

# V&V Reference Report

## L2 ASCDS Version : 10.5

Observation 17521 - L2 Version 1  
Chandra X-Ray Center

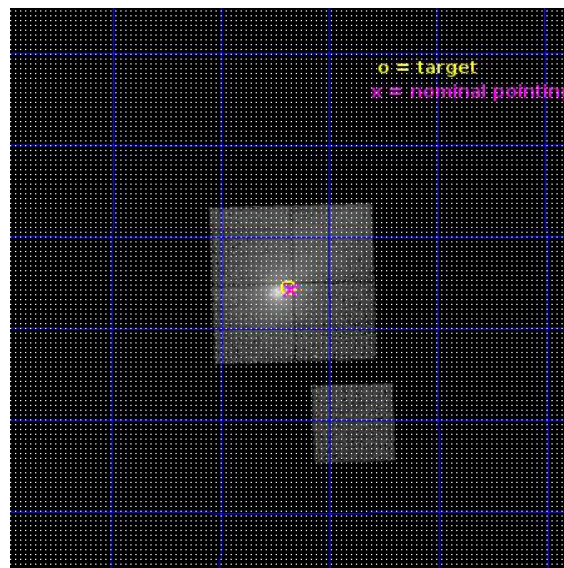
L2 Processing Date : Jul 21 2016

## 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

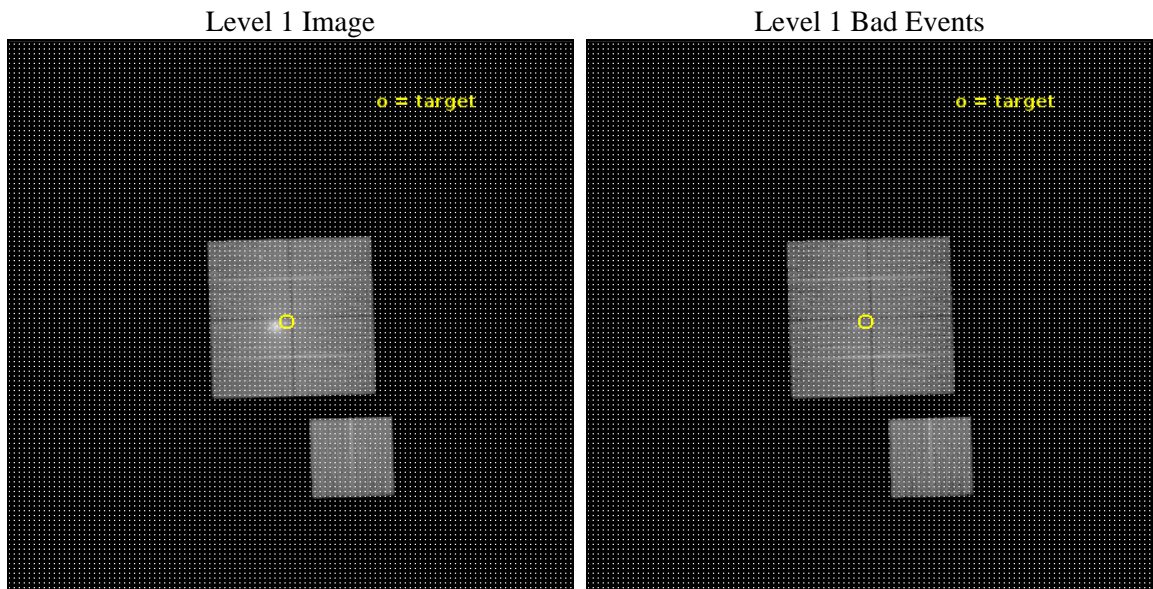
seq_num	703132	Sequence number
obs_id	17521	Observation id
title	The Rise to Power: Half a Billion Years of Intense AGN Activity in the Merging Cluster Cygnus A	Proposal title
observer	Dr. Michael Wise	Principal investigator
object	Cygnus A - W Hotspot	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	299.845	Observer's specified target RA [deg]
dec_targ	40.740361	Observer's specified target Dec [deg]
ra_nom	299.8365989769	Nominal RA [deg]
dec_nom	40.738029437313	Nominal Dec [deg]
roll_nom	178.21417351546	Nominal Roll [deg]
revision	1	Processing version of data
ontime	25066.033933759	Sum of GTIs [s]
livetime	24738.527747068	Livetime [s]
ontime0	25065.910813808	Sum of GTIs [s]
ontime1	25062.810843587	Sum of GTIs [s]
ontime2	25062.851893544	Sum of GTIs [s]
ontime3	25066.033933759	Sum of GTIs [s]
ontime6	25065.869773746	Sum of GTIs [s]
l2events	209892	Number of level 2 events



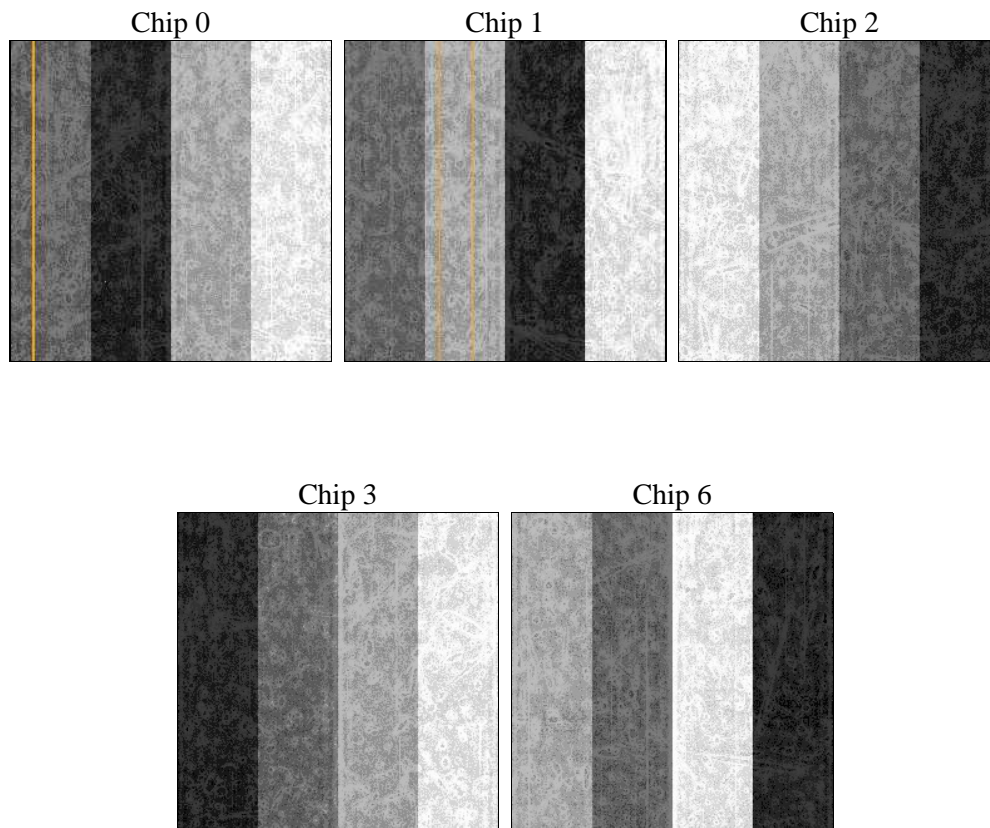
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	25000.000000	[s] Scheduled observation exposure time
ascdsver	10.5	Processing system revision	ontime	25066.033933759	Sum of GTIs [s]
caldbver	4.7.2	&#160	ontime0	25065.910813808	Sum of GTIs [s]
date	2016-07-21T03:50:57	Date and time of file creation	ontime1	25062.810843587	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	25062.851893544	Sum of GTIs [s]
			ontime3	25066.033933759	Sum of GTIs [s]
			ontime6	25065.869773746	Sum of GTIs [s]
			l1events	877979	Number of level 1 events

### 2.1.4 Events

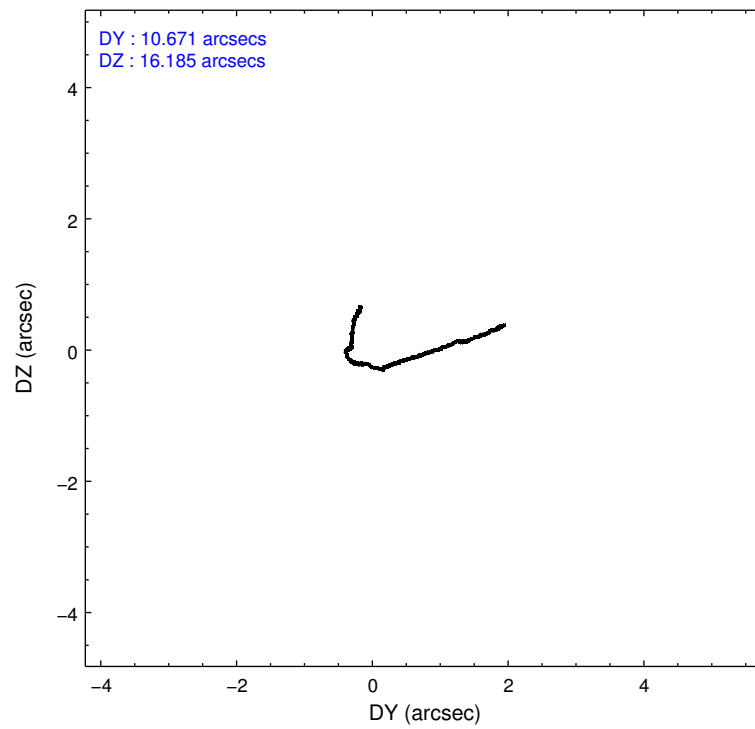
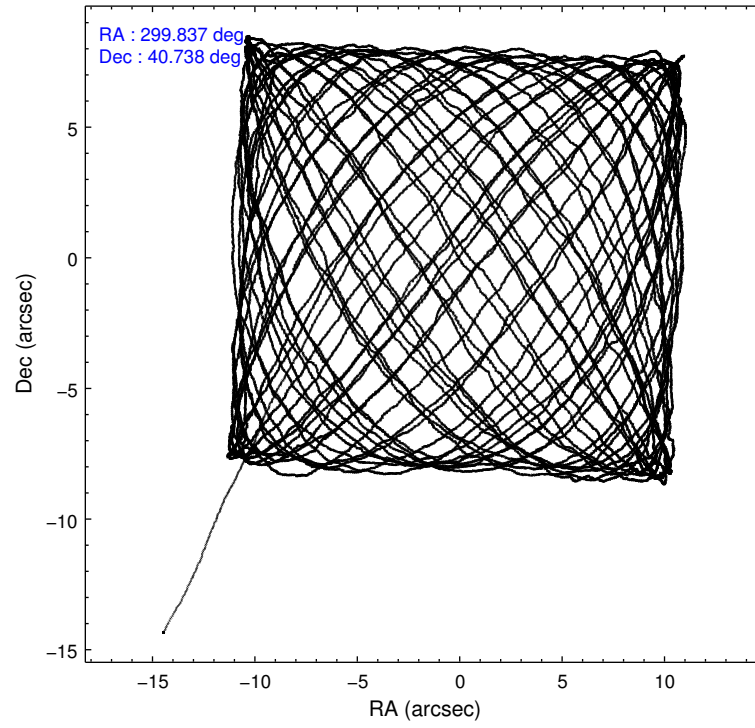
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	159290	167607	162270	234424	154388
rejected events	119661	124623	133351	134625	136471
rejected %	75%	74%	82%	57%	88%

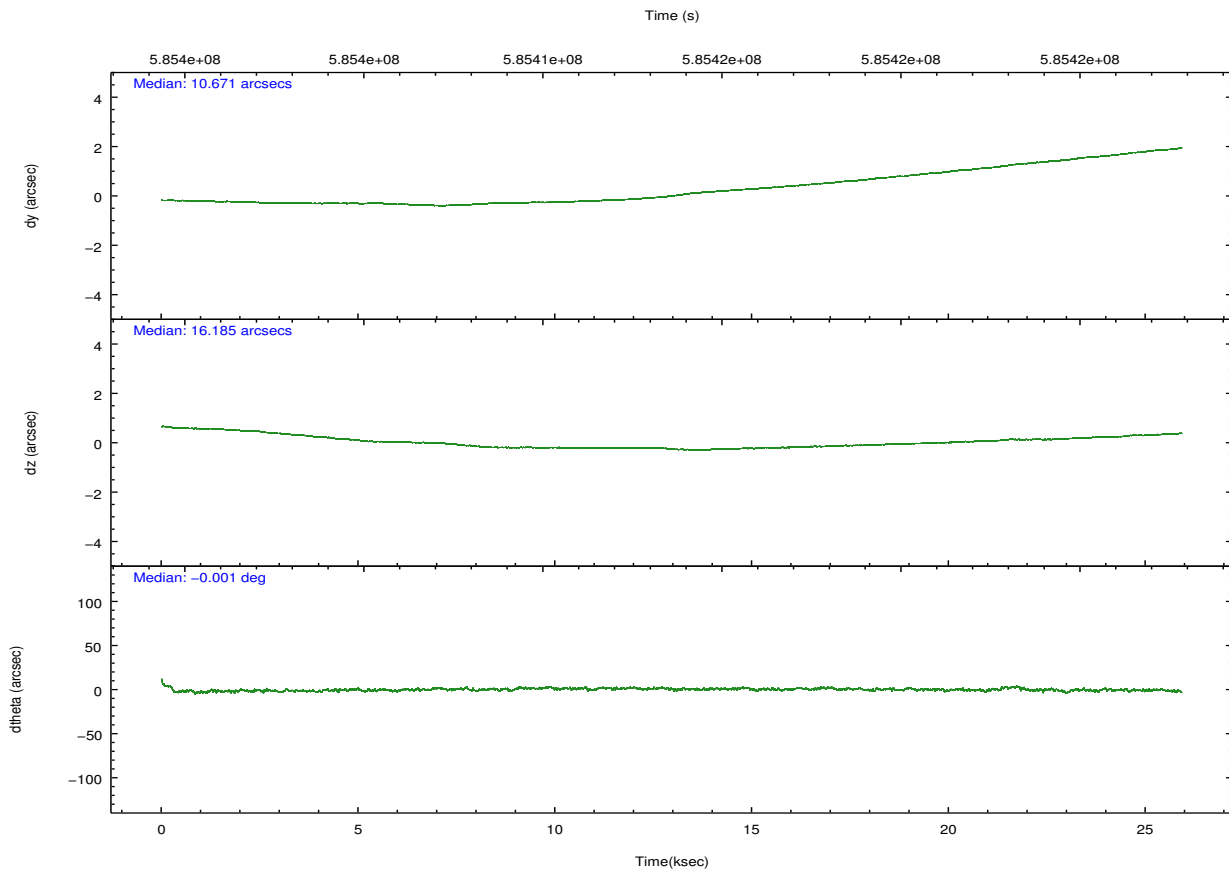
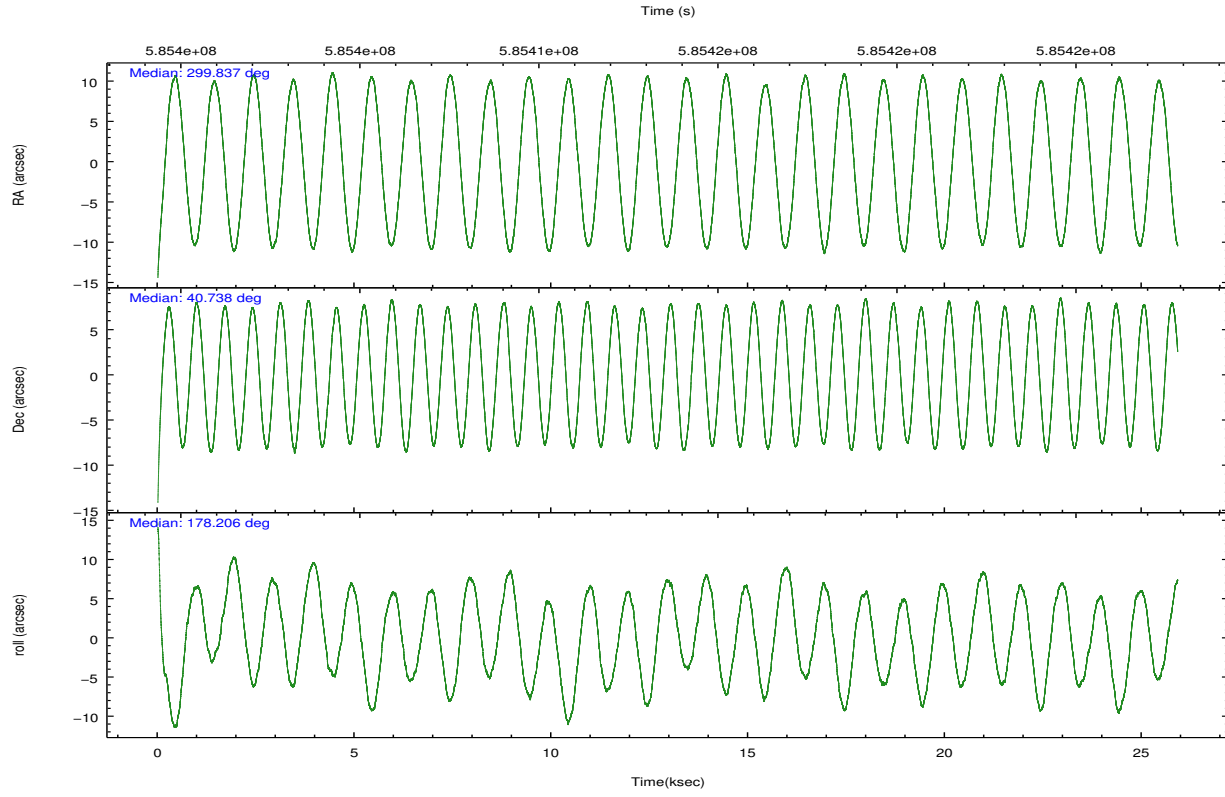
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	23133	24928	15385	70069	6287
	14%	14%	9%	29%	4%
grade 1 events	137	169	139	780	85
	0%	0%	0%	0%	0%
grade 2 events	6998	7740	5678	12975	4163
	4%	4%	3%	5%	2%
grade 3 events	2525	2735	2032	4848	1685
	1%	1%	1%	2%	1%
grade 4 events	2497	2597	2172	4843	1791
	1%	1%	1%	2%	1%
grade 5 events	6861	7418	6498	8356	7181
	4%	4%	4%	3%	4%
grade 6 events	4488	4995	3659	7085	3998
	2%	2%	2%	3%	2%
grade 7 events	112651	117025	126707	125468	129198
	70%	69%	78%	53%	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	299.868633	299.8365989769049	CCD I2 on	Y	Y
[deg] Pointing Dec	40.751156	40.73802943731315	CCD I3 on	Y	Y
[deg] Pointing Roll	177.984571	178.2141735154604	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)	585401569.184000	585399750.20666	CCD S5 on	N	N
Observation start date	2016-07-20T11:31:41	2016-07-20T11:02:30	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	585426569.184000	585427595.35826	On-chip summing requested	N	N
Observation end date	2016-07-20T18:28:21	2016-07-20T18:46:35	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





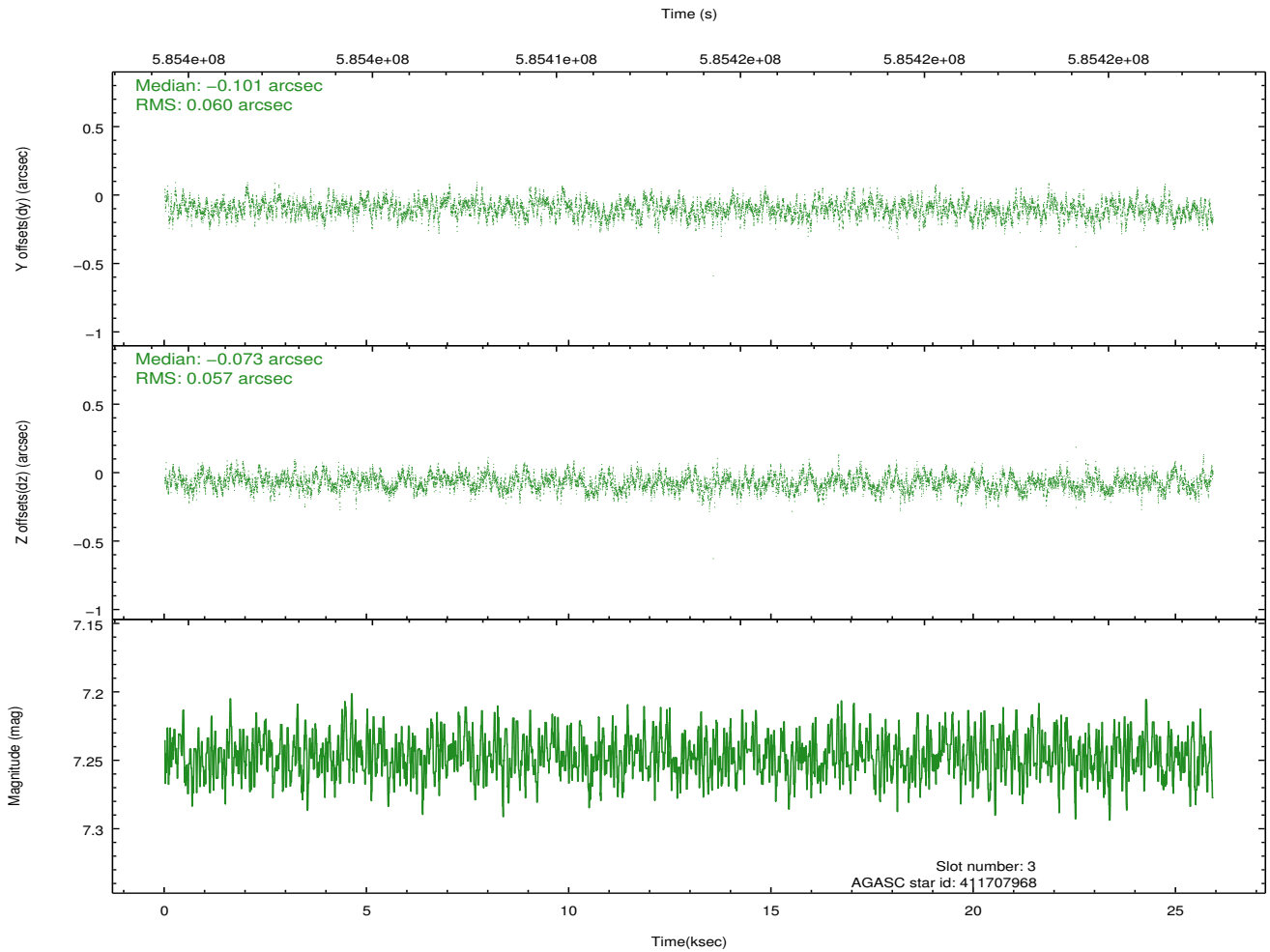
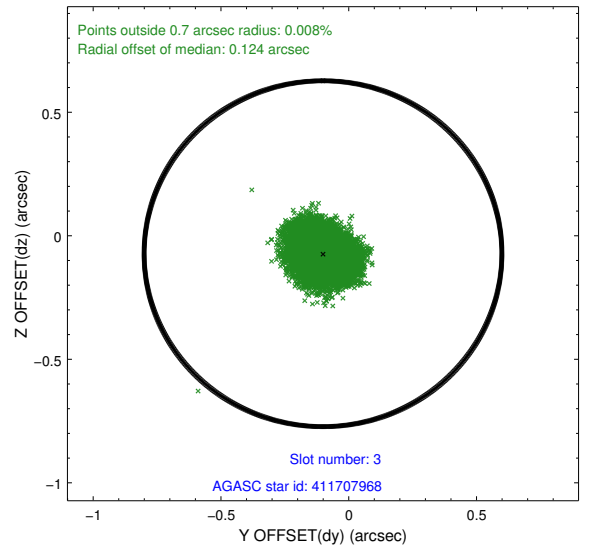
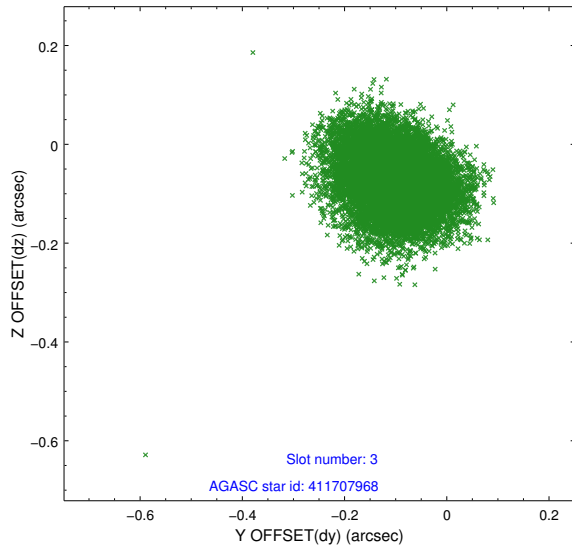
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-2	6.97	6319	-0.278	-0.165	0.012	0.024	0.000000	0.000000	-765.91	-846.37
1	FID		ACIS-I-4	7.00	6318	0.186	0.173	0.018	0.057	0.000000	0.000000	2148.61	1060.02
2	FID		ACIS-I-6	7.06	6320	-0.009	0.055	0.020	0.039	0.000000	0.000000	394.63	1702.25
3	GUIDE	used	411707968	7.25	12639	-0.101	-0.073	0.088	0.142	299.509933	40.926839	997.50	-599.55
4	GUIDE	used	413421016	8.68	12630	-0.054	-0.110	0.084	0.138	300.612426	40.446254	-2074.49	1016.85
5	GUIDE	used	413929808	8.43	12634	0.009	-0.049	0.077	0.125	300.621353	41.348826	-1956.64	-2230.50
6	GUIDE	used	413936784	8.69	12626	0.017	0.260	0.096	0.155	300.698470	41.281929	-2175.62	-1999.11
7	GUIDE	used	412231648	9.26	12619	0.132	-0.028	0.148	0.241	299.266165	41.447461	1713.89	-2452.83

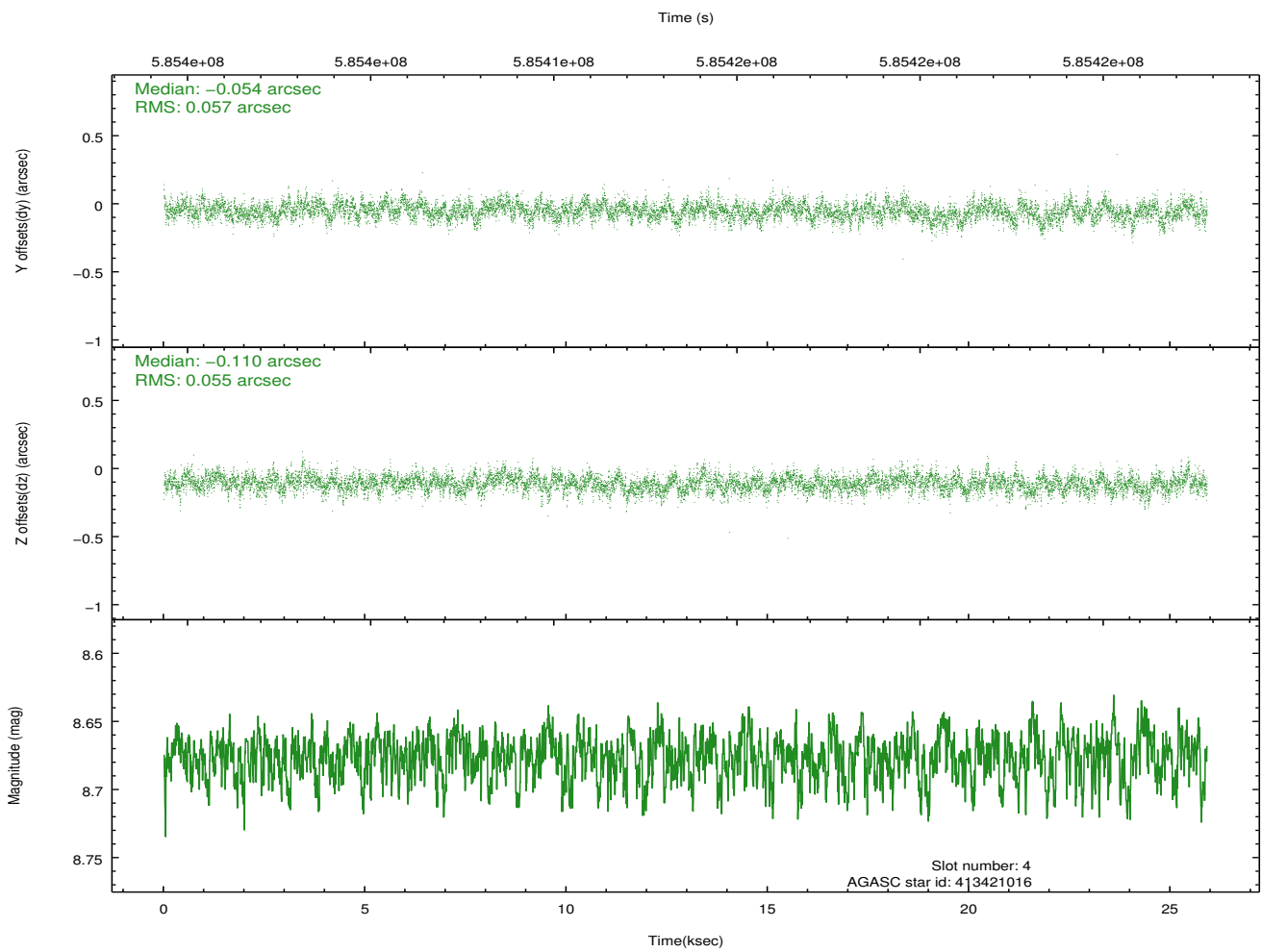
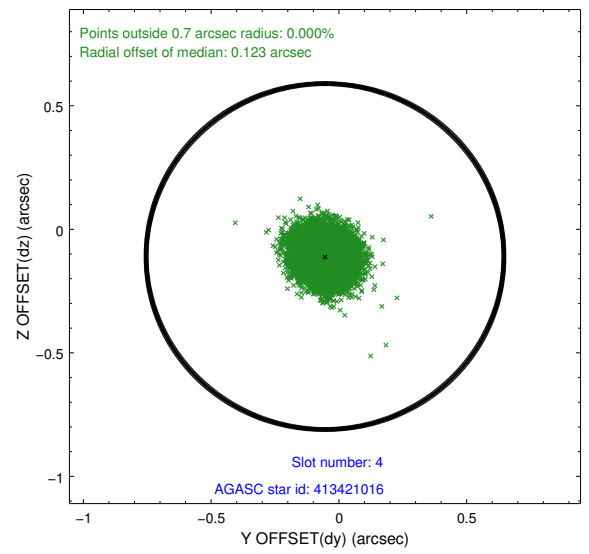
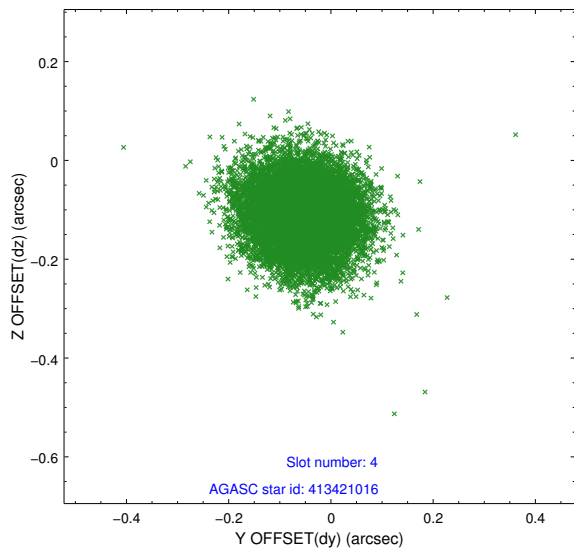
∞

## 2.4 Star Slots

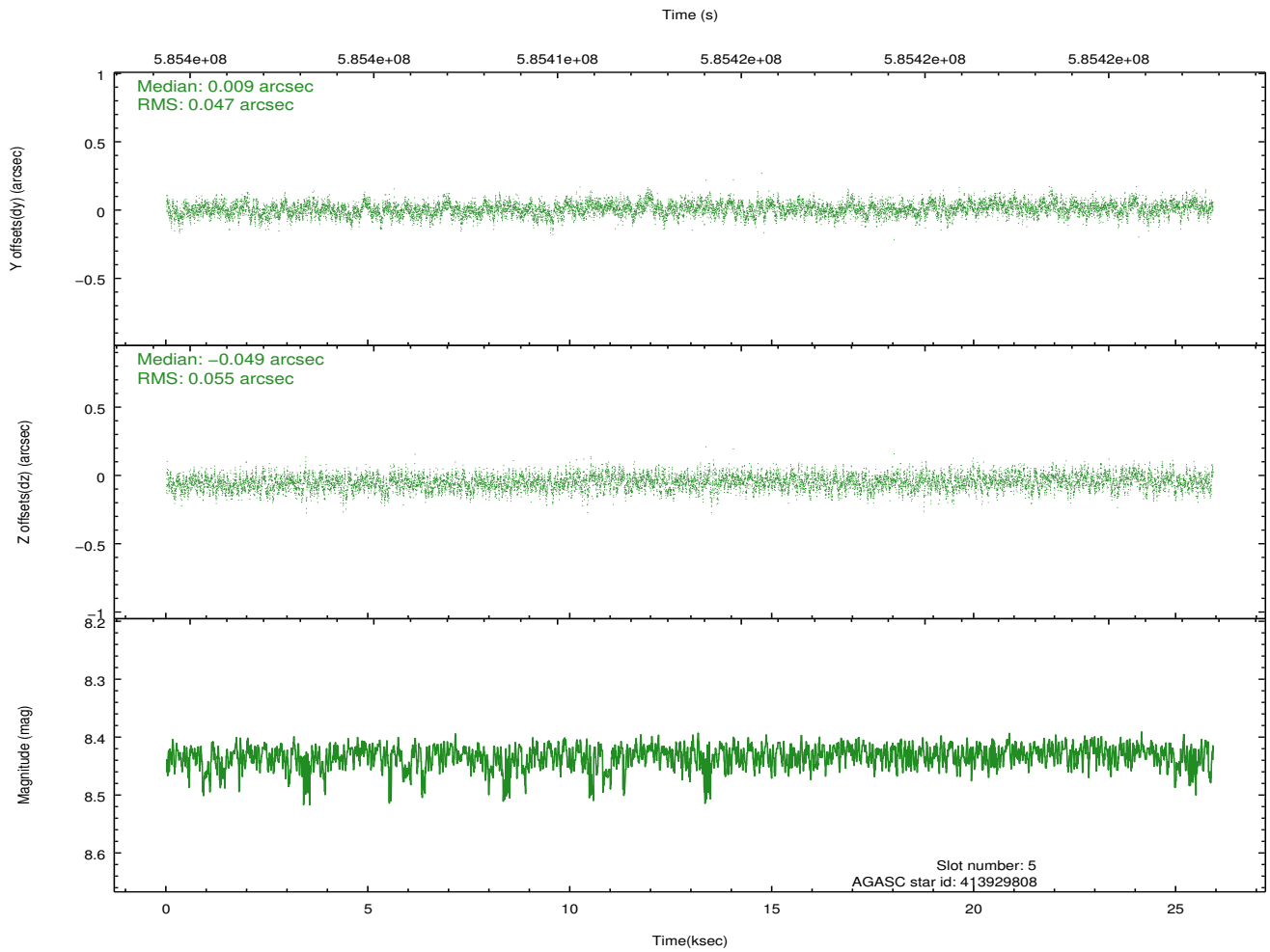
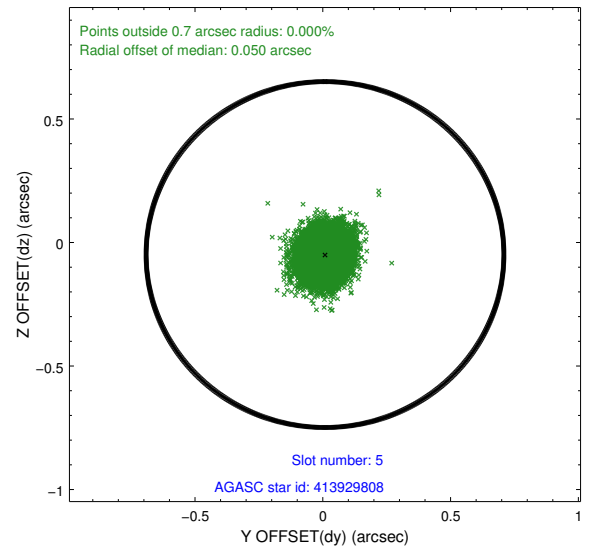
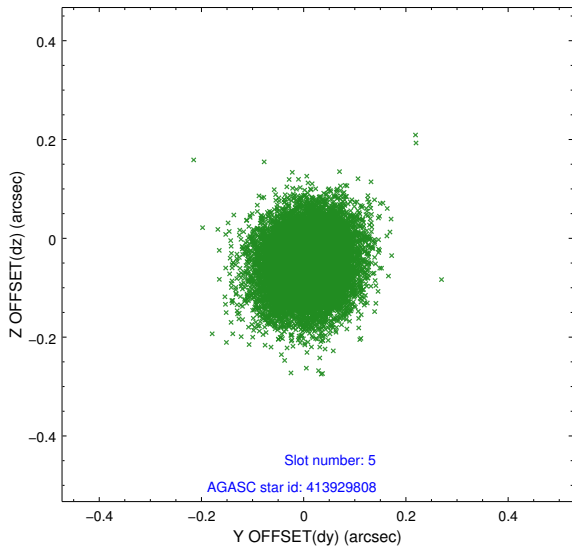
### 2.4.1 Slot 3



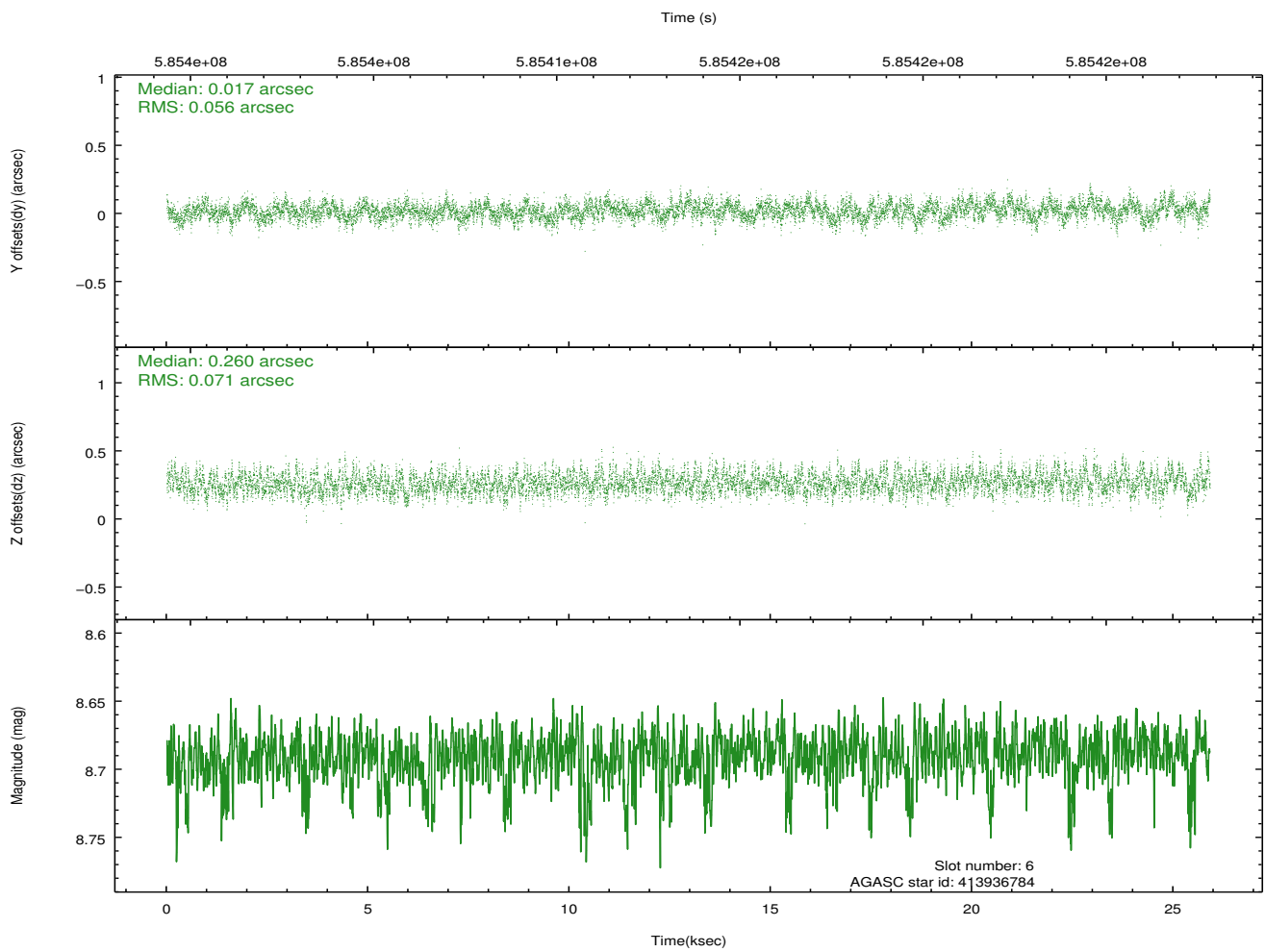
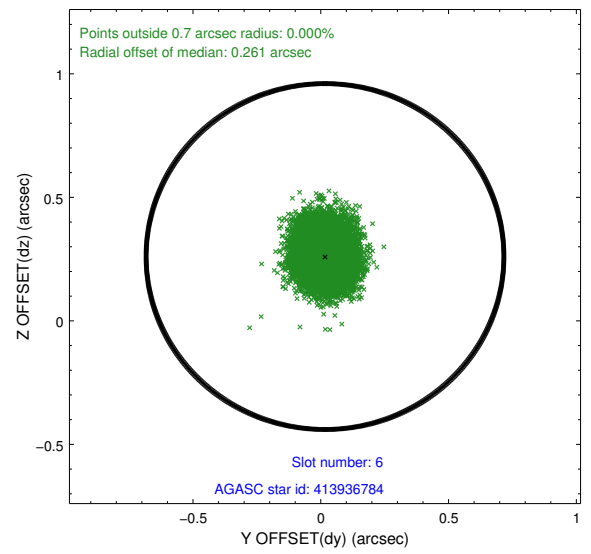
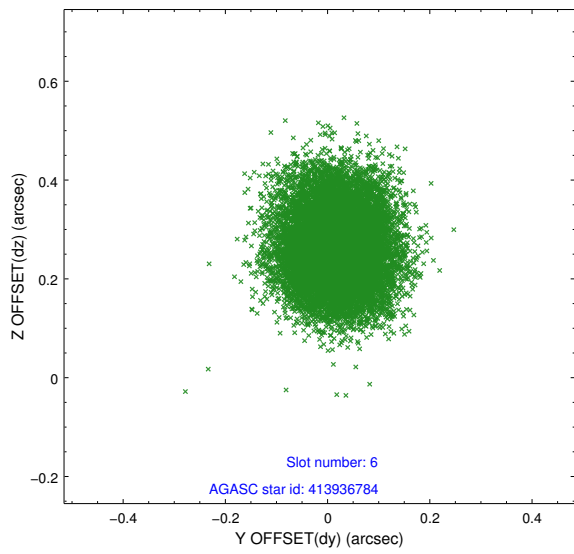
## 2.4.2 Slot 4



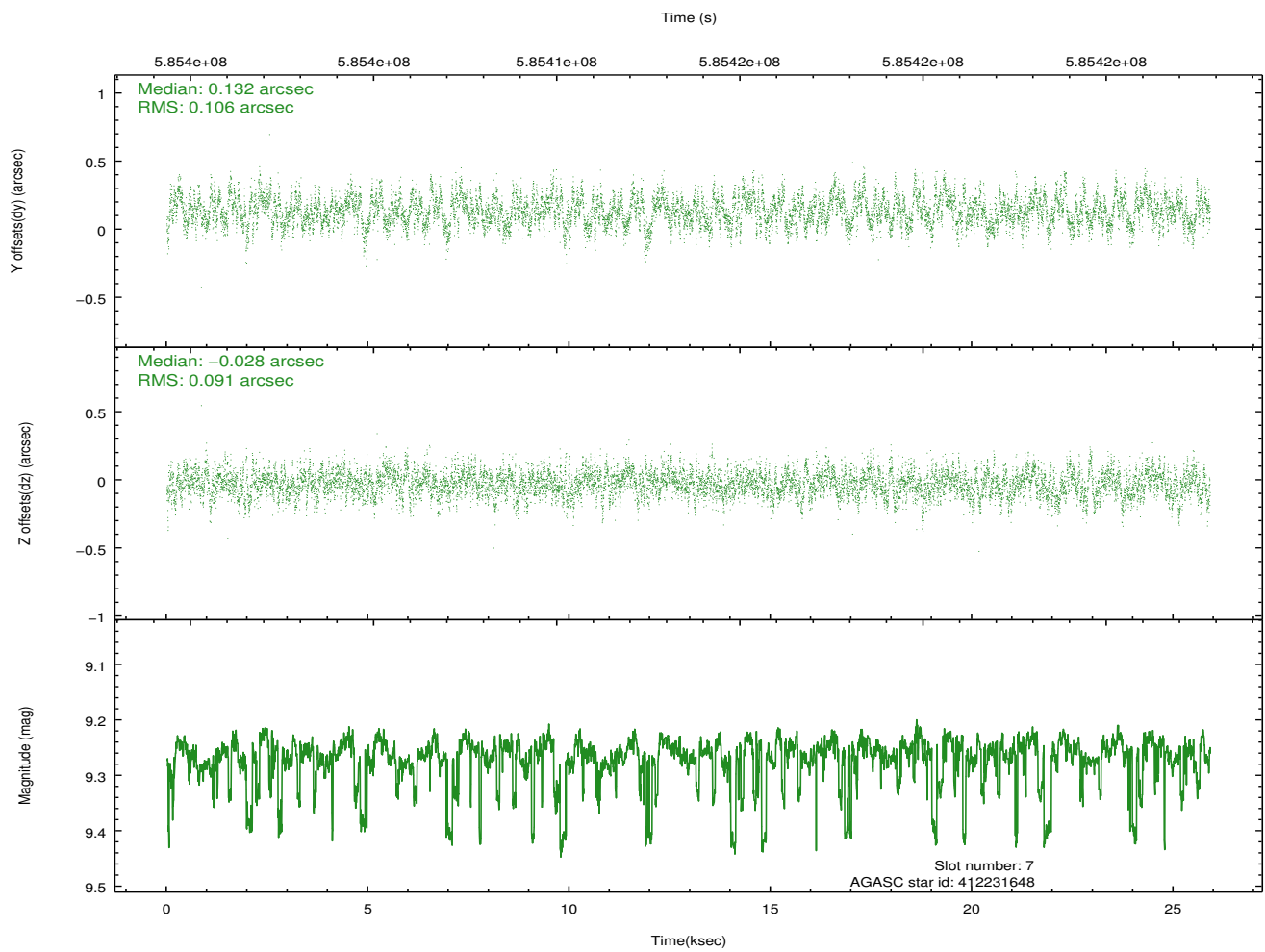
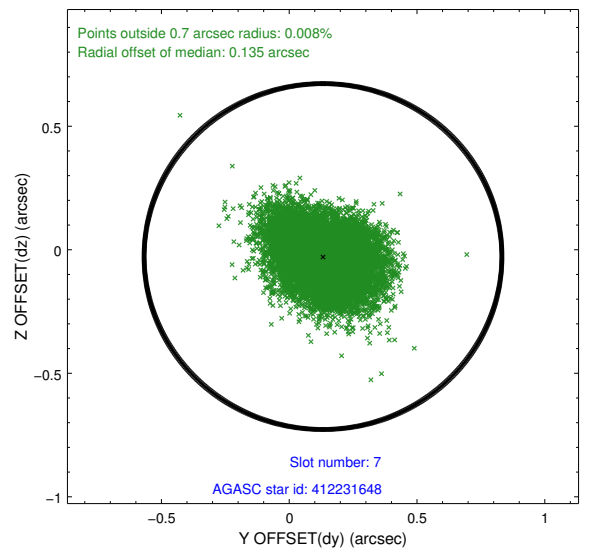
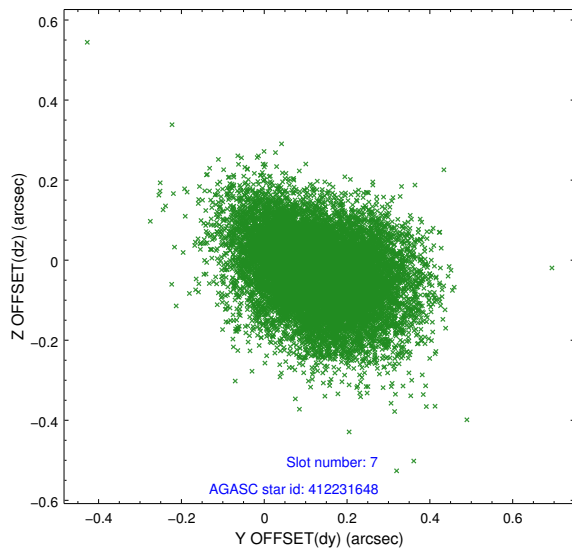
### 2.4.3 Slot 5



## 2.4.4 Slot 6

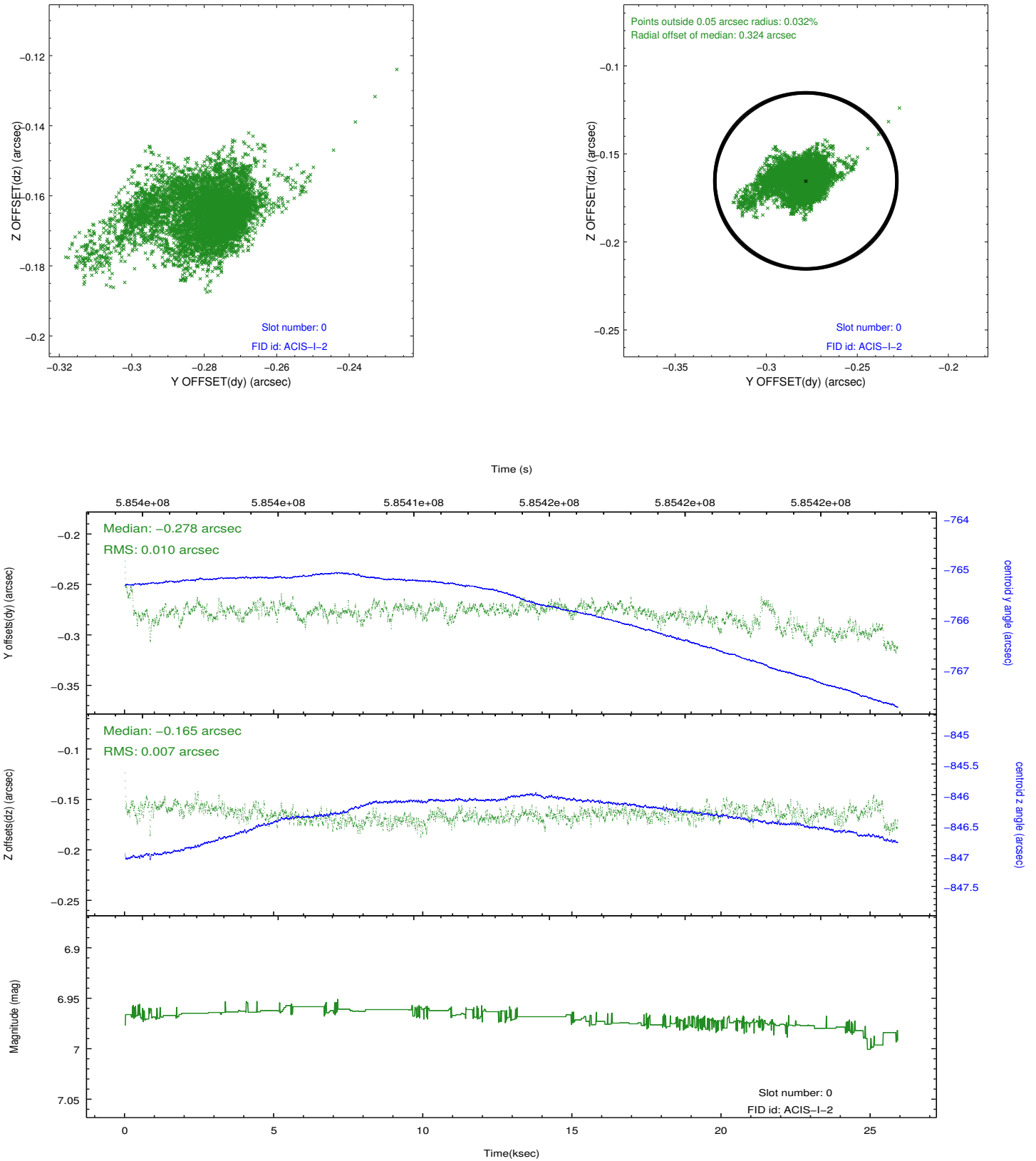


## 2.4.5 Slot 7

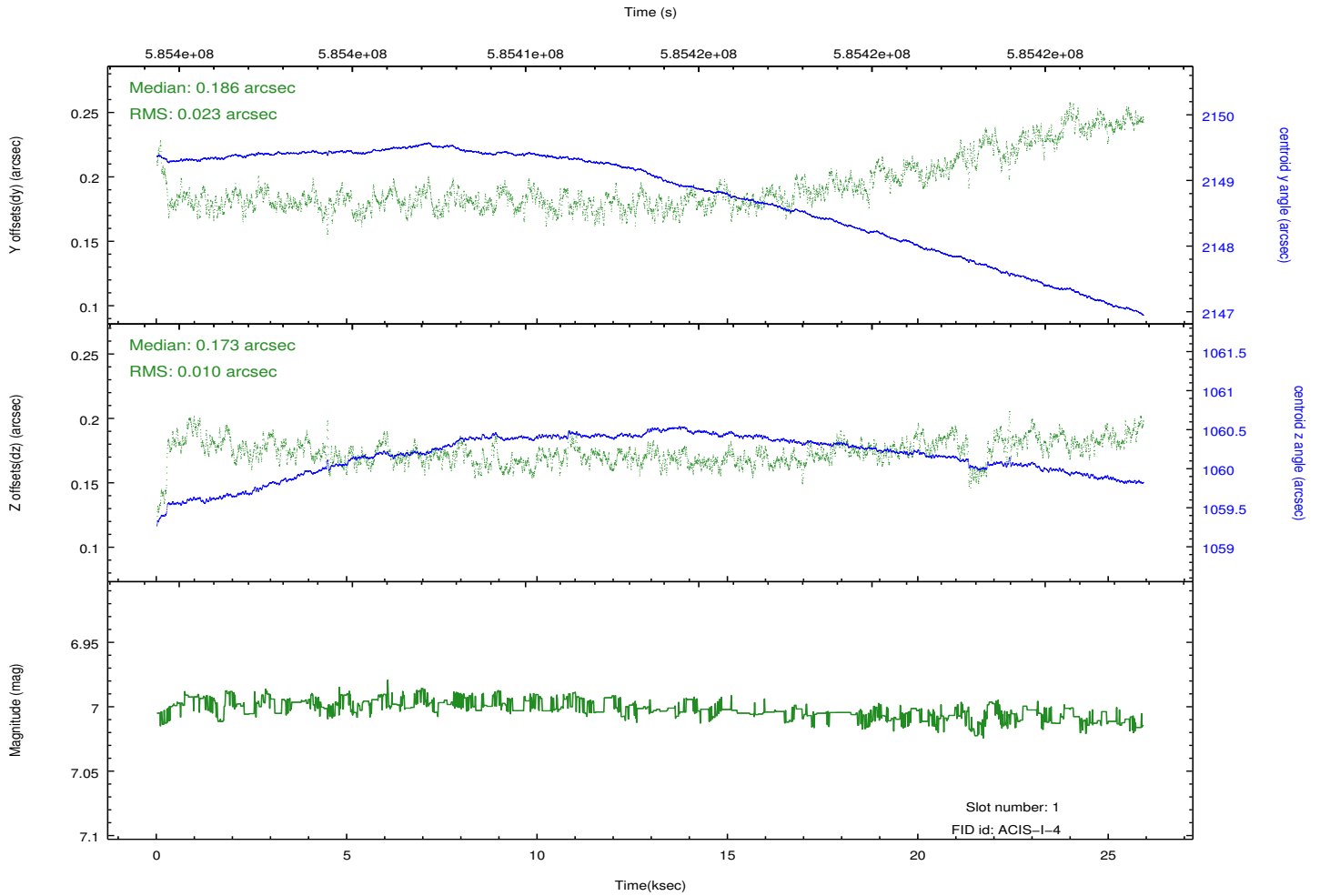
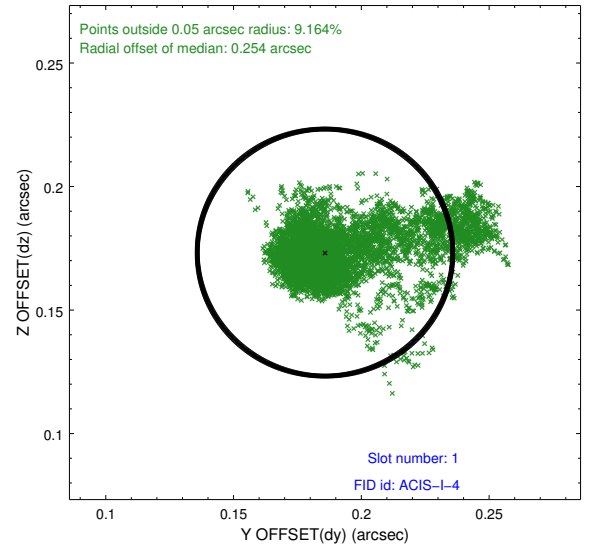
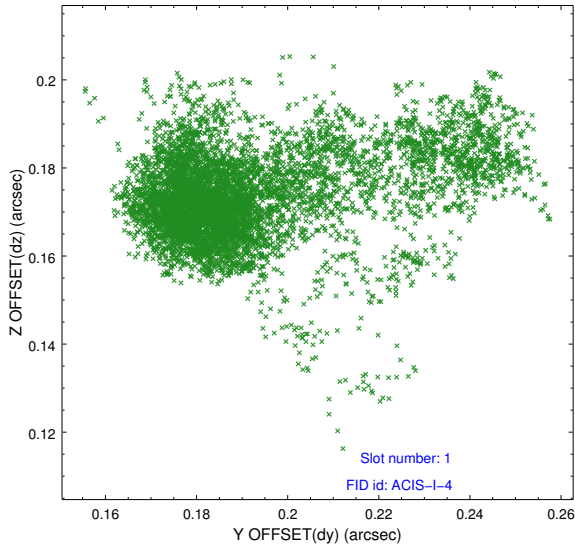


## 2.5 FID Slots

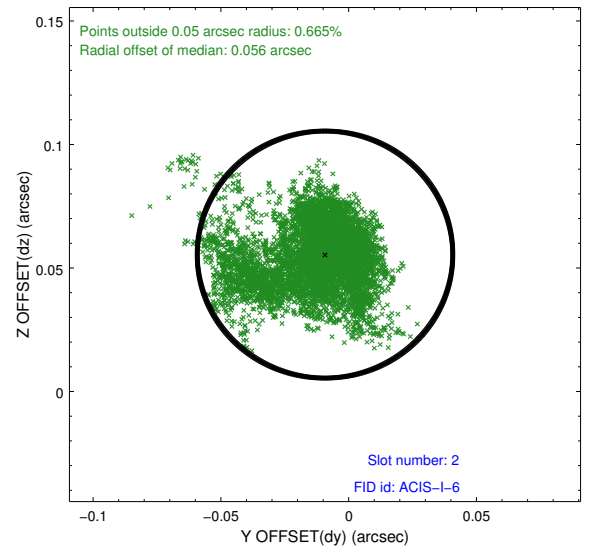
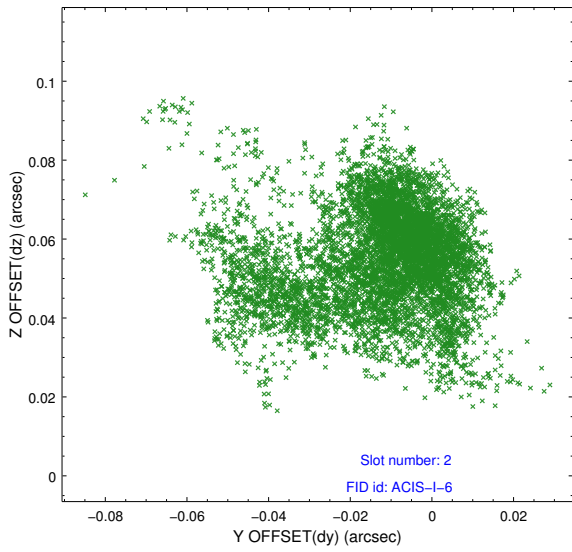
### 2.5.1 Slot 0



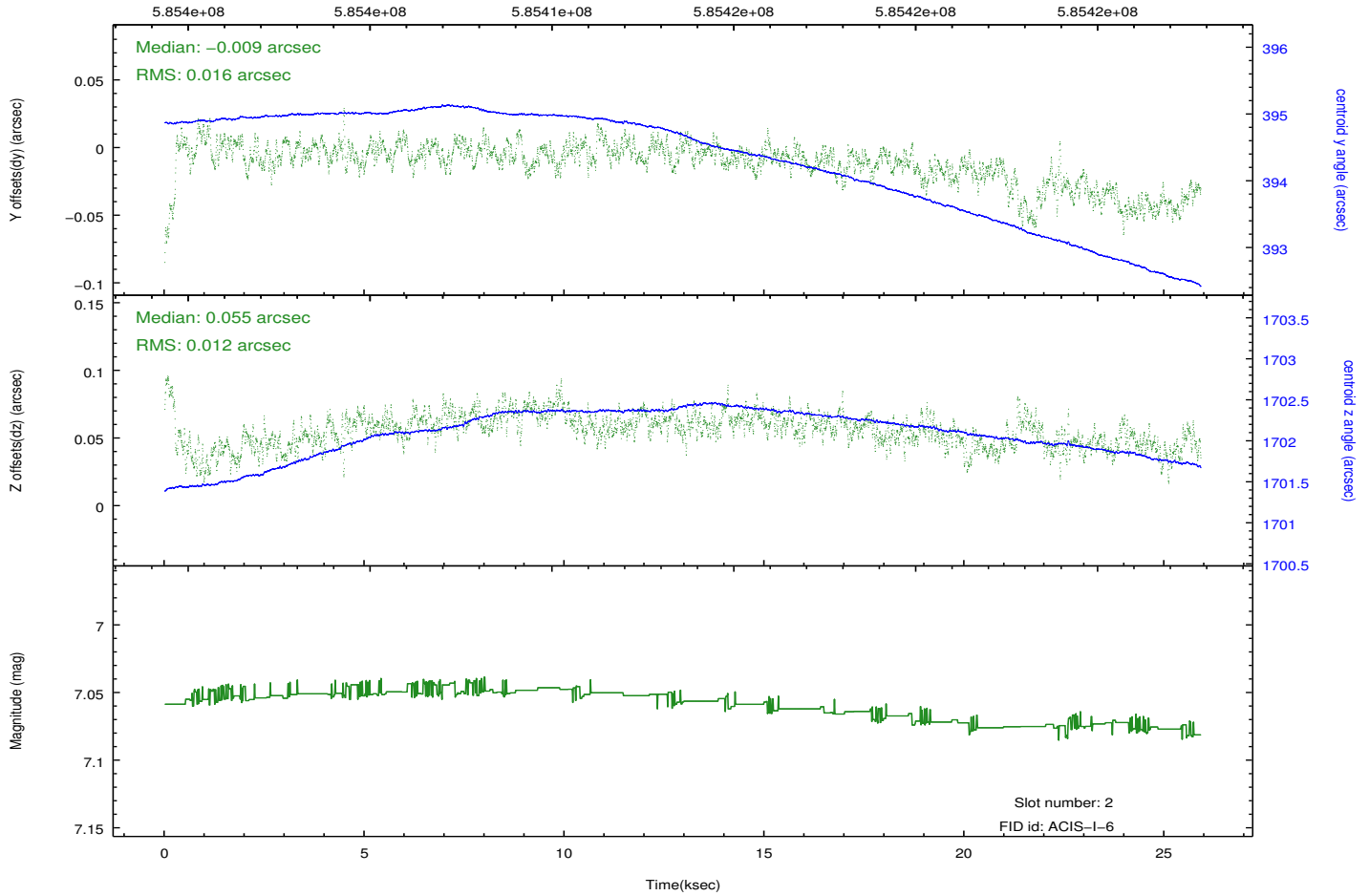
## 2.5.2 Slot 1



### 2.5.3 Slot 2



Time (s)



## A Summary

### A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2016.07.21
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.066033933759

### A.2 Comments