

# V&V Reference Report

## L2 ASCDS Version : 10

Observation 14933 - L2 Version 2  
Chandra X-Ray Center

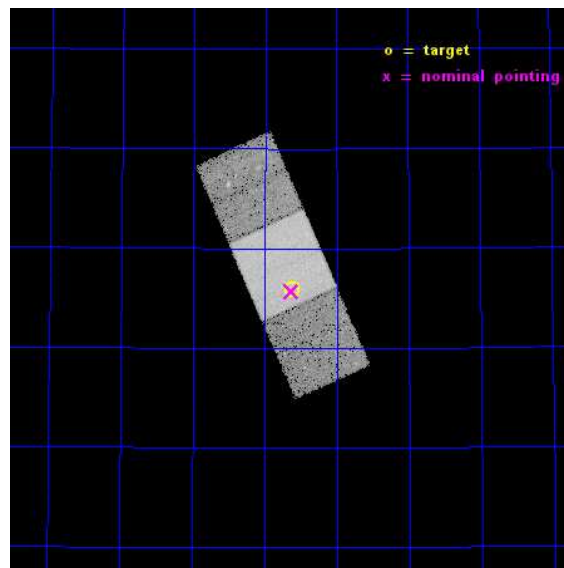
L2 Processing Date : Dec 4 2014

## 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

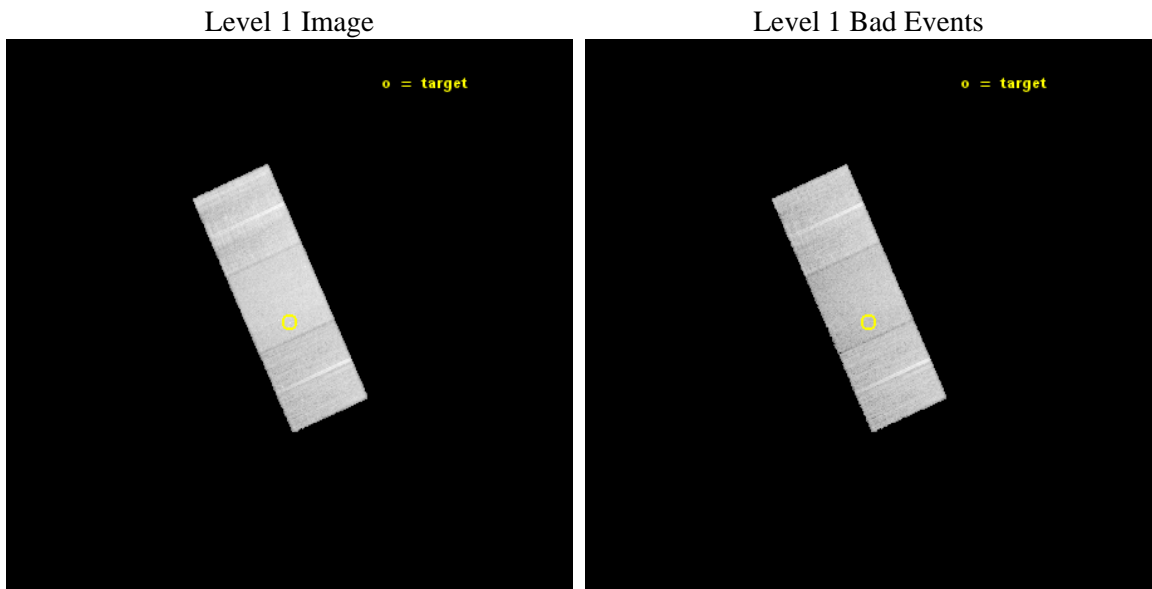
seq_num	601063	Sequence number
obs_id	14933	Observation id
title	Testing supermassive black hole feedback in a pristine environment	&#160
observer	Dr. Brendan Miller	Principal investigator
object	Mrk 0810	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	215.654583	Observer's specified target RA [deg]
dec_targ	59.930917	Observer's specified target Dec [deg]
ra_nom	215.6578859676	Nominal RA [deg]
dec_nom	59.928396110423	Nominal Dec [deg]
roll_nom	245.91394546536	Nominal Roll [deg]
revision	2	Processing version of data
ontime	29395.844299614	Sum of GTIs [s]
livetime	29011.765952934	Livetime [s]
ontime6	29395.803259611	Sum of GTIs [s]
ontime7	29395.844299614	Sum of GTIs [s]
ontime8	29395.762219608	Sum of GTIs [s]
l2events	110446	Number of level 2 events



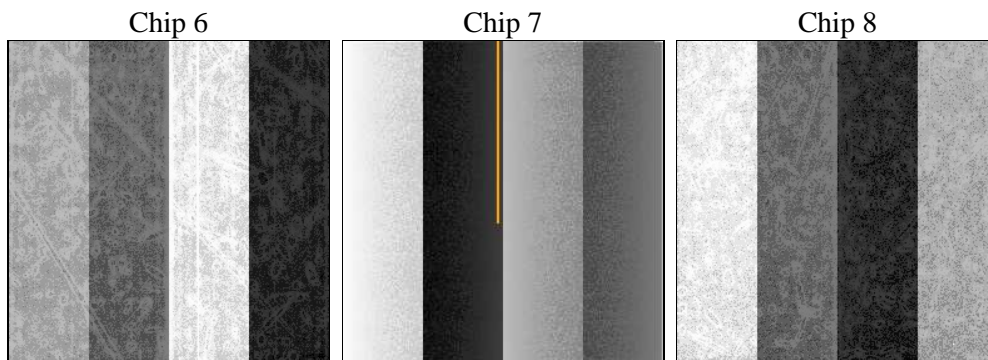
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	29276.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	29395.844299614	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime6	29395.803259611	Sum of GTIs [s]
date	2014-12-04T10:23:47	Date and time of file creation	ontime7	29395.844299614	Sum of GTIs [s]
revision	2	Processing version of data	ontime8	29395.762219608	Sum of GTIs [s]
			l1events	490471	Number of level 1 events

### 2.1.4 Events

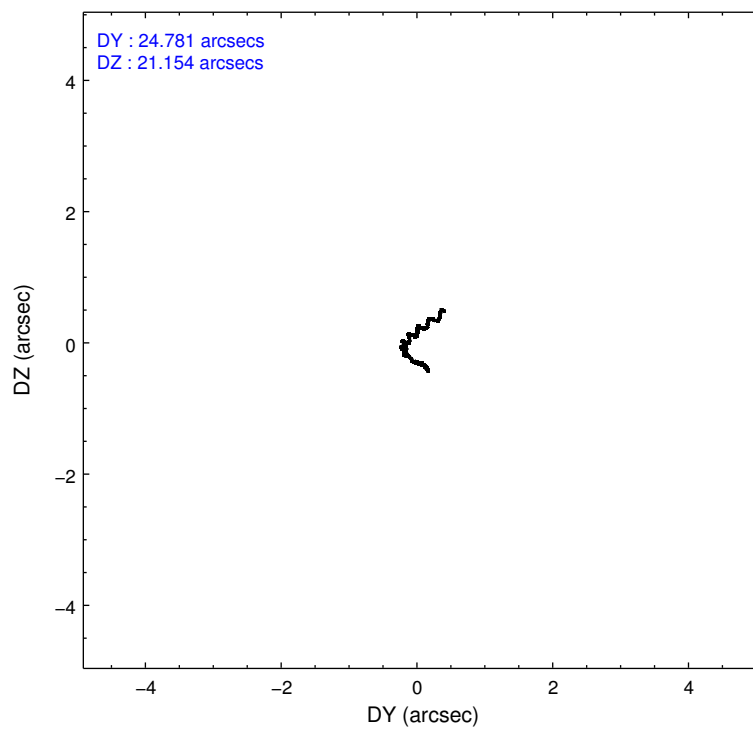
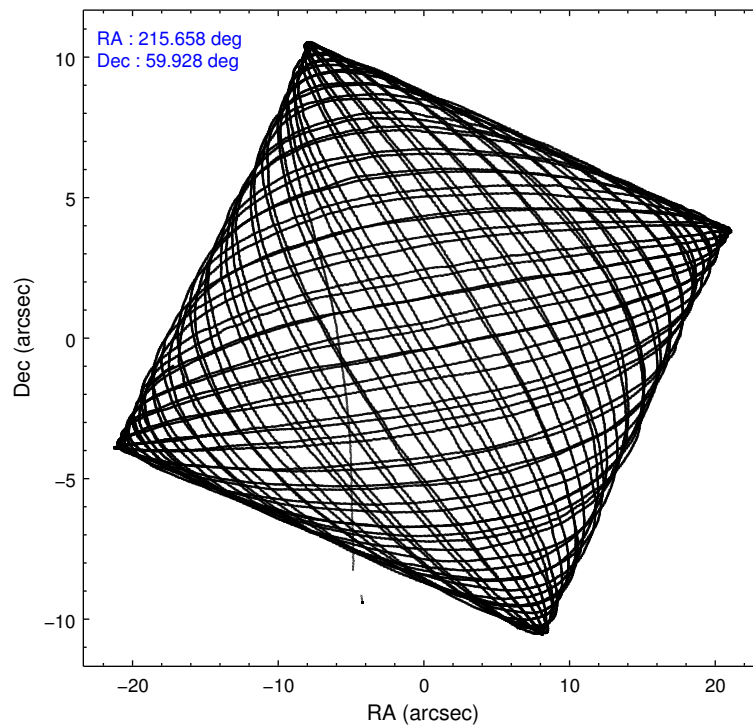
	ccd 6	ccd 7	ccd 8
level 1 events	131252	181419	177800
rejected events	114682	100760	129515
rejected %	87%	55%	72%

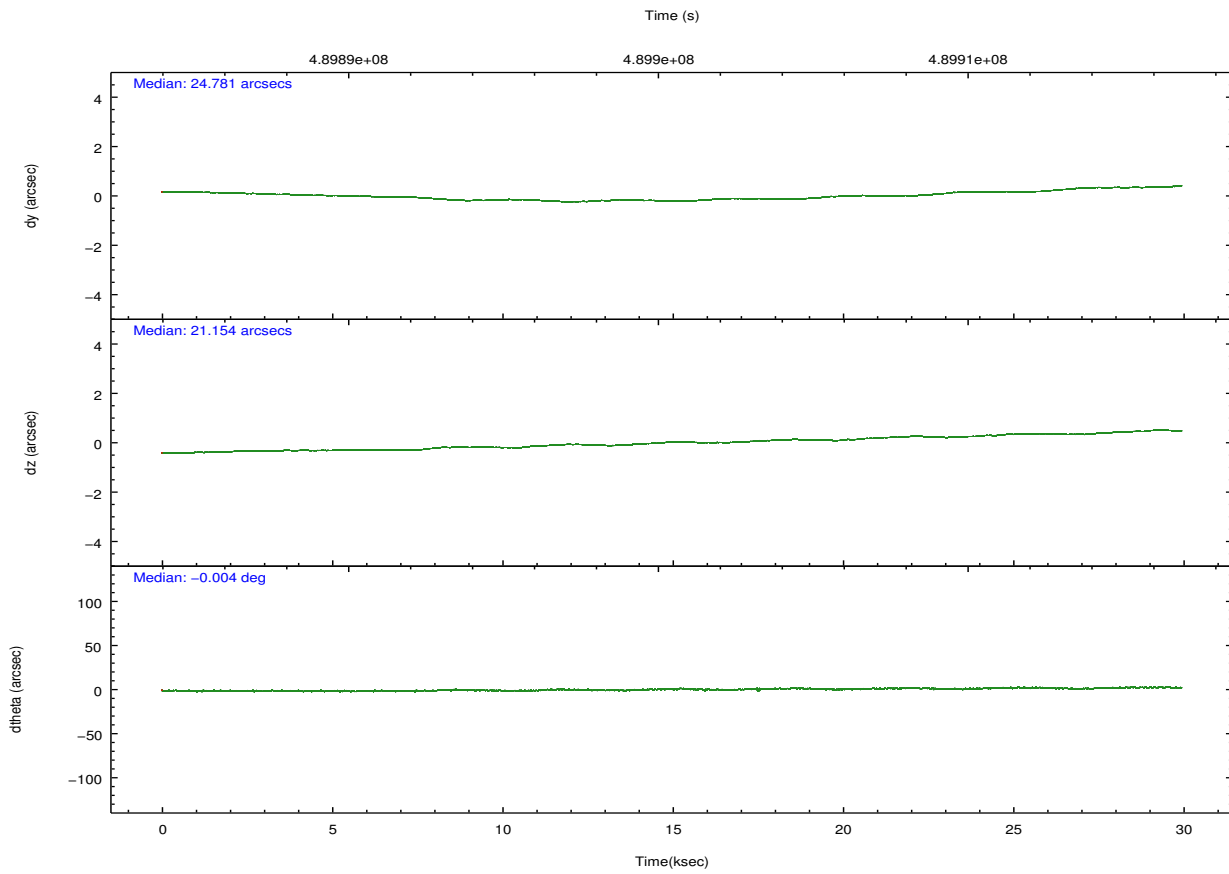
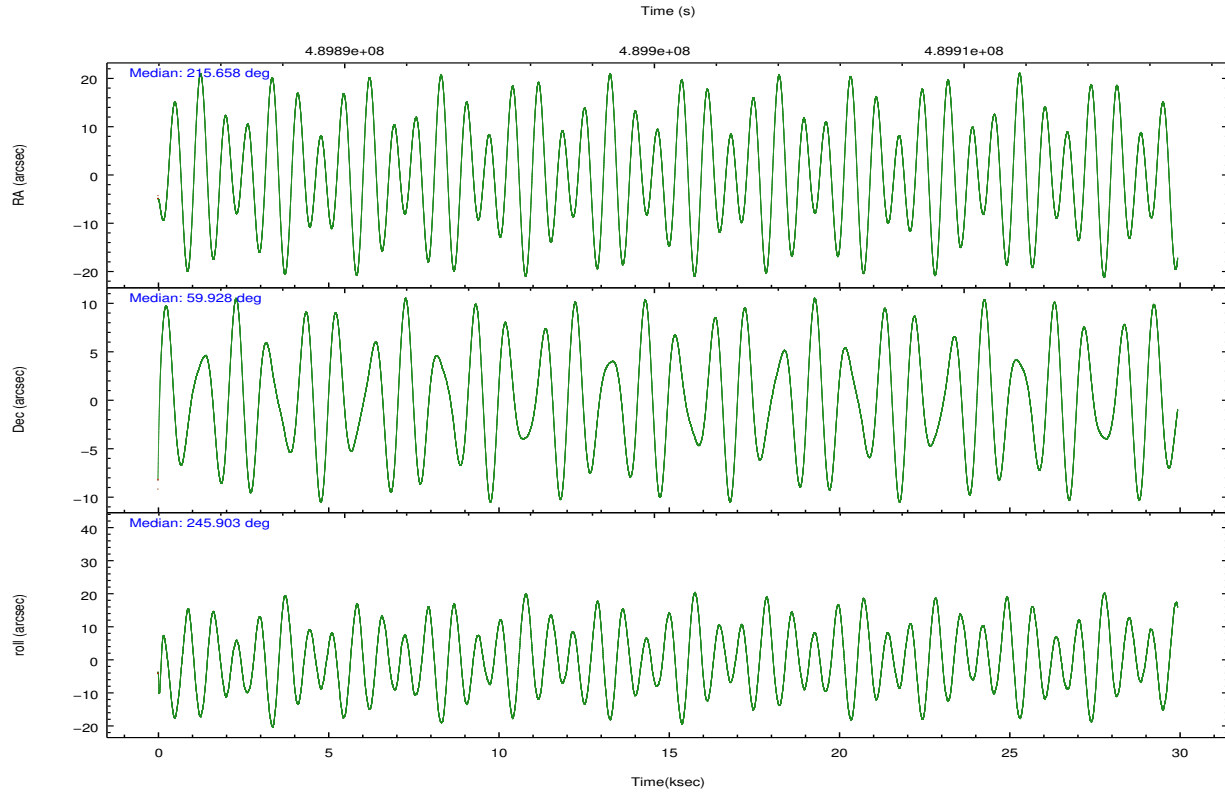
	ccd 6	ccd 7	ccd 8
grade 0 events	5678	7359	14571
	4%	4%	8%
grade 1 events	87	211	134
	0%	0%	0%
grade 2 events	3698	16335	11279
	2%	9%	6%
grade 3 events	1705	6941	4877
	1%	3%	2%
grade 4 events	1719	6914	4631
	1%	3%	2%
grade 5 events	6976	18667	10276
	5%	10%	5%
grade 6 events	3770	43118	12929
	2%	23%	7%
grade 7 events	107619	81874	119103
	81%	45%	66%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-678	ACIS-678	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	215.651551	215.6578859676003	CCD I2 on	N	N
[deg] Pointing Dec	59.955551	59.92839611042323	CCD I3 on	N	N
[deg] Pointing Roll	245.762801	245.9139454653603	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	O1	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	O2	Y
[s] Observation start time (MET)	489886125.184000	489884798.32189	CCD S5 on	N	N
Observation start date	2013-07-10T23:27:38	2013-07-10T23:06:38	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	489915401.184000	489916221.2361	On-chip summing requested	N	N
Observation end date	2013-07-11T07:35:34	2013-07-11T07:50:21	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





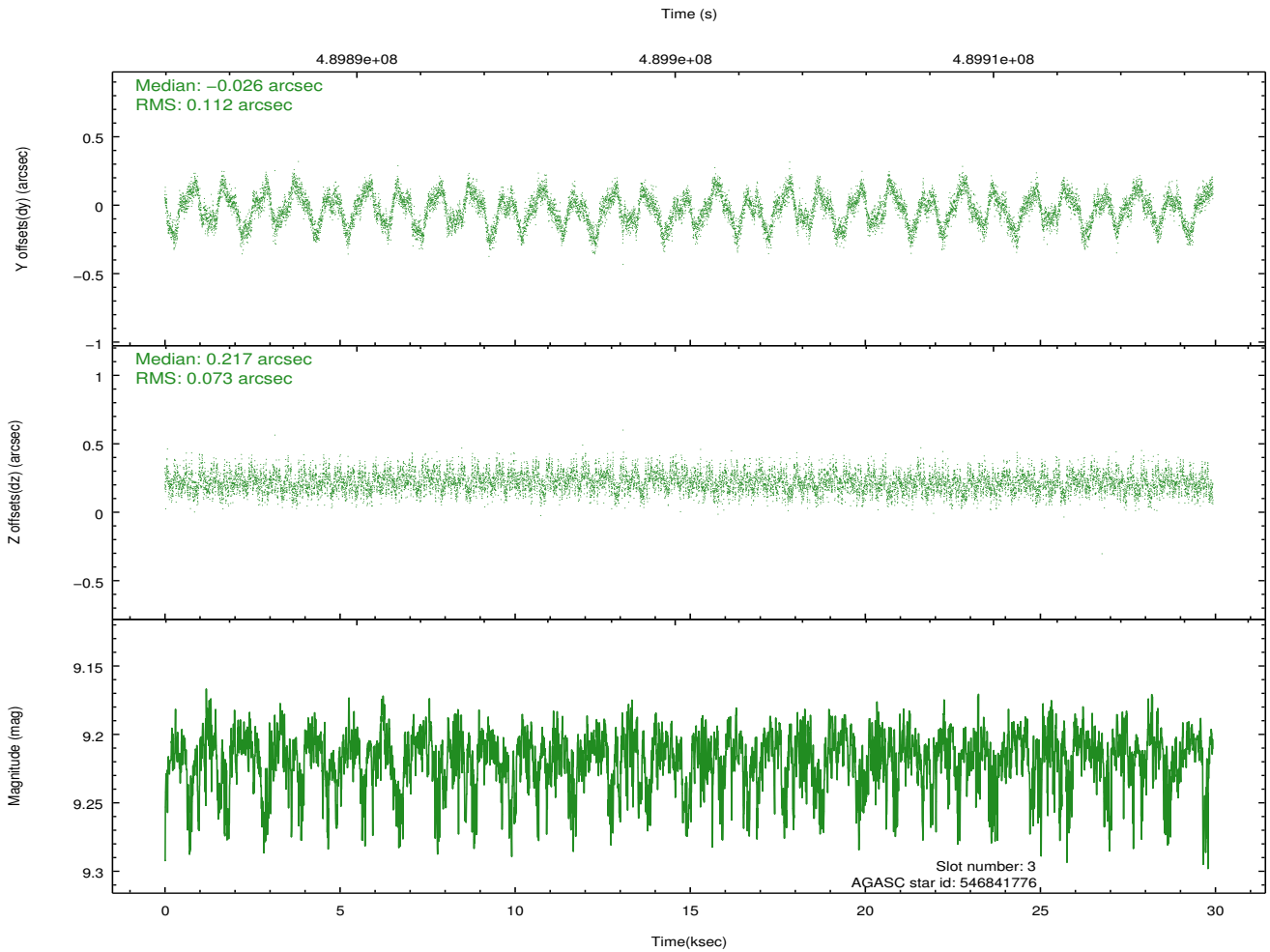
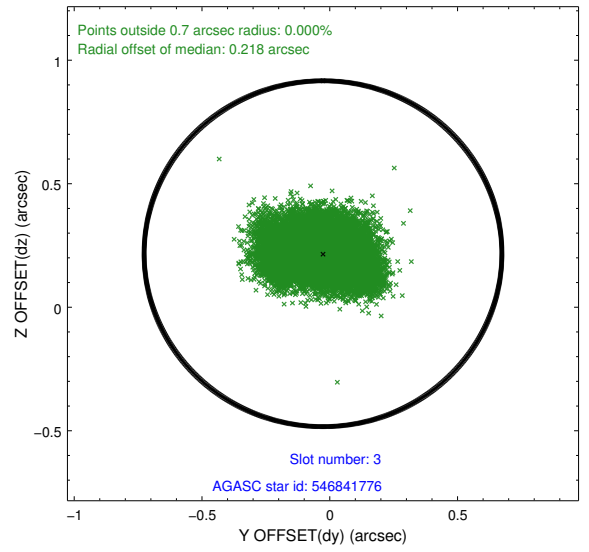
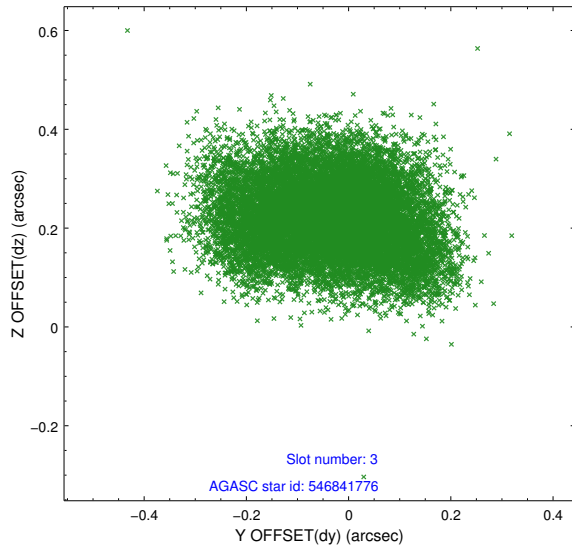
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.91	7303	-0.170	-0.014	0.012	0.019	0.000000	0.000000	-778.21	-1742.71
1	FID		ACIS-S-4	6.99	7304	0.346	0.087	0.007	0.012	0.000000	0.000000	2135.56	165.78
2	FID		ACIS-S-5	7.02	7304	-0.206	-0.063	0.011	0.018	0.000000	0.000000	-1830.98	159.41
3	GUIDE	used	546841776	9.22	14595	-0.026	0.217	0.144	0.228	214.615185	60.084555	327.81	-1892.40
4	GUIDE	used	546845280	9.13	14551	-0.061	-0.186	0.111	0.183	217.097861	60.041254	-1374.85	2232.05
5	GUIDE	used	546972648	9.57	14452	0.152	0.058	0.159	0.280	217.313318	60.241385	-2191.20	2269.99
6	GUIDE	used	506604232	7.88	14606	-0.093	-0.496	0.090	0.146	216.901543	59.722816	-186.87	2404.04
7	GUIDE	used	546839088	9.31	14594	0.051	0.400	0.140	0.224	214.626275	60.462707	-929.86	-2413.56

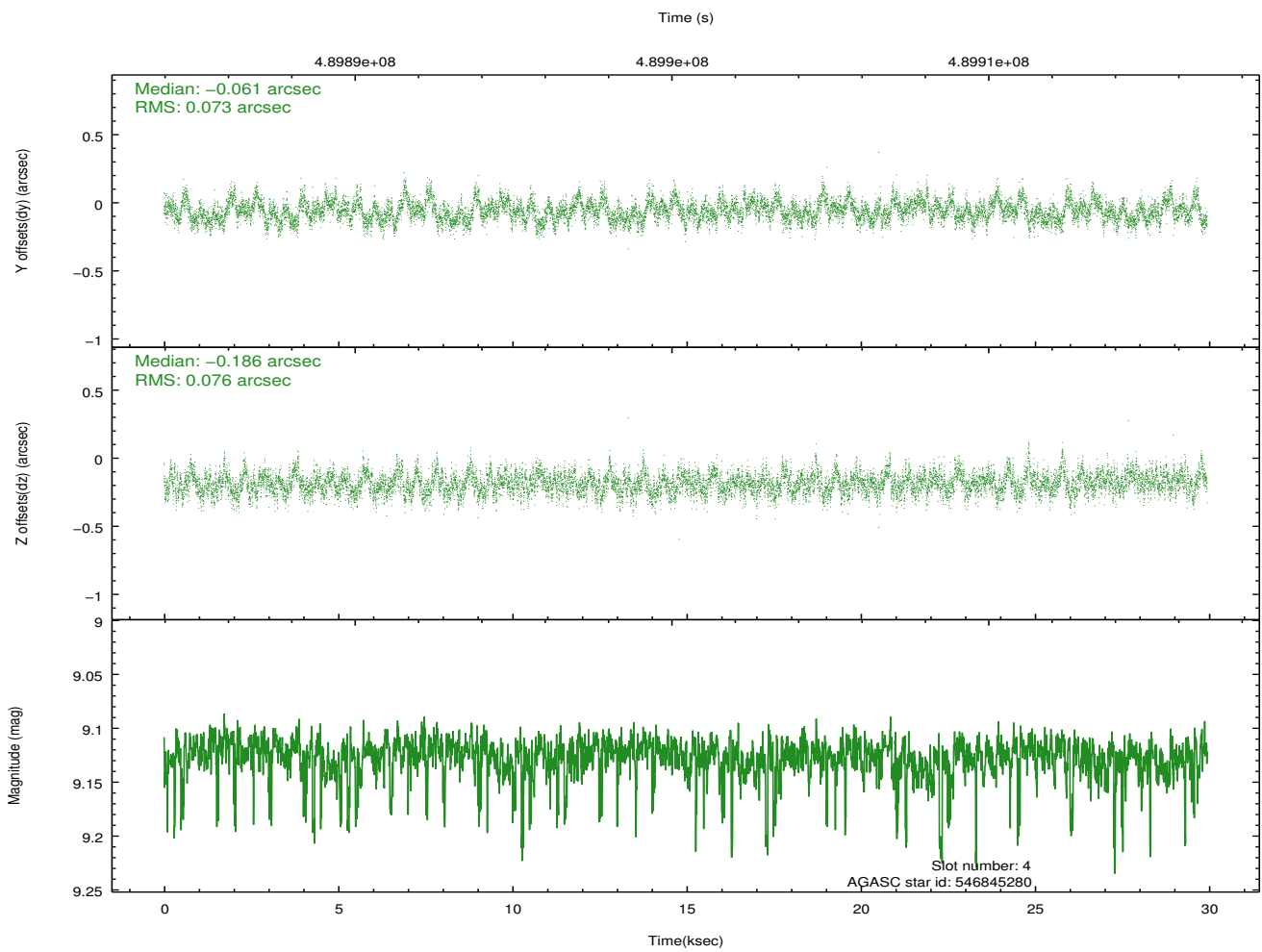
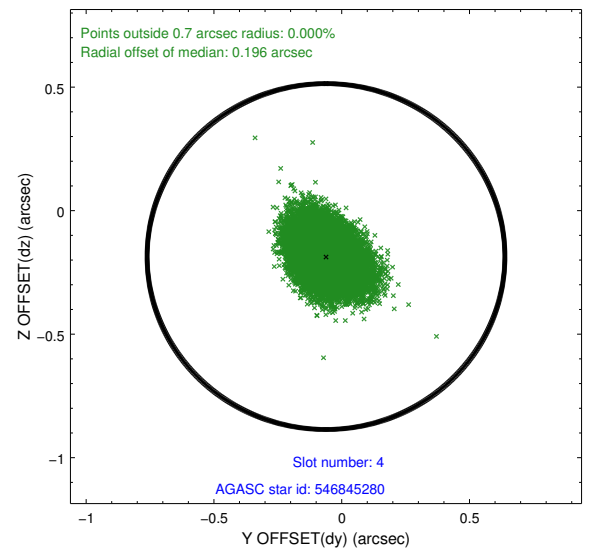
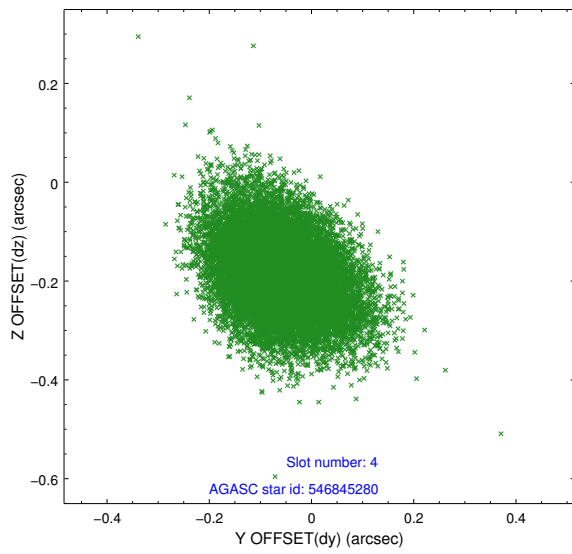
∞

## 2.4 Star Slots

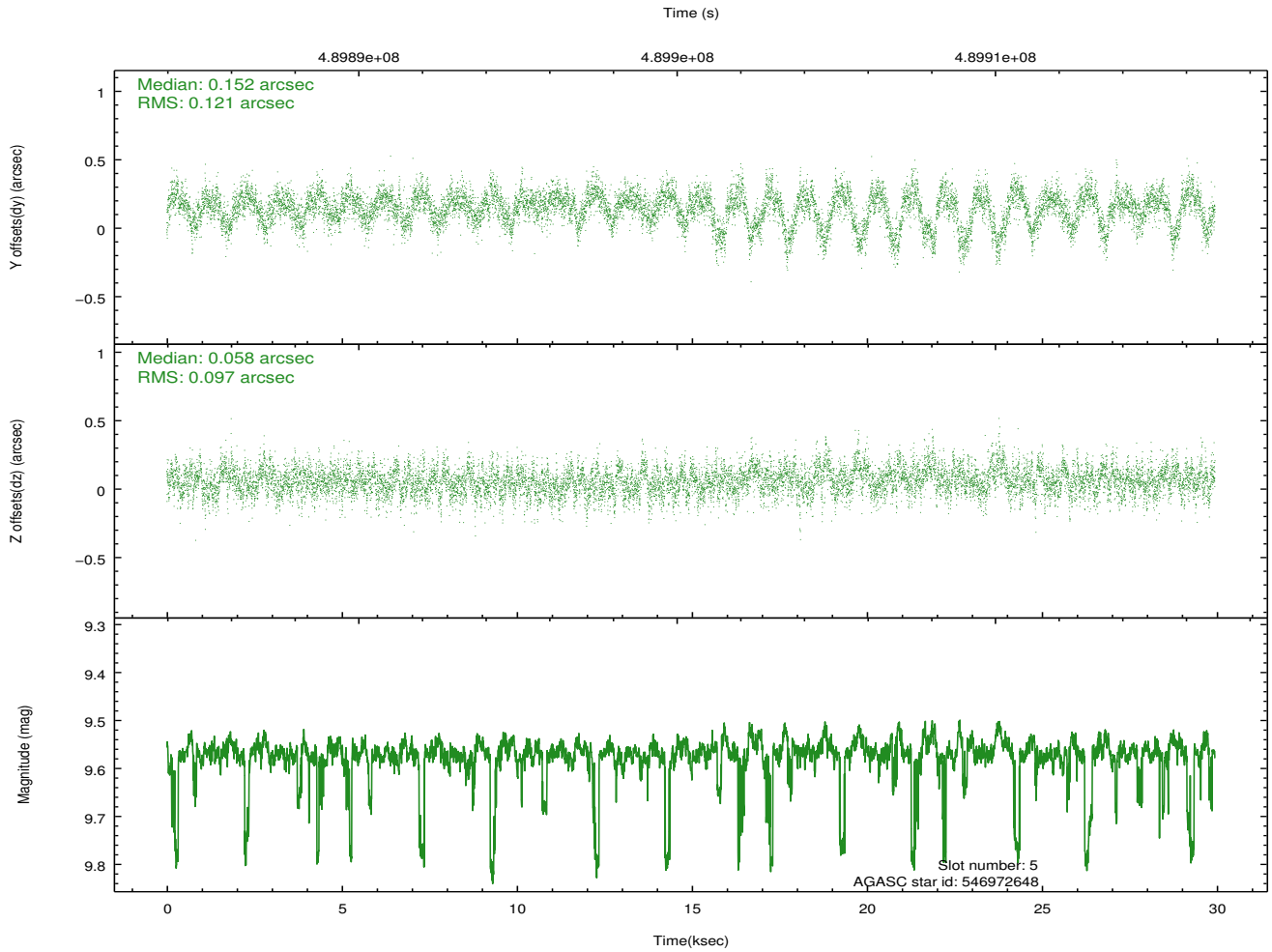
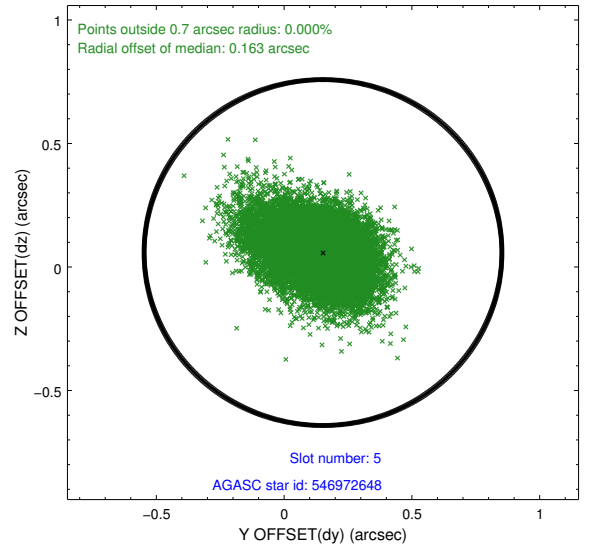
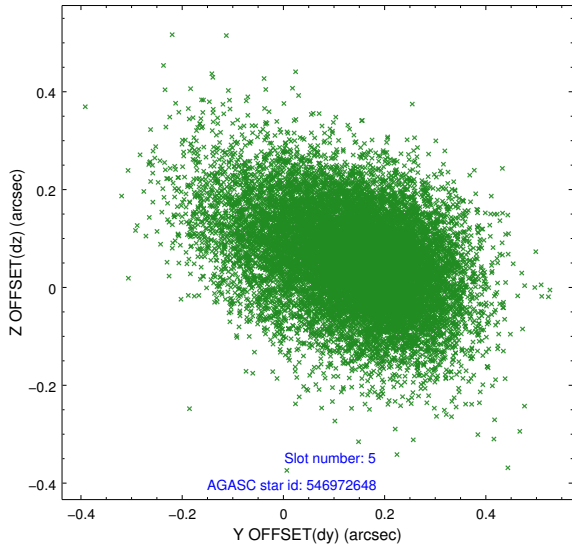
### 2.4.1 Slot 3



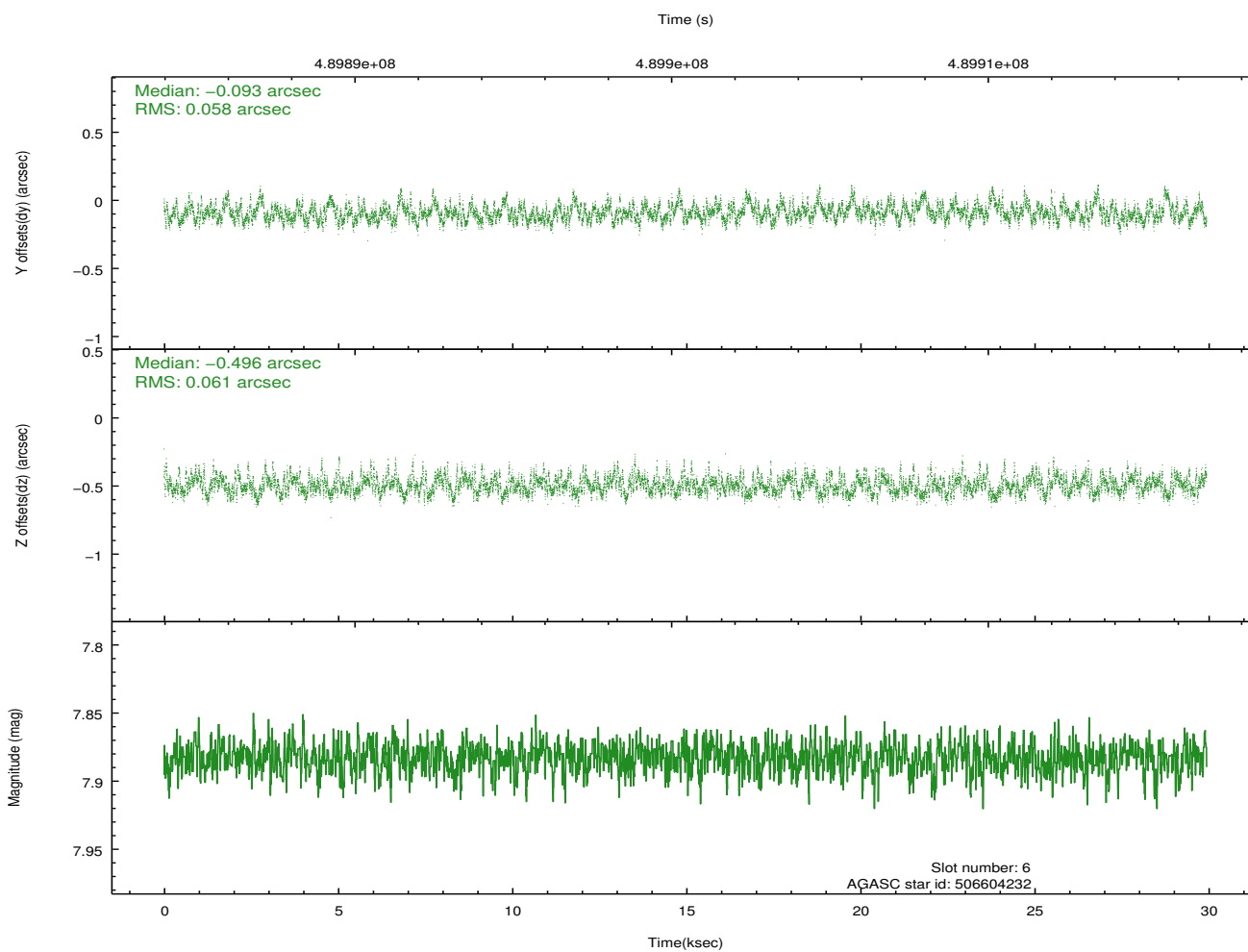
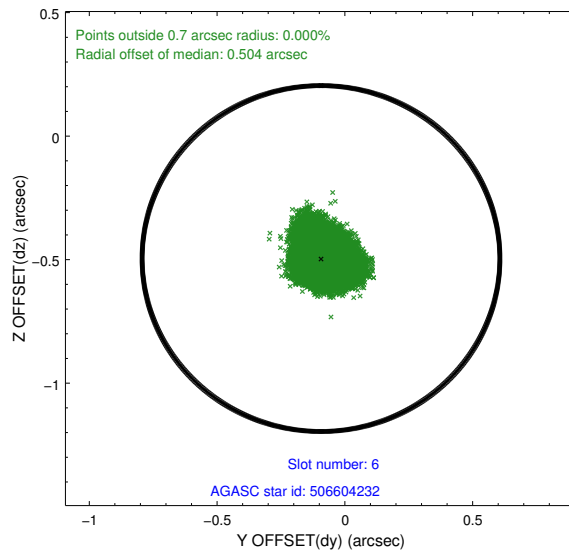
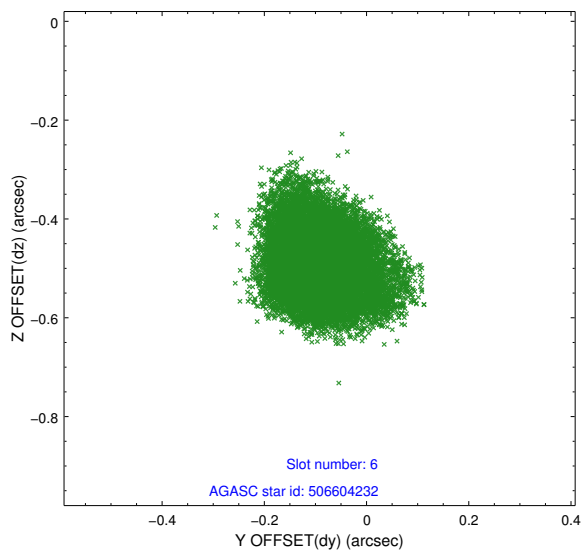
## 2.4.2 Slot 4



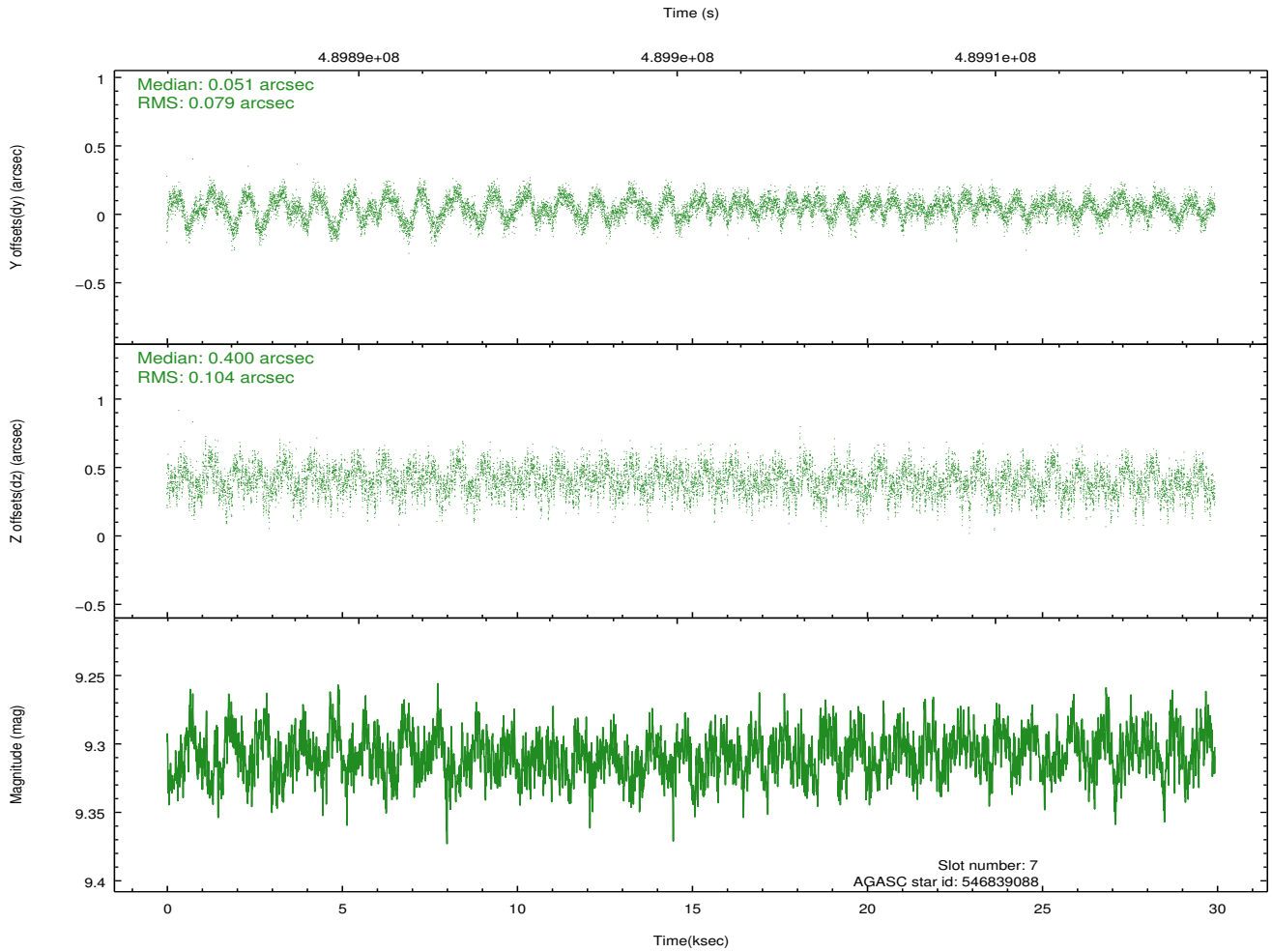
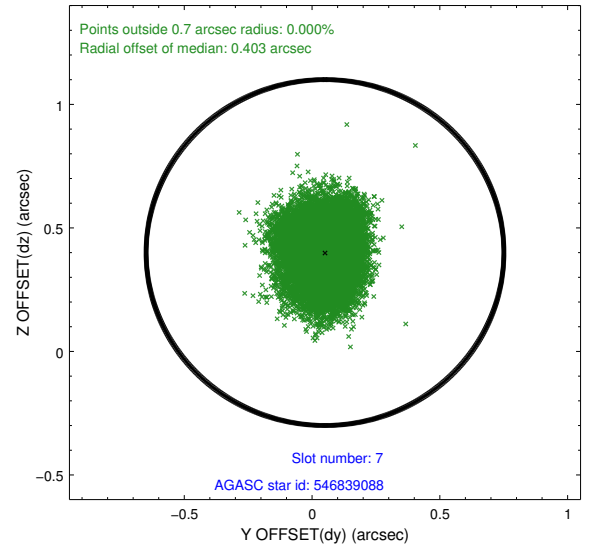
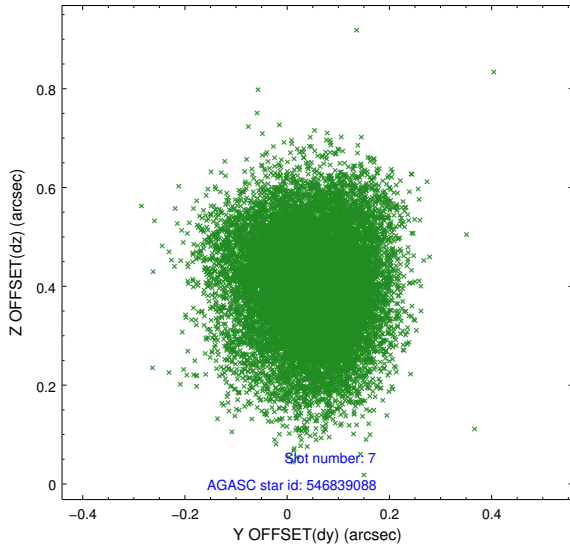
### 2.4.3 Slot 5



## 2.4.4 Slot 6

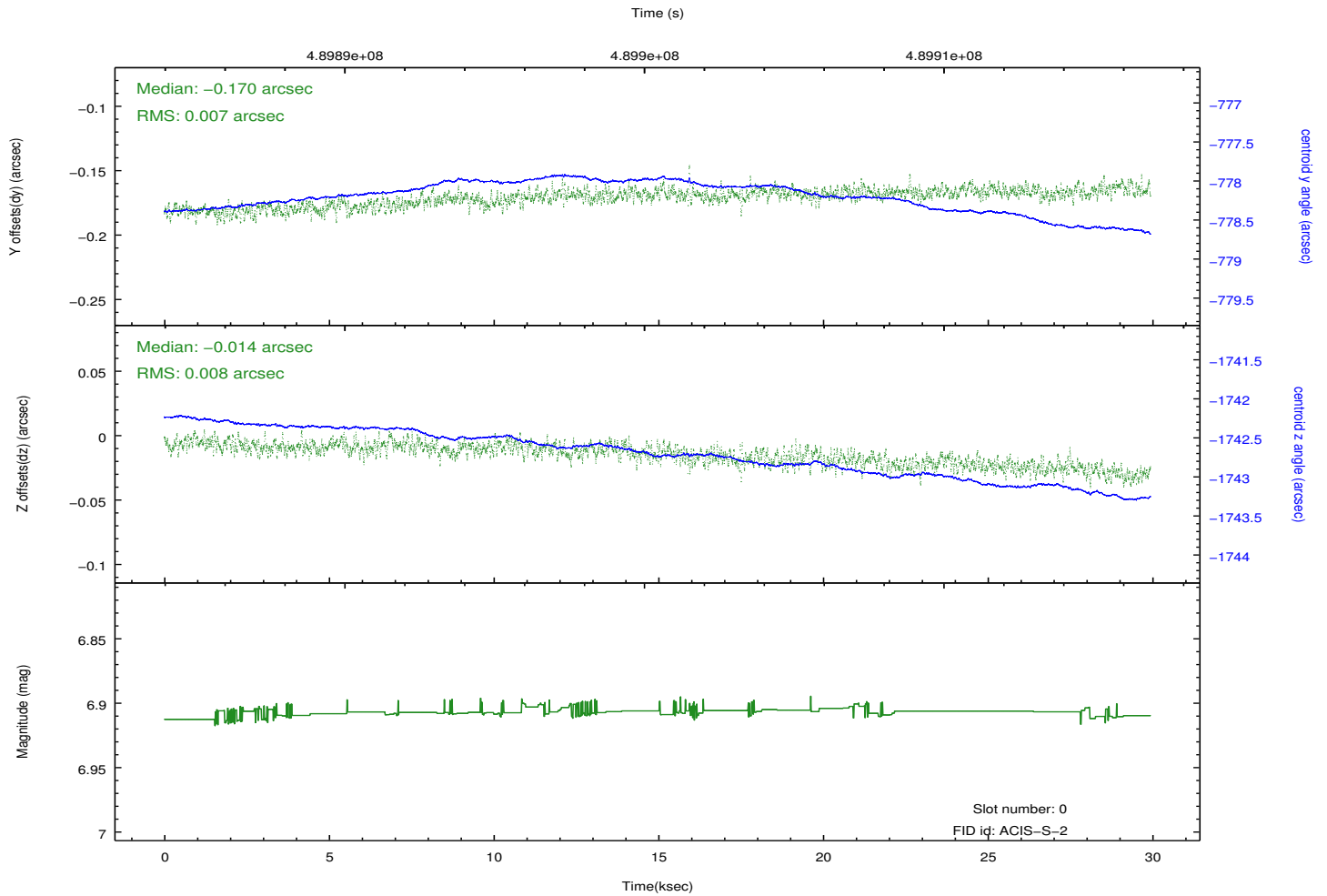
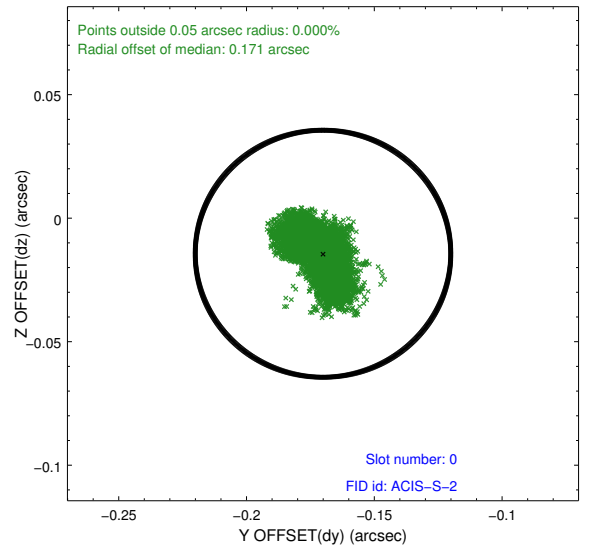
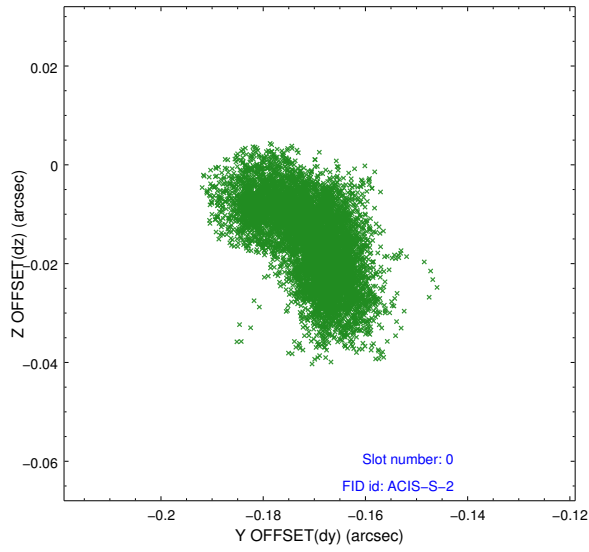


### 2.4.5 Slot 7

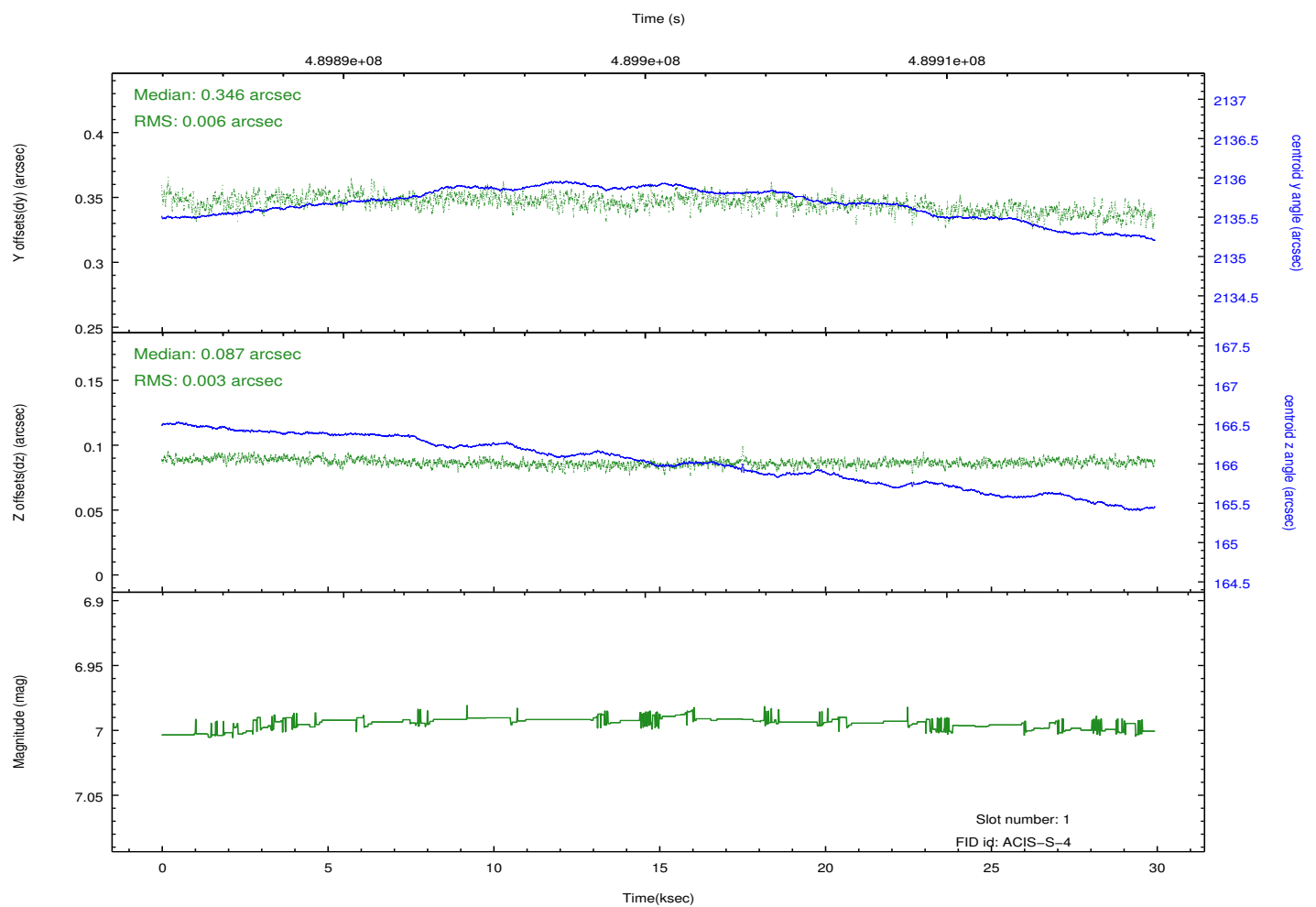
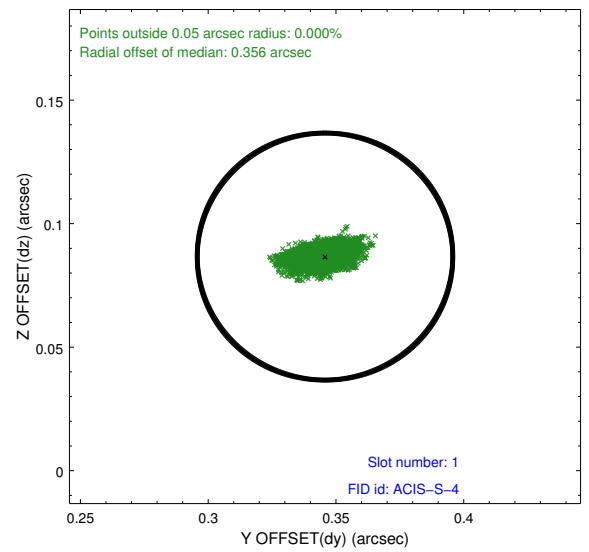
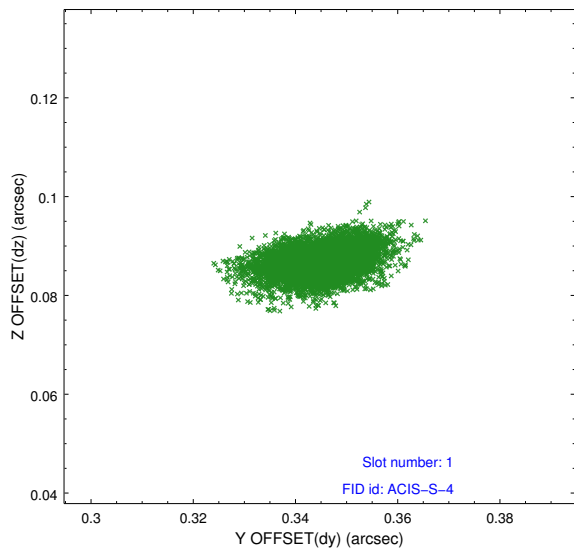


## 2.5 FID Slots

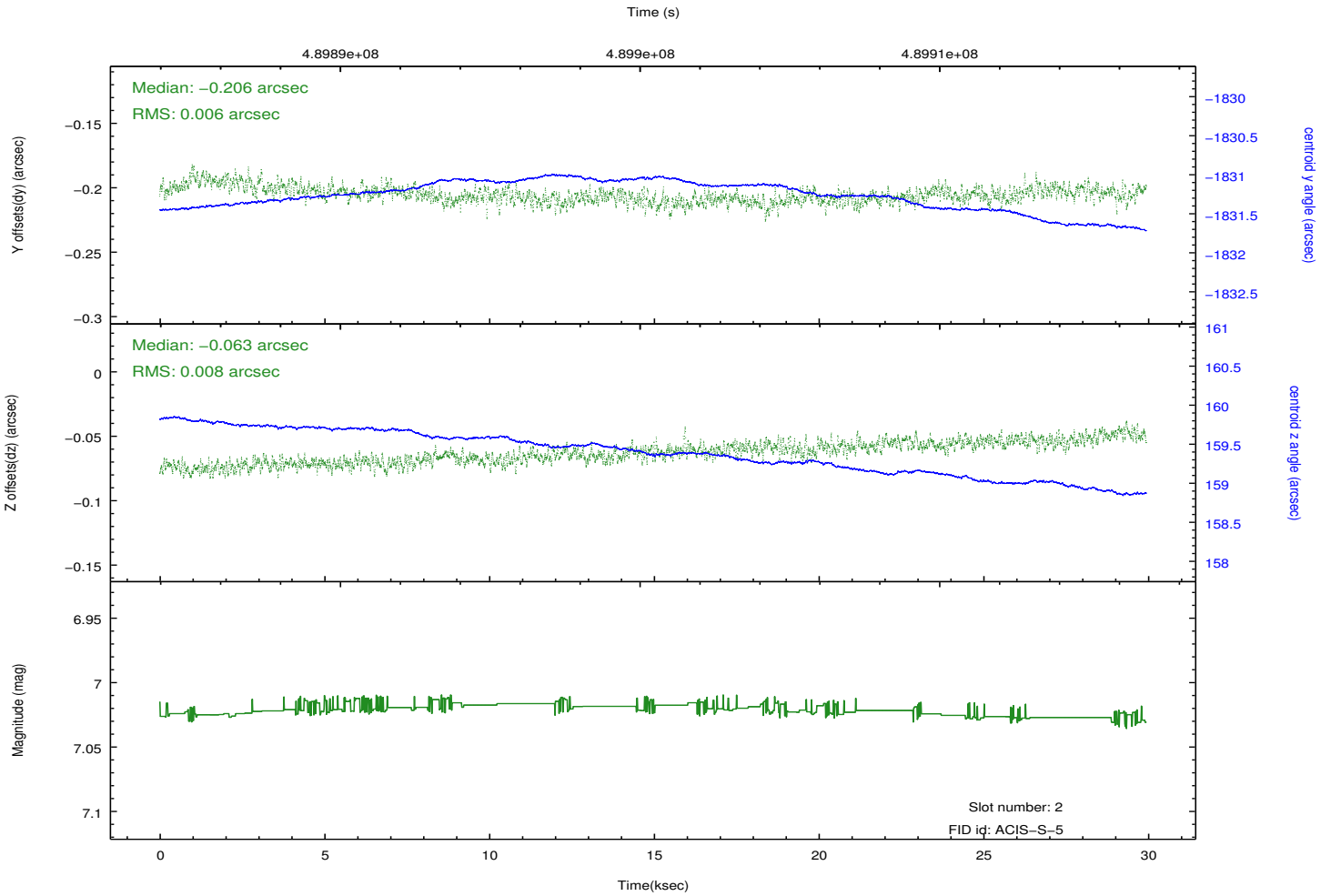
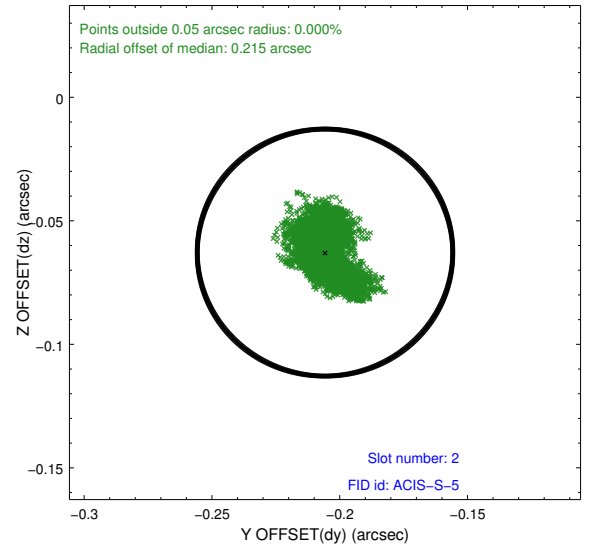
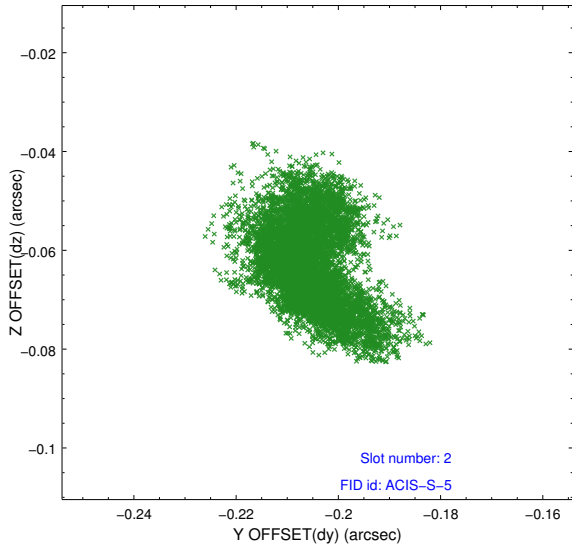
### 2.5.1 Slot 0



## 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)	2014.12.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	29.395844299614

## 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.