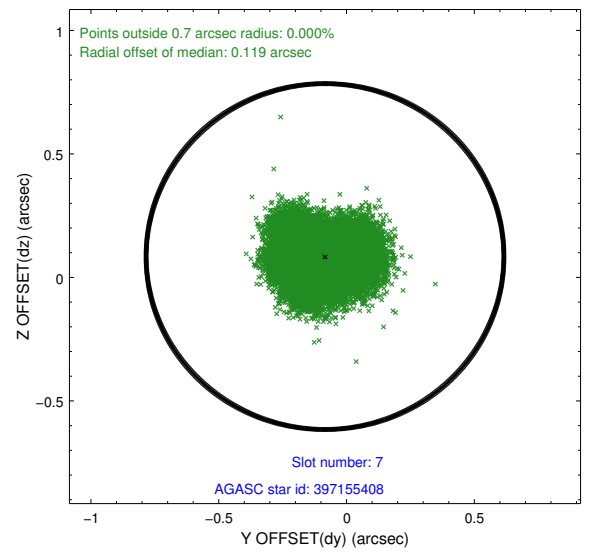
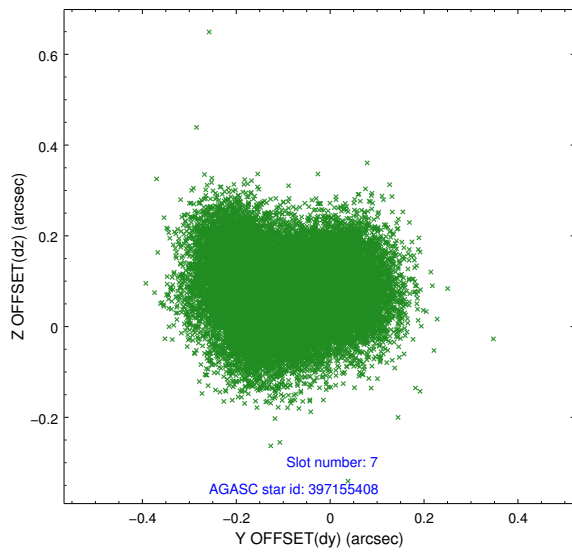
### 2.4.3 Slot 5



## 2.4.4 Slot 6

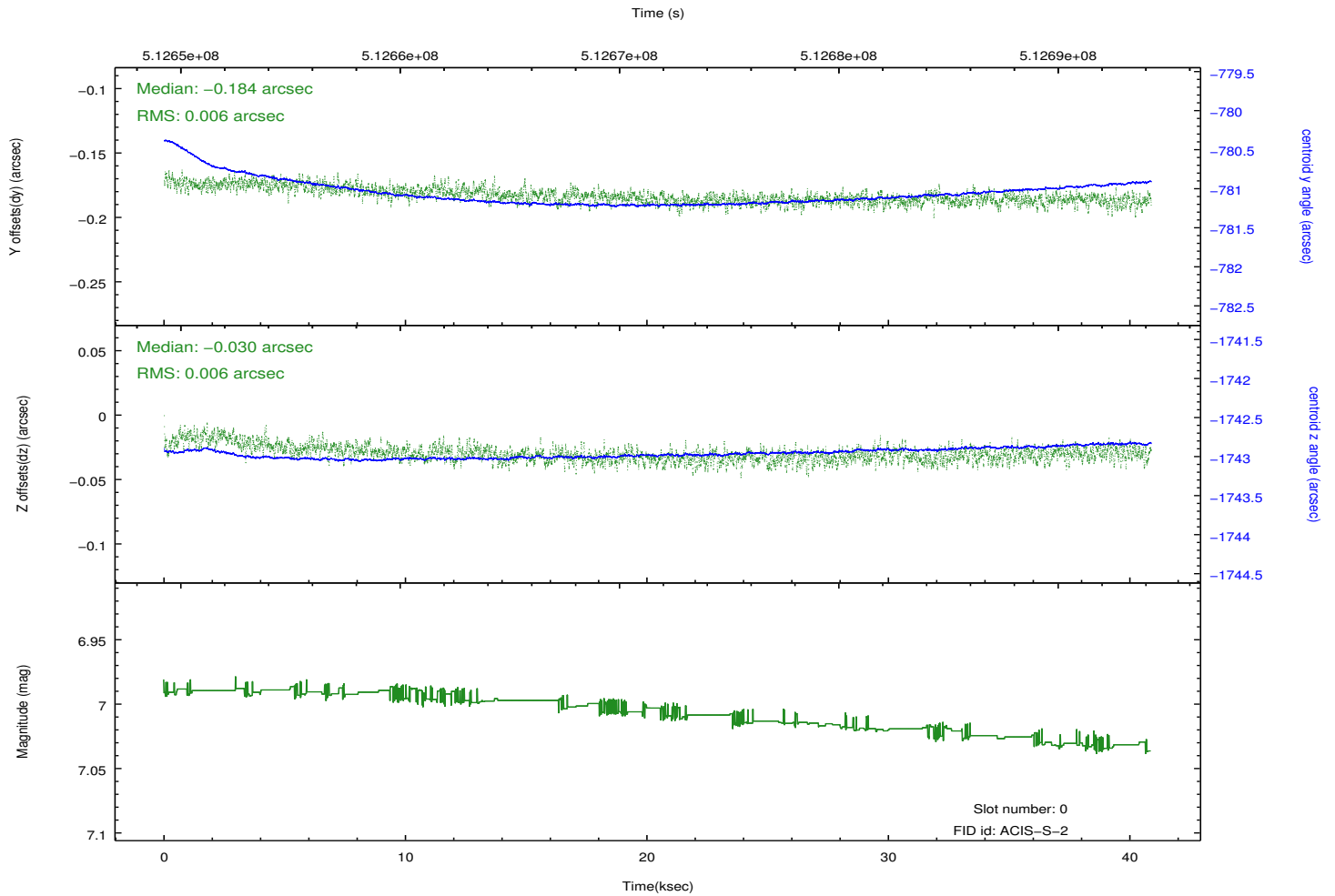
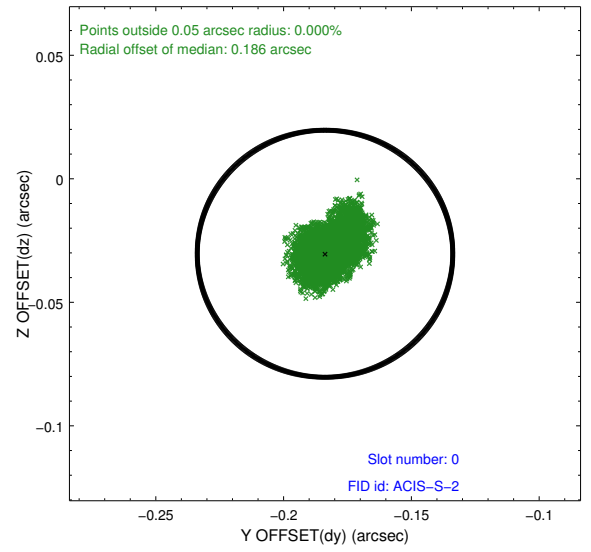
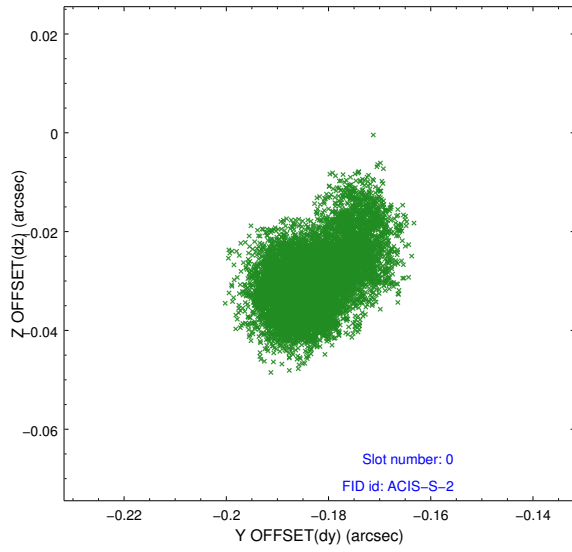


## 2.4.5 Slot 7

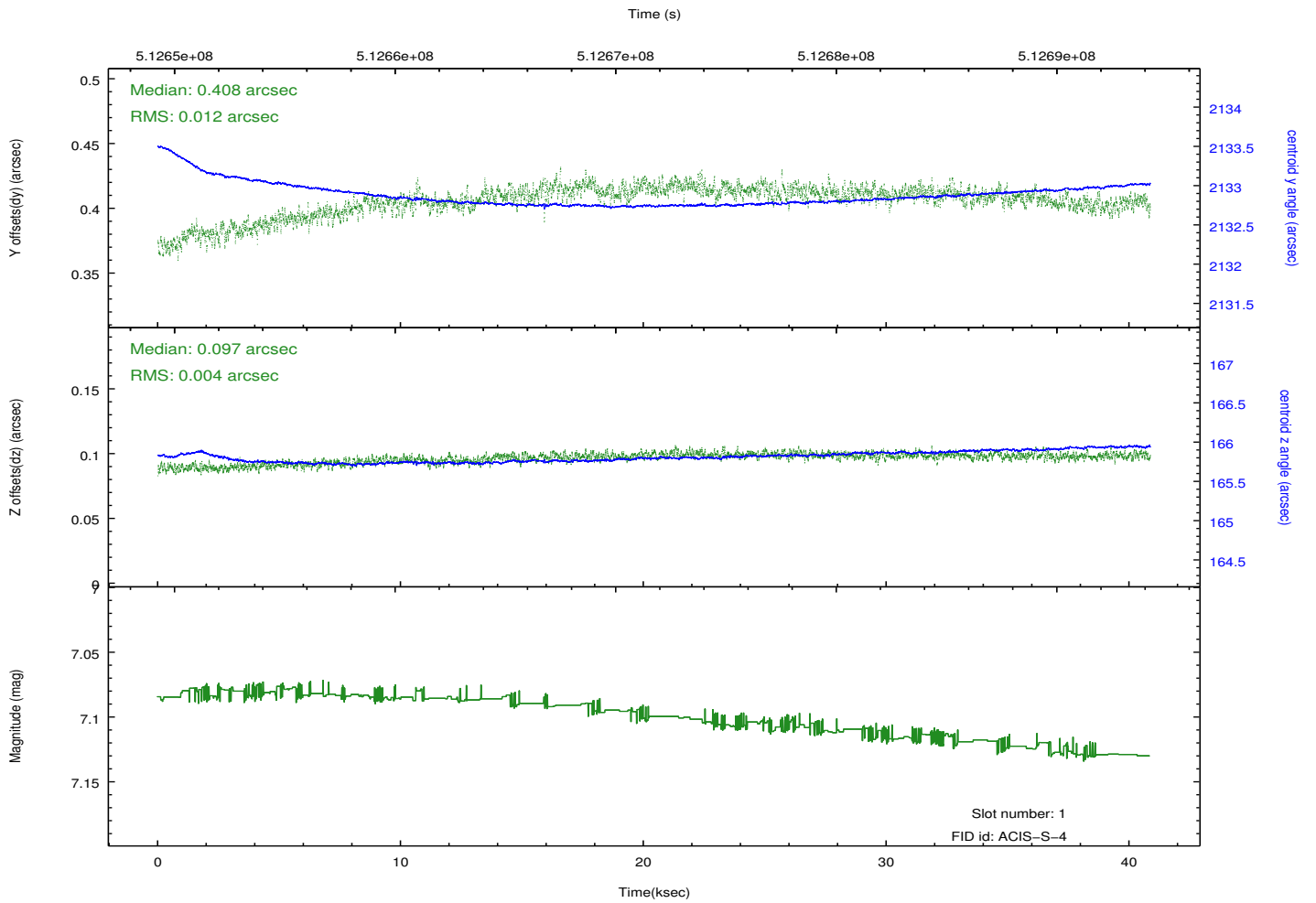
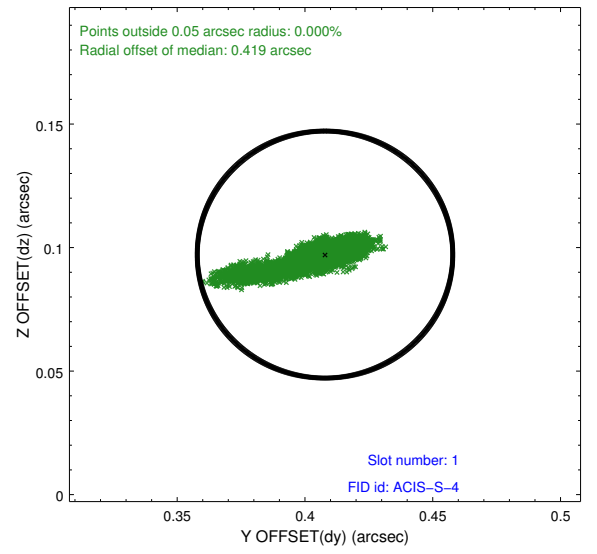
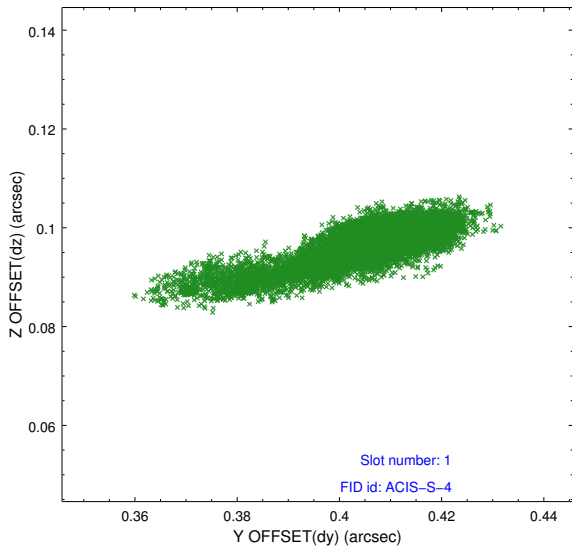


## 2.5 FID Slots

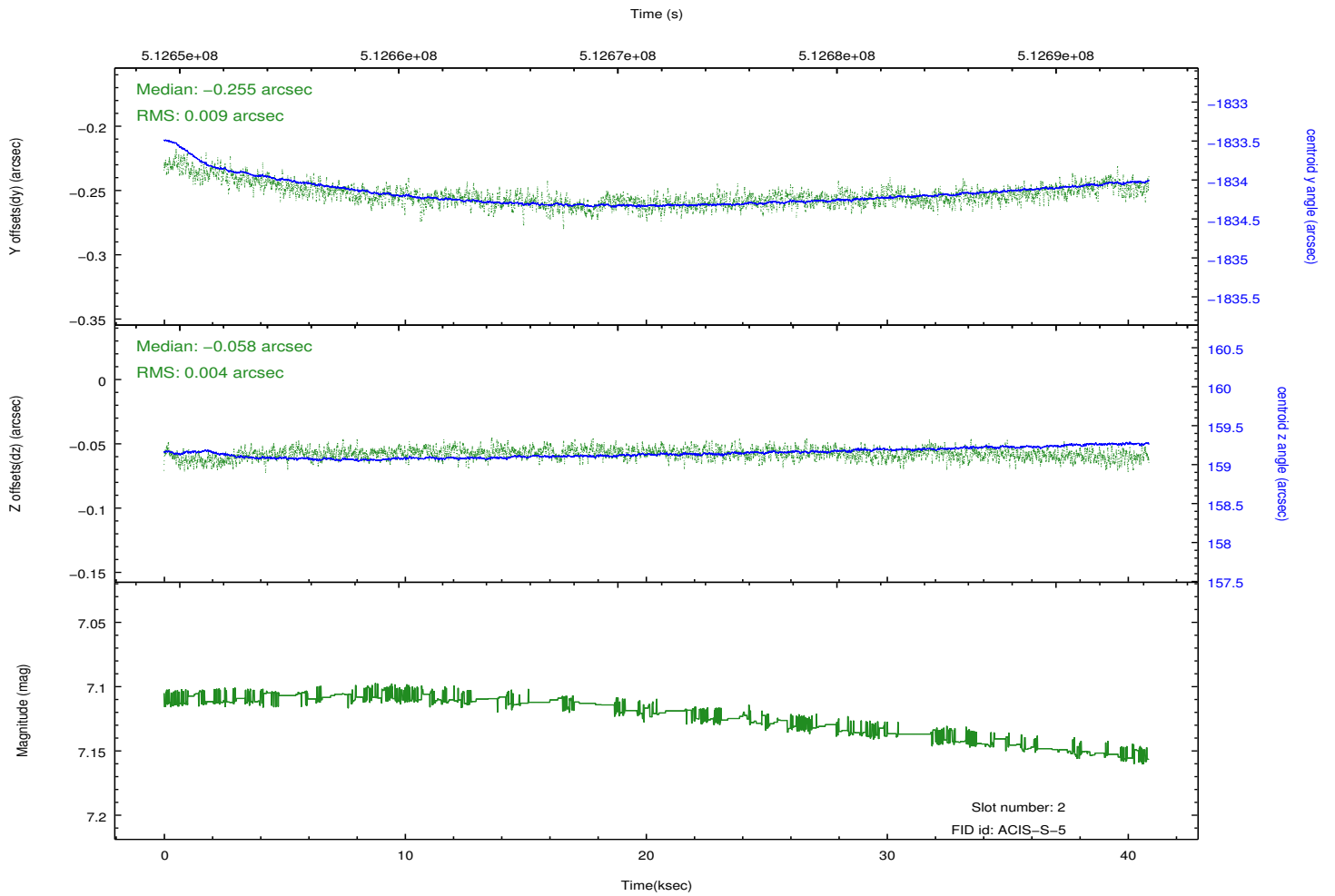
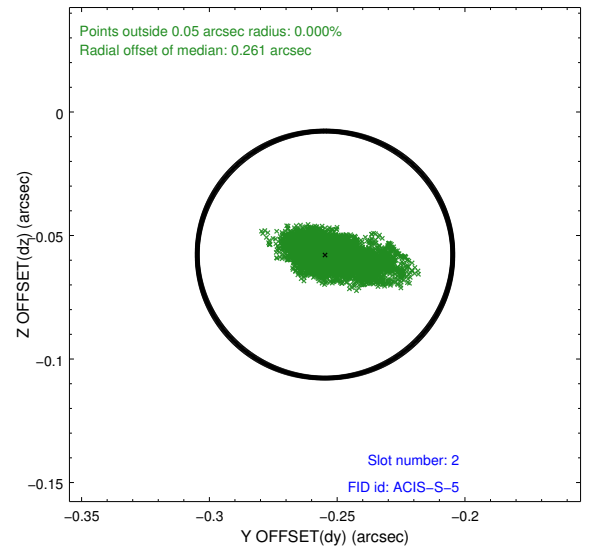
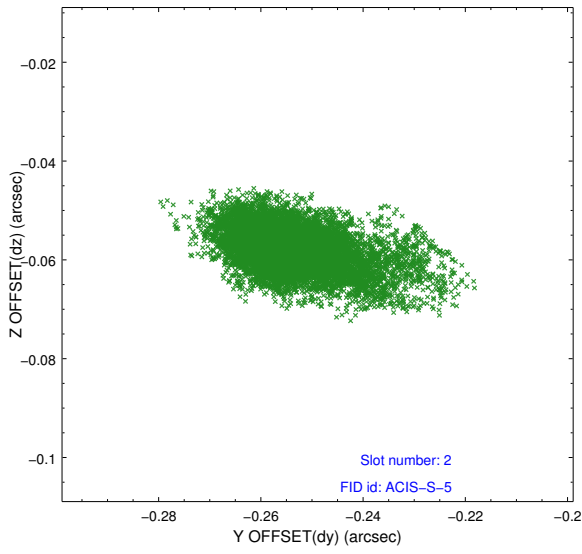
### 2.5.1 Slot 0



## 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)	2014.12.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	40.799100313783

## 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.