

# V&V Reference Report

## L2 ASCDS Version : 10.4.1

Observation 16978 - L2 Version 1  
Chandra X-Ray Center

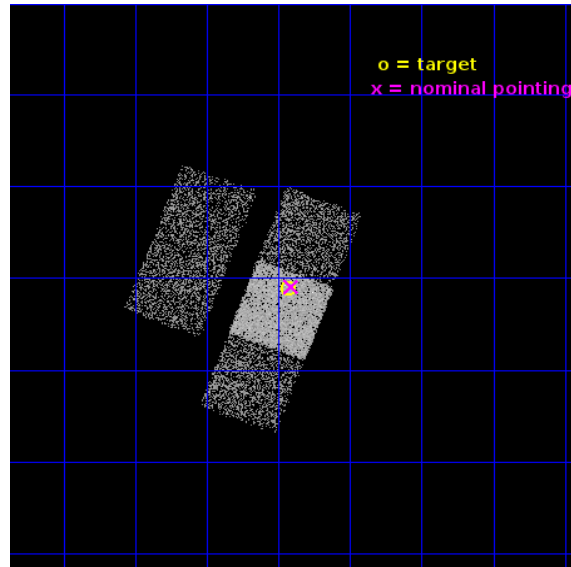
L2 Processing Date : Jul 27 2015

## 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

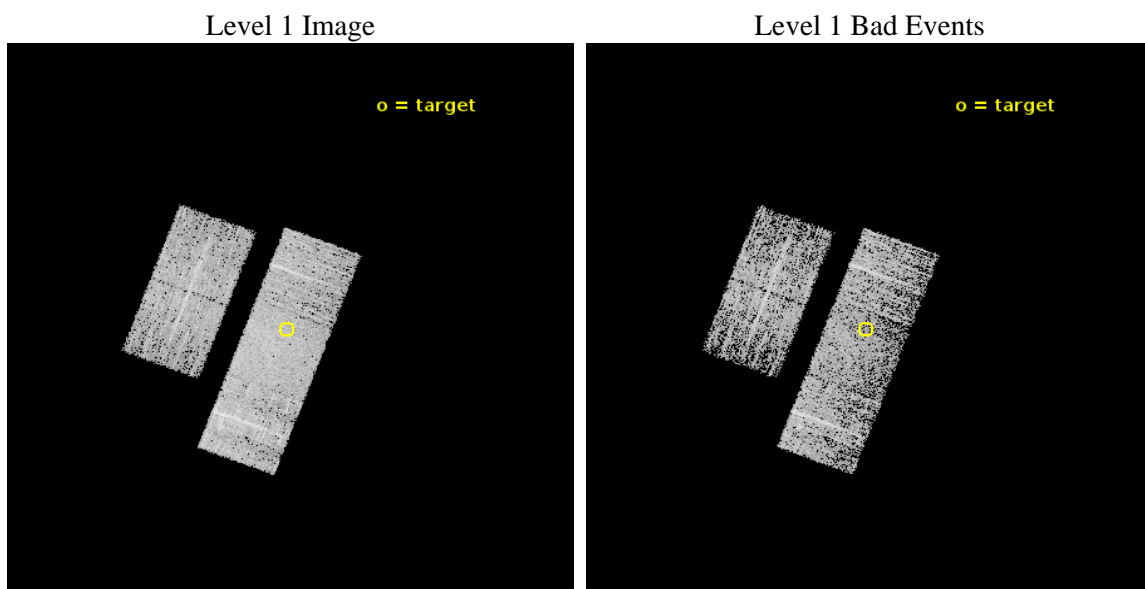
seq_num	601171	Sequence number
obs_id	16978	Observation id
title	Super-massive black holes and nuclear star clusters in late type galaxies	Proposal title
observer	Elena Gallo	Principal investigator
object	NGC428	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	18.232083	Observer's specified target RA [deg]
dec_targ	0.981583	Observer's specified target Dec [deg]
ra_nom	18.227354993346	Nominal RA [deg]
dec_nom	0.98432419687012	Nominal Dec [deg]
roll_nom	110.74862812656	Nominal Roll [deg]
revision	1	Processing version of data
ontime	4044.5764167309	Sum of GTIs [s]
livetime	3991.7310482725	Livetime [s]
ontime2	4044.4122567177	Sum of GTIs [s]
ontime3	4044.4943367243	Sum of GTIs [s]
ontime6	4044.5353767872	Sum of GTIs [s]
ontime7	4044.5764167309	Sum of GTIs [s]
ontime8	4044.4532967806	Sum of GTIs [s]
l2events	20889	Number of level 2 events



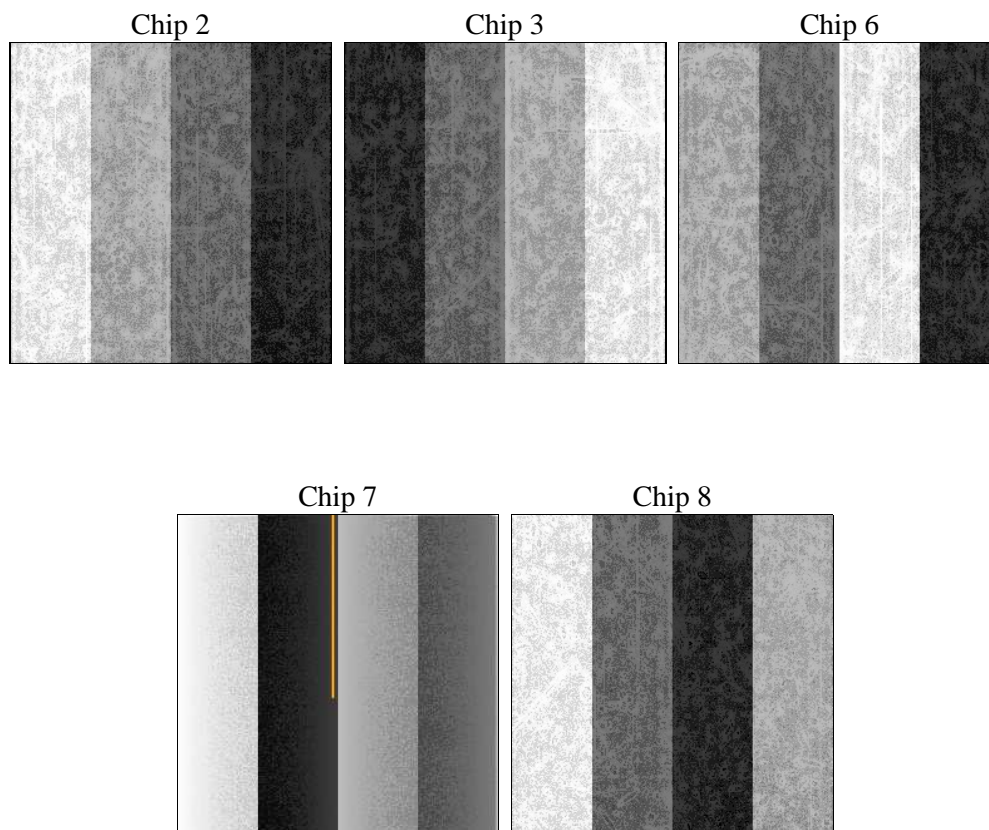
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	4000.379000	[s] Scheduled observation exposure time
ascdsver	10.4.1	Processing system revision	ontime	4044.5764167309	Sum of GTIs [s]
caldsver	4.6.8	&#160	ontime2	4044.4122567177	Sum of GTIs [s]
date	2015-07-27T11:20:12	Date and time of file creation	ontime3	4044.4943367243	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	4044.5353767872	Sum of GTIs [s]
			ontime7	4044.5764167309	Sum of GTIs [s]
			ontime8	4044.4532967806	Sum of GTIs [s]
			l1events	124181	Number of level 1 events

### 2.1.4 Events

	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	21118	20307	23131	29312	30313
rejected events	18855	18047	20567	16683	22255
rejected %	89%	88%	88%	56%	73%

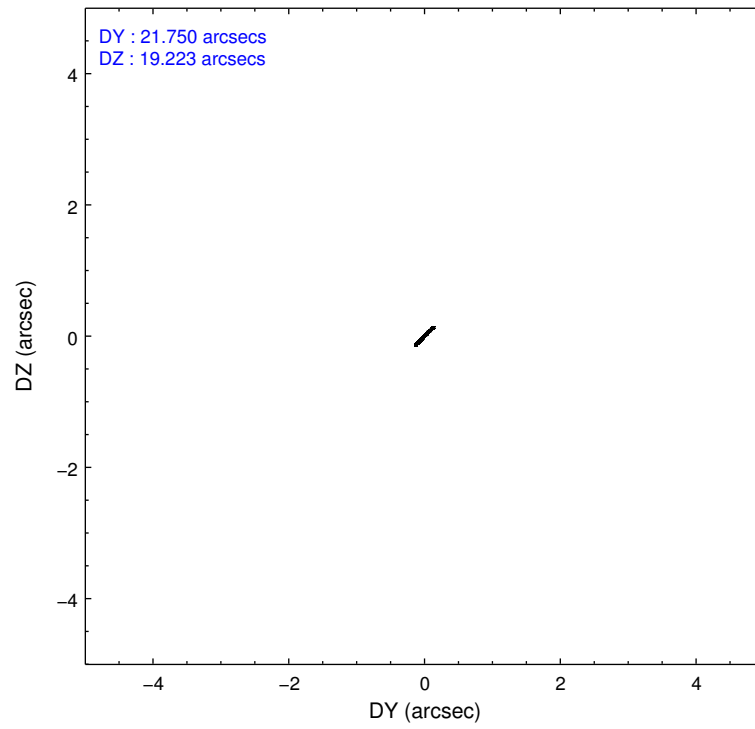
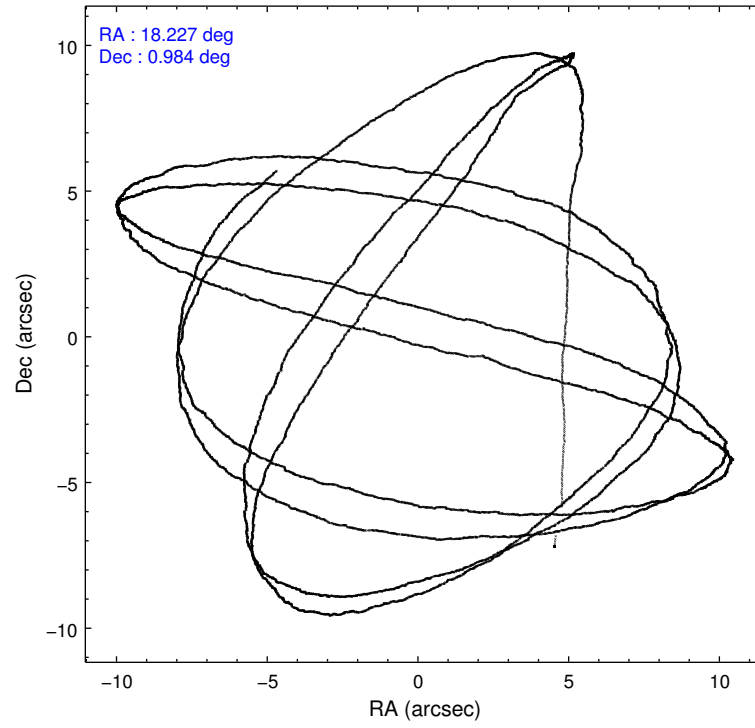
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	804	779	801	1113	2087
	3%	3%	3%	3%	6%
grade 1 events	12	12	11	31	17
	0%	0%	0%	0%	0%
grade 2 events	494	488	606	2646	1893
	2%	2%	2%	9%	6%
grade 3 events	247	264	238	988	808
	1%	1%	1%	3%	2%
grade 4 events	245	229	262	966	798
	1%	1%	1%	3%	2%
grade 5 events	885	1009	1049	2833	1614
	4%	4%	4%	9%	5%
grade 6 events	475	501	659	6924	2472
	2%	2%	2%	23%	8%
grade 7 events	17956	17025	19505	13811	20624
	85%	83%	84%	47%	68%

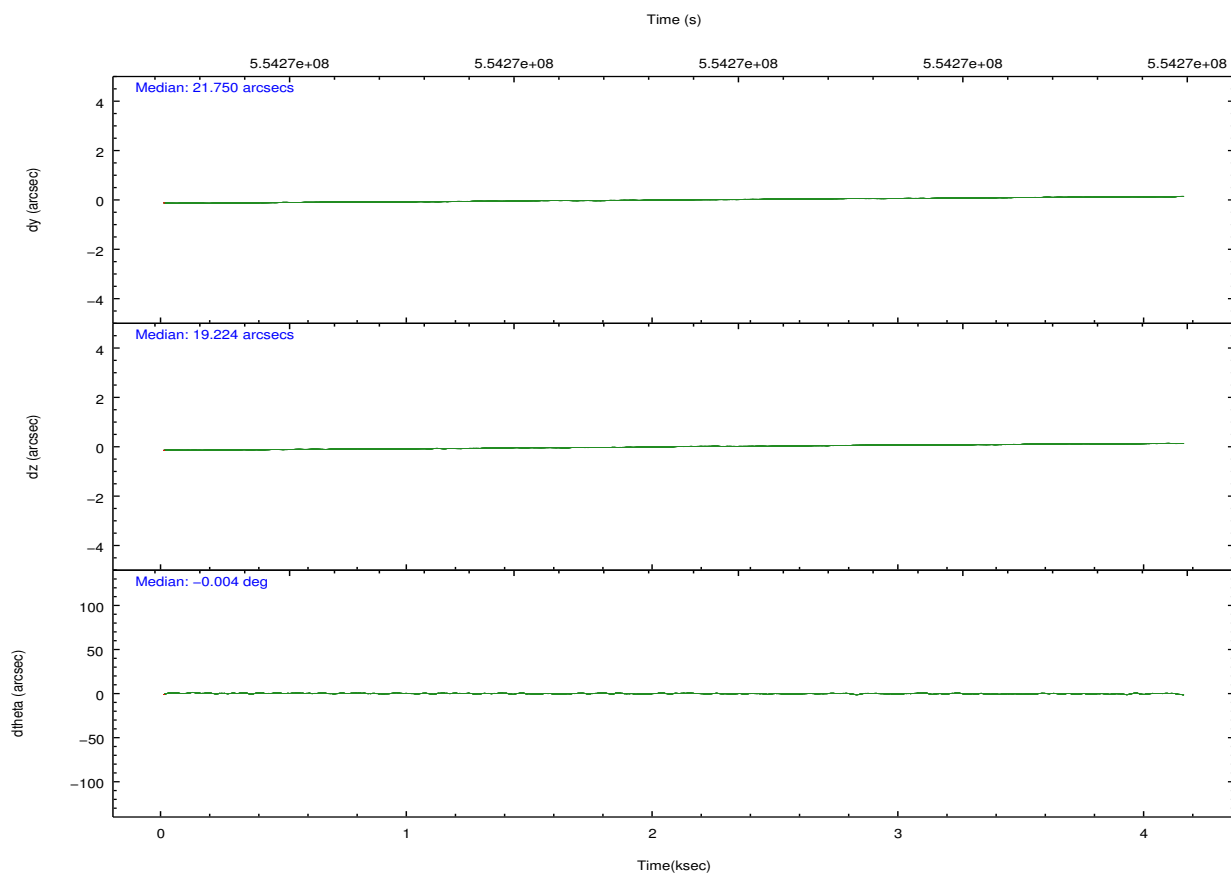
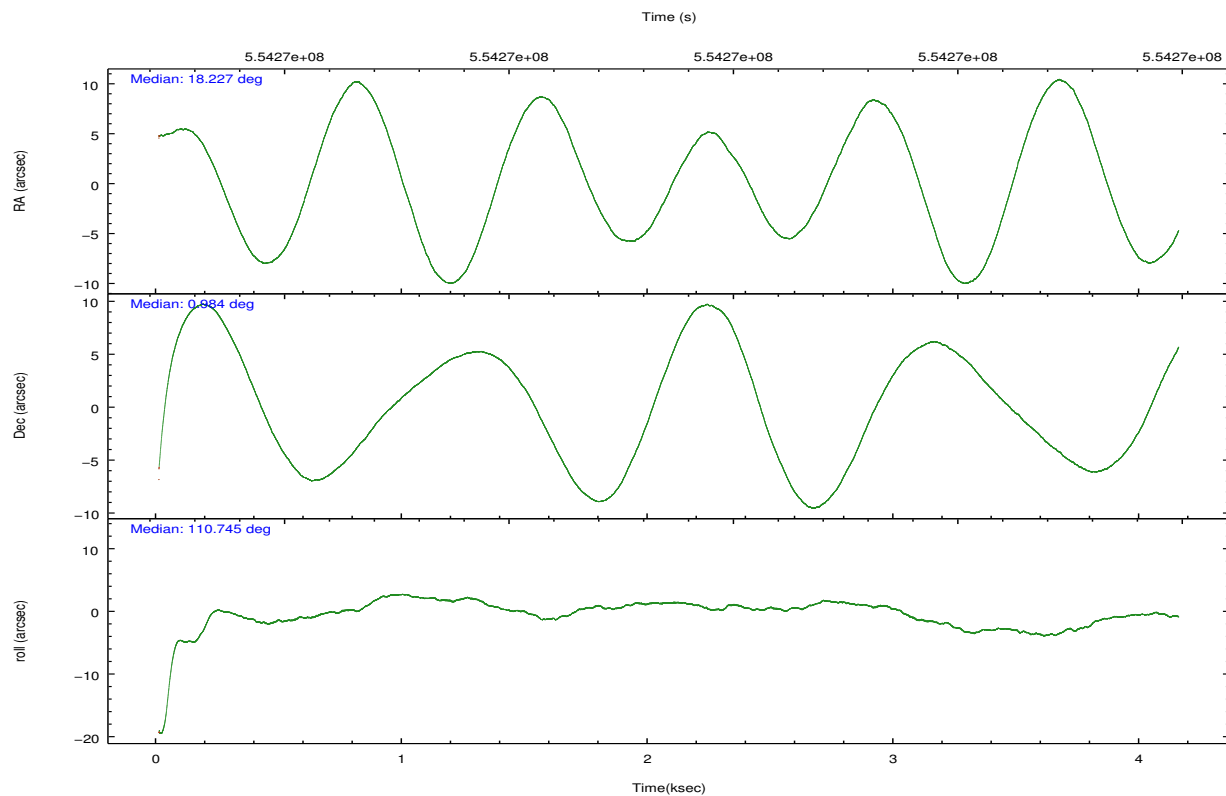


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-23678	ACIS-23678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	18.248868	18.22735499334641	CCD I2 on	O2	Y
[deg] Pointing Dec	0.967242	0.9843241968701205	CCD I3 on	O1	Y
[deg] Pointing Roll	110.591683	110.7486281265639	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	N	N
[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	Y	Y
[s] Observation start time (MET)	554269795.184000	554268647.07486	CCD S5 on	N	N
Observation start date	2015-07-26T03:48:47	2015-07-26T03:30:47	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	554273796.184000	554274007.82516	On-chip summing requested	N	N
Observation end date	2015-07-26T04:55:28	2015-07-26T05:00:07	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



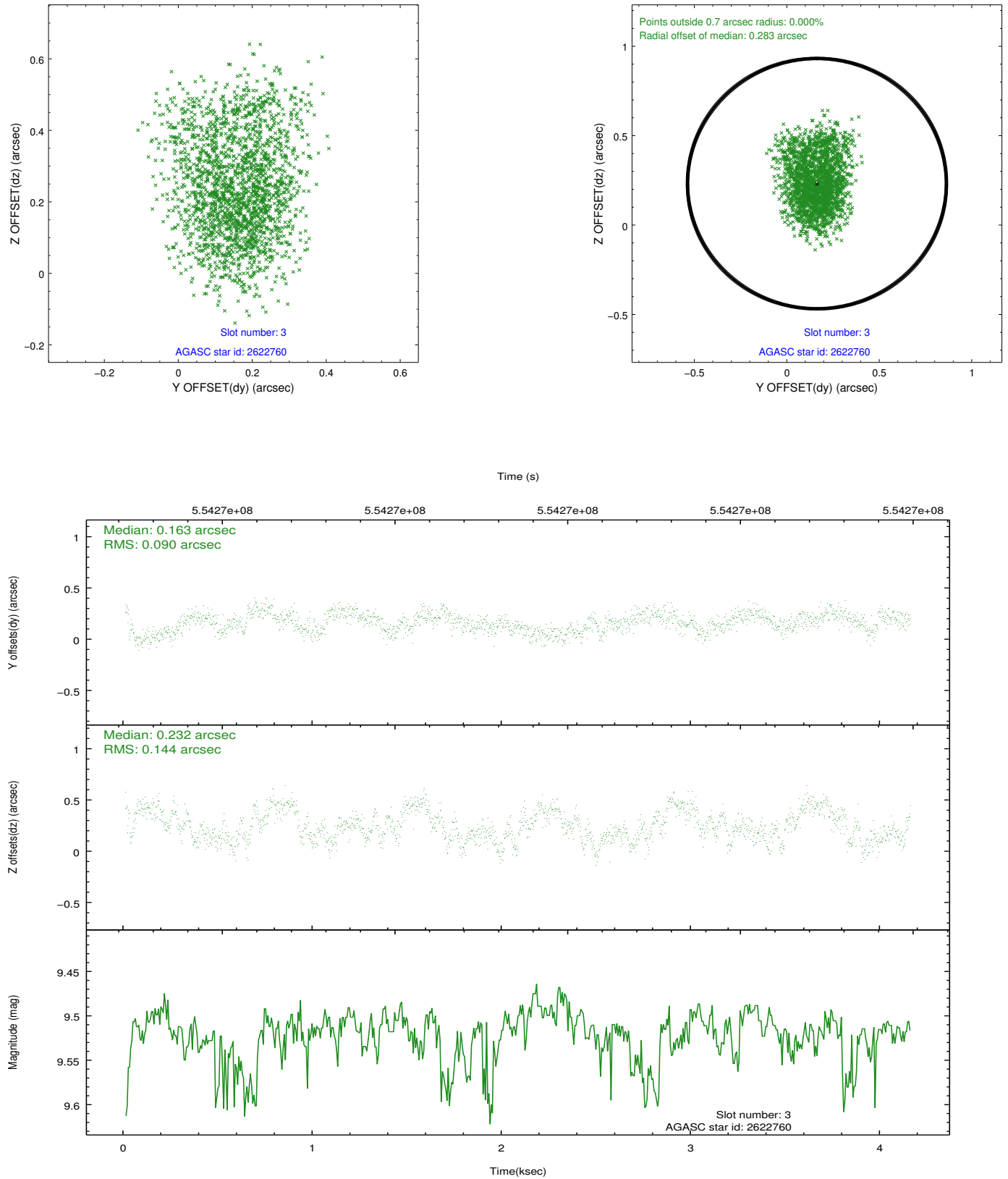


Slot Statistics

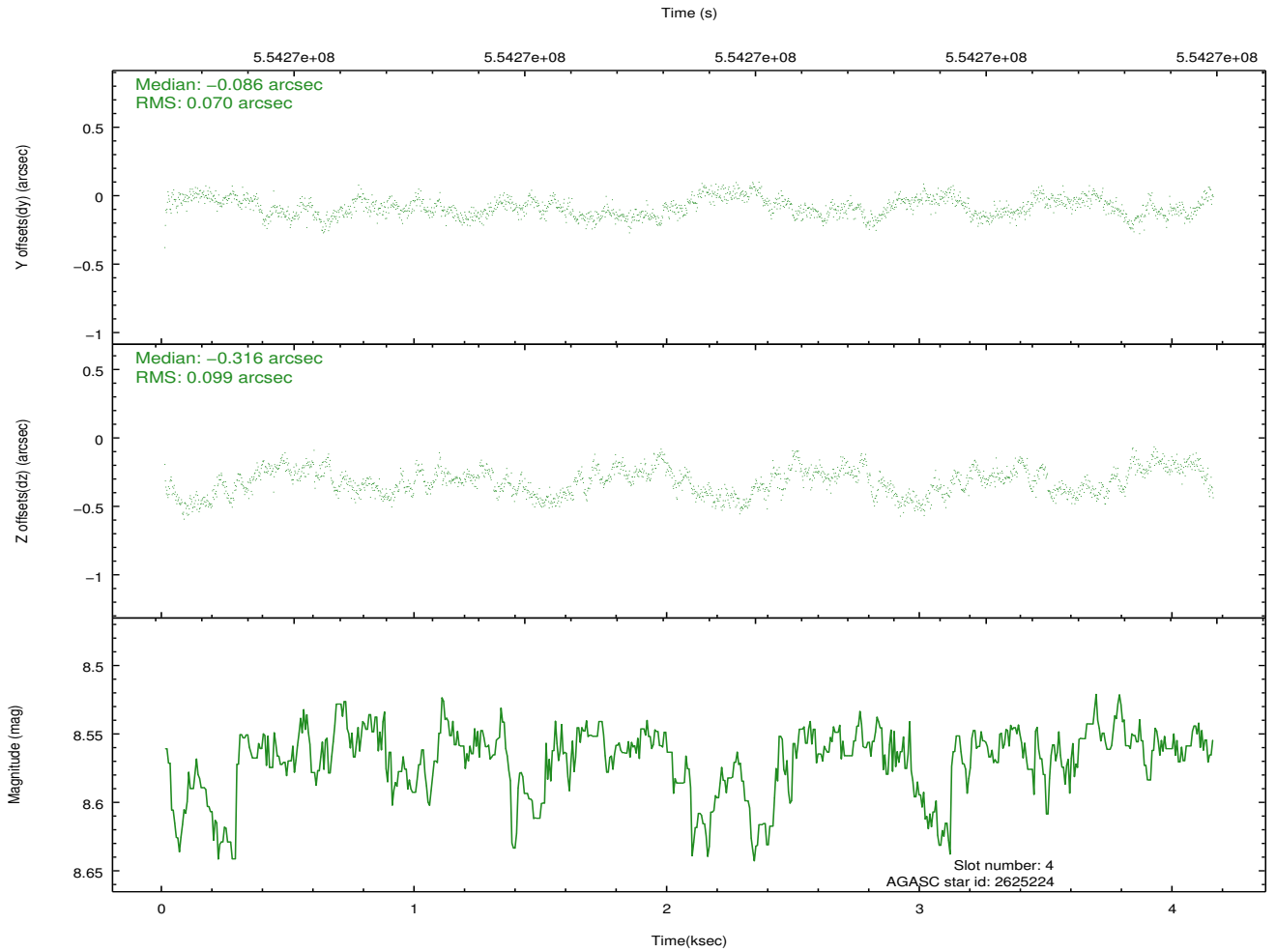
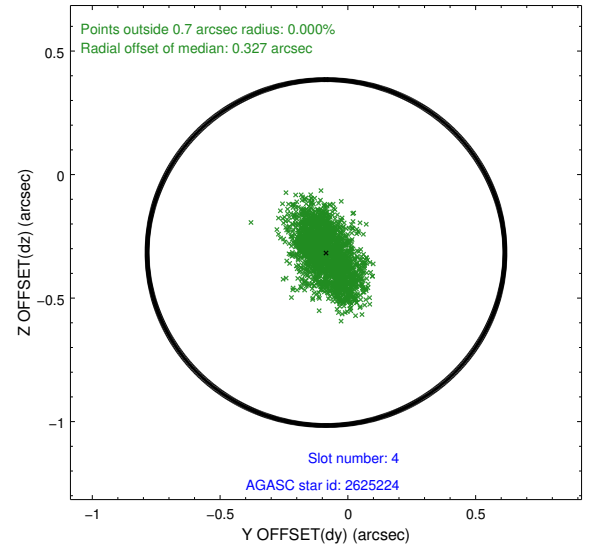
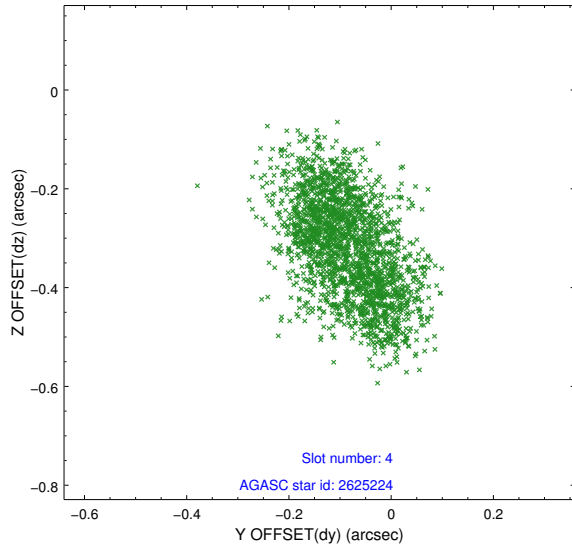
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.07	1013	-0.148	-0.098	0.007	0.011	0.000000	0.000000	-775.05	-1740.81
1	FID		ACIS-S-4	7.17	1013	0.348	0.098	0.006	0.011	0.000000	0.000000	2138.03	166.32
2	FID		ACIS-S-5	7.19	1013	-0.230	0.009	0.007	0.012	0.000000	0.000000	-1826.06	161.59
3	GUIDE	used	2622760	9.52	2025	0.163	0.232	0.184	0.287	18.942327	0.938727	-973.23	-2300.57
4	GUIDE	used	2625224	8.57	2025	-0.086	-0.316	0.131	0.205	18.131446	0.981160	191.45	374.82
5	GUIDE	used	2626464	7.14	2025	0.037	-0.170	0.093	0.152	18.898535	0.912454	-1006.40	-2119.99
6	GUIDE	used	2626616	9.49	2023	-0.148	-0.119	0.132	0.224	18.523158	1.683902	2067.84	-1832.59
7	GUIDE	used	2631712	8.59	2024	0.039	0.363	0.105	0.176	18.767492	1.234020	243.96	-2085.95

## 2.4 Star Slots

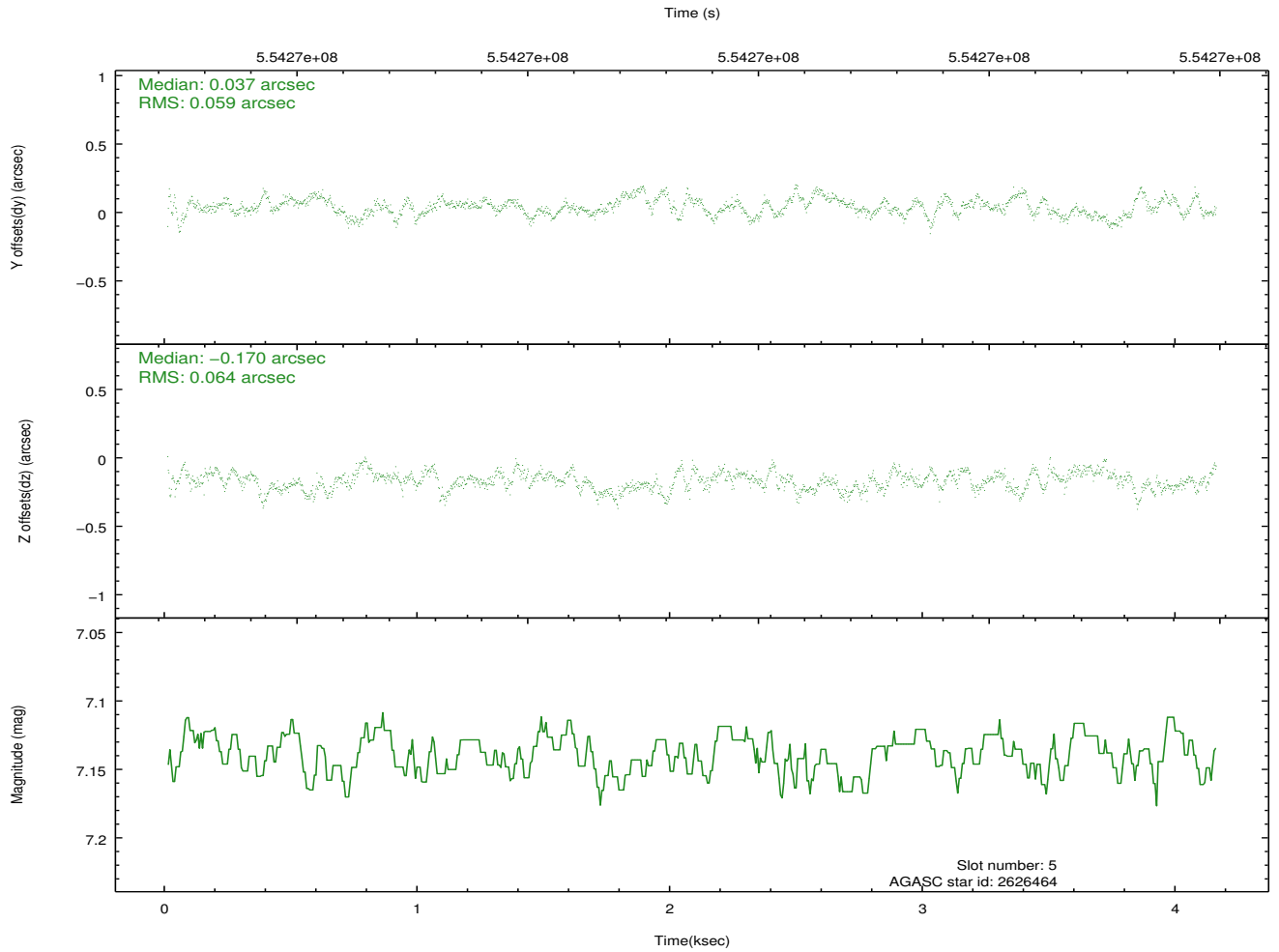
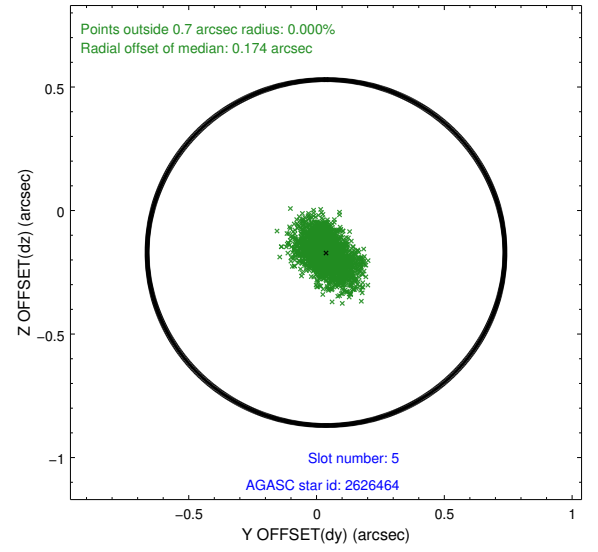
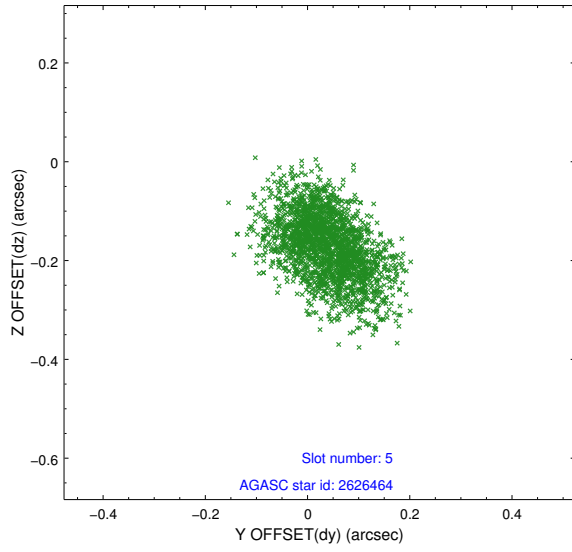
### 2.4.1 Slot 3



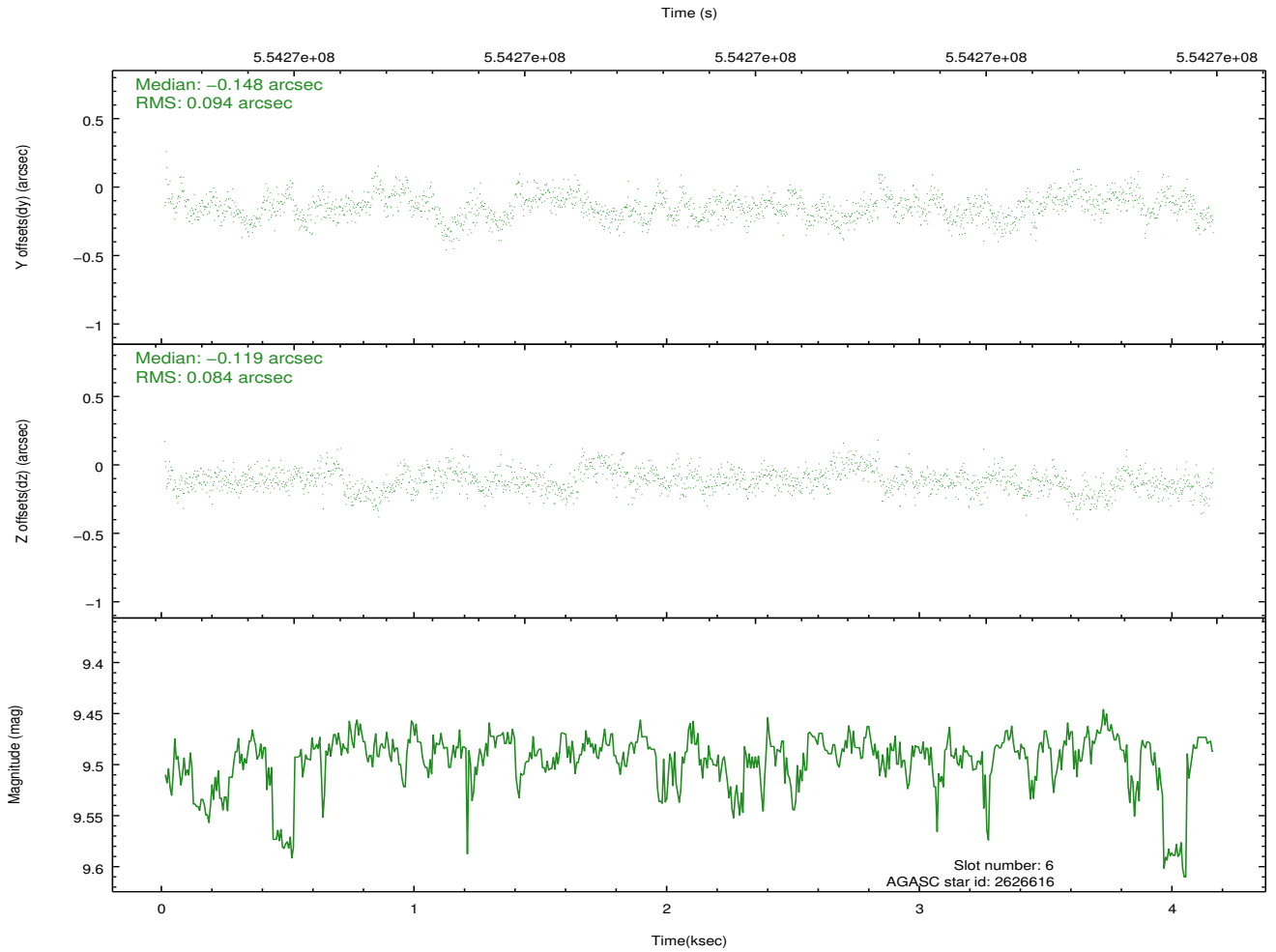
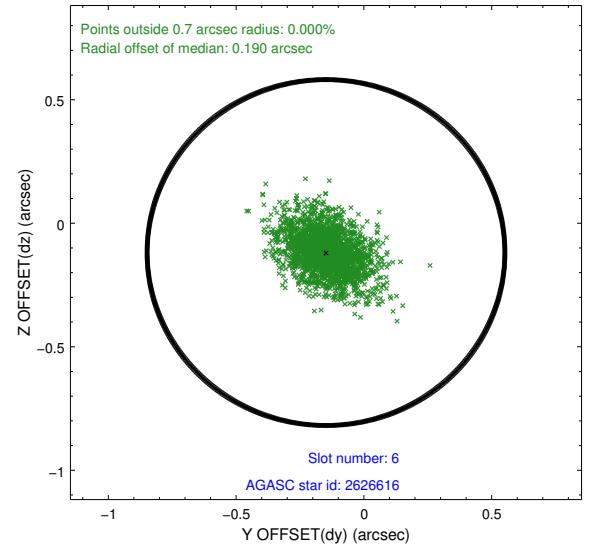
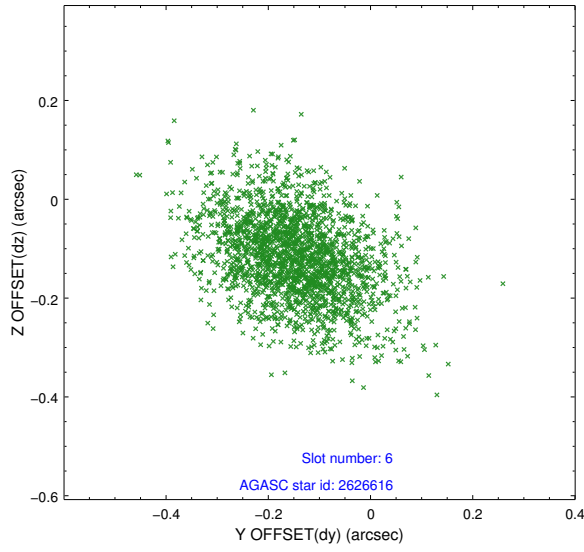
## 2.4.2 Slot 4



### 2.4.3 Slot 5

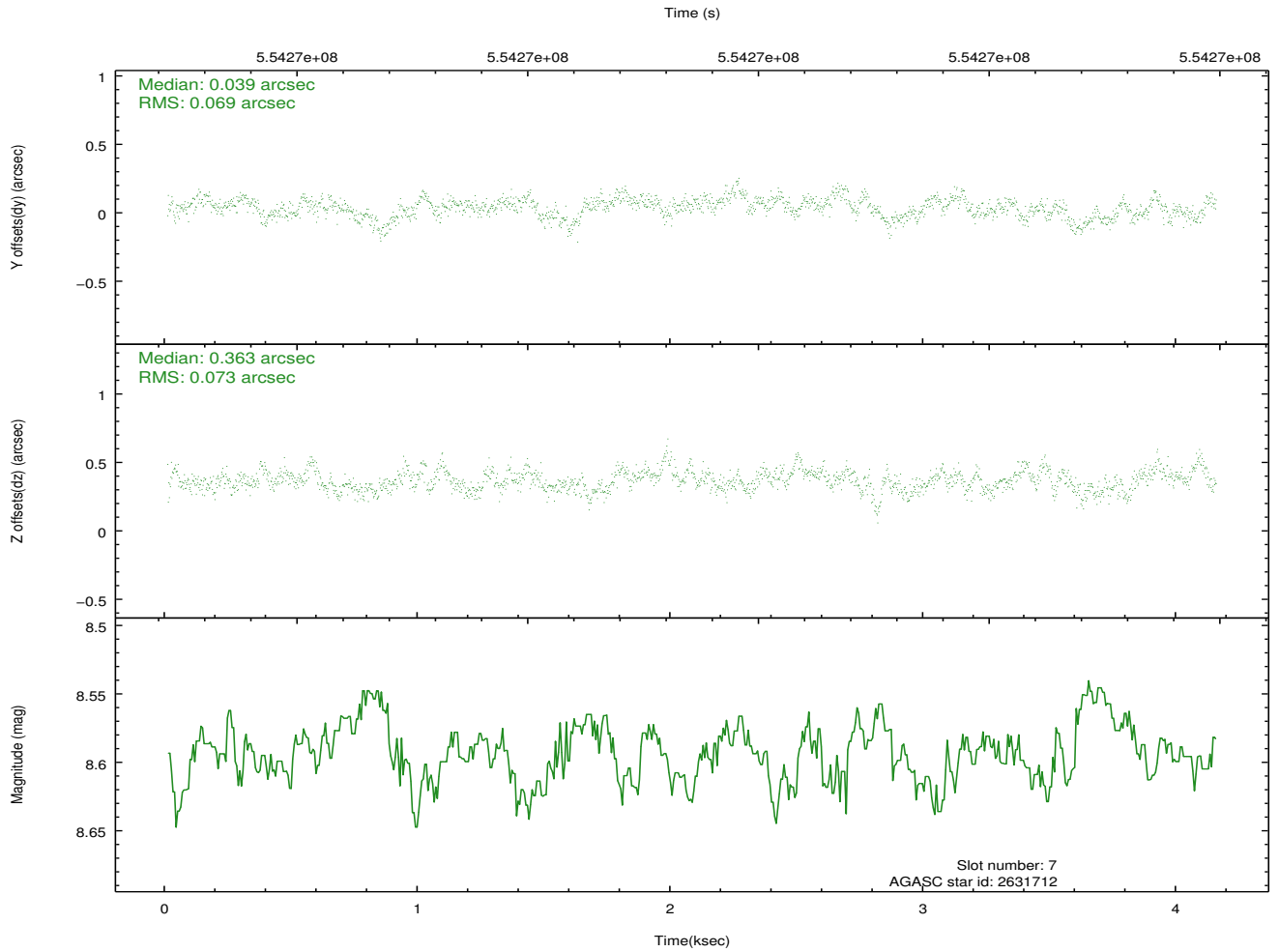
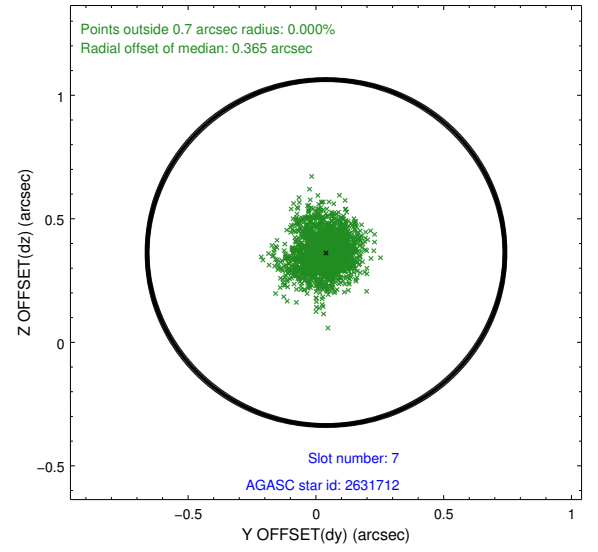
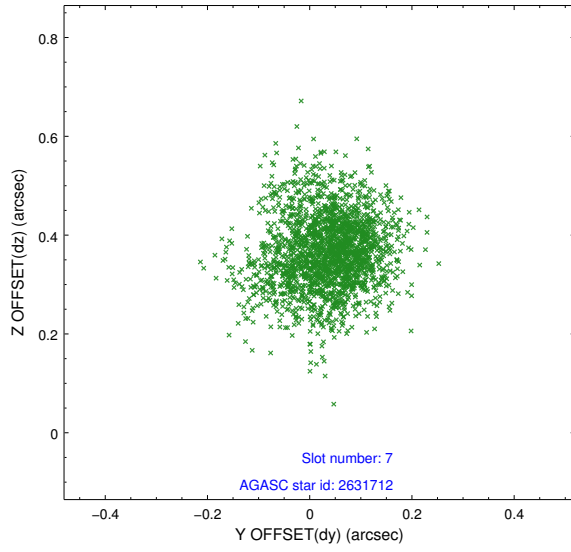


## 2.4.4 Slot 6



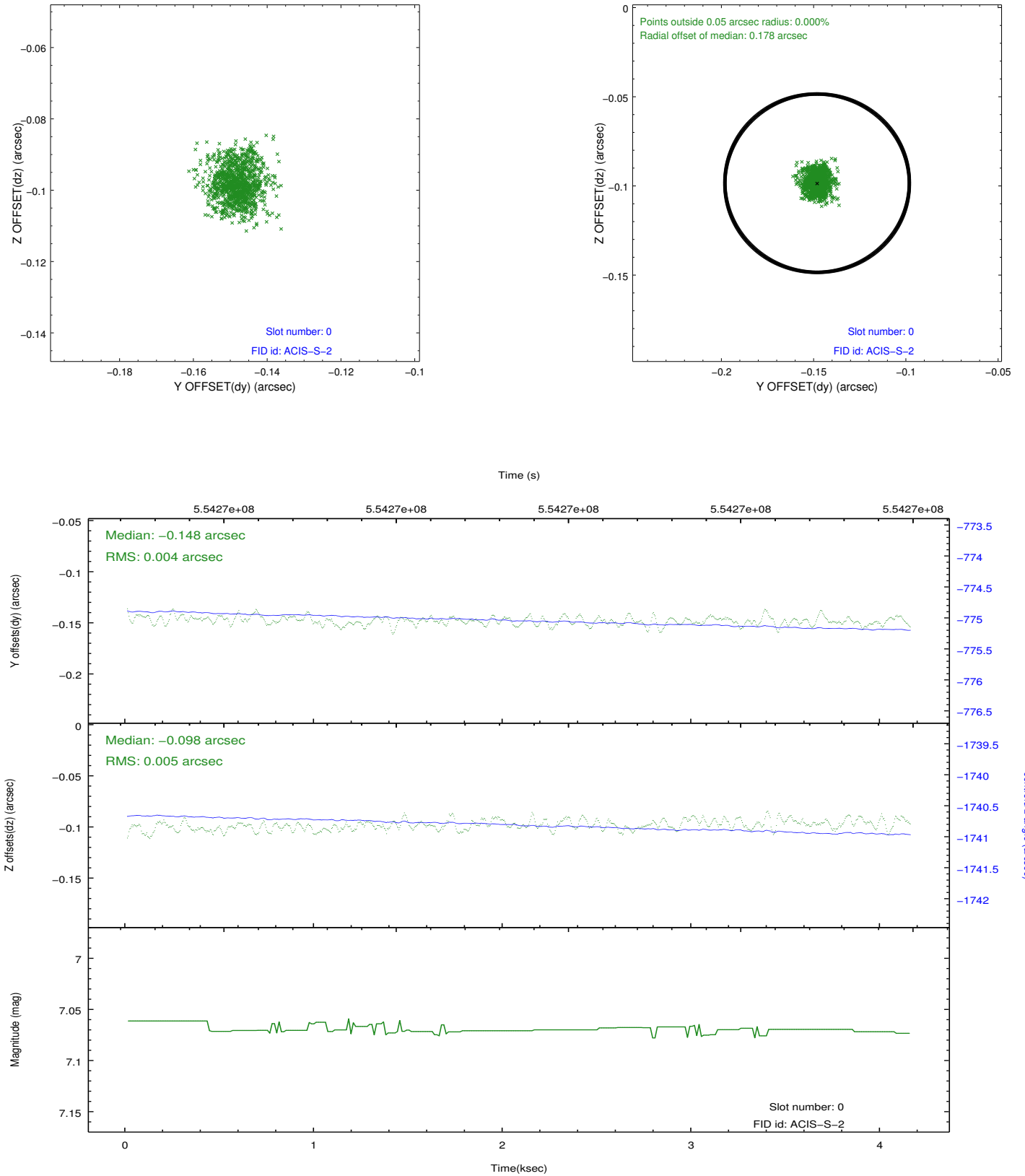


## 2.4.5 Slot 7

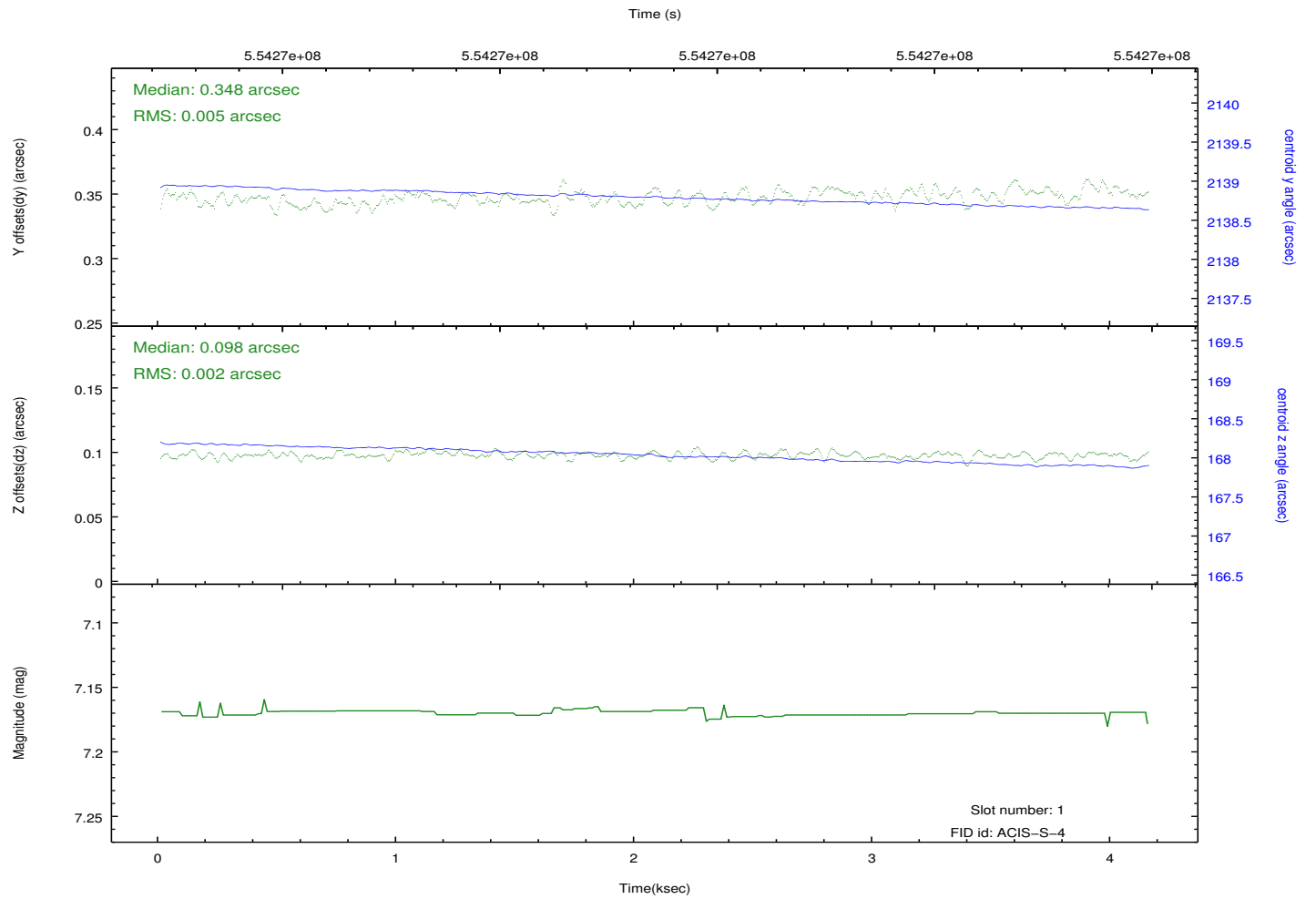
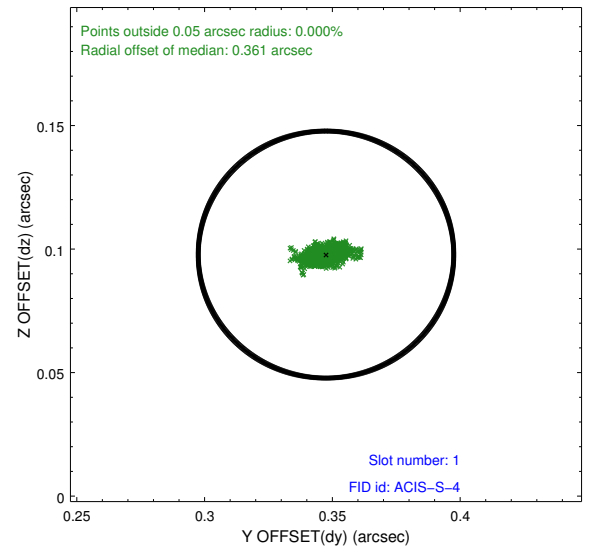
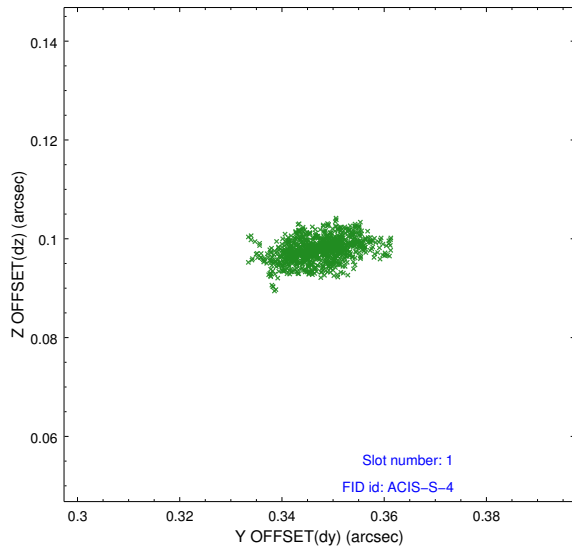


## 2.5 FID Slots

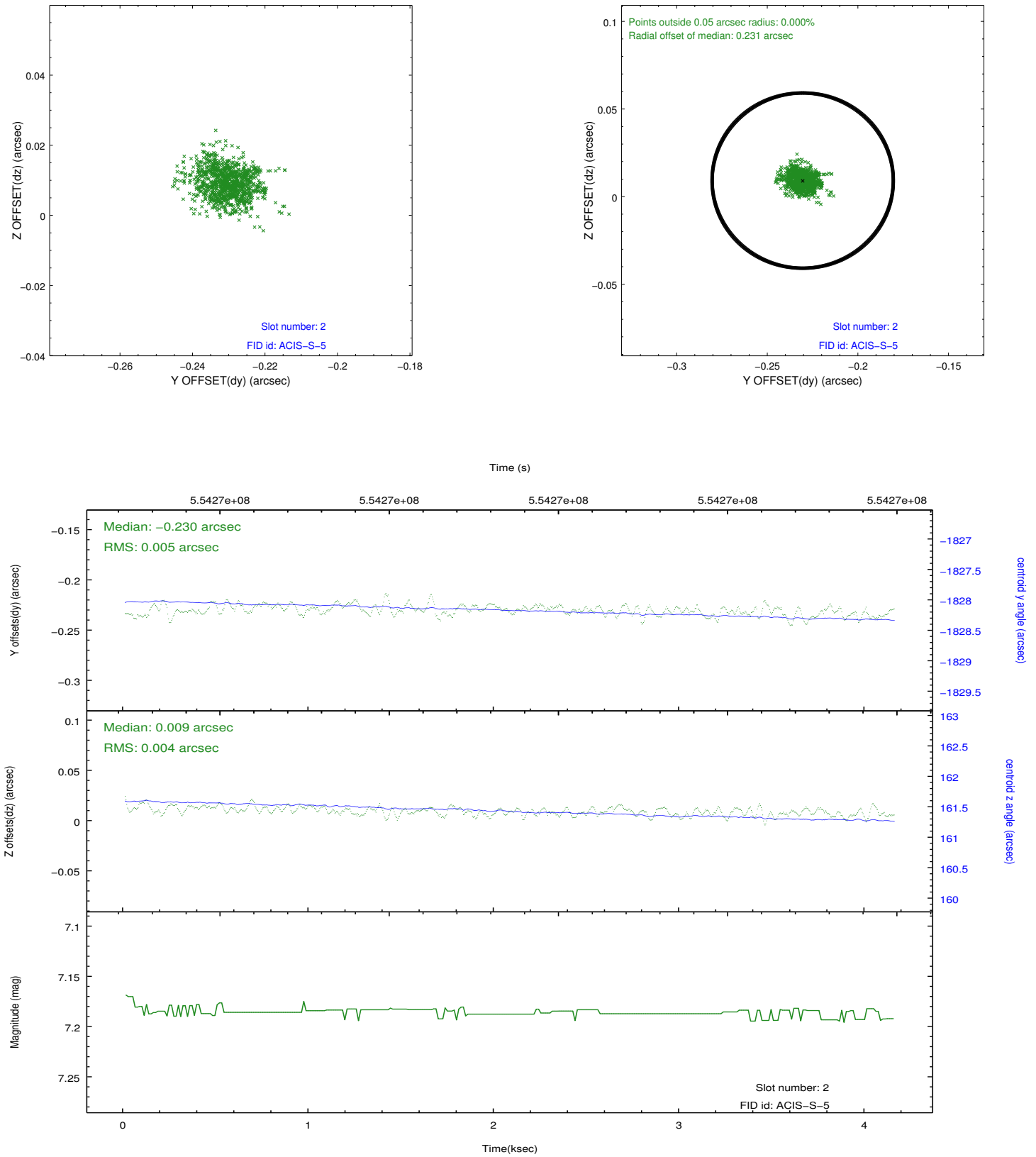
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



## A Summary

### A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2015.07.29
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.0445764167309

### A.2 Comments