

# V&V Reference Report

## L2 ASCDS Version : 10.4.1

Observation 17141 - L2 Version 1  
Chandra X-Ray Center

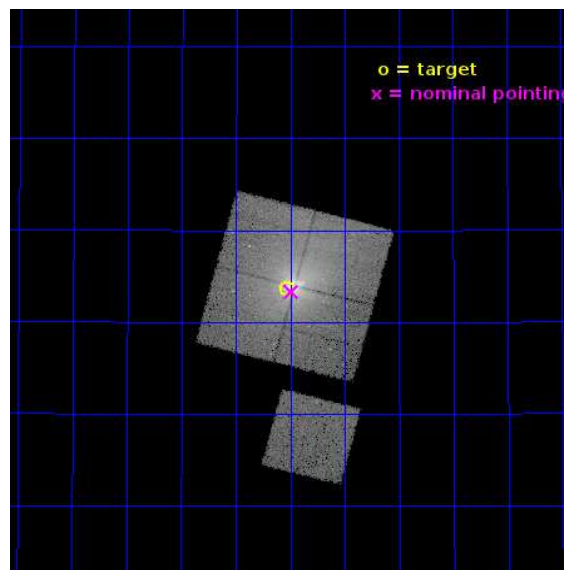
L2 Processing Date : Aug 2 2015

## 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

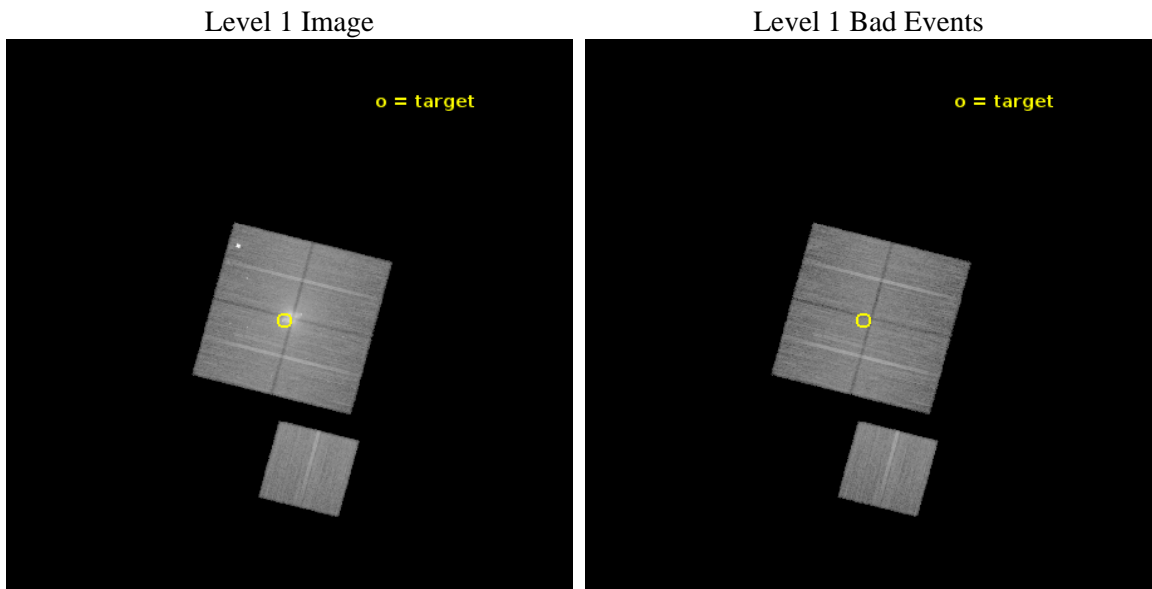
seq_num	703133	Sequence number
obs_id	17141	Observation id
title	The Rise to Power: Half a Billion Years of Intense AGN Activity in the Merging Cluster Cygnus A	Proposal title
observer	Dr. Michael Wise	Principal investigator
object	Cygnus A - E Hotspot	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	299.883333	Observer's specified target RA [deg]
dec_targ	40.727889	Observer's specified target Dec [deg]
ra_nom	299.87233394276	Nominal RA [deg]
dec_nom	40.722307240434	Nominal Dec [deg]
roll_nom	194.71586745796	Nominal Roll [deg]
revision	1	Processing version of data
ontime	30081.374417424	Sum of GTIs [s]
livetime	29688.339115075	Livetime [s]
ontime0	30078.110236883	Sum of GTIs [s]
ontime1	30071.869206667	Sum of GTIs [s]
ontime2	30071.910236955	Sum of GTIs [s]
ontime3	30081.374417424	Sum of GTIs [s]
ontime6	30065.505025864	Sum of GTIs [s]
l2events	211828	Number of level 2 events



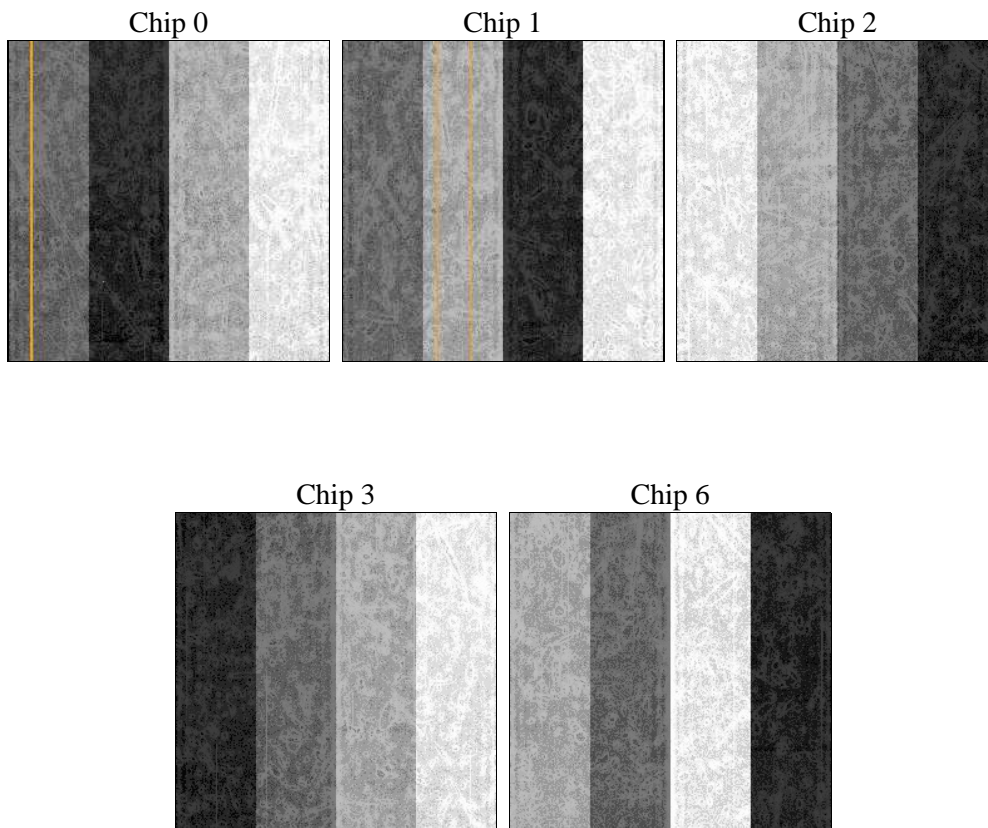
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	10.4.1	Processing system revision	ontime	30081.374417424	Sum of GTIs [s]
caldbver	4.6.8	&#160	ontime0	30078.110236883	Sum of GTIs [s]
date	2015-08-02T15:31:16	Date and time of file creation	ontime1	30071.869206667	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	30071.910236955	Sum of GTIs [s]
			ontime3	30081.374417424	Sum of GTIs [s]
			ontime6	30065.505025864	Sum of GTIs [s]
			l1events	941117	Number of level 1 events

### 2.1.4 Events

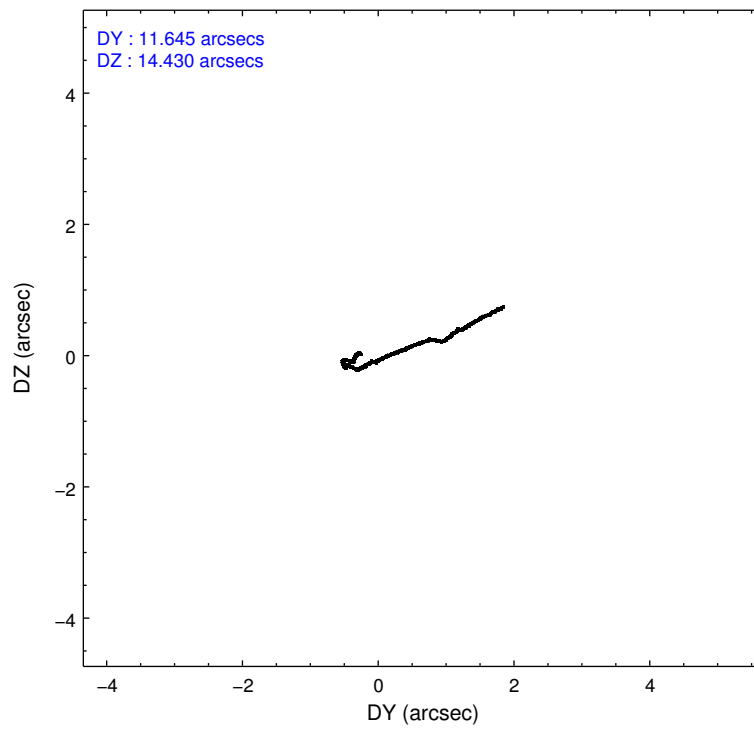
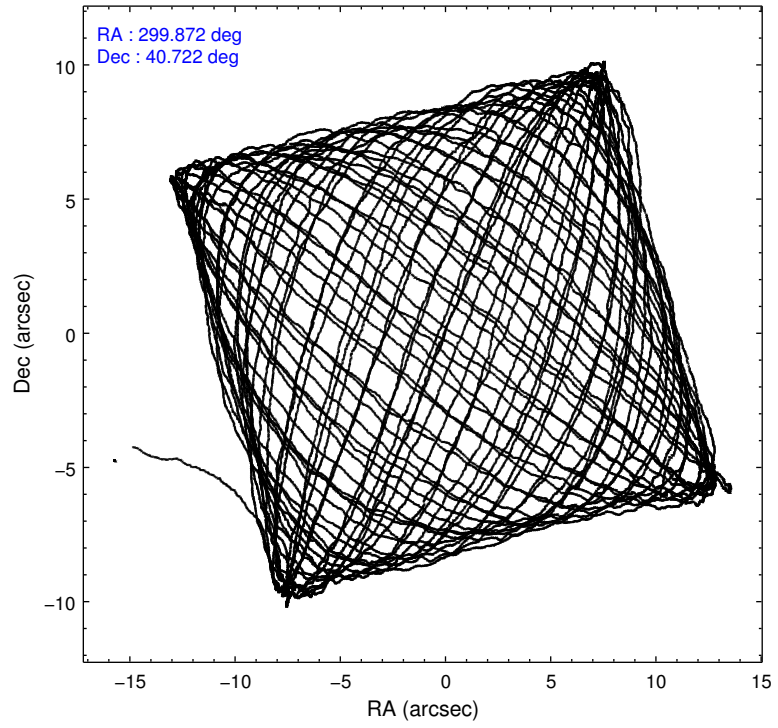
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	185709	212596	184917	193505	164390
rejected events	125930	132264	144206	141993	144608
rejected %	67%	62%	77%	73%	87%

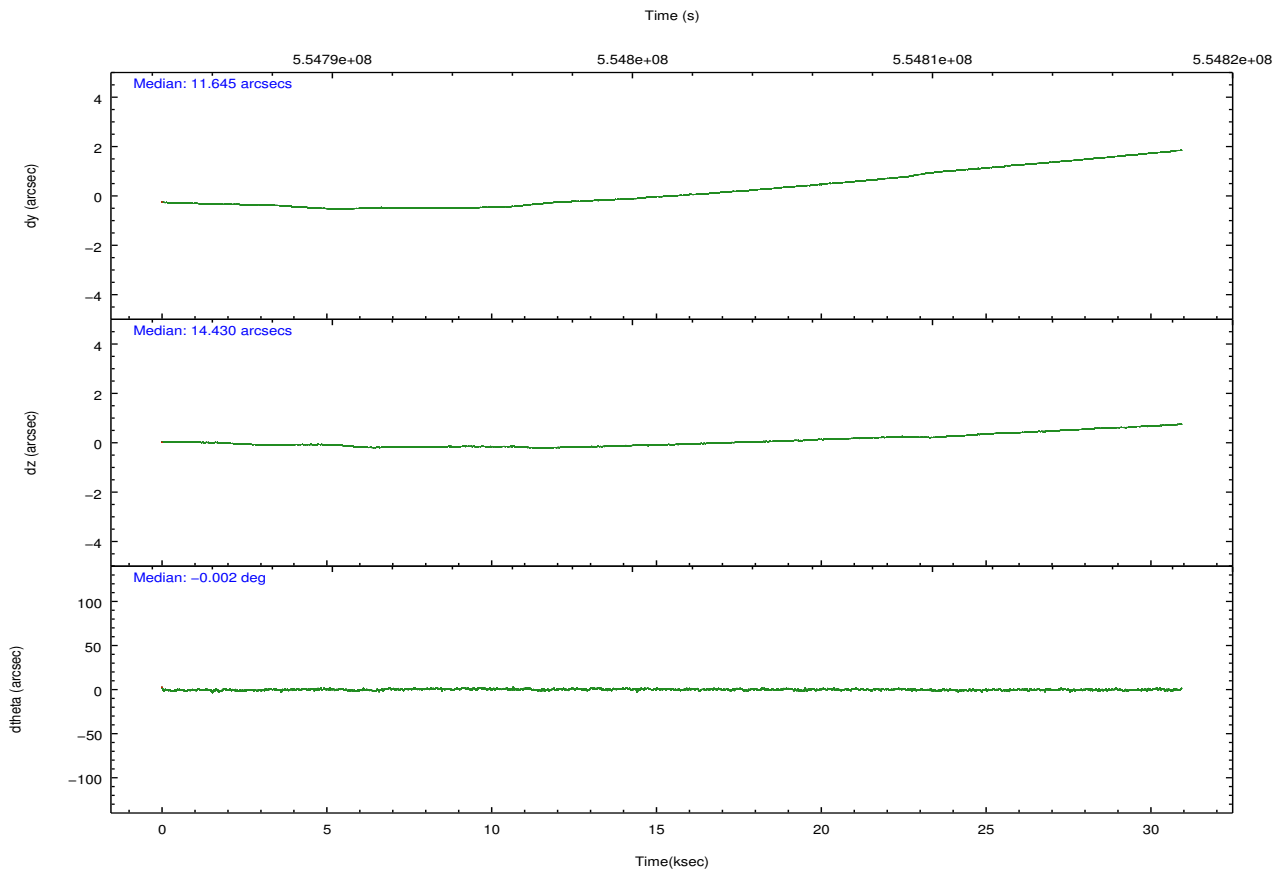
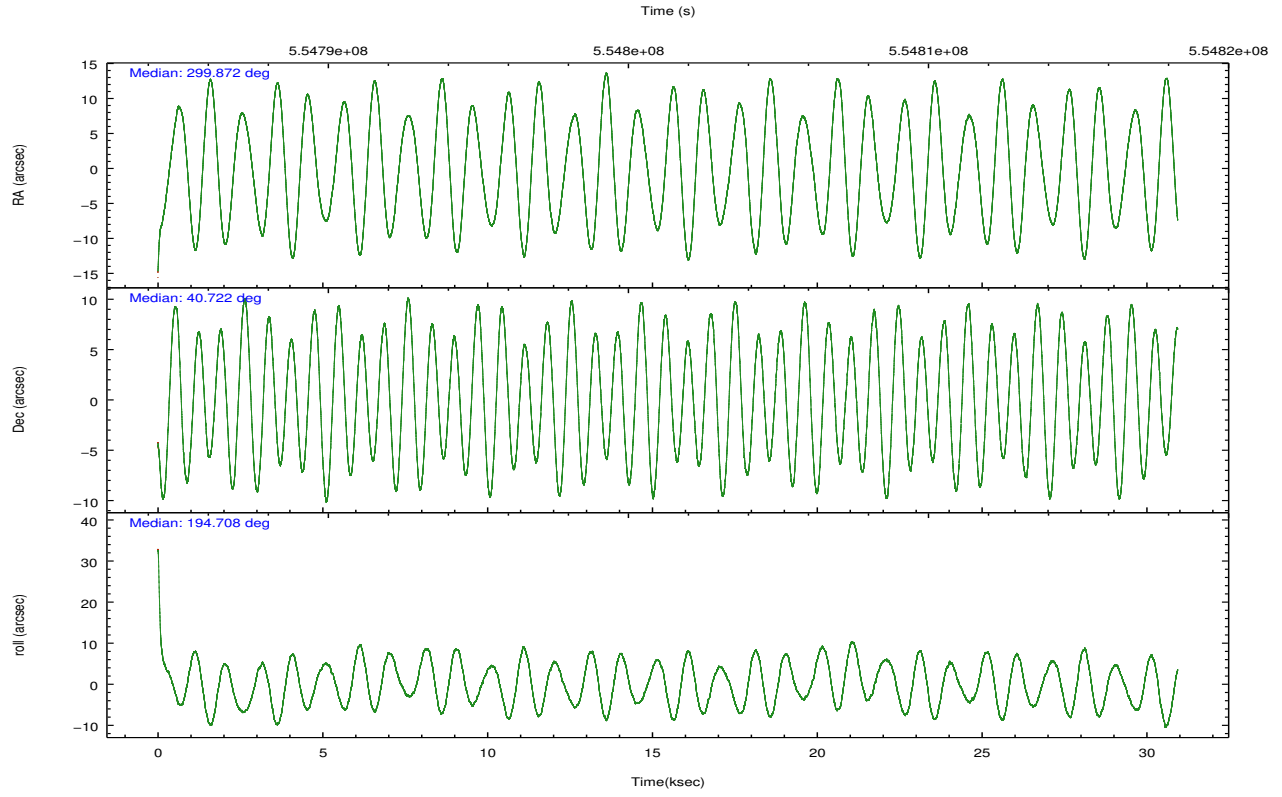
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	38392	38940	24450	33105	6958
	20%	18%	13%	17%	4%
grade 1 events	212	250	172	258	86
	0%	0%	0%	0%	0%
grade 2 events	9346	28019	6737	7475	4408
	5%	13%	3%	3%	2%
grade 3 events	3343	3410	2571	2955	1942
	1%	1%	1%	1%	1%
grade 4 events	3295	3430	2547	2980	1889
	1%	1%	1%	1%	1%
grade 5 events	7553	7965	7034	8487	7879
	4%	3%	3%	4%	4%
grade 6 events	5408	6538	4409	5006	4592
	2%	3%	2%	2%	2%
grade 7 events	118160	124044	136997	133239	136636
	63%	58%	74%	68%	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	299.898129	299.8723339427632	CCD I2 on	Y	Y
[deg] Pointing Dec	40.741810	40.72230724043426	CCD I3 on	Y	Y
[deg] Pointing Roll	194.490342	194.7158674579571	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	-233.592463	-233.5874344608287	CCD S3 on	N	N
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	554786789.184000	554785240.44146	CCD S5 on	N	N
Observation start date	2015-08-01T03:25:21	2015-08-01T03:00:40	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	554816789.184000	554817111.28076	On-chip summing requested	N	N
Observation end date	2015-08-01T11:45:21	2015-08-01T11:51:51	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





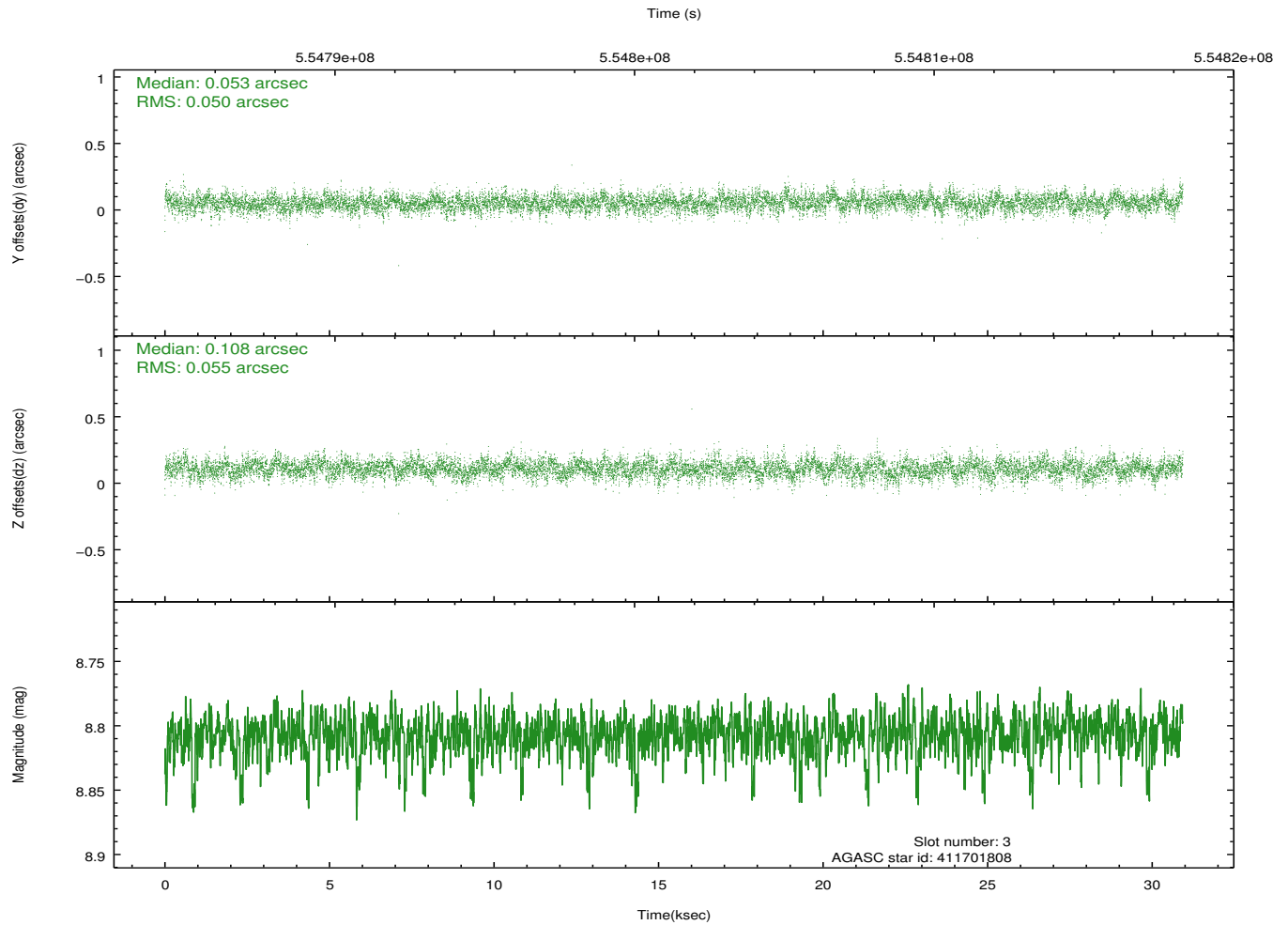
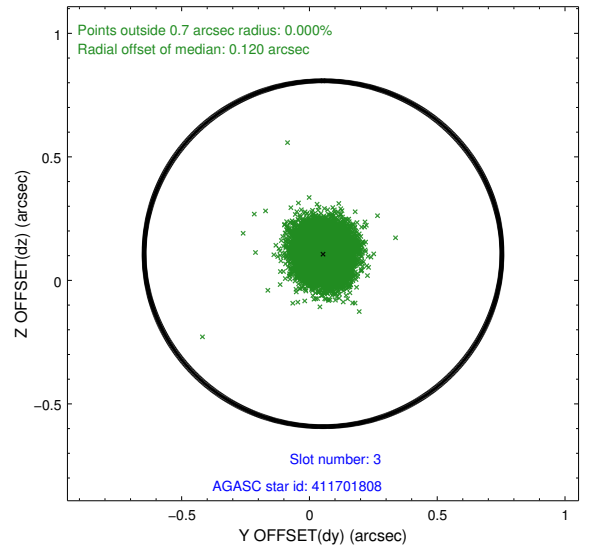
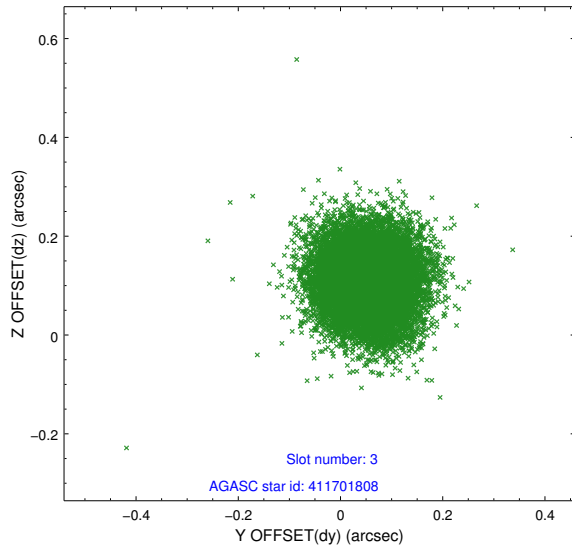
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-2	7.04	7544	-0.118	-0.094	0.014	0.031	0.000000	0.000000	-766.66	-844.56
1	FID		ACIS-I-4	7.08	7545	0.263	0.093	0.023	0.056	0.000000	0.000000	2147.76	1061.77
2	FID		ACIS-I-5	7.14	7546	-0.249	0.070	0.023	0.039	0.000000	0.000000	-1820.53	1059.66
3	GUIDE	used	411701808	8.81	15081	0.053	0.108	0.077	0.130	299.419536	40.880184	1136.17	-811.13
4	GUIDE	used	411707968	7.24	15090	-0.096	-0.103	0.080	0.134	299.509933	40.926839	855.26	-911.32
5	GUIDE	used	413421016	8.68	15088	-0.054	-0.245	0.102	0.168	300.612426	40.446254	-1630.21	1512.05
6	GUIDE	used	413421624	8.70	15090	0.099	0.076	0.086	0.140	300.399768	40.893051	-1458.80	-189.18
7	GUIDE	used	413412048	9.03	15081	0.002	0.166	0.117	0.190	300.720827	40.967507	-2370.85	-237.16

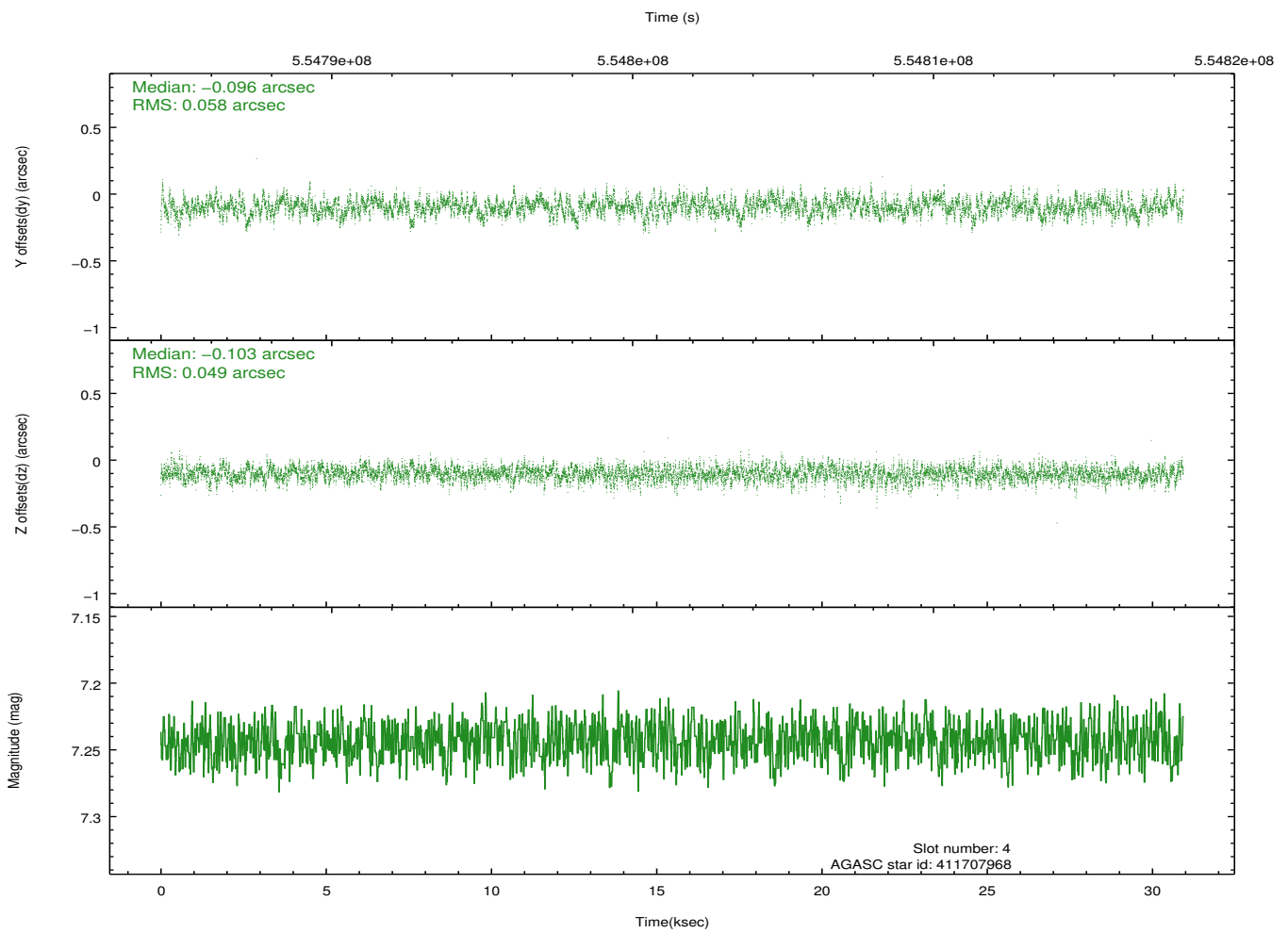
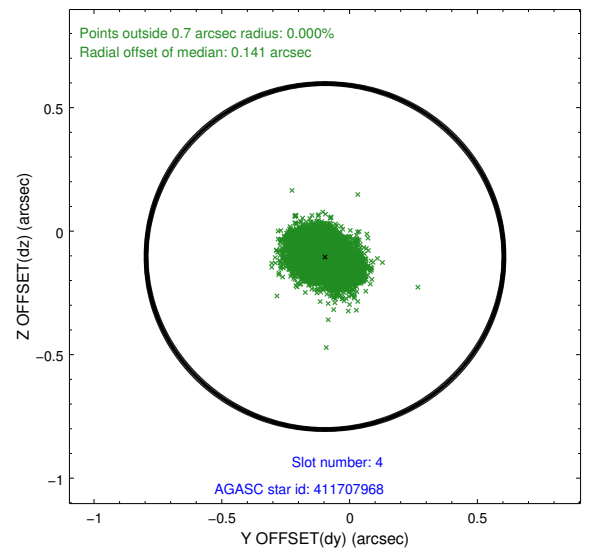
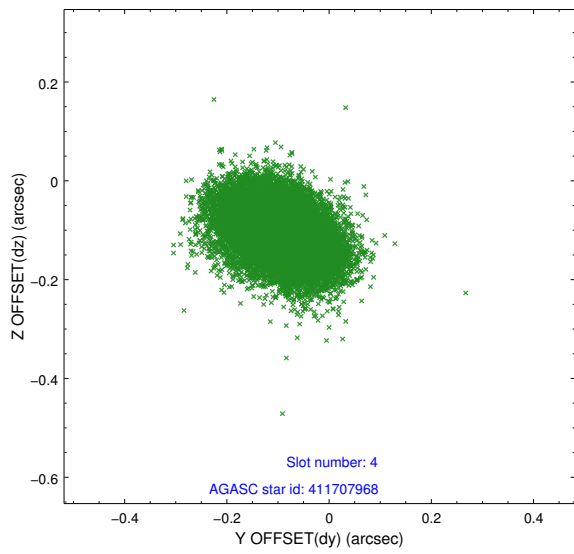
∞

## 2.4 Star Slots

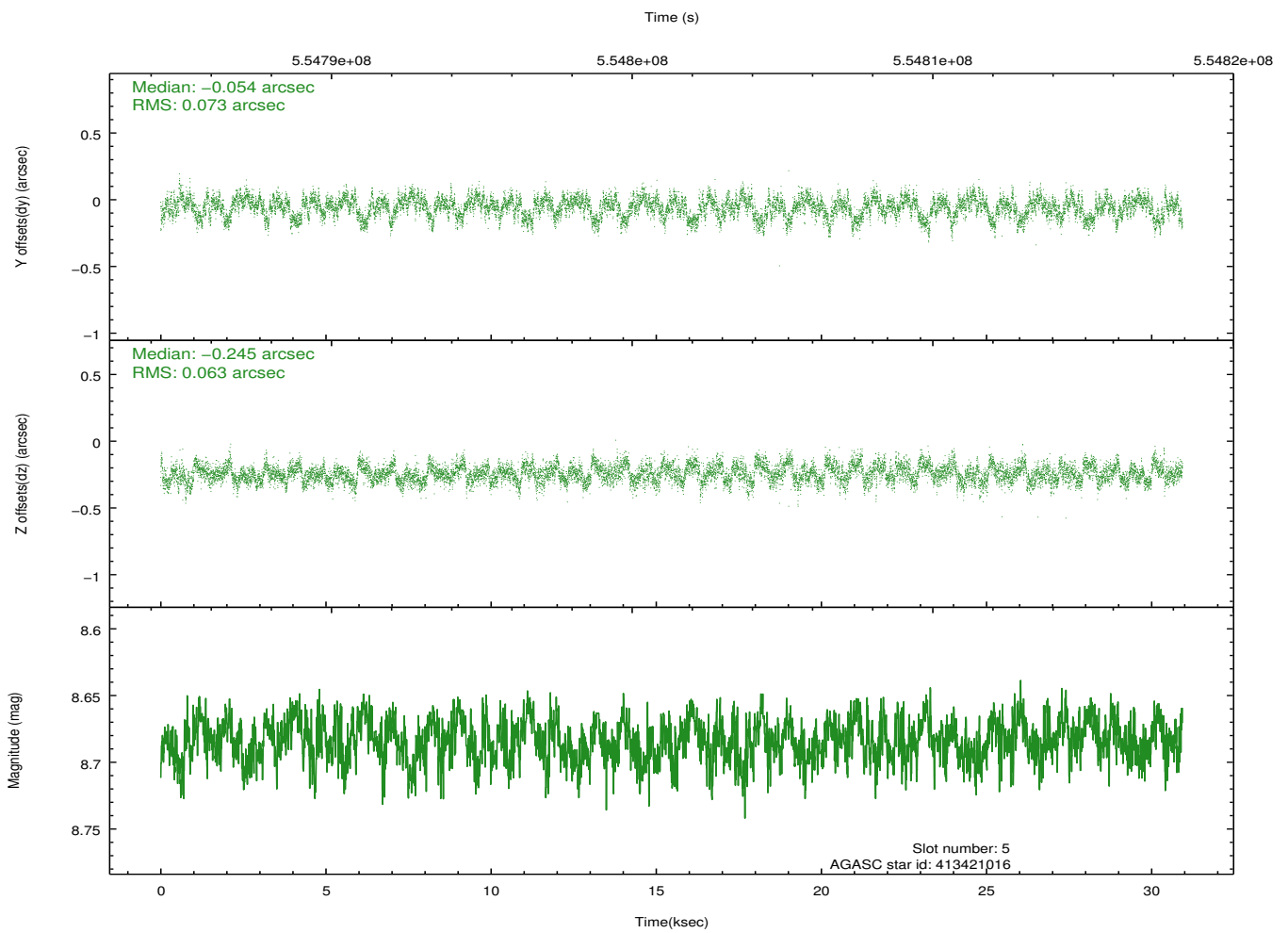
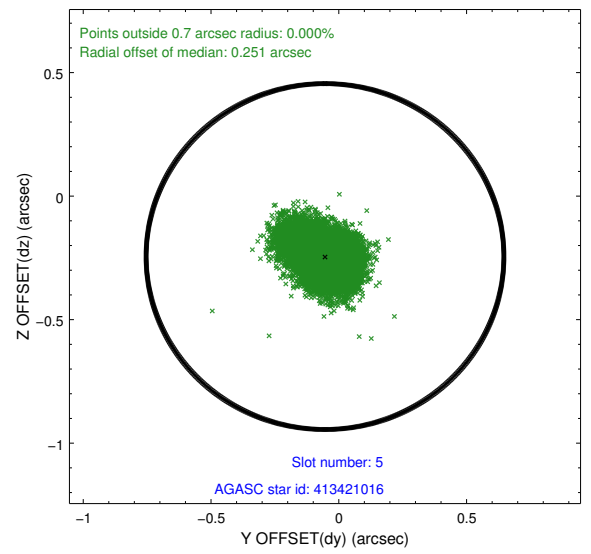
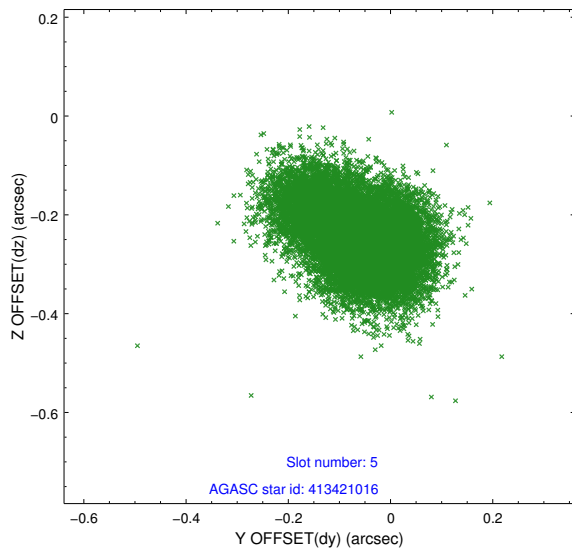
### 2.4.1 Slot 3



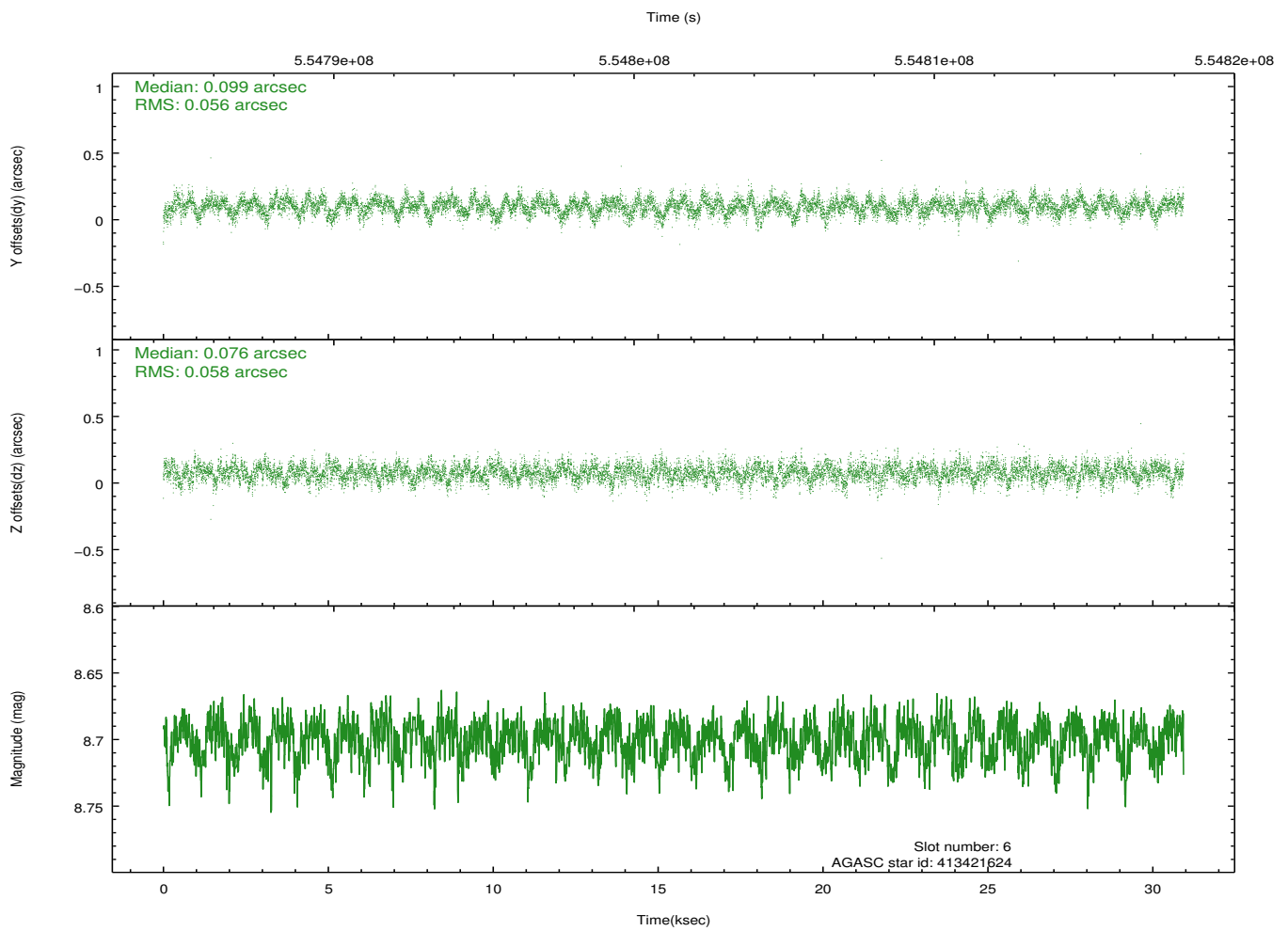
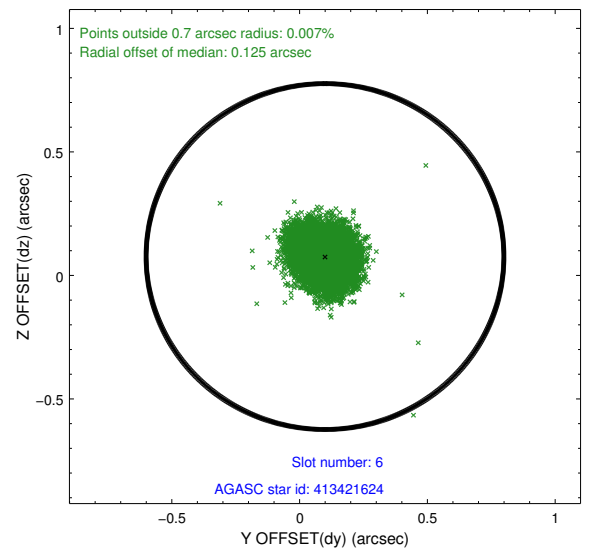
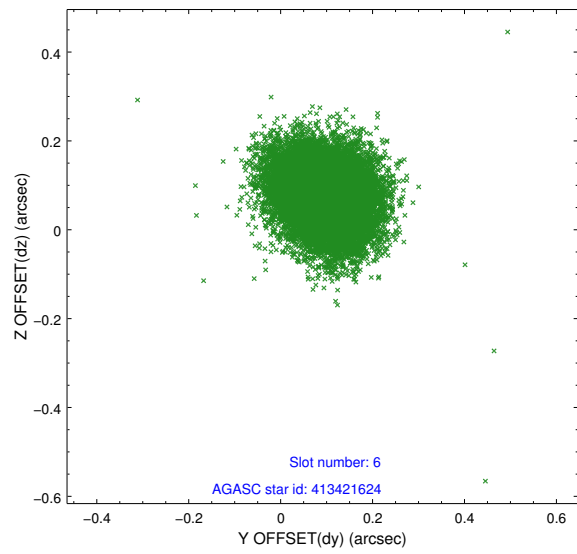
## 2.4.2 Slot 4



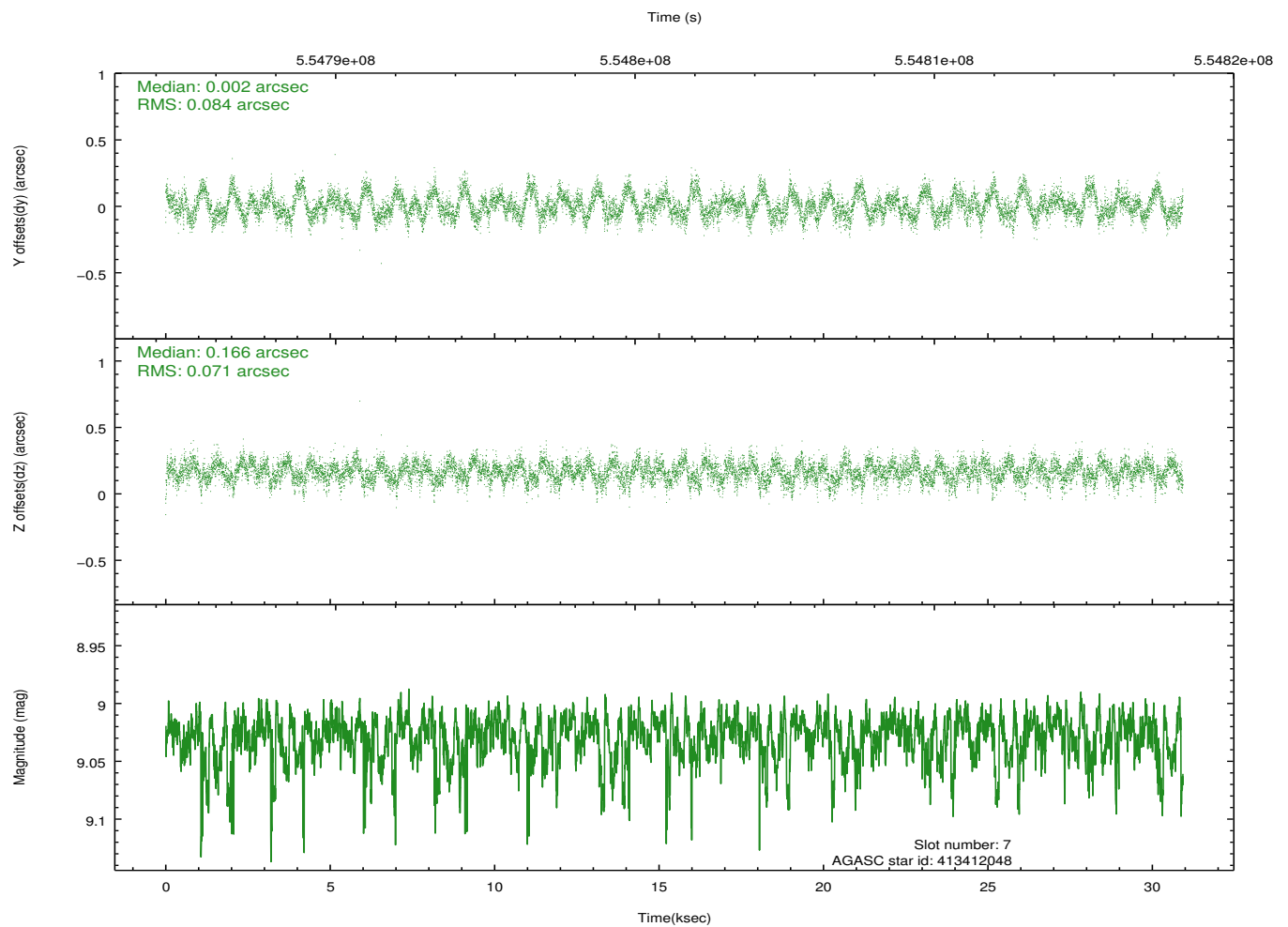
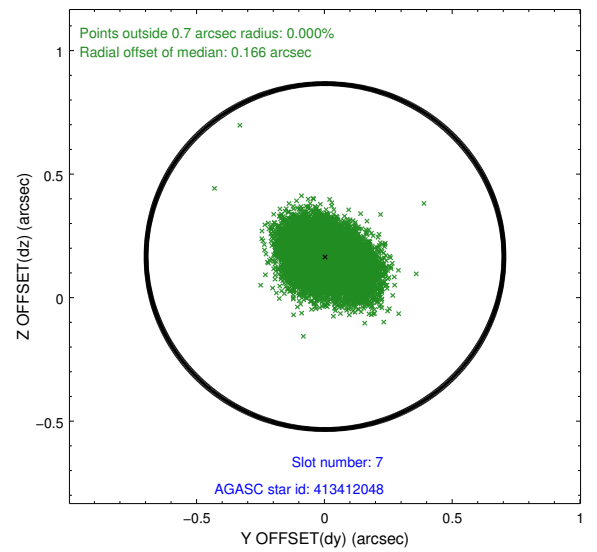
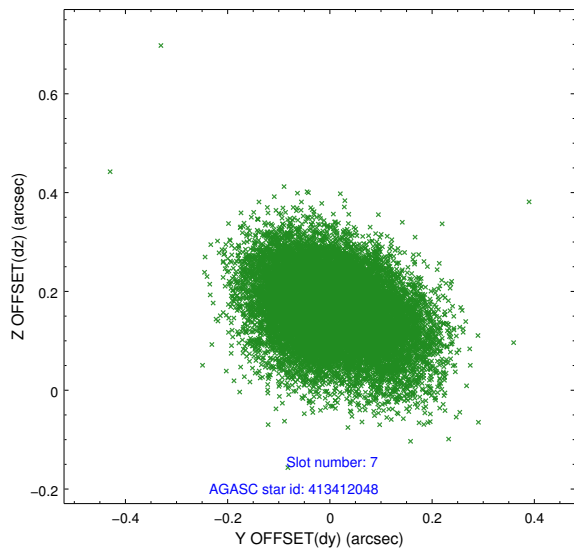
### 2.4.3 Slot 5



## 2.4.4 Slot 6

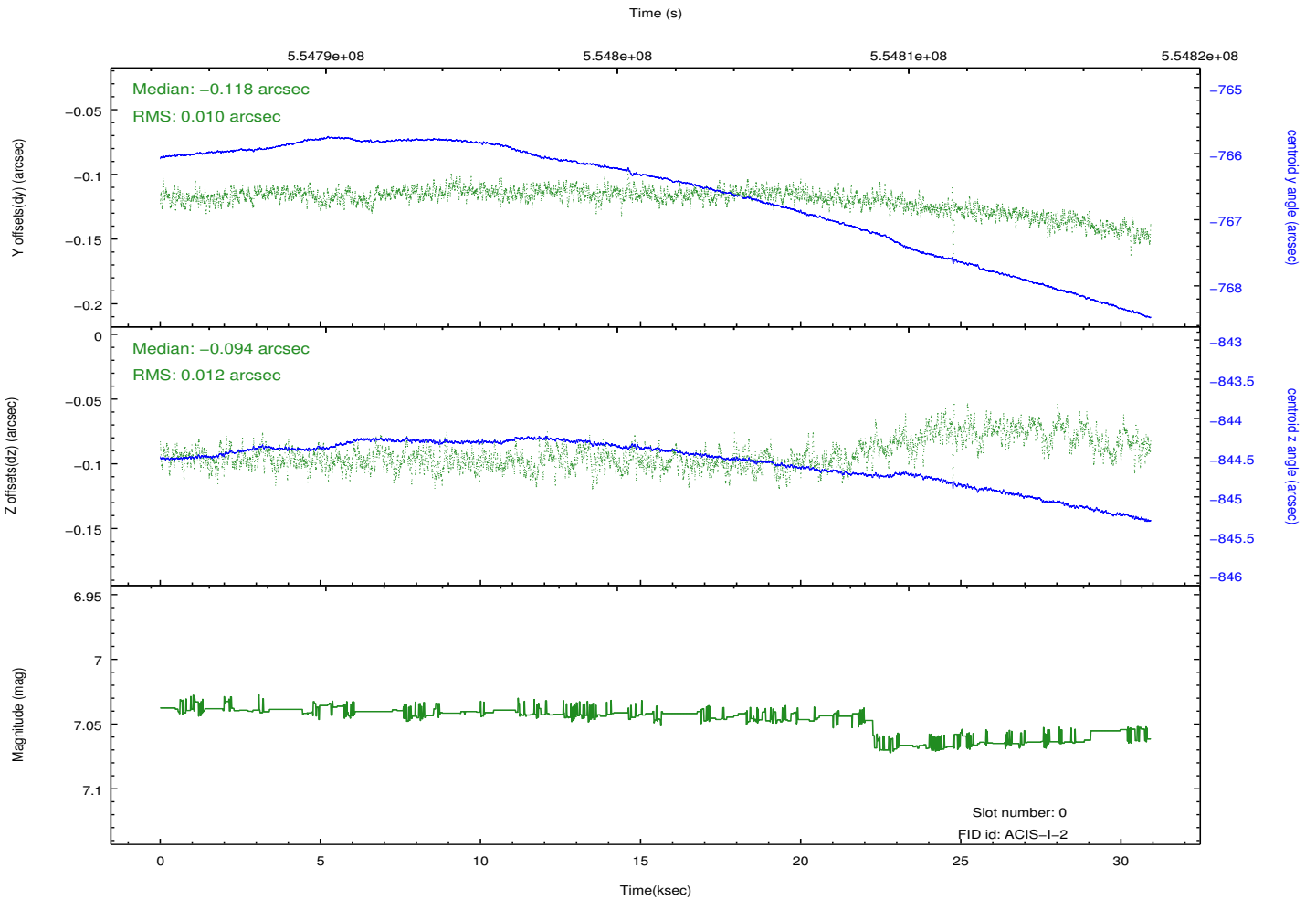
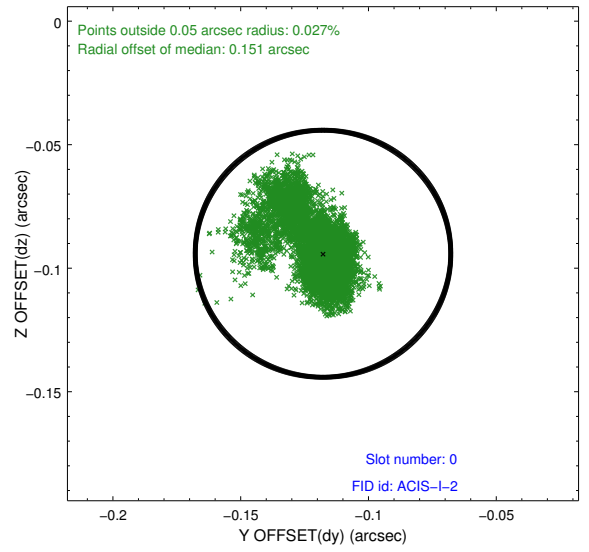
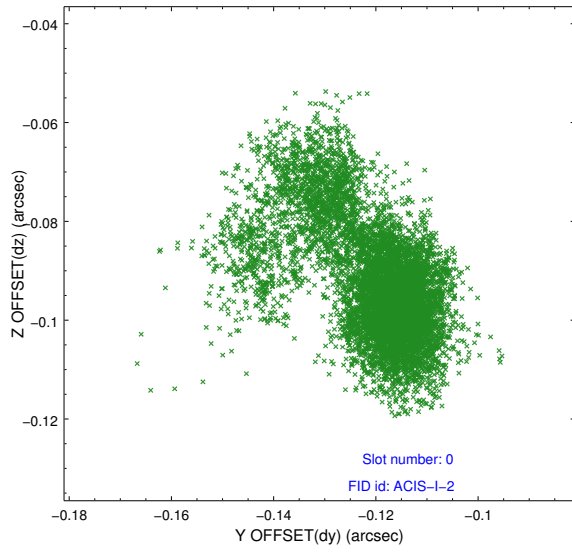


## 2.4.5 Slot 7

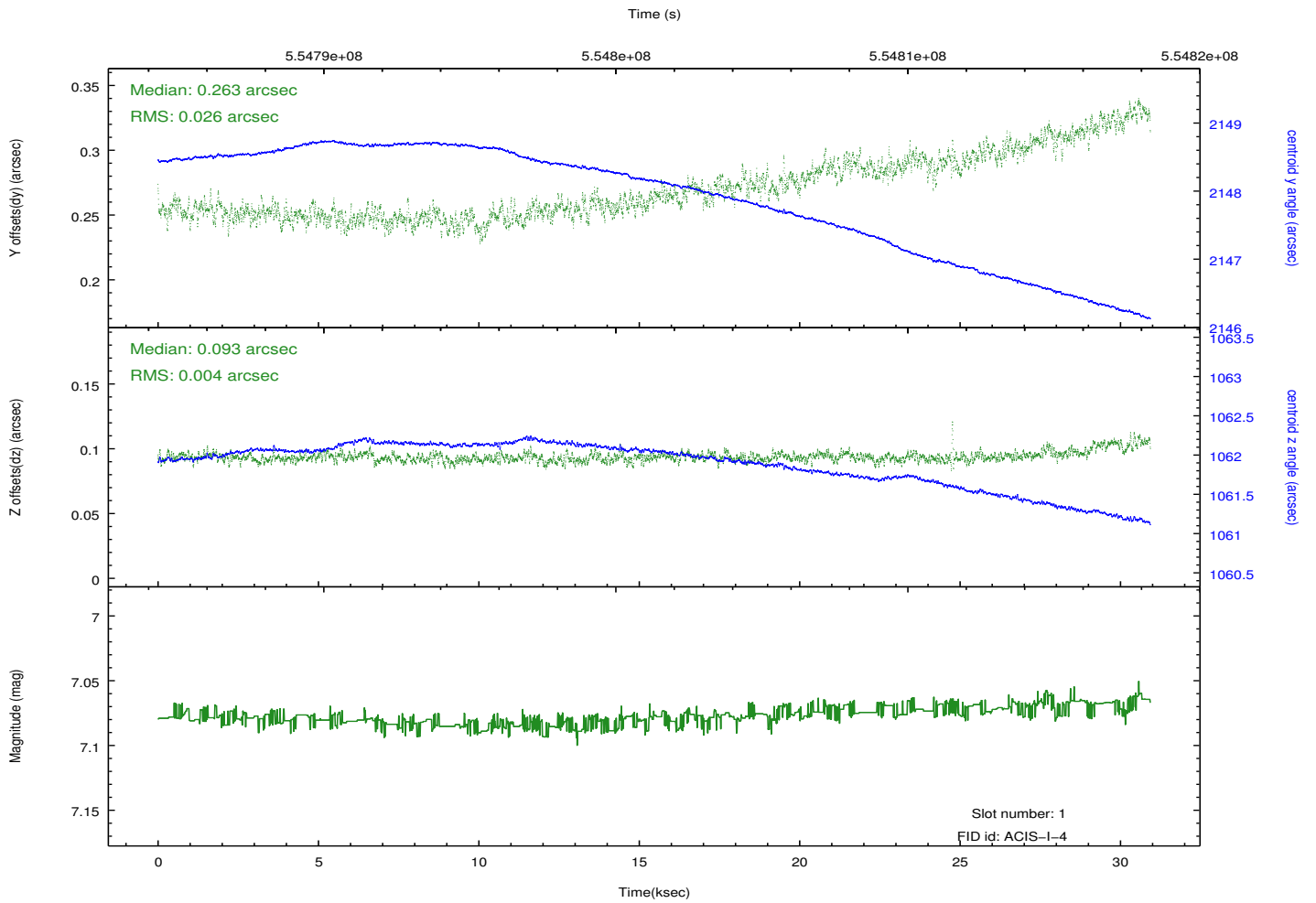
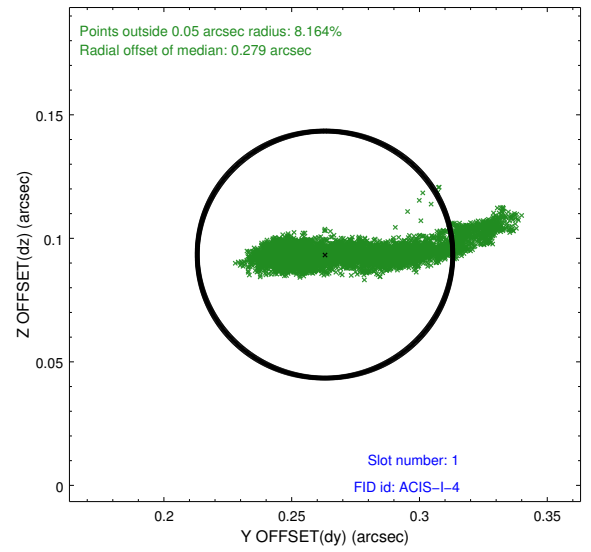
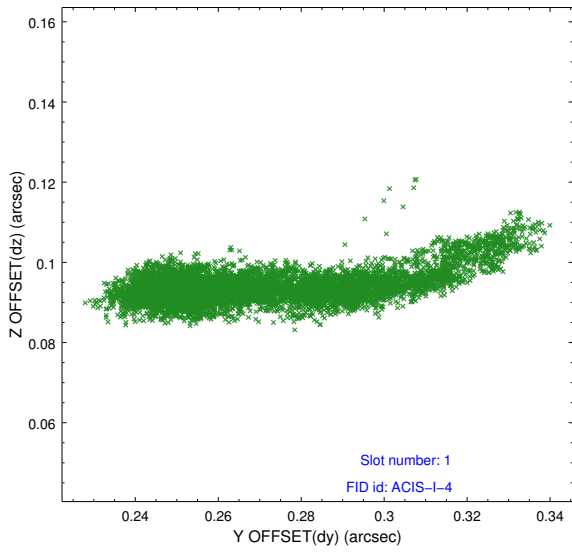


## 2.5 FID Slots

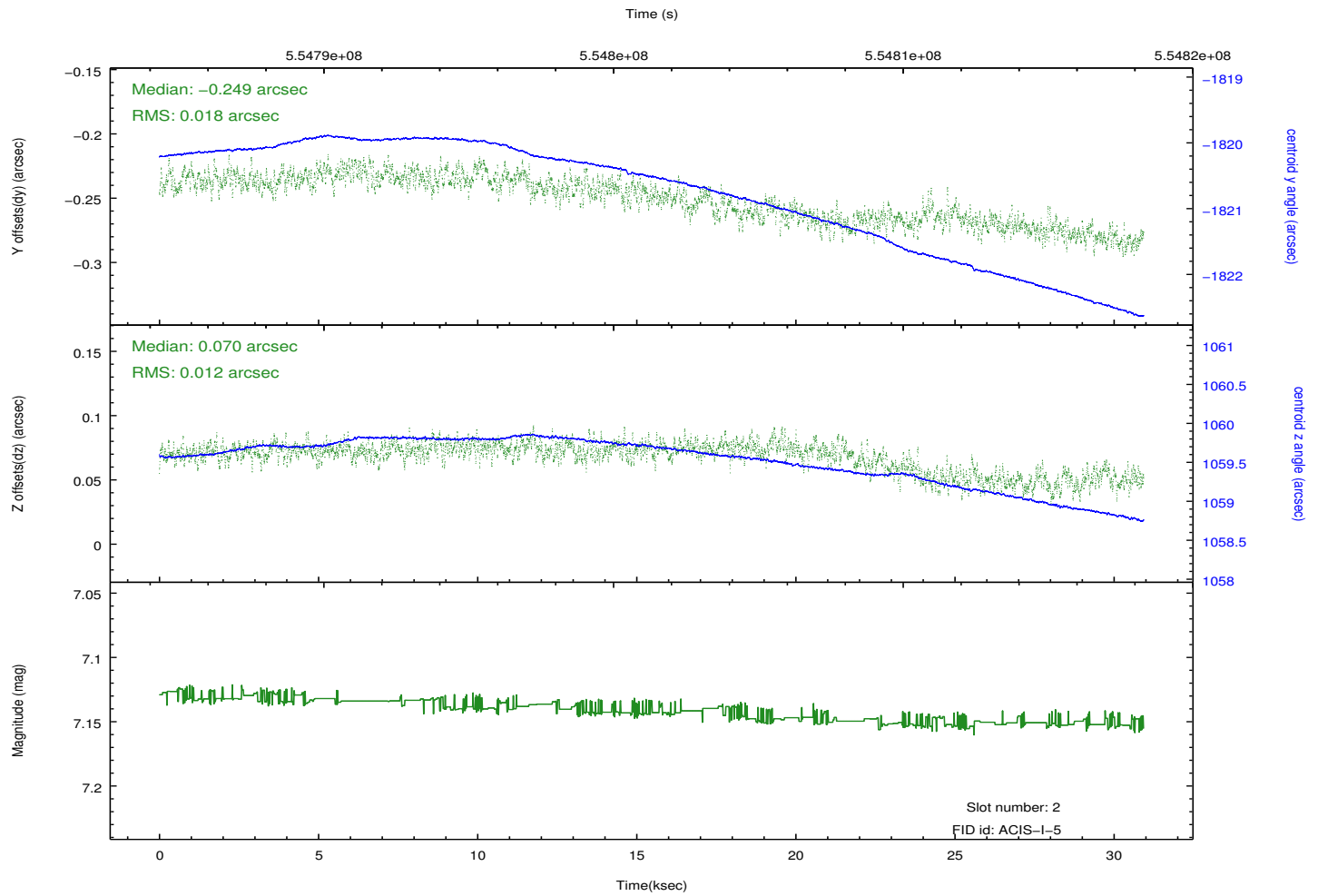
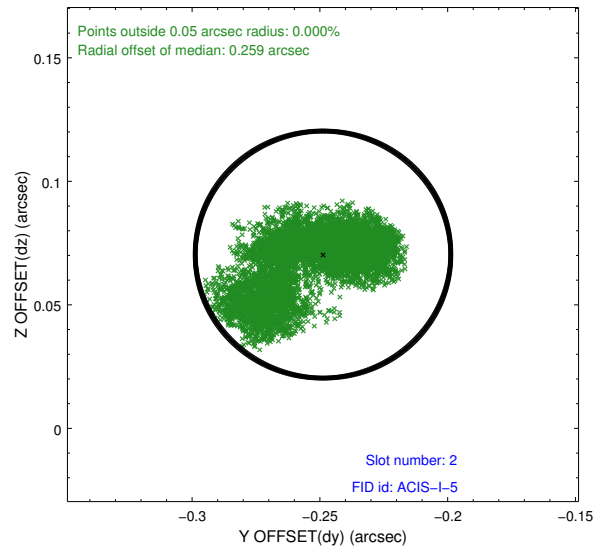
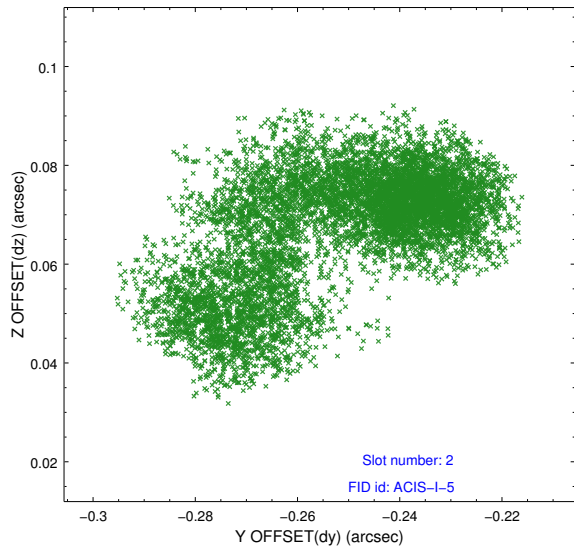
### 2.5.1 Slot 0



## 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)	2015.08.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.081374417424

## A.2 Comments