

# V&V Reference Report

## L2 ASCDS Version : 10.1.1

Observation 15100 - L2 Version 2  
Chandra X-Ray Center

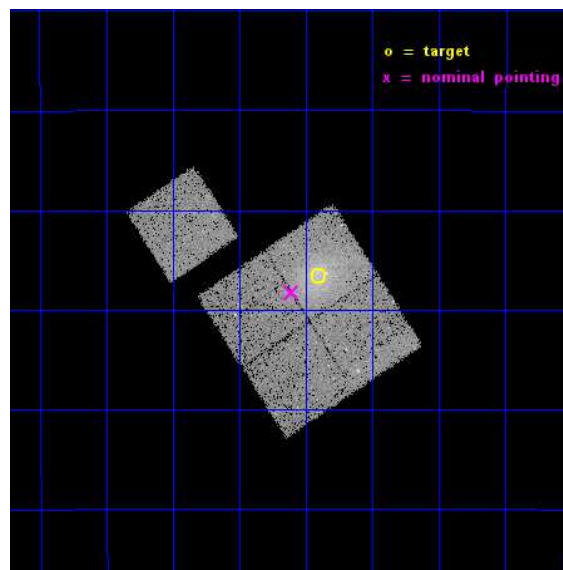
L2 Processing Date : Dec 9 2014

## Contents

<b>1</b>	<b>Front</b>	<b>2</b>
<b>2</b>	<b>OBI</b>	<b>3</b>
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 3 . . . . .	9
2.4.2	Slot 4 . . . . .	10
2.4.3	Slot 5 . . . . .	11
2.4.4	Slot 6 . . . . .	12
2.4.5	Slot 7 . . . . .	13
2.5	FID Slots . . . . .	14
2.5.1	Slot 0 . . . . .	14
2.5.2	Slot 1 . . . . .	15
2.5.3	Slot 2 . . . . .	16
<b>A</b>	<b>Summary</b>	<b>17</b>
A.1	Status . . . . .	17
A.2	Comments . . . . .	17

# 1 Front

seq_num	801229	Sequence number
obs_id	15100	Observation id
title	A Chandra-Planck Legacy Program for Massive Clusters of Galaxies	P
observer	Dr. Christine Jones	Principal investigator
object	G229.21-17.24	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	94.102	Observer's specified target RA [deg]
dec_targ	-21.943	Observer's specified target Dec [deg]
ra_nom	94.152342178997	Nominal RA [deg]
dec_nom	-21.970975250627	Nominal Dec [deg]
roll_nom	326.73049691101	Nominal Roll [deg]
revision	2	Processing version of data
ontime	24087.000185251	Sum of GTIs [s]
livetime	23772.285795239	Livetime [s]
ontime0	24087.000185251	Sum of GTIs [s]
ontime1	24087.000185251	Sum of GTIs [s]
ontime2	24087.000185251	Sum of GTIs [s]
ontime3	24087.000185251	Sum of GTIs [s]
ontime6	24087.000185251	Sum of GTIs [s]
l2events	71698	Number of level 2 events

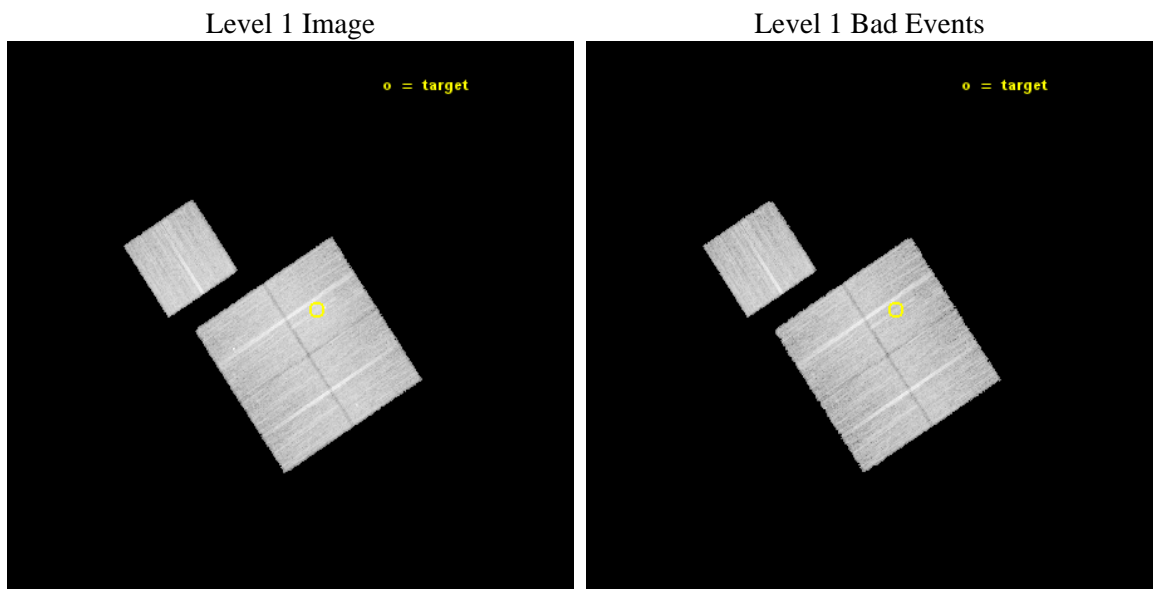




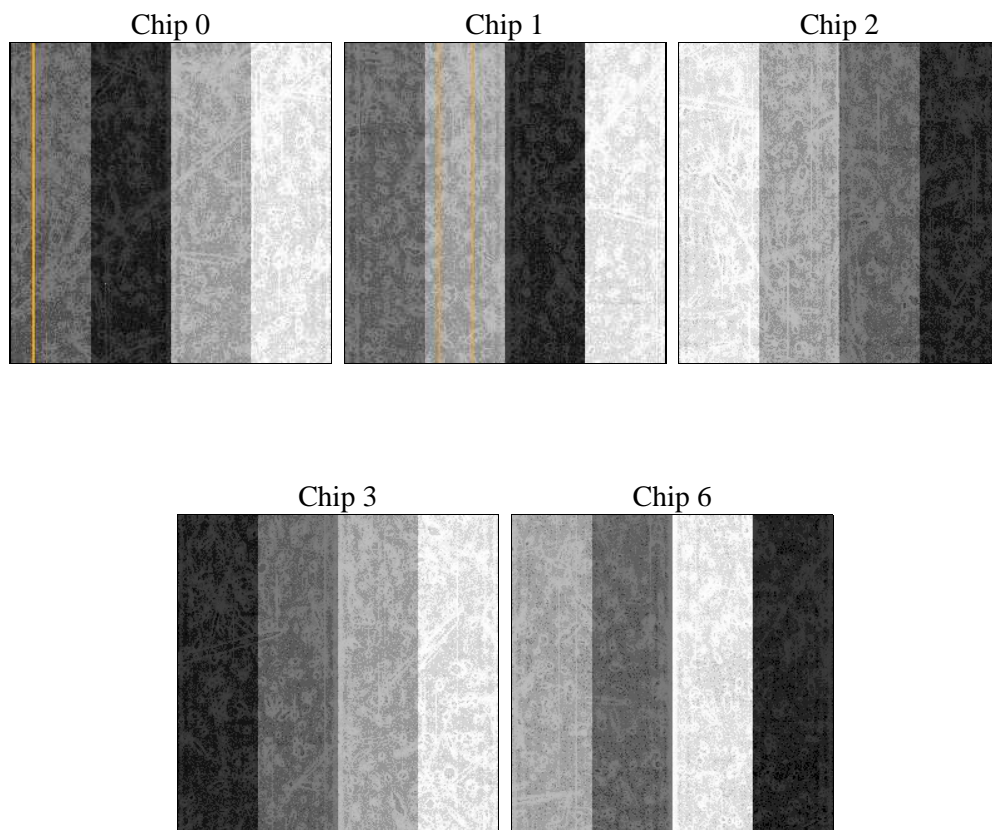
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	24000.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	24087.000185251	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime0	24087.000185251	Sum of GTIs [s]
date	2014-12-10T01:21:57	Date and time of file creation	ontime1	24087.000185251	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	24087.000185251	Sum of GTIs [s]
			ontime3	24087.000185251	Sum of GTIs [s]
			ontime6	24087.000185251	Sum of GTIs [s]
			l1events	571846	Number of level 1 events

### 2.1.4 Events

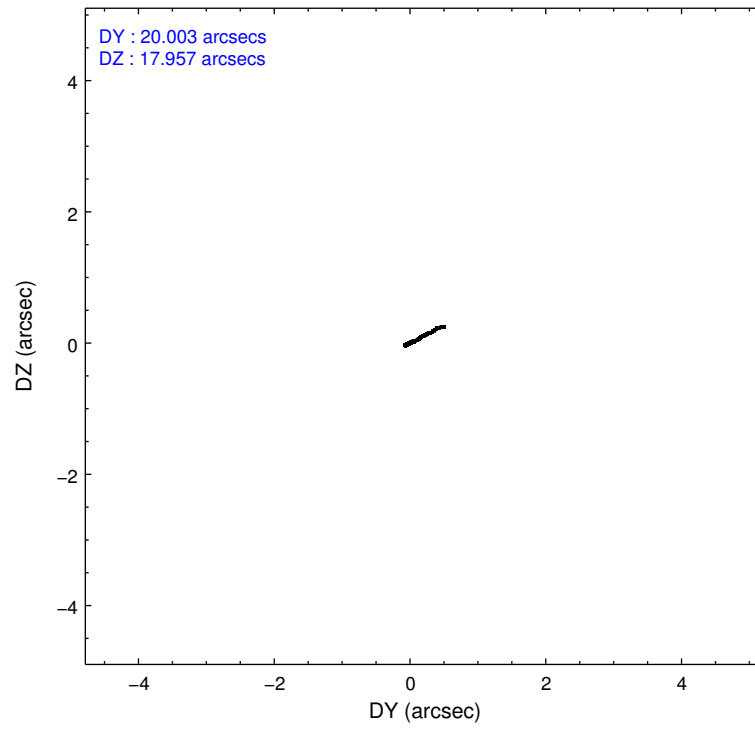
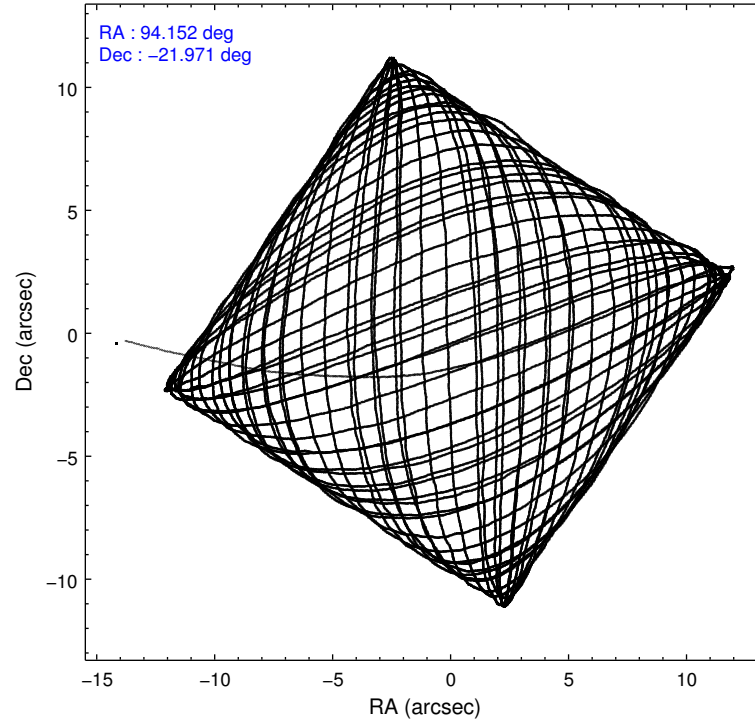
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	105701	110523	115960	122037	117625
rejected events	91873	94348	101973	97418	103735
rejected %	86%	85%	87%	79%	88%

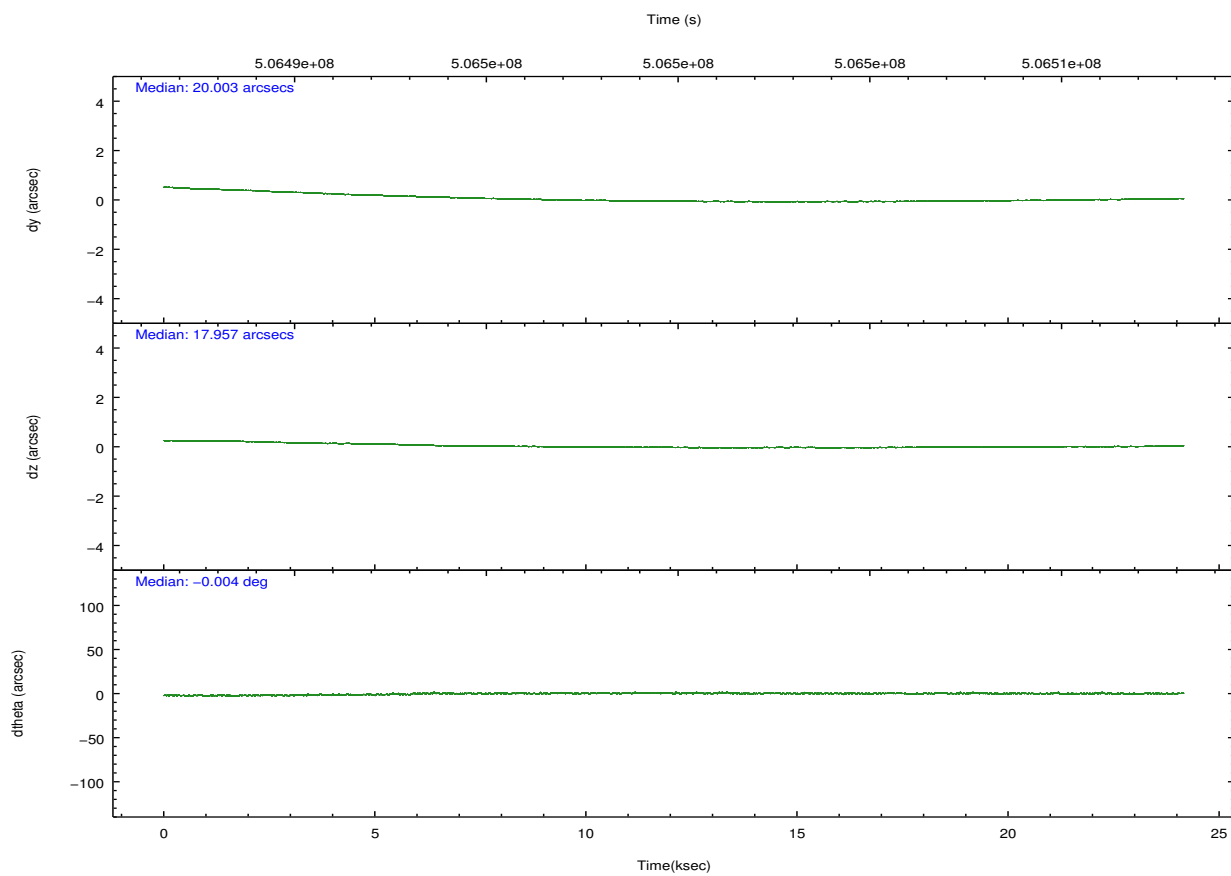
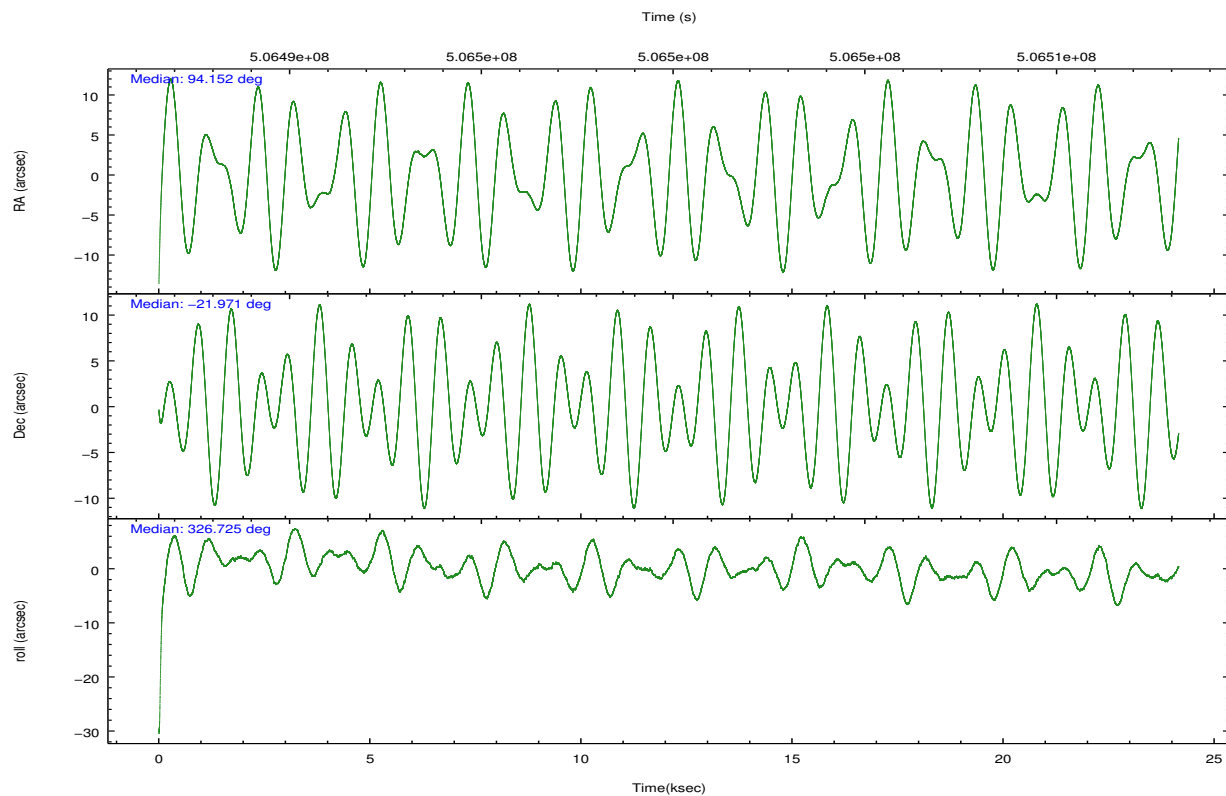
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	4756	6031	5308	13914	4633
	4%	5%	4%	11%	3%
grade 1 events	39	67	65	95	44
	0%	0%	0%	0%	0%
grade 2 events	3410	3707	3269	4046	3144
	3%	3%	2%	3%	2%
grade 3 events	1452	1521	1397	1721	1434
	1%	1%	1%	1%	1%
grade 4 events	1286	1518	1401	1764	1382
	1%	1%	1%	1%	1%
grade 5 events	5488	5807	5060	6345	5947
	5%	5%	4%	5%	5%
grade 6 events	2926	3401	2616	3176	3300
	2%	3%	2%	2%	2%
grade 7 events	86344	88471	96844	90976	97741
	81%	80%	83%	74%	83%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-01236	ACIS-01236	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	94.122733	94.152342178997	CCD I2 on	Y	Y
[deg] Pointing Dec	-21.969517	-21.97097525062662	CCD I3 on	Y	Y
[deg] Pointing Roll	326.510746	326.7304969110054	CCD S0 on	N	N
[mm] SIM focus pos	-0.782348	-0.7809083437167272	CCD S1 on	N	N
[mm] SIM defocus	0	0.001439871863259334	CCD S2 on	O1	Y
[mm] SIM translation stage pos	-225.842463	-225.8458576473255	CCD S3 on	N	N
[mm] SIM translation stage offset	-7.75	-7.746595355604228	CCD S4 on	N	N
[s] Observation start time (MET)	506487968.184000	506486728.84249	CCD S5 on	N	N
Observation start date	2014-01-19T03:05:01	2014-01-19T02:45:28	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	506511968.184000	506512949.36894	On-chip summing requested	N	N
Observation end date	2014-01-19T09:45:01	2014-01-19T10:02:29	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



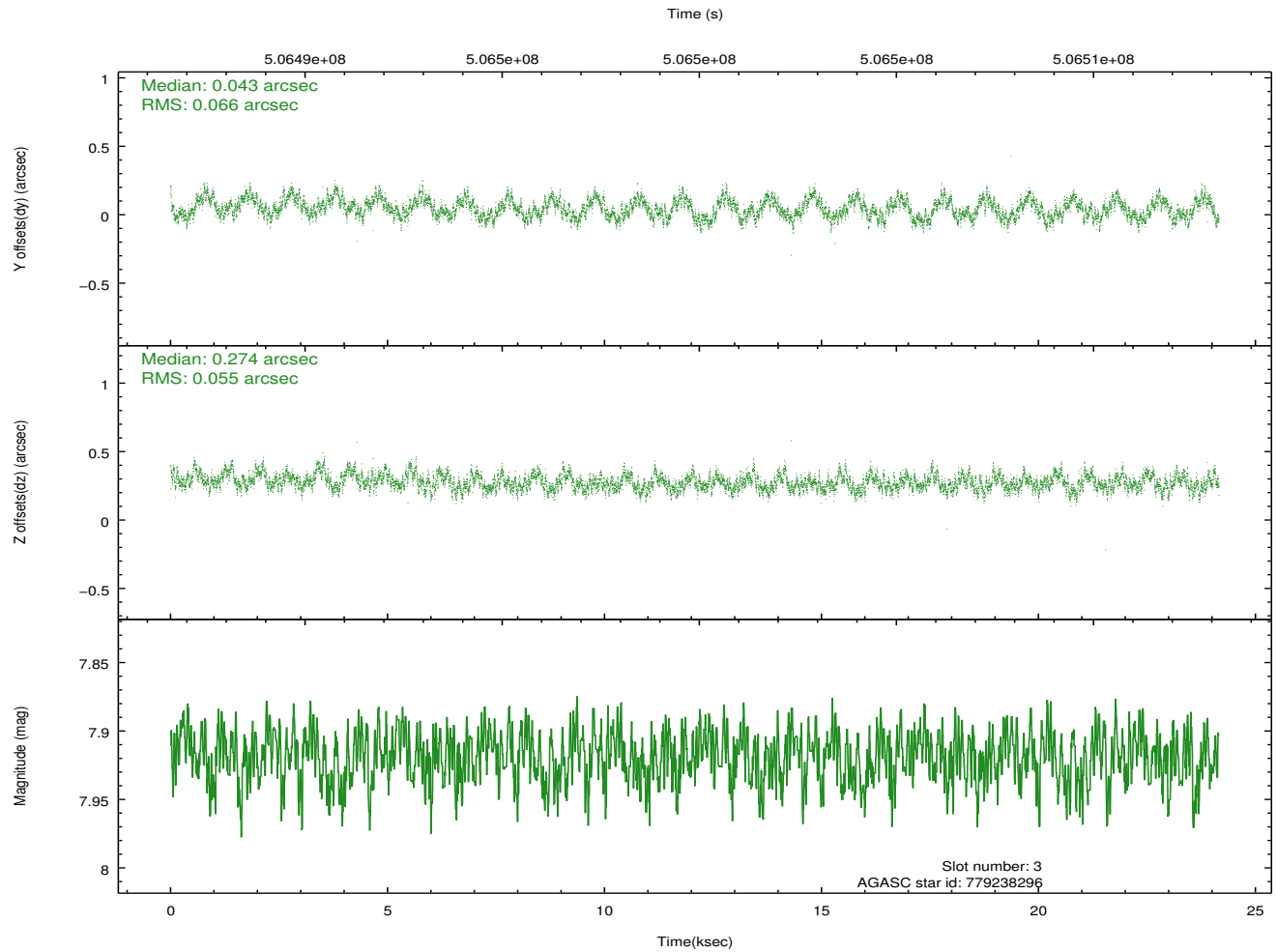
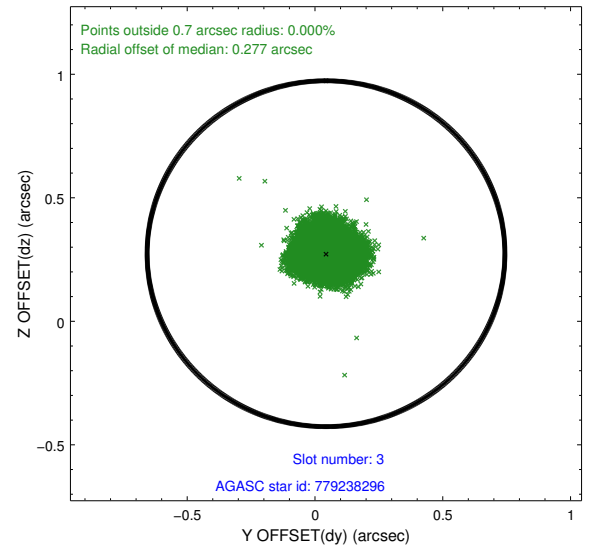
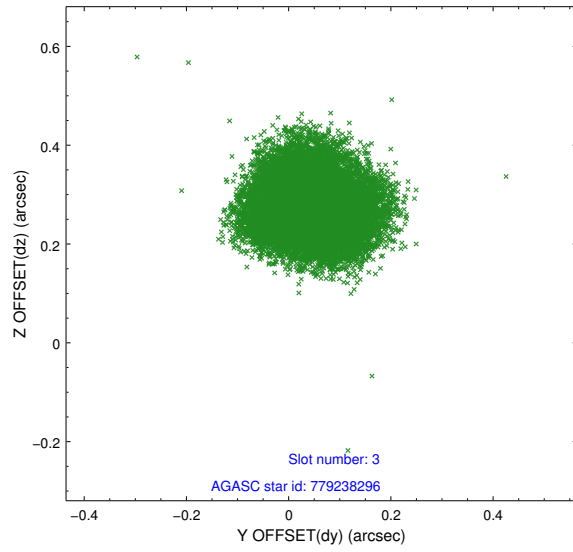


### Slot Statistics

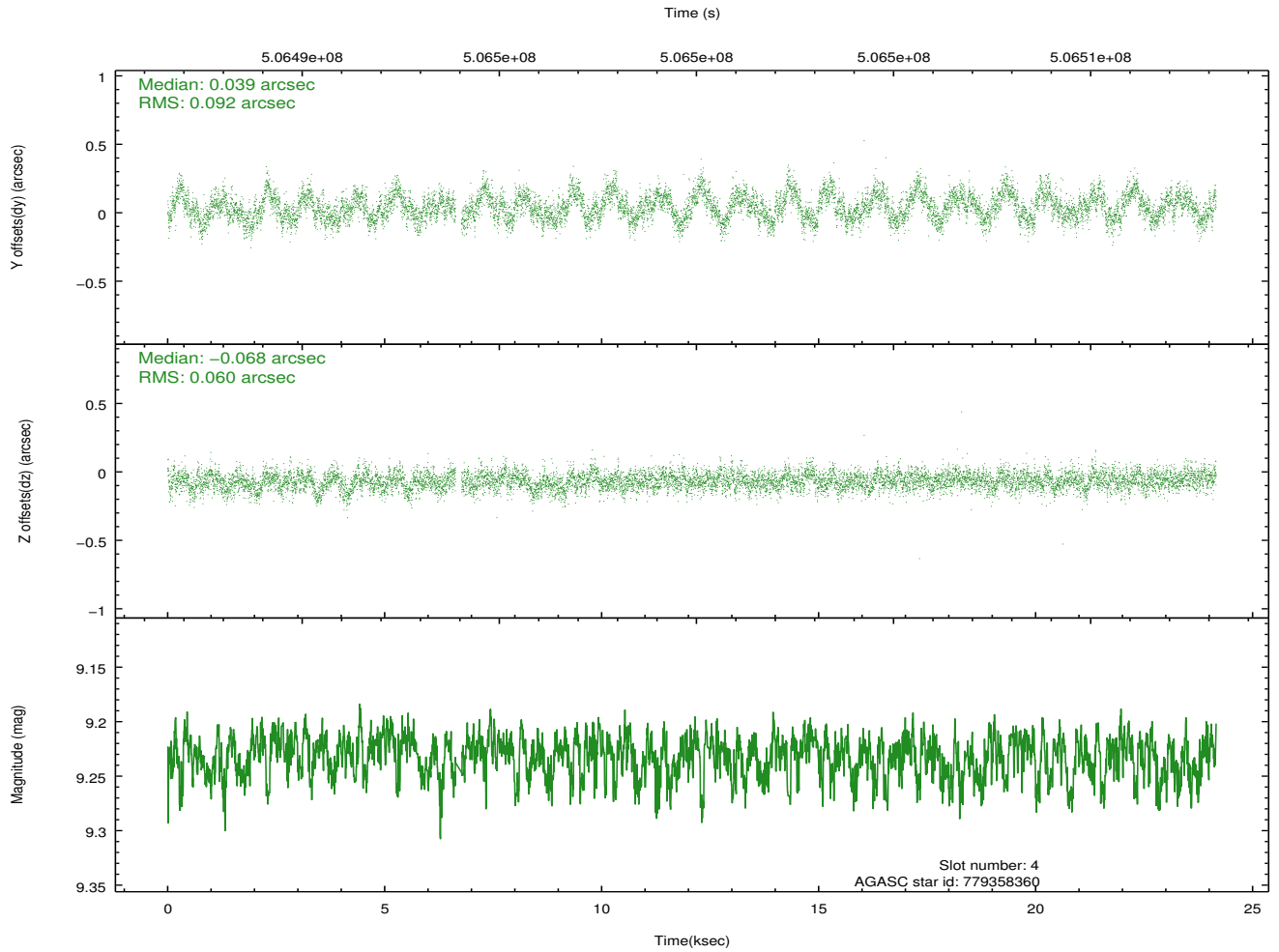
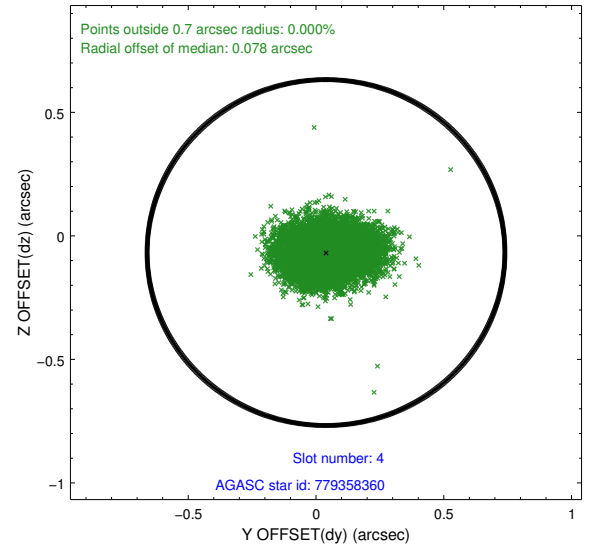
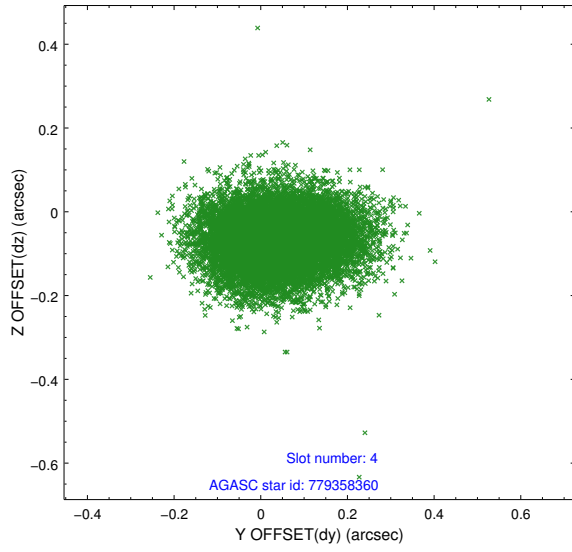
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.21	5892	0.153	-0.097	0.010	0.026	0.000000	0.000000	919.30	-1000.75
1	FID		ACIS-I-5	7.19	5892	-0.334	0.117	0.008	0.016	0.000000	0.000000	-1829.30	896.75
2	FID		ACIS-I-6	7.21	5892	0.091	0.049	0.008	0.013	0.000000	0.000000	384.54	1541.42
3	GUIDE	used	779238296	7.92	11782	0.043	0.274	0.094	0.140	93.645931	-22.219972	-825.72	-1630.55
4	GUIDE	used	779358360	9.23	11709	0.039	-0.068	0.116	0.189	94.768426	-22.237319	2329.05	379.55
5	GUIDE	used	779372064	8.54	11782	-0.294	-0.069	0.081	0.127	94.417701	-21.758407	404.53	1176.96
6	GUIDE	used	779373752	8.12	11784	-0.031	-0.099	0.078	0.129	94.741337	-22.034971	1854.14	939.33
7	GUIDE	used	779373768	7.50	11784	0.230	-0.041	0.087	0.150	94.283049	-22.374360	1250.38	-921.03

## 2.4 Star Slots

### 2.4.1 Slot 3

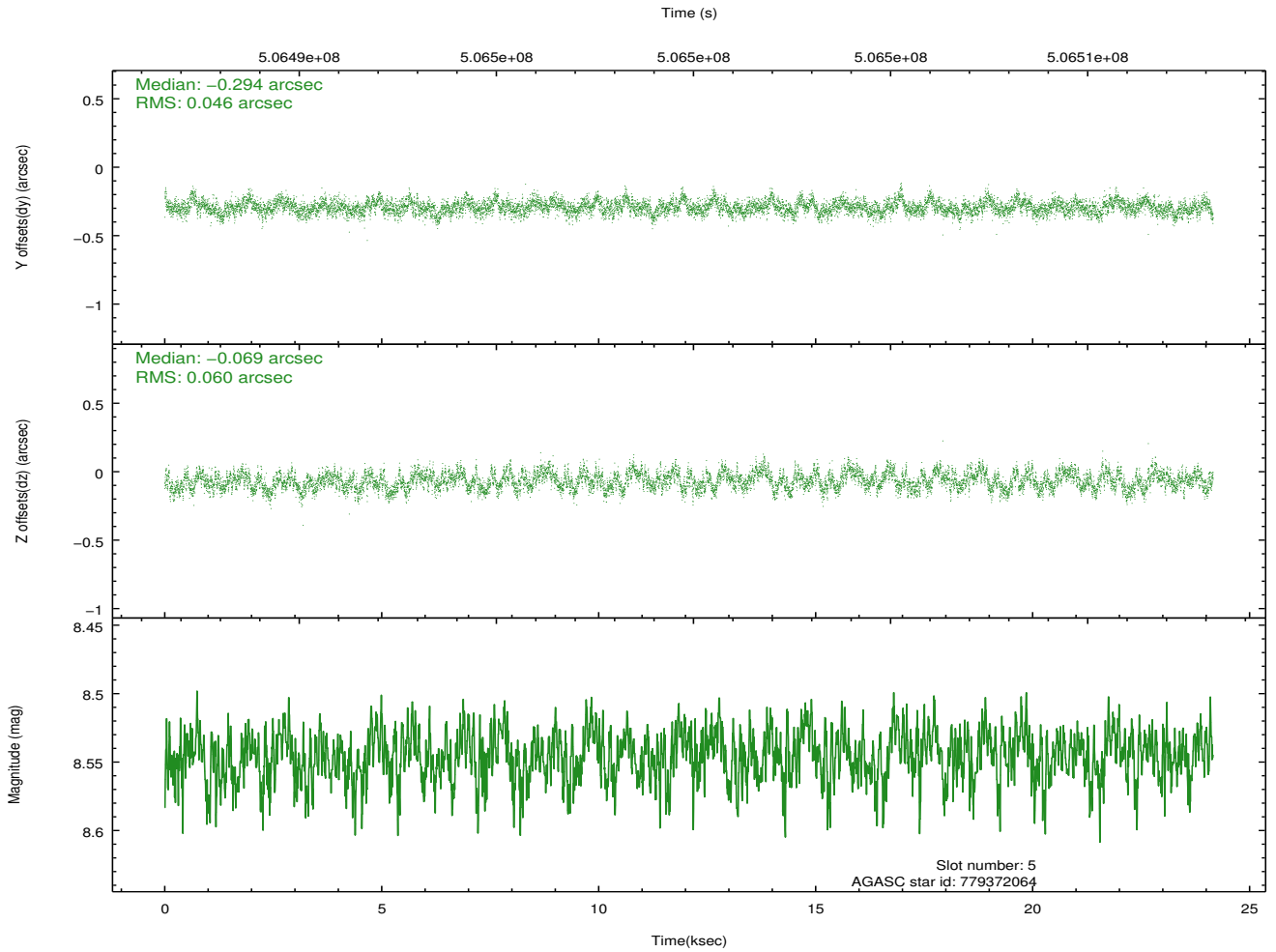
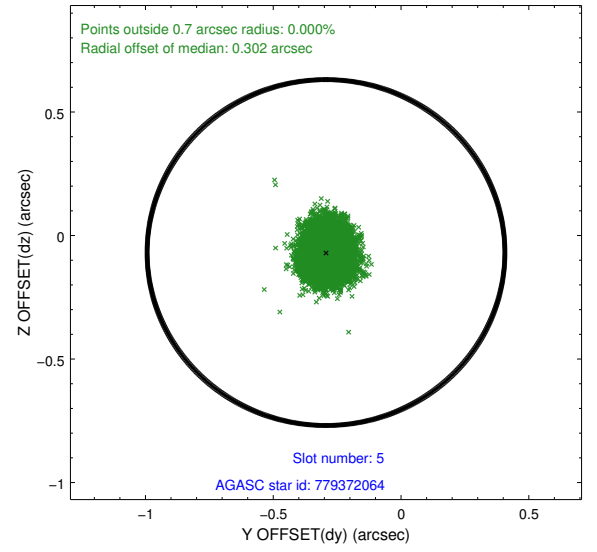
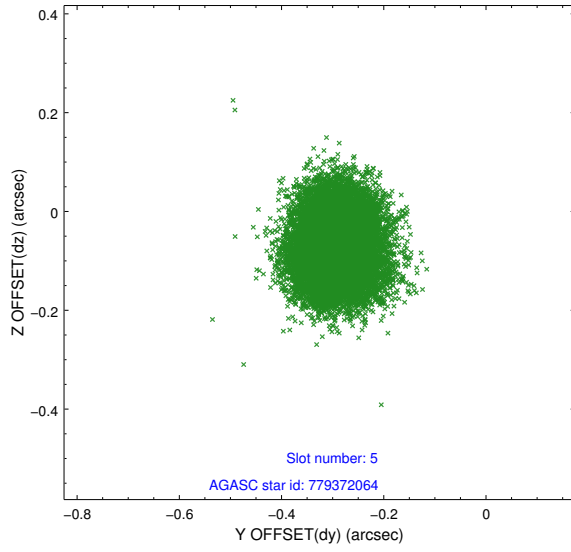


## 2.4.2 Slot 4

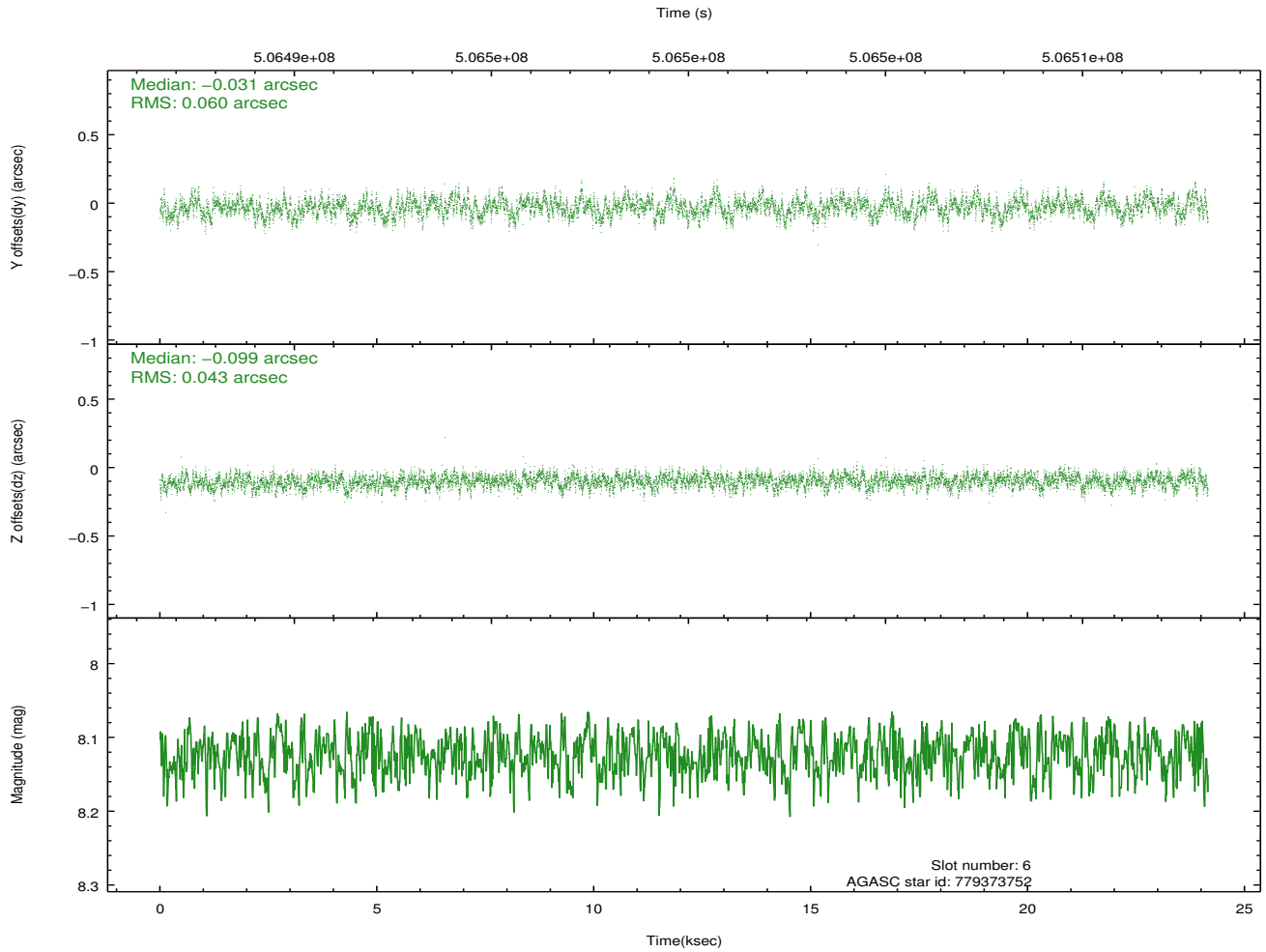
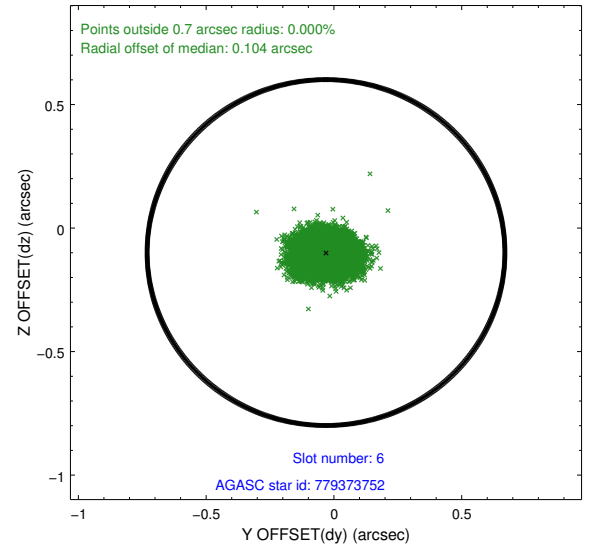
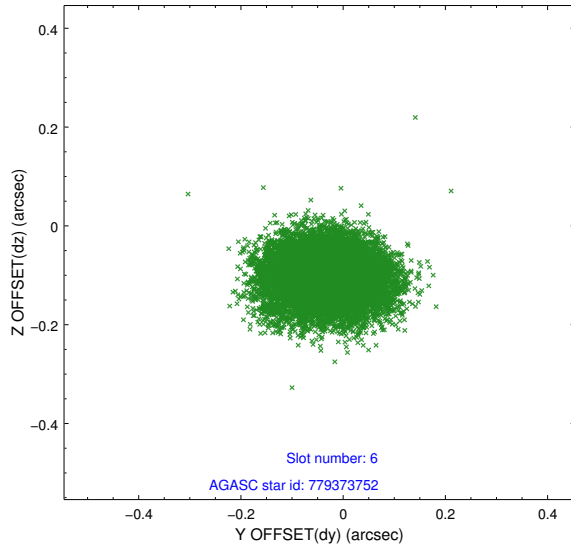




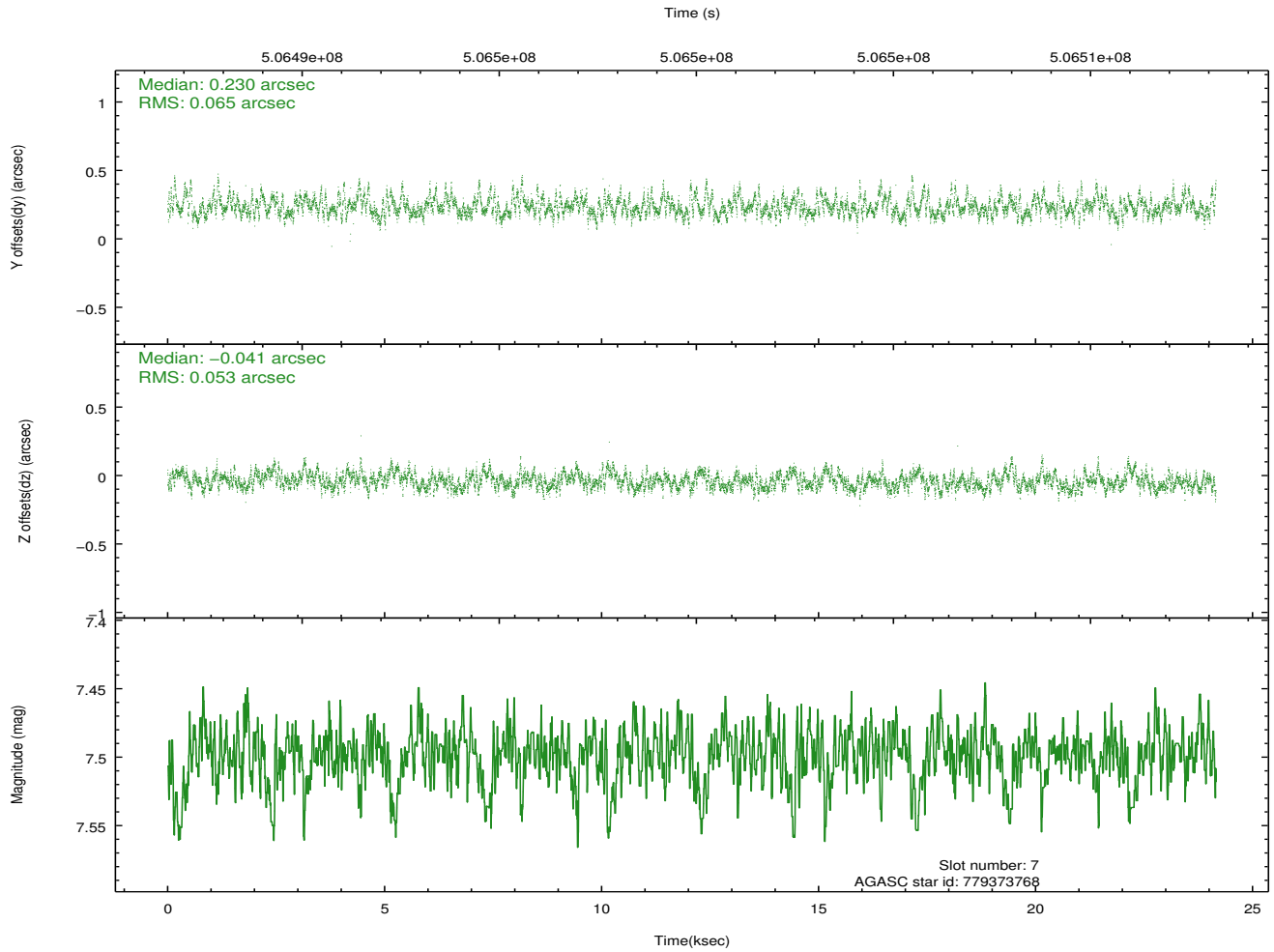
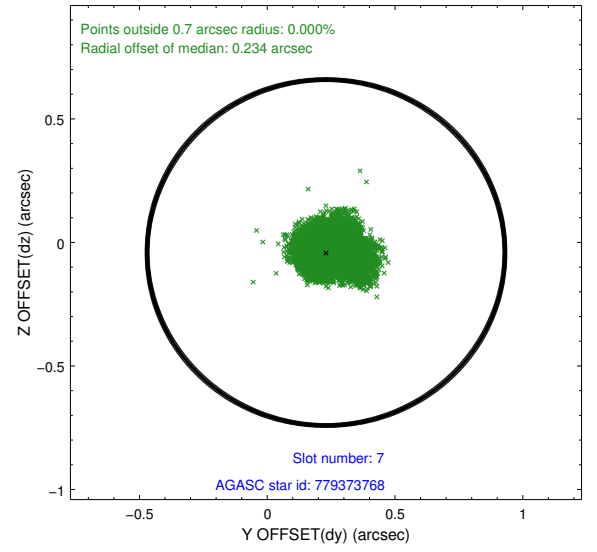
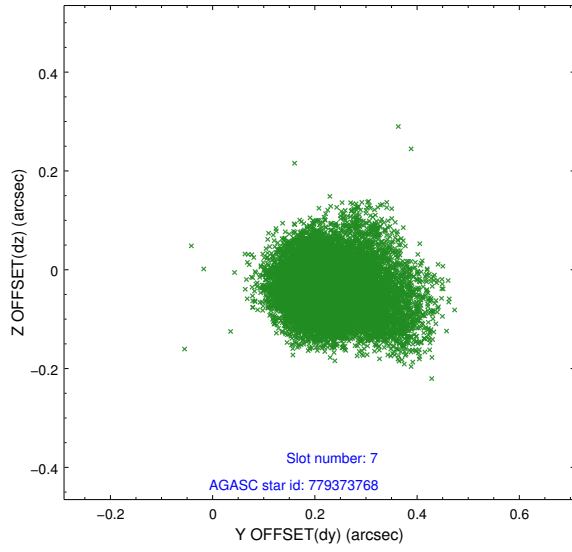
### 2.4.3 Slot 5



## 2.4.4 Slot 6

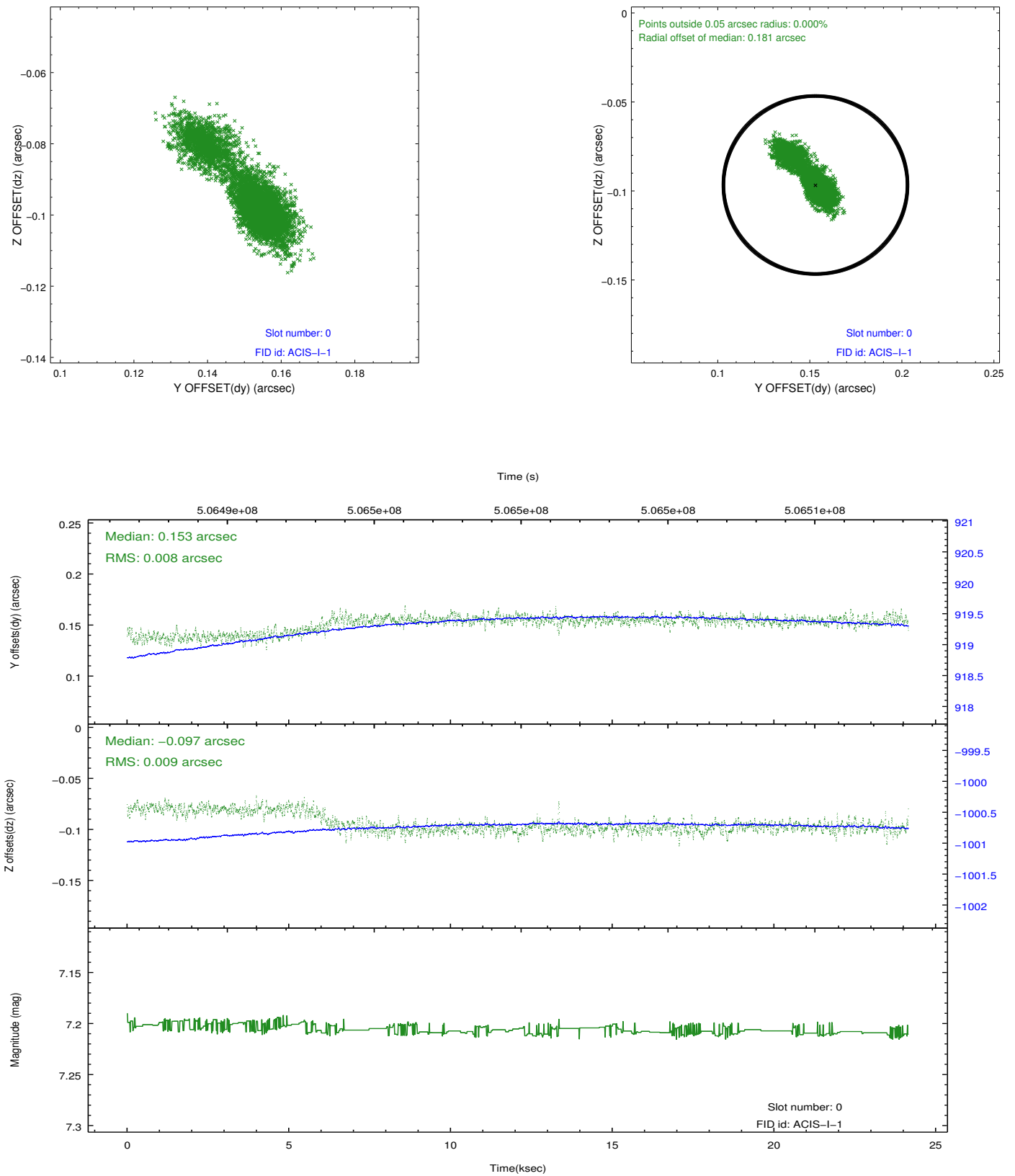


## 2.4.5 Slot 7

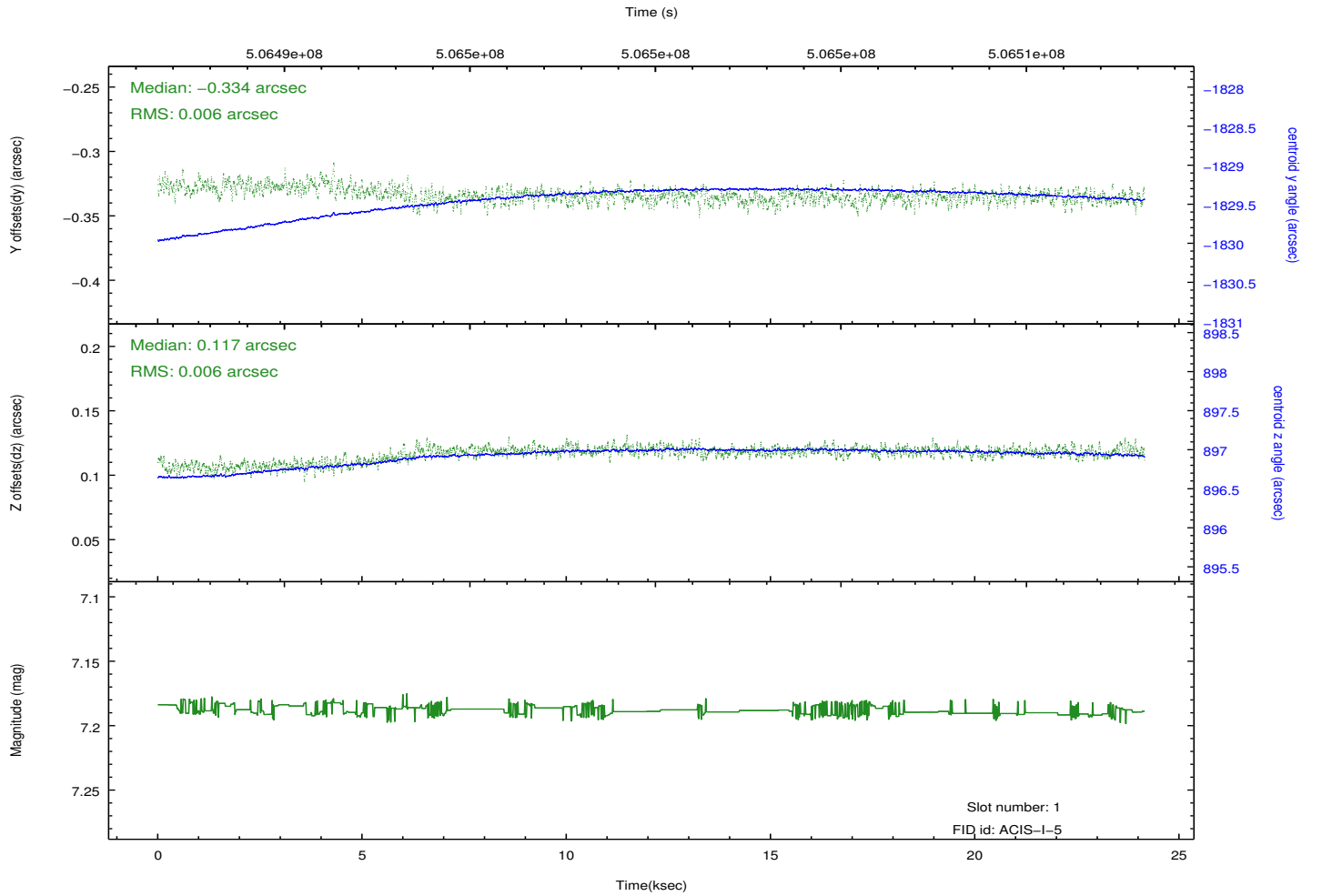
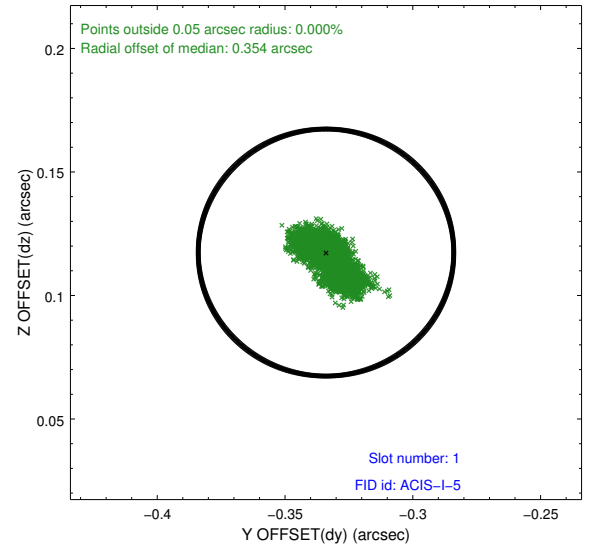
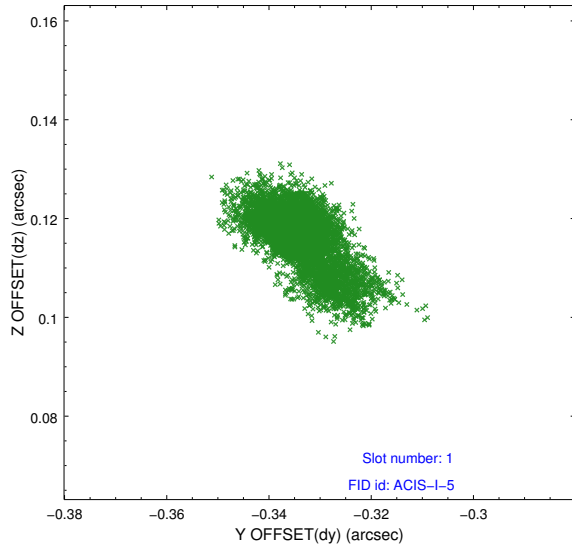


## 2.5 FID Slots

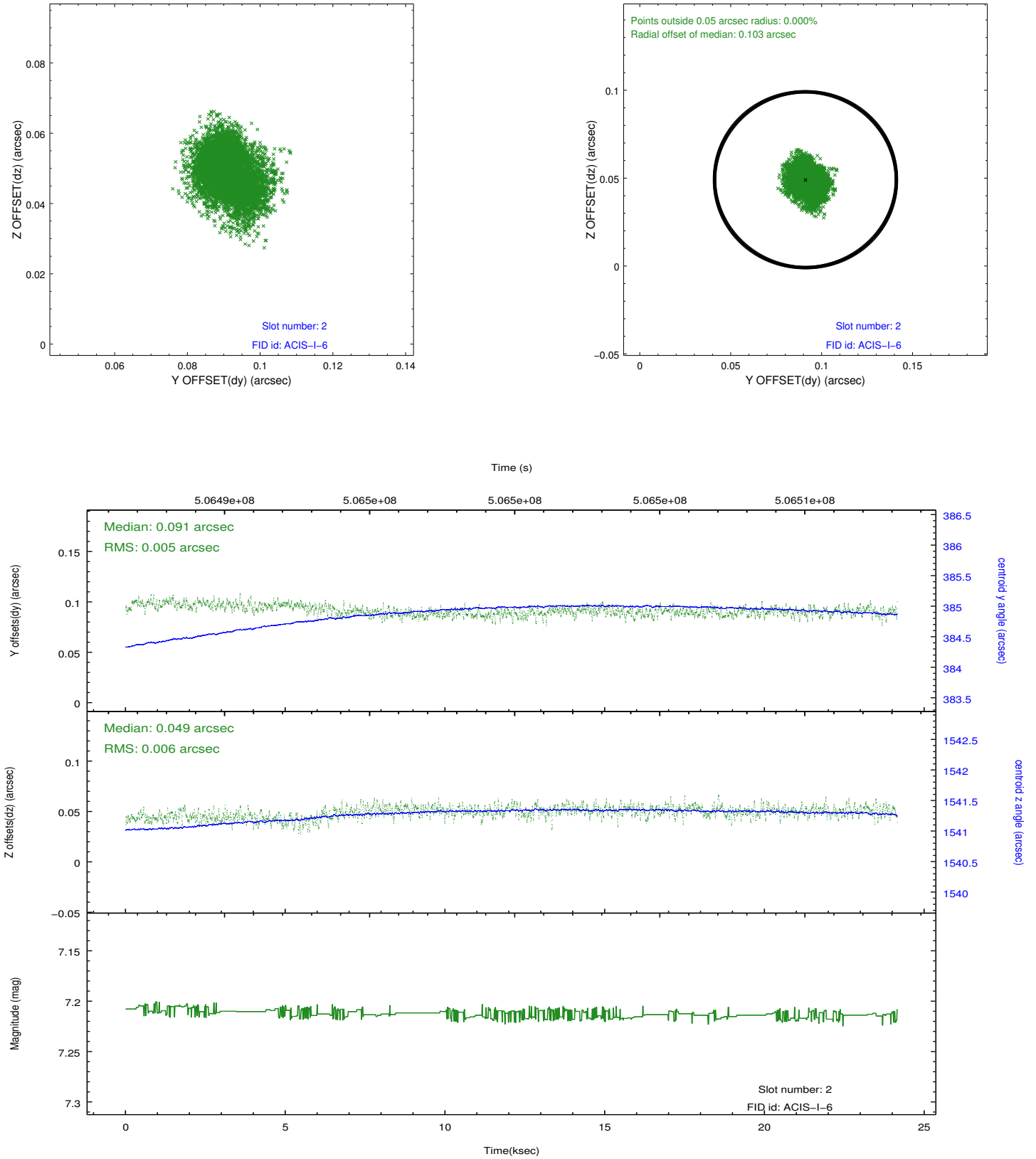
### 2.5.1 Slot 0



## 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	24.087000185251

## 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.