

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 13720 - L2 Version 2  
Chandra X-Ray Center

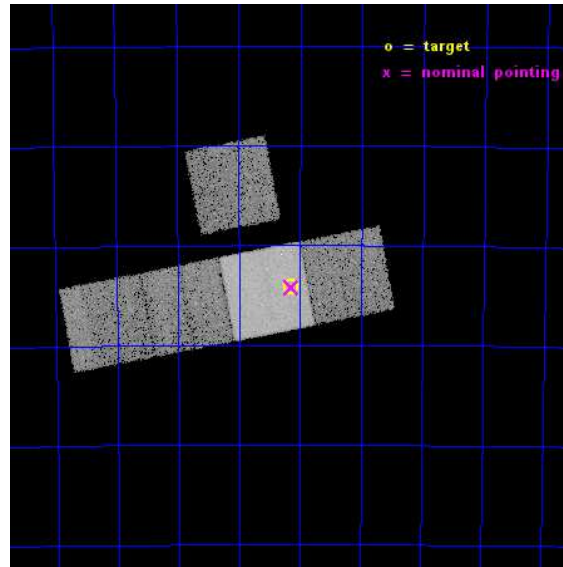
L2 Processing Date : Nov 29 2014

## 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	401406	Sequence number
obs_id	13720	Observation id
title	The Luminosity of Quiescent Stellar Mass Black Holes	Proposal titl
observer	Dr. Mark Reynolds	Principal investigator
object	GS 1354-64	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	209.540417	Observer's specified target RA [deg]
dec_targ	-64.734778	Observer's specified target Dec [deg]
ra_nom	209.53553618165	Nominal RA [deg]
dec_nom	-64.736987835174	Nominal Dec [deg]
roll_nom	169.15219993599	Nominal Roll [deg]
revision	2	Processing version of data
ontime	20069.400154352	Sum of GTIs [s]
livetime	19807.178666458	Livetime [s]
ontime3	20066.259194016	Sum of GTIs [s]
ontime6	20069.400154352	Sum of GTIs [s]
ontime7	20069.400154352	Sum of GTIs [s]
ontime8	20063.118223667	Sum of GTIs [s]
ontime9	20066.259184003	Sum of GTIs [s]
l2events	116111	Number of level 2 events

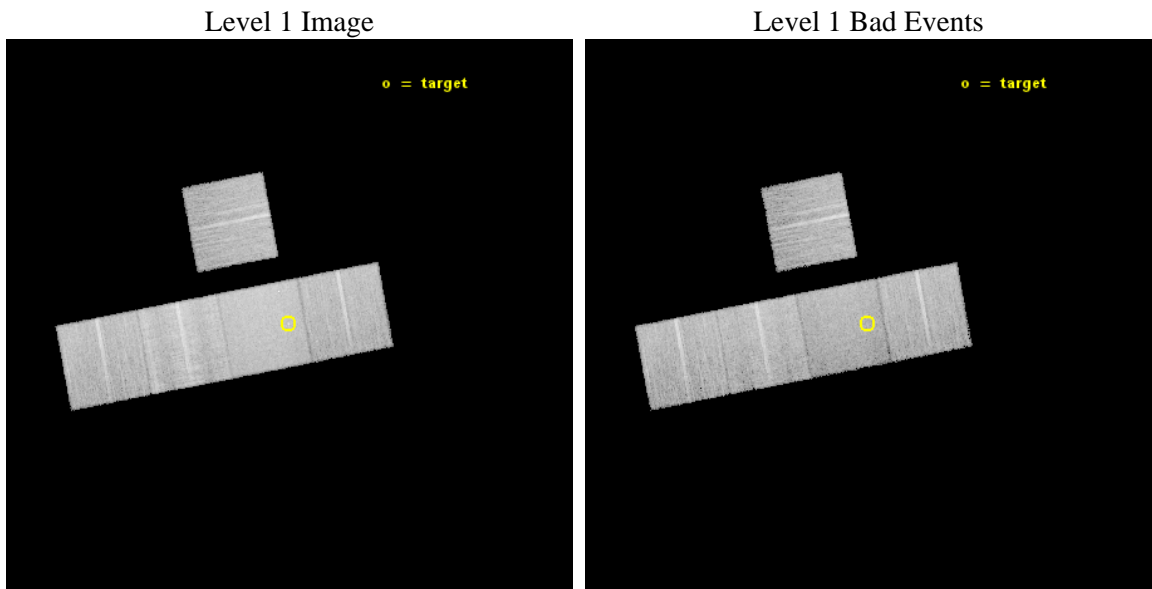




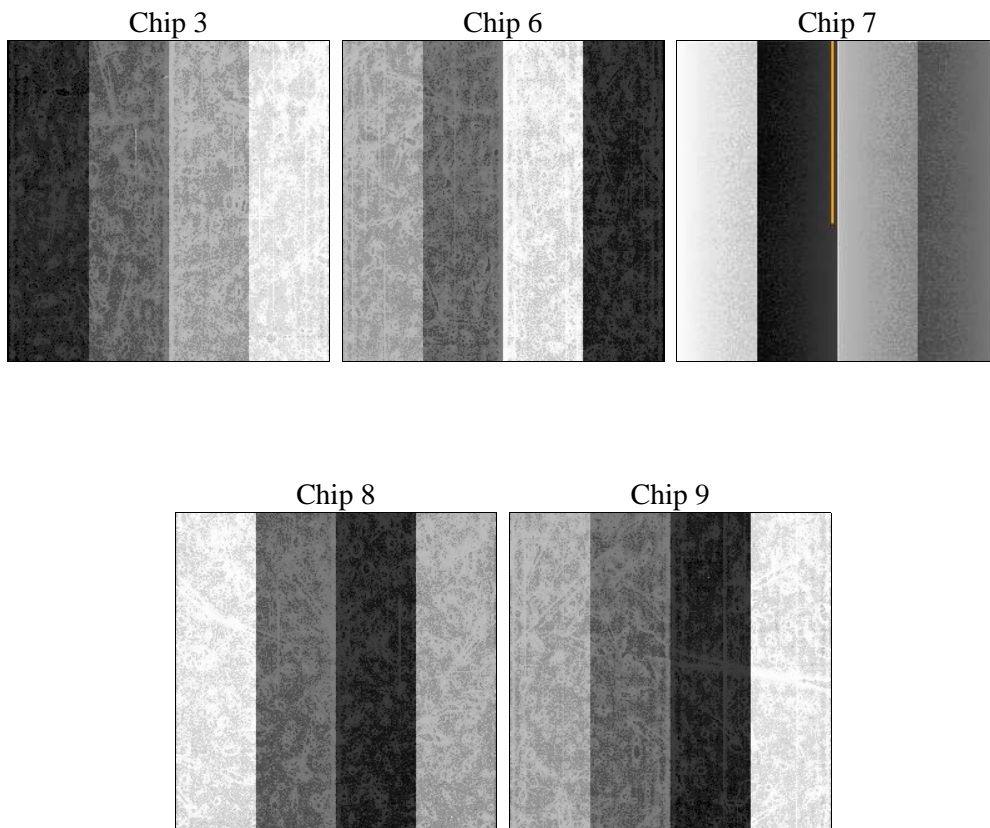
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	20069.400154352	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime3	20066.259194016	Sum of GTIs [s]
date	2014-11-29T09:24:39	Date and time of file creation	ontime6	20069.400154352	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	20069.400154352	Sum of GTIs [s]
			ontime8	20063.118223667	Sum of GTIs [s]
			ontime9	20066.259184003	Sum of GTIs [s]
			l1events	615137	Number of level 1 events

### 2.1.4 Events

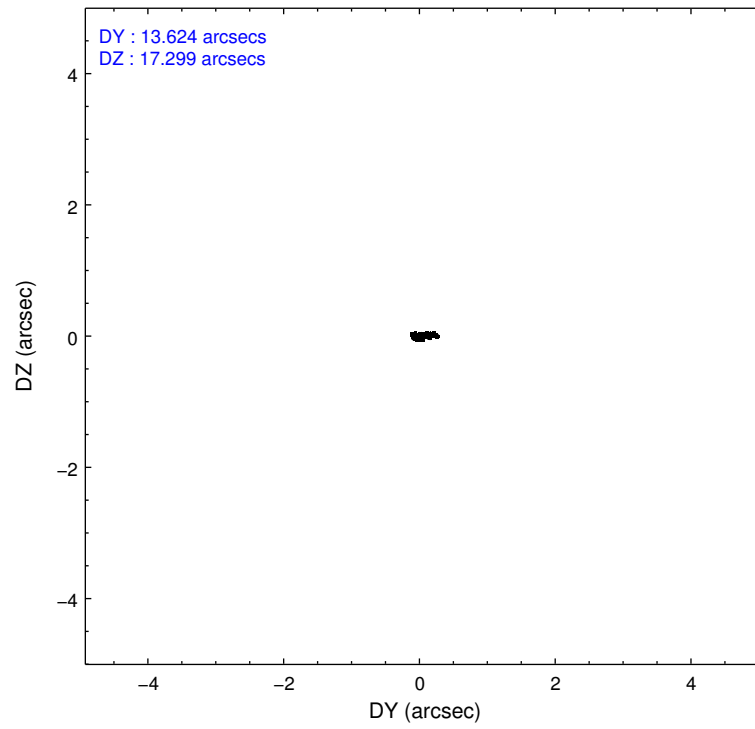
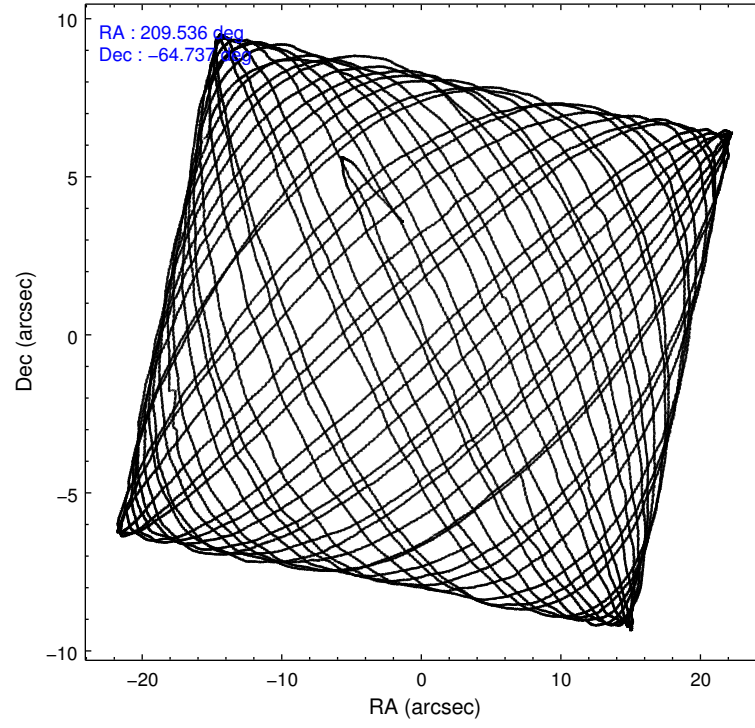
	ccd 3	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	104576	111720	145817	144580	108444
rejected events	91668	96969	80223	106108	94053
rejected %	87%	86%	55%	73%	86%

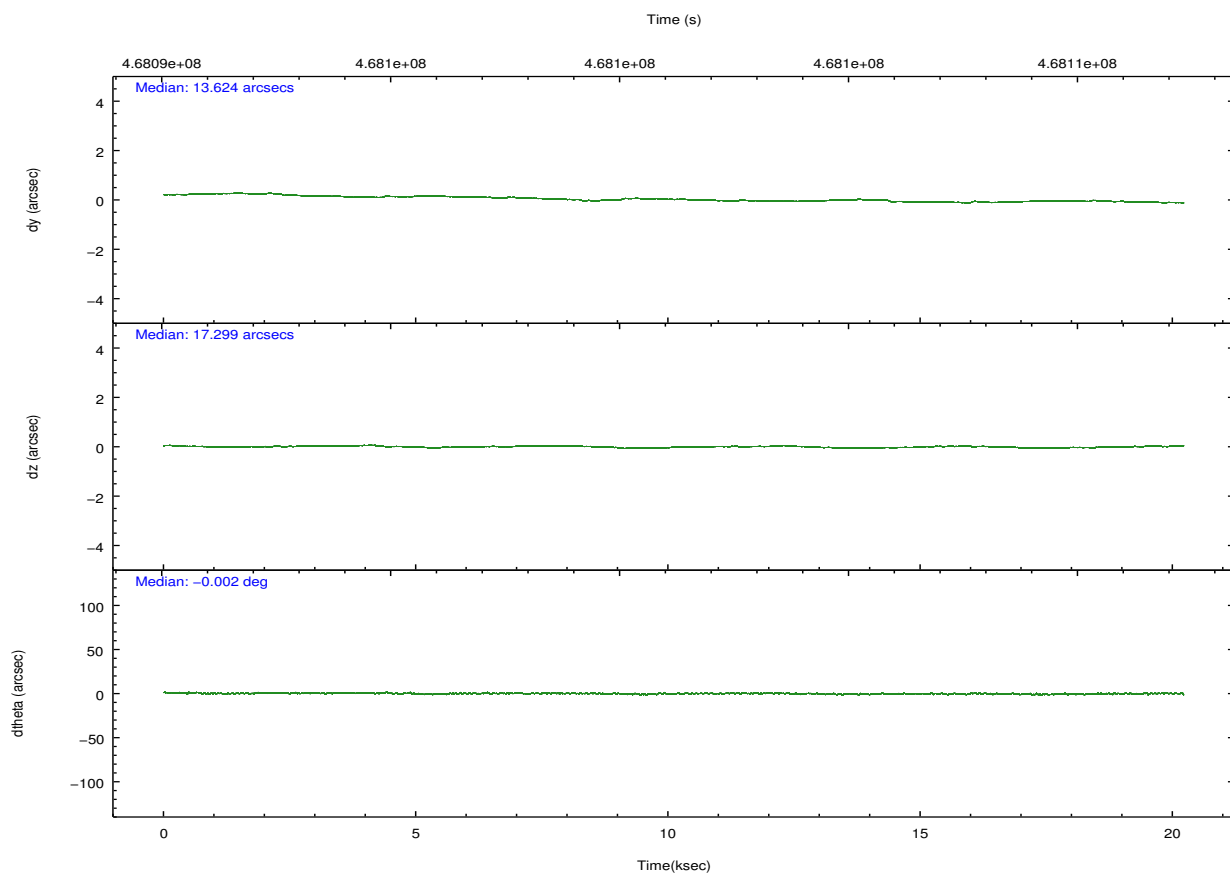
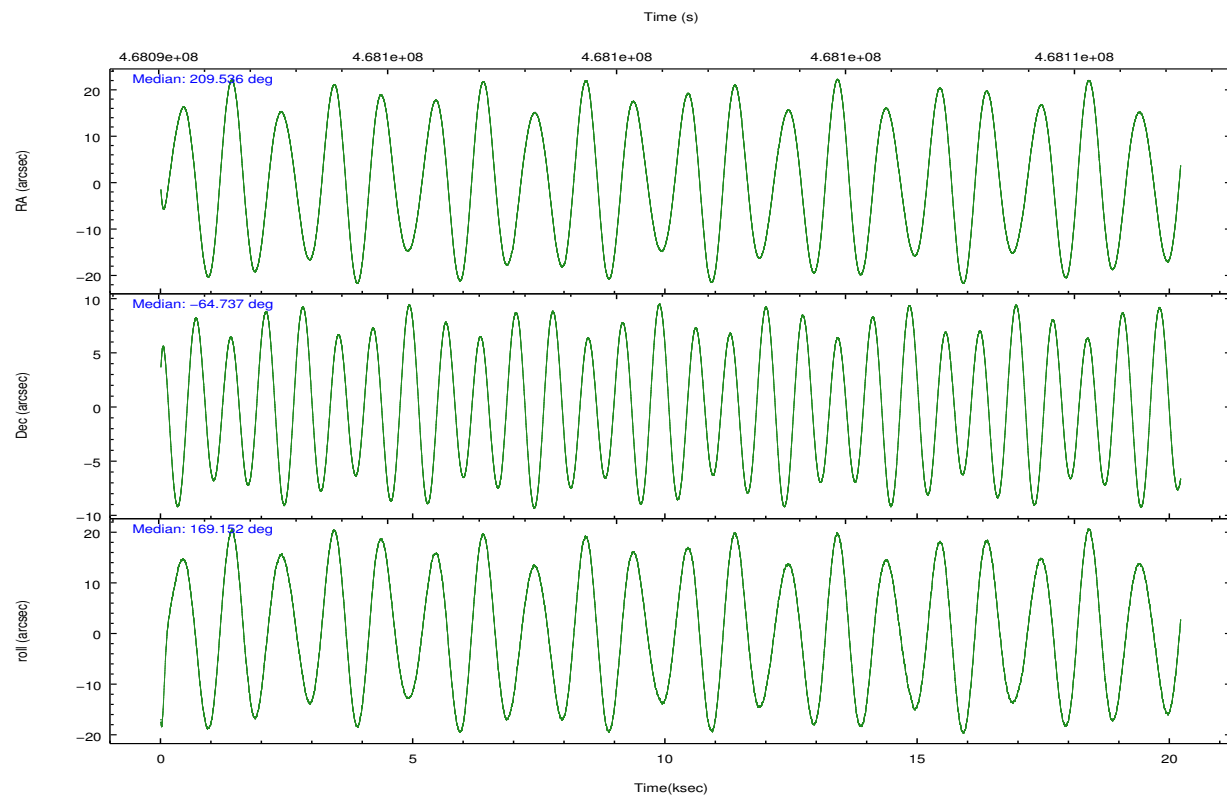
	ccd 3	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	5052	5896	6433	11782	5446
	4%	5%	4%	8%	5%
grade 1 events	69	60	184	90	81
	0%	0%	0%	0%	0%
grade 2 events	2746	3179	13510	8954	3207
	2%	2%	9%	6%	2%
grade 3 events	1335	1393	5794	3871	1416
	1%	1%	3%	2%	1%
grade 4 events	1255	1333	5779	3576	1342
	1%	1%	3%	2%	1%
grade 5 events	5451	5567	14992	7967	6011
	5%	4%	10%	5%	5%
grade 6 events	2522	2950	34088	10292	2982
	2%	2%	23%	7%	2%
grade 7 events	86146	91342	65037	98048	87959
	82%	81%	44%	67%	81%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-36789	ACIS-36789	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	209.595756	209.5355361816489	CCD I2 on	O1	N
[deg] Pointing Dec	-64.727655	-64.73698783517376	CCD I3 on	Y	Y
[deg] Pointing Roll	169.050045	169.1521999359913	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)	468091297.184000	468090197.03135	CCD S5 on	O2	Y
Observation start date	2012-10-31T17:20:30	2012-10-31T17:03:17	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	468111297.184000	468111965.98252	On-chip summing requested	N	N
Observation end date	2012-10-31T22:53:50	2012-10-31T23:06:05	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



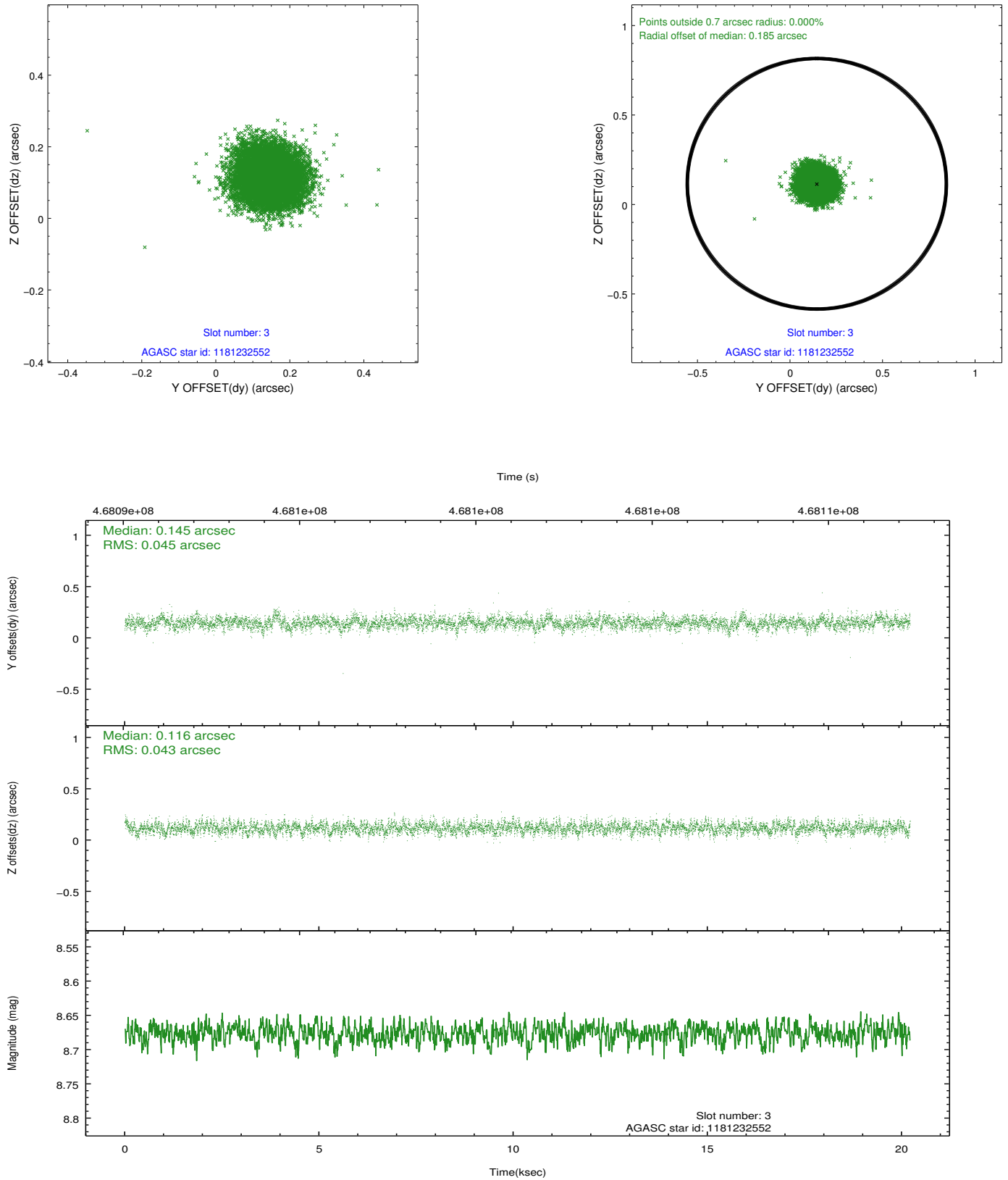


### Slot Statistics

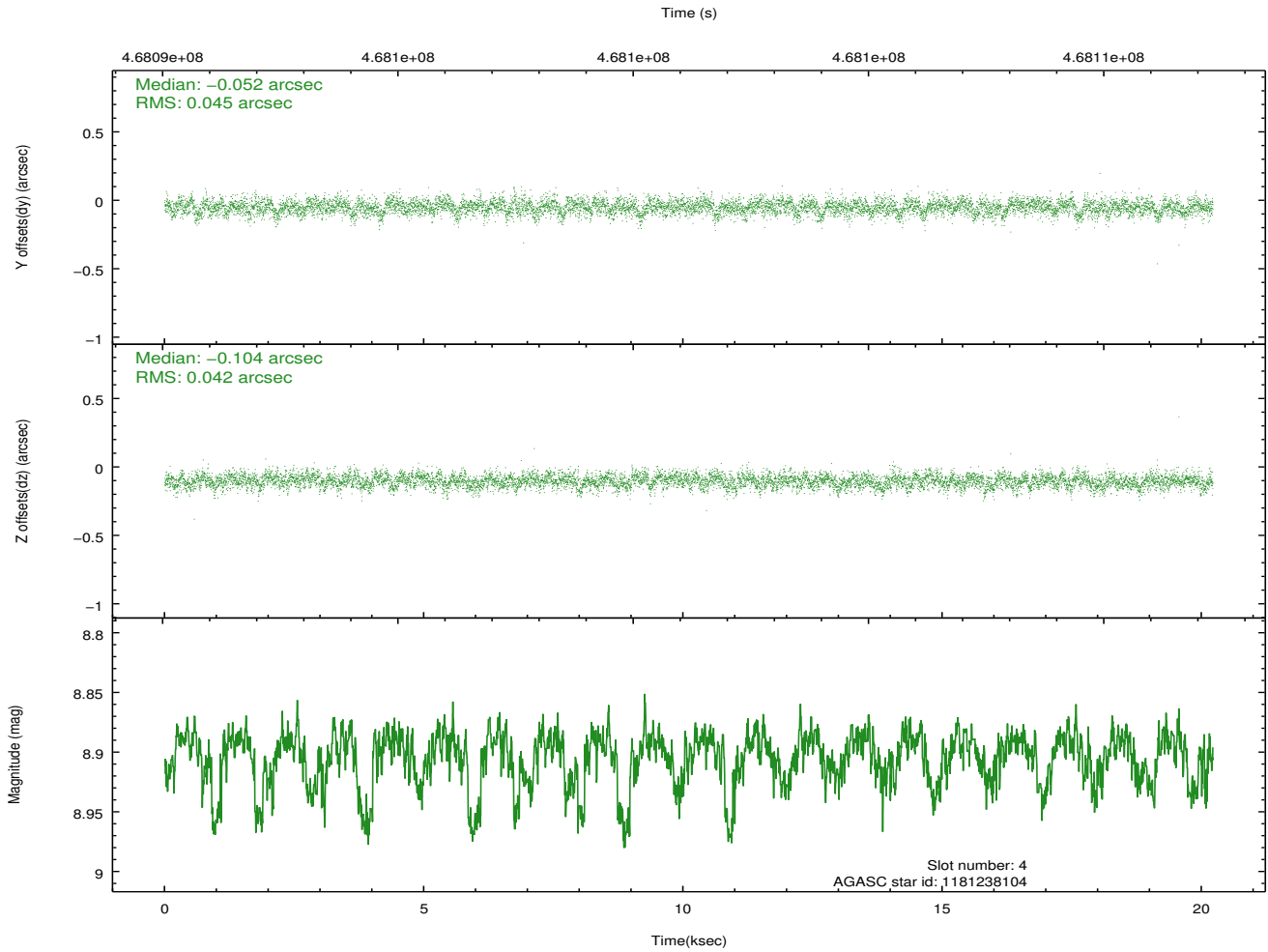
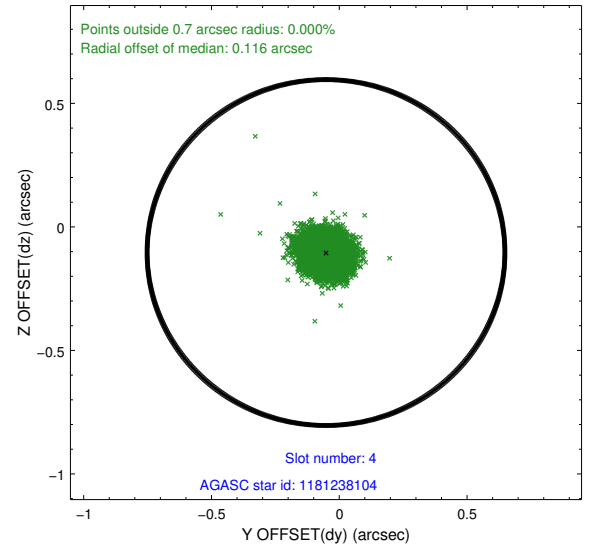
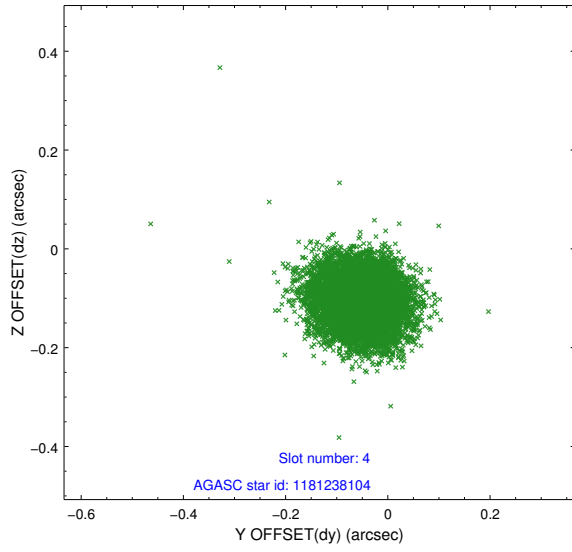
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.91	4931	-0.084	-0.048	0.006	0.012	0.000000	0.000000	-766.73	-1738.76
1	FID		ACIS-S-4	7.00	4930	0.134	0.029	0.007	0.011	0.000000	0.000000	2146.74	169.52
2	FID		ACIS-S-6	7.13	4931	-0.078	0.027	0.007	0.012	0.000000	0.000000	395.57	807.17
3	GUIDE	used	1181232552	8.68	9855	0.145	0.116	0.066	0.108	208.565497	-64.494630	1725.29	-507.28
4	GUIDE	used	1181238104	8.90	9854	-0.052	-0.104	0.065	0.107	208.215848	-64.823325	2005.33	762.15
5	GUIDE	used	1181358584	7.95	9861	-0.132	-0.104	0.062	0.099	210.584509	-64.925285	-1617.97	423.63
6	GUIDE	used	1181359360	8.31	9860	0.122	0.205	0.073	0.115	211.217976	-64.384352	-2249.69	-1660.95
7	GUIDE	used	1181231456	8.22	9859	-0.081	-0.114	0.058	0.098	208.536615	-64.944484	1434.47	1086.22

## 2.4 Star Slots

### 2.4.1 Slot 3

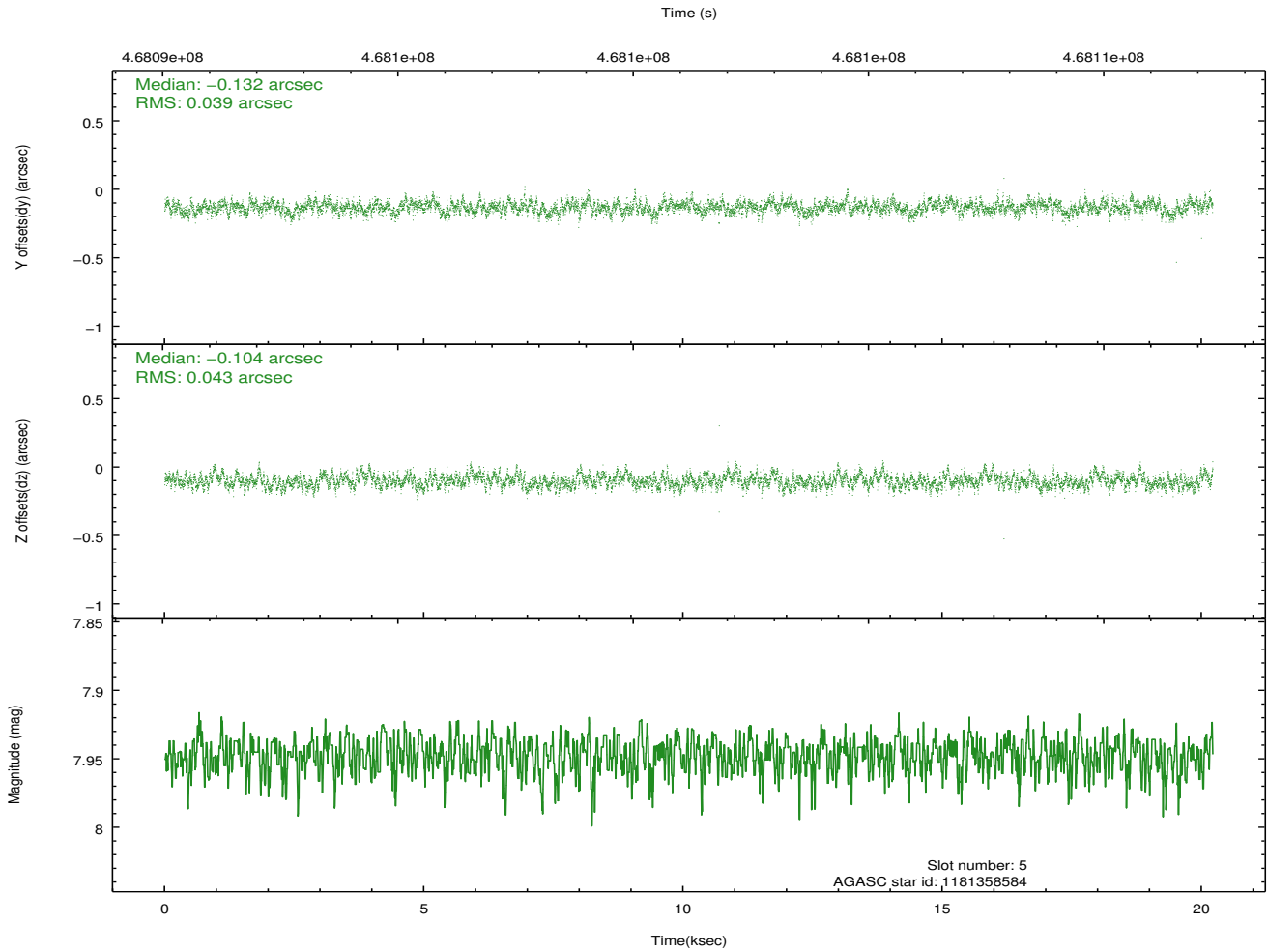
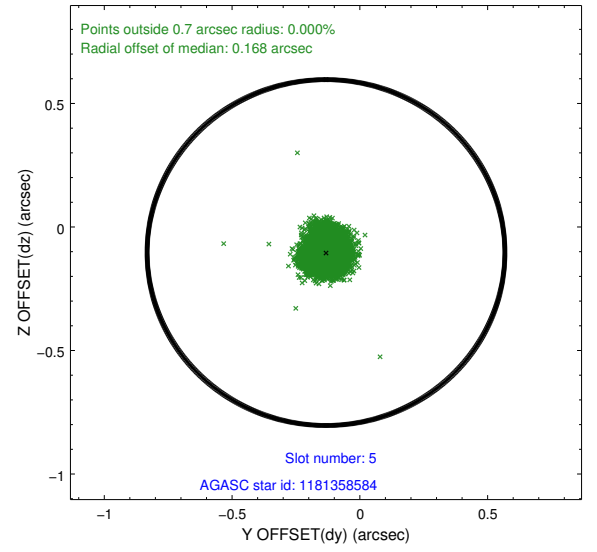
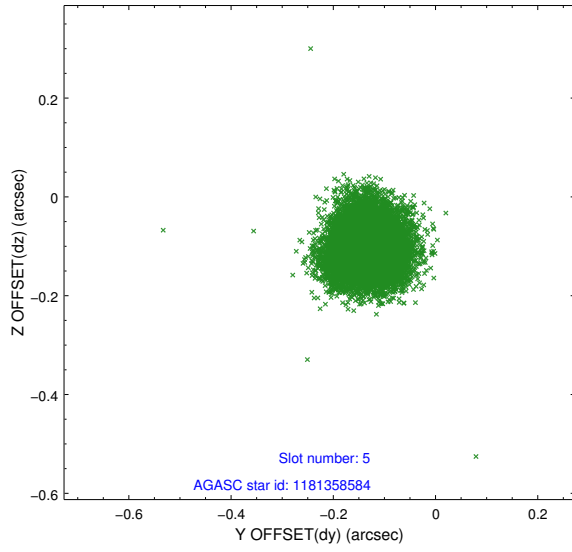


## 2.4.2 Slot 4

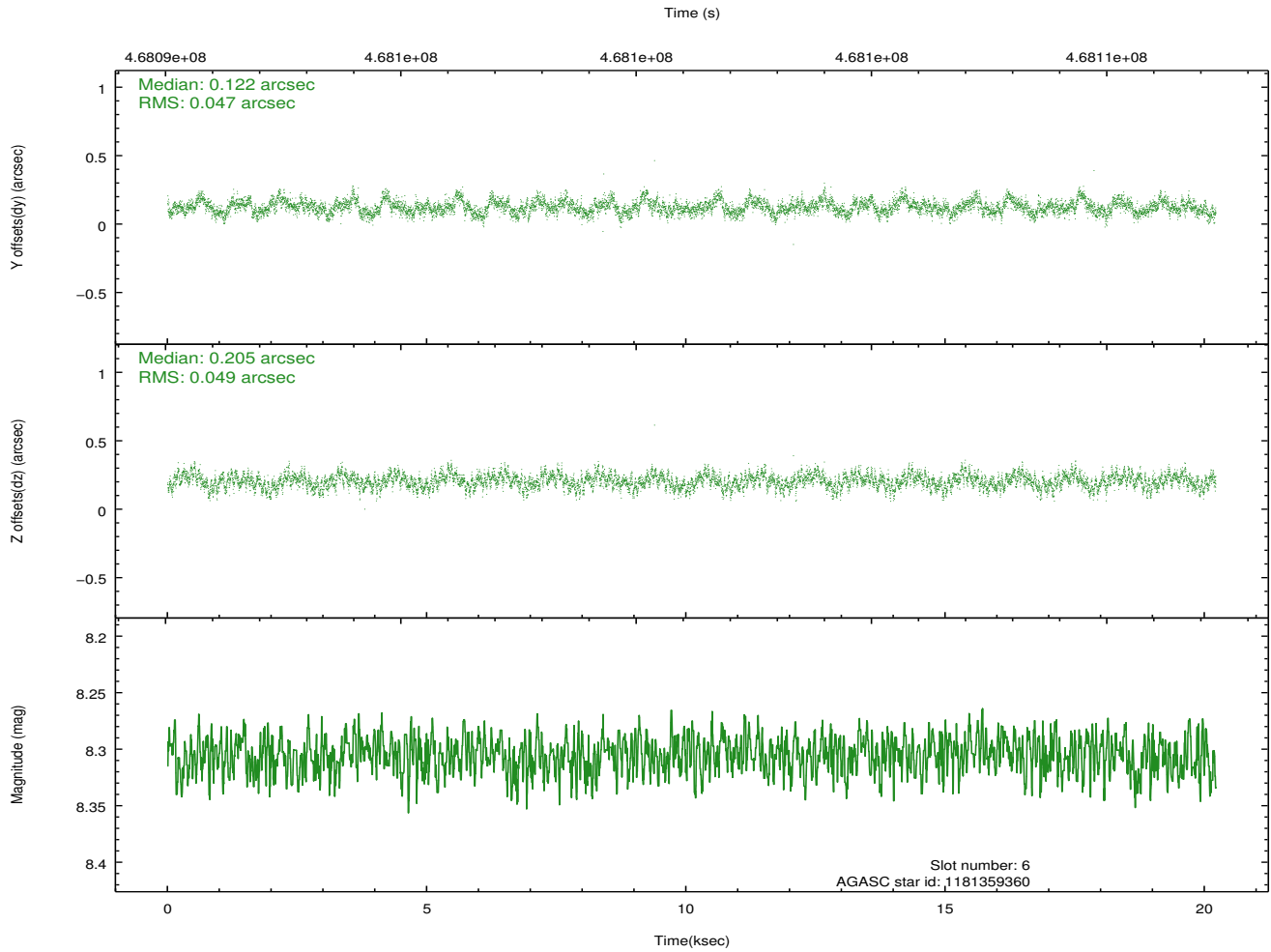
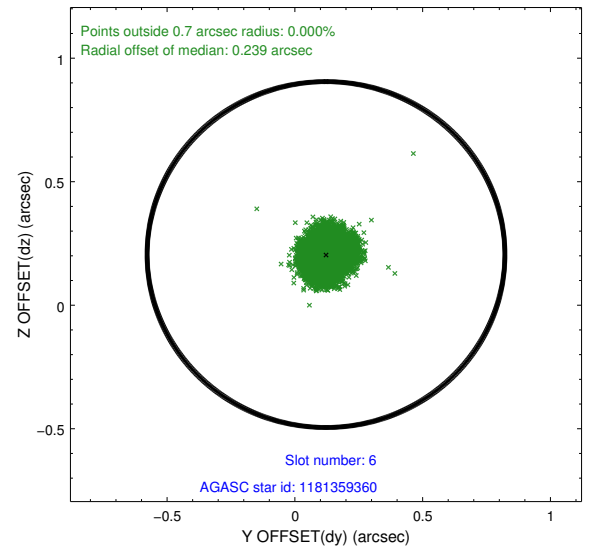
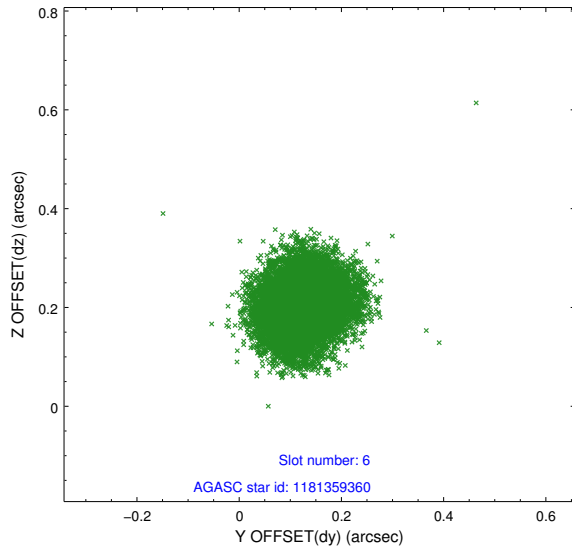




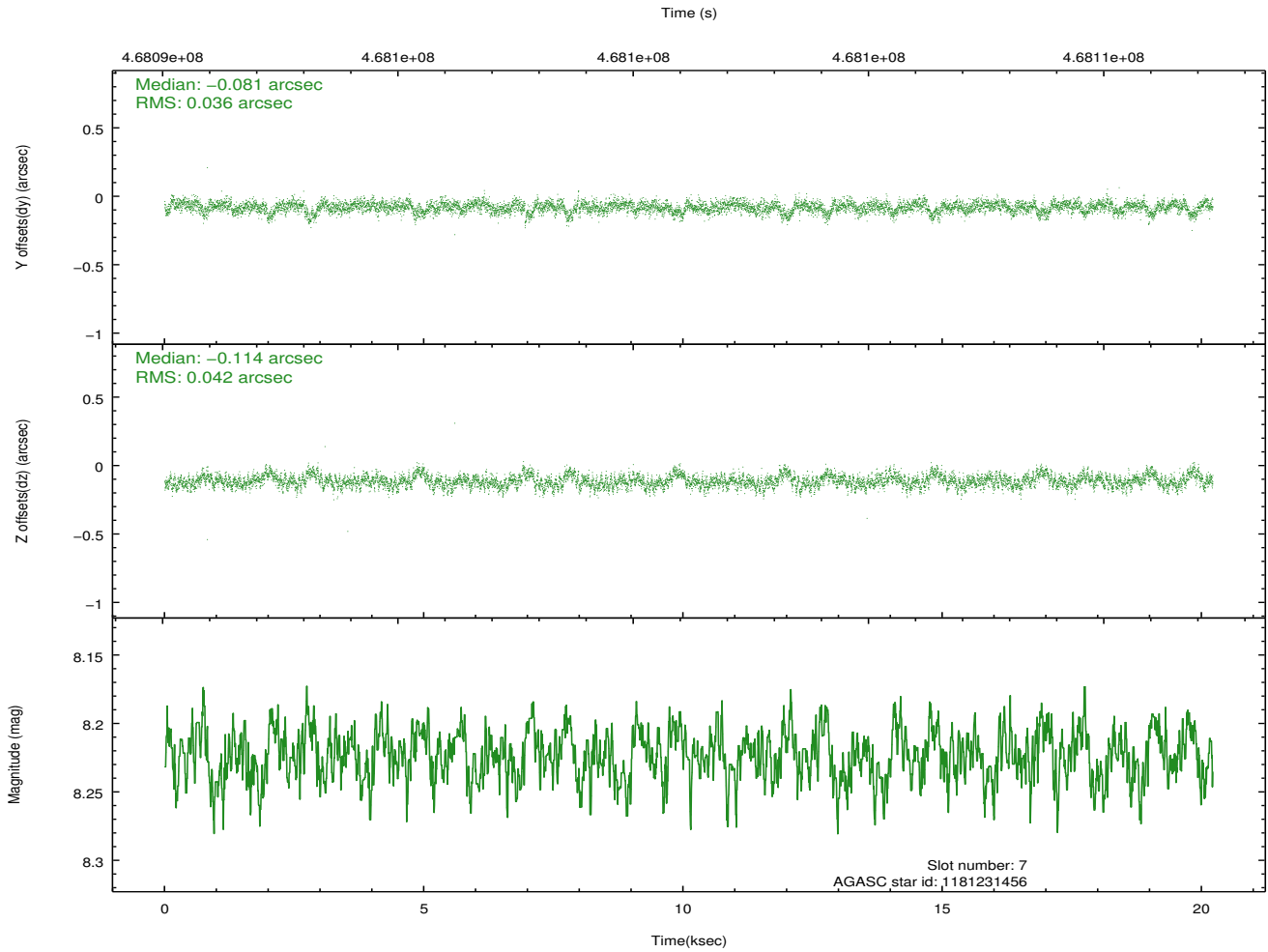
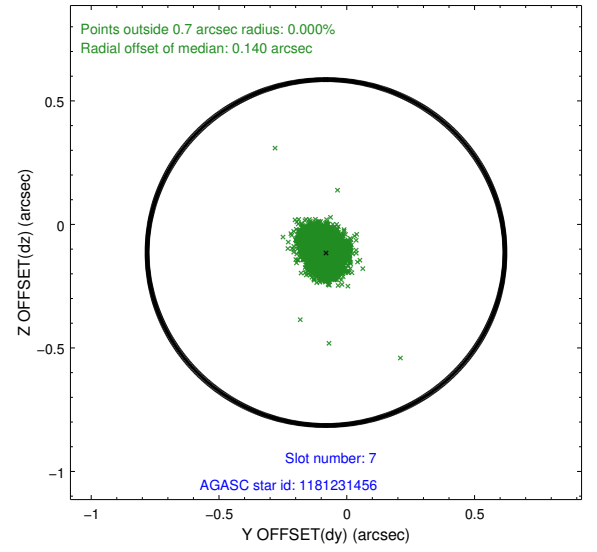
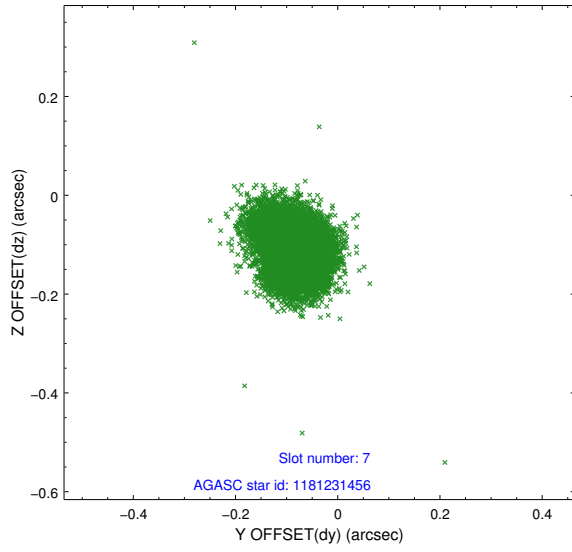
### 2.4.3 Slot 5



## 2.4.4 Slot 6

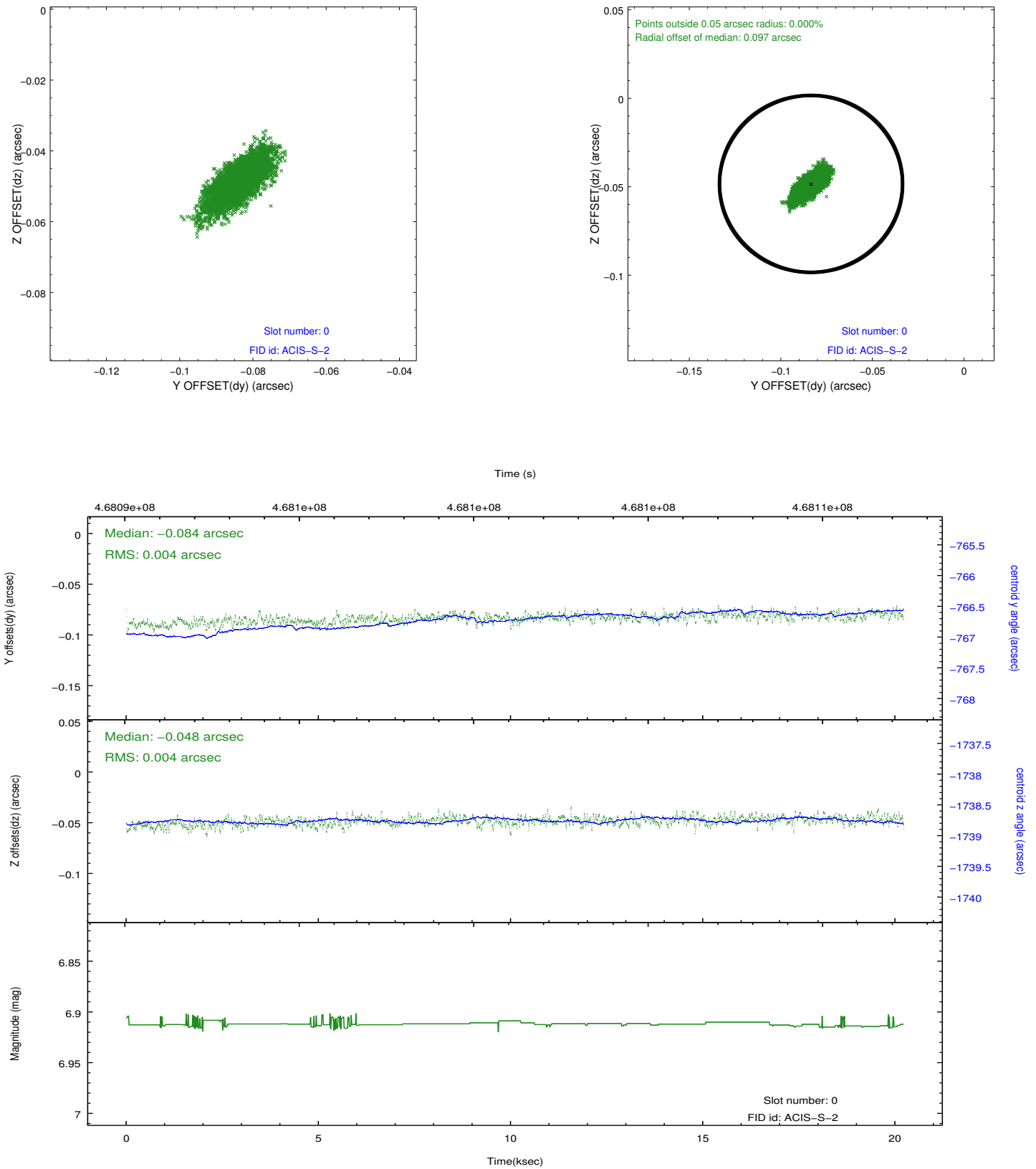


## 2.4.5 Slot 7

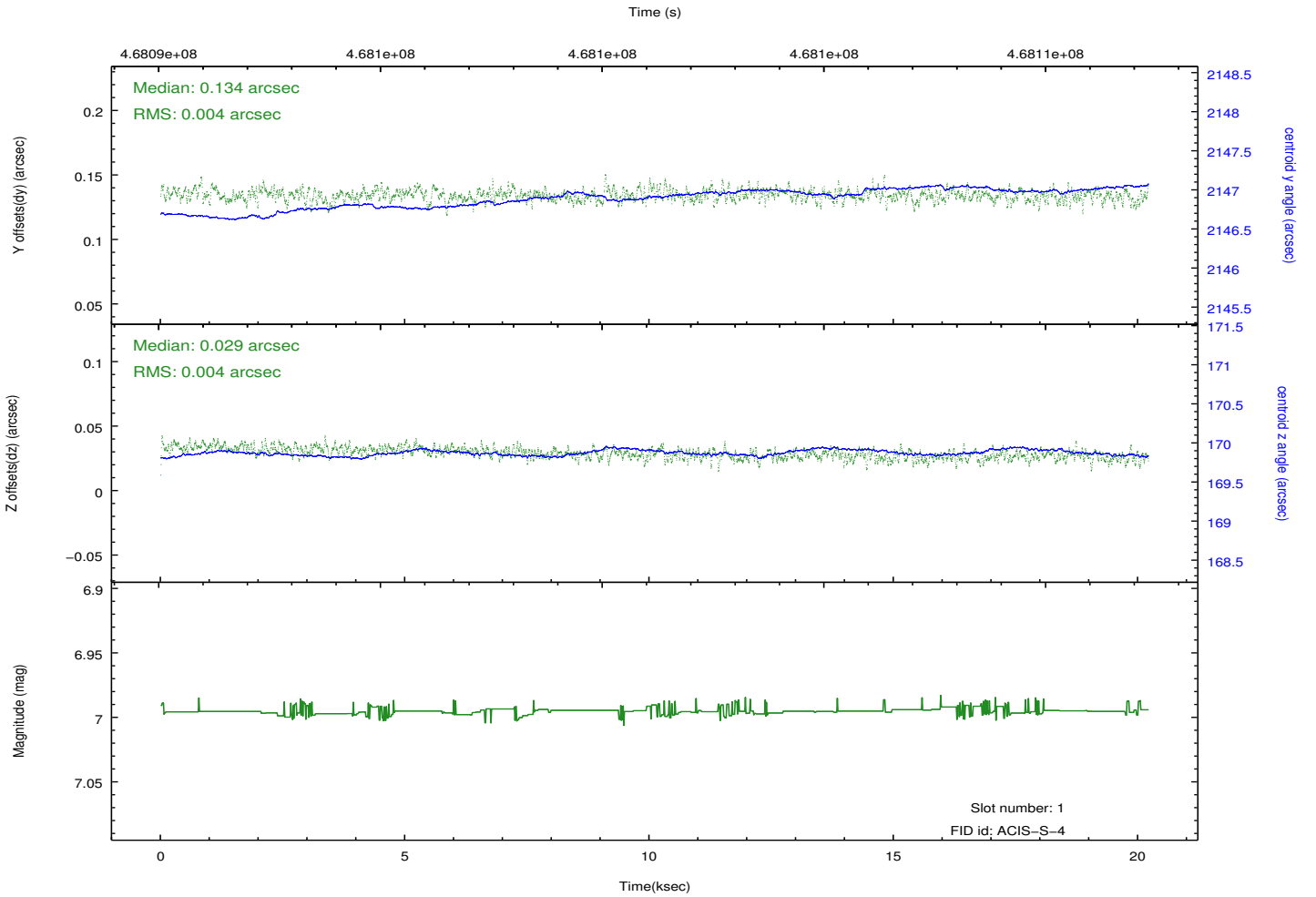
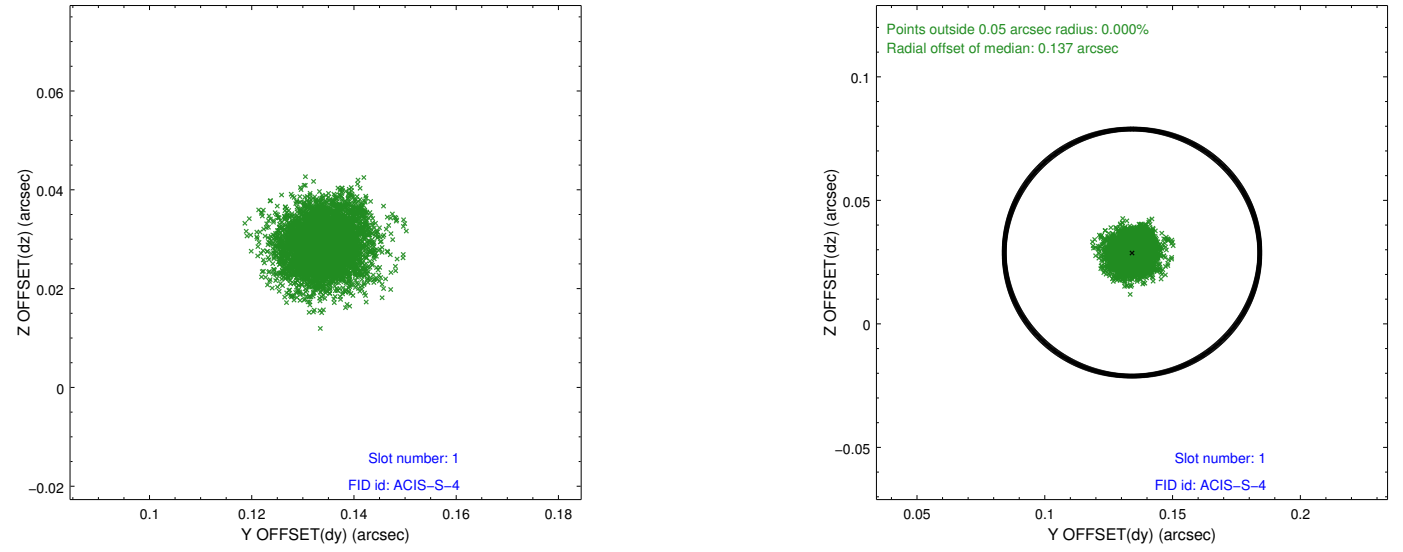


## 2.5 FID Slots

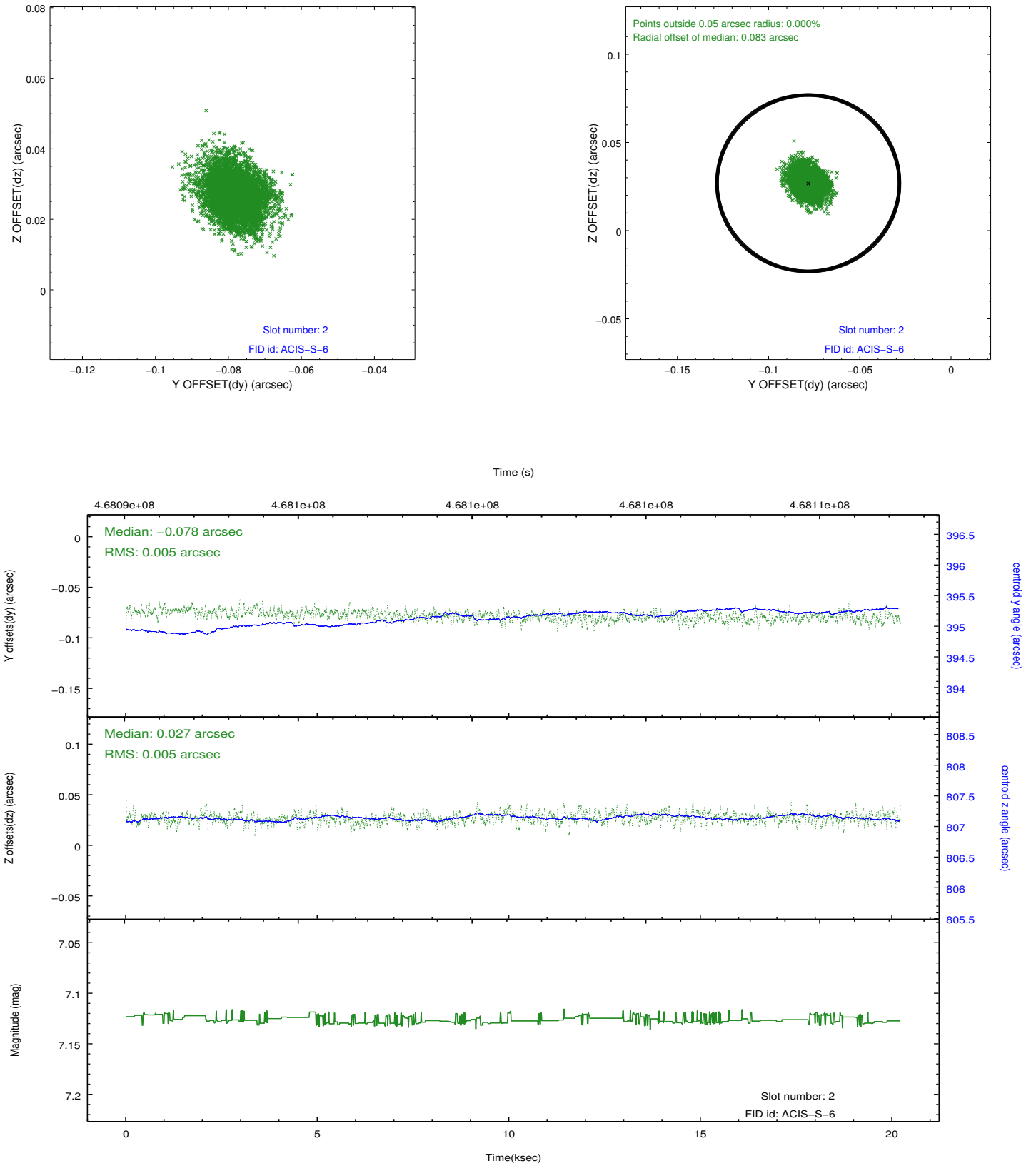
### 2.5.1 Slot 0



## 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)	2014.12.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.069400154352

## 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.