

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 15051 - L2 Version 2  
Chandra X-Ray Center

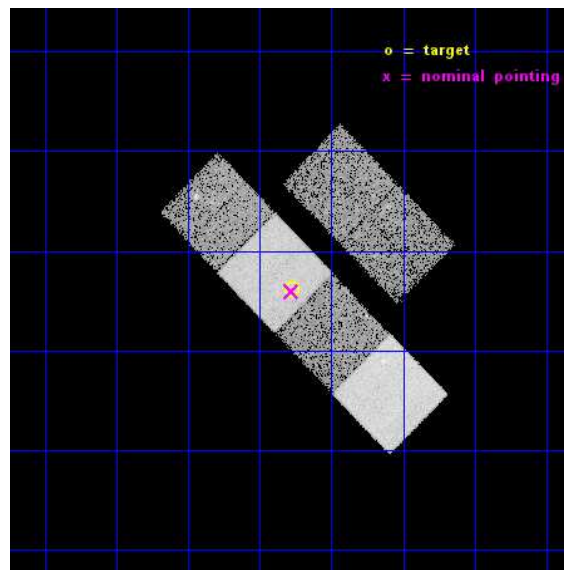
L2 Processing Date : Dec 2 2014

## 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

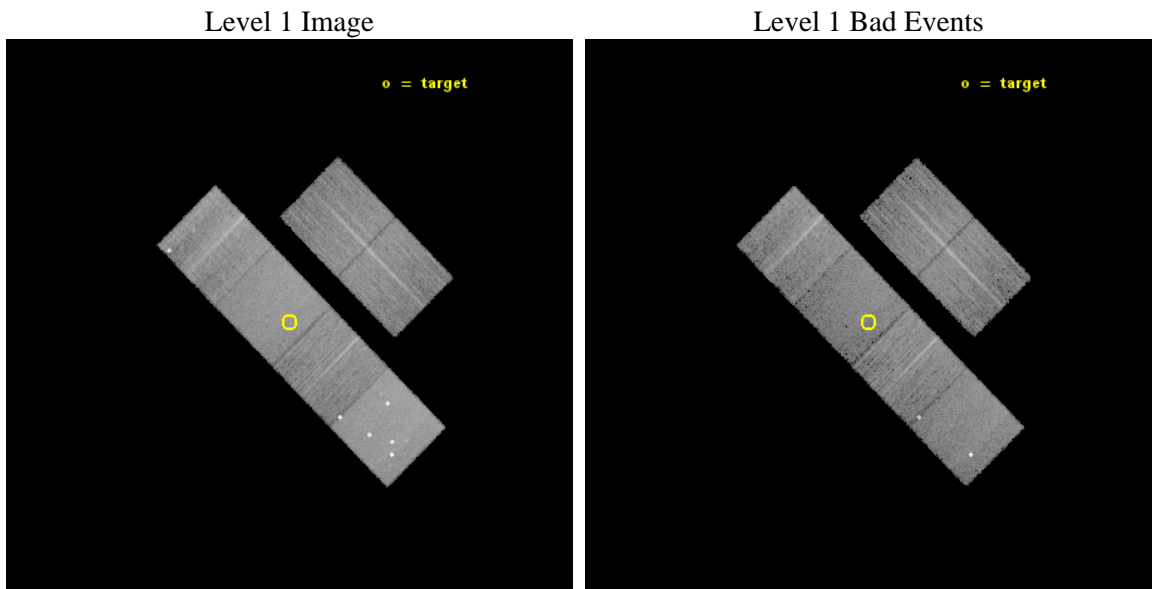
seq_num	702858	Sequence number
obs_id	15051	Observation id
title	C-GOALS: The Chandra-RBGS Survey of a Complete Sample of Major-Merger LIRGs	Proposal title
observer	Professor David Sanders	Principal investigator
object	NGC 5331	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	208.069167	Observer's specified target RA [deg]
dec_targ	2.102222	Observer's specified target Dec [deg]
ra_nom	208.06980648743	Nominal RA [deg]
dec_nom	2.0992718598723	Nominal Dec [deg]
roll_nom	225.25409199393	Nominal Roll [deg]
revision	2	Processing version of data
ontime	14965.954688549	Sum of GTIs [s]
livetime	14776.446758867	Livetime [s]
ontime2	14965.995728552	Sum of GTIs [s]
ontime3	14965.831568539	Sum of GTIs [s]
ontime5	14965.913648546	Sum of GTIs [s]
ontime6	14965.872608542	Sum of GTIs [s]
ontime7	14965.954688549	Sum of GTIs [s]
ontime8	14962.549518168	Sum of GTIs [s]
l2events	135492	Number of level 2 events



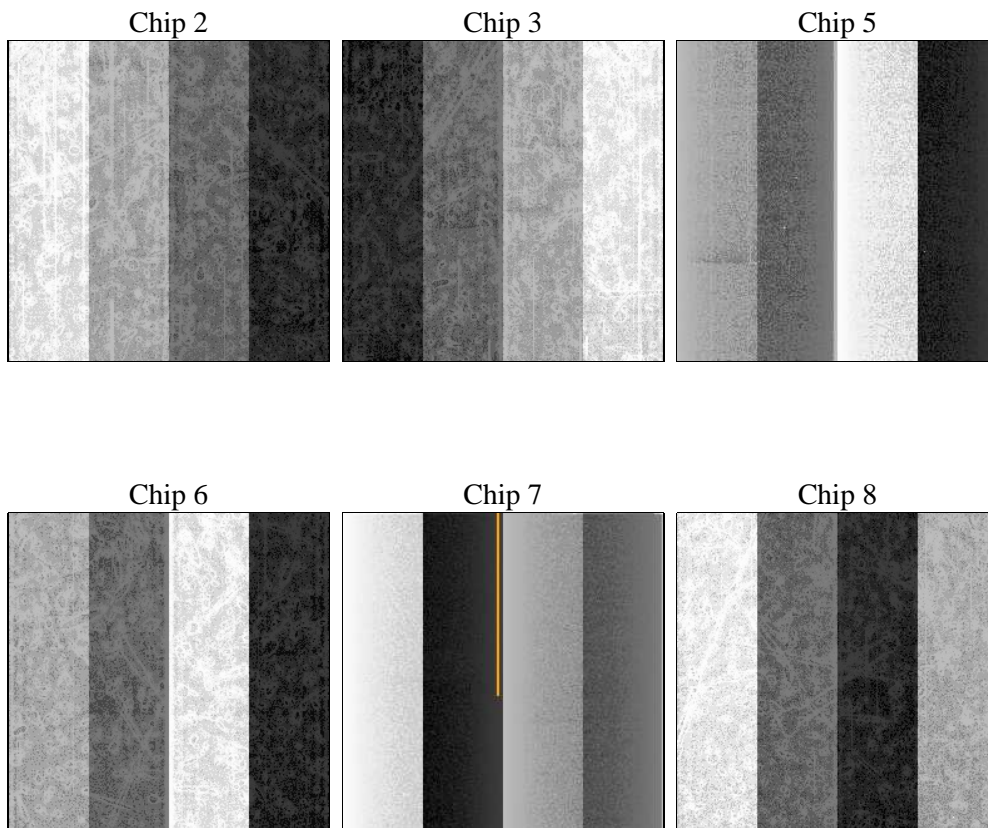
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	15000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	14965.954688549	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime2	14965.995728552	Sum of GTIs [s]
date	2014-12-03T03:48:52	Date and time of file creation	ontime3	14965.831568539	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	14965.913648546	Sum of GTIs [s]
			ontime6	14965.872608542	Sum of GTIs [s]
			ontime7	14965.954688549	Sum of GTIs [s]
			ontime8	14962.549518168	Sum of GTIs [s]
			l1events	589093	Number of level 1 events

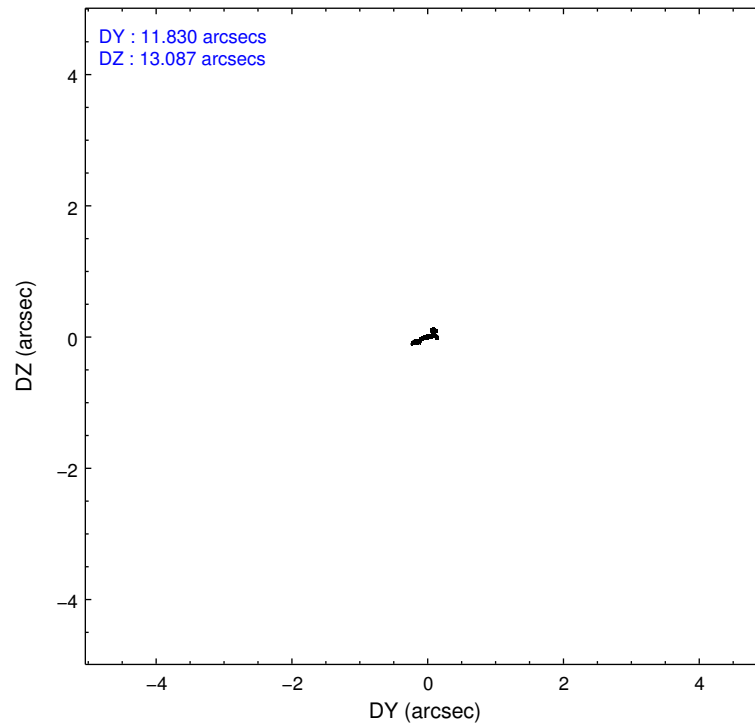
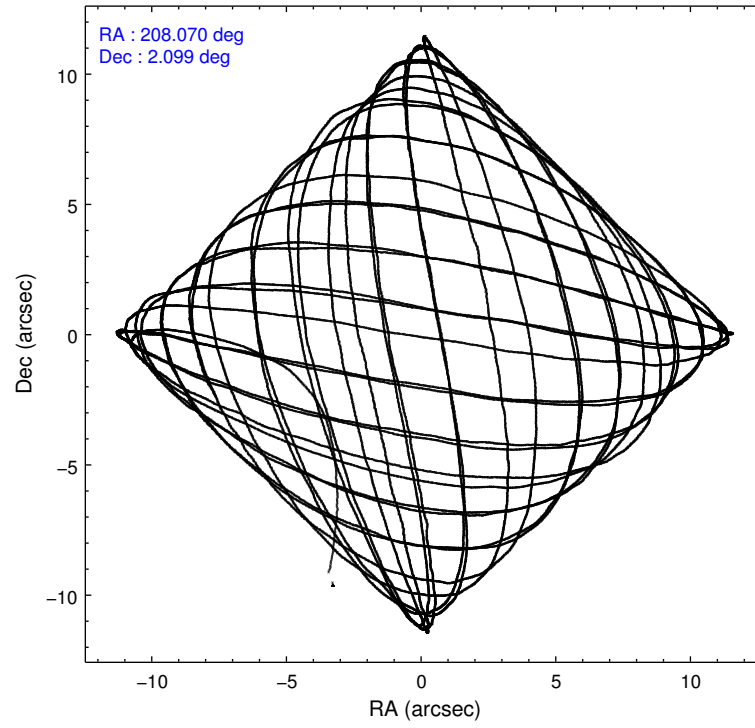
### 2.1.4 Events

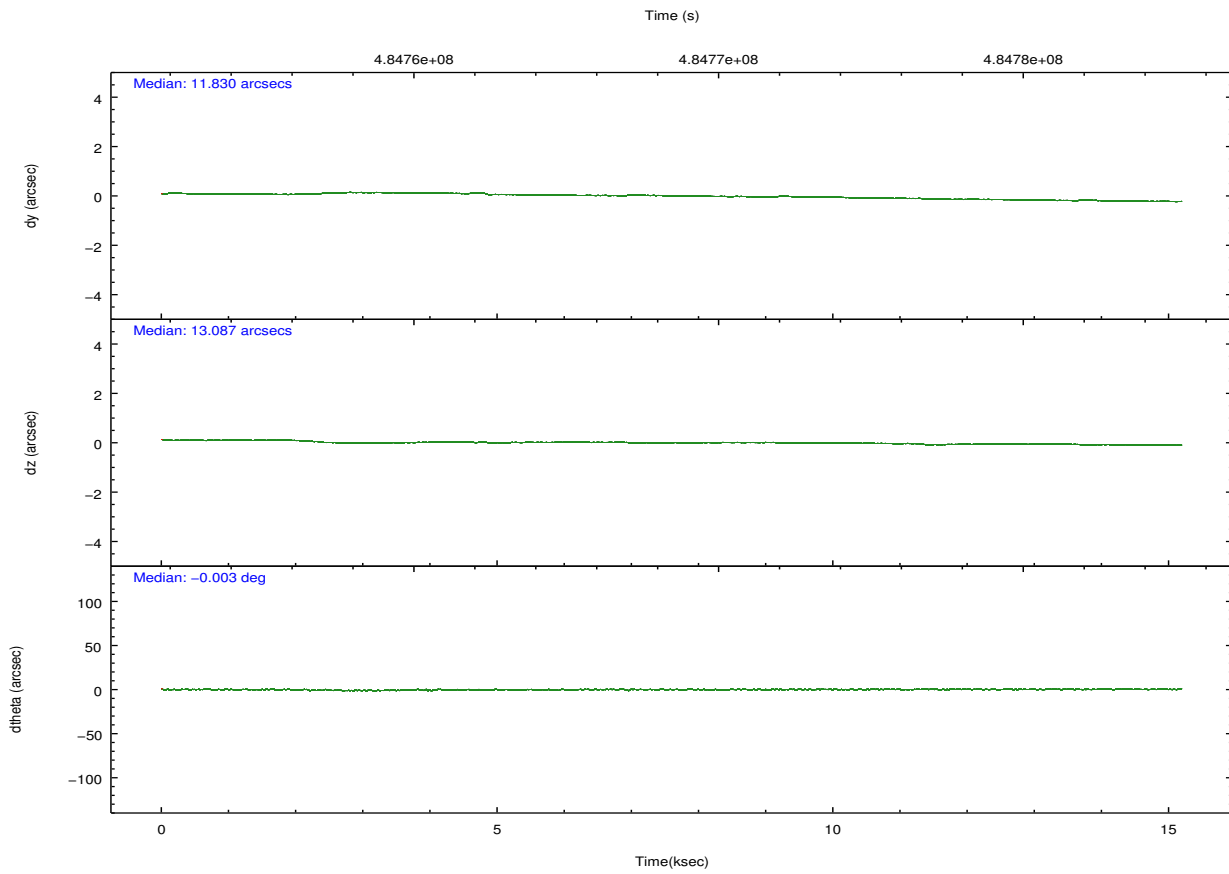
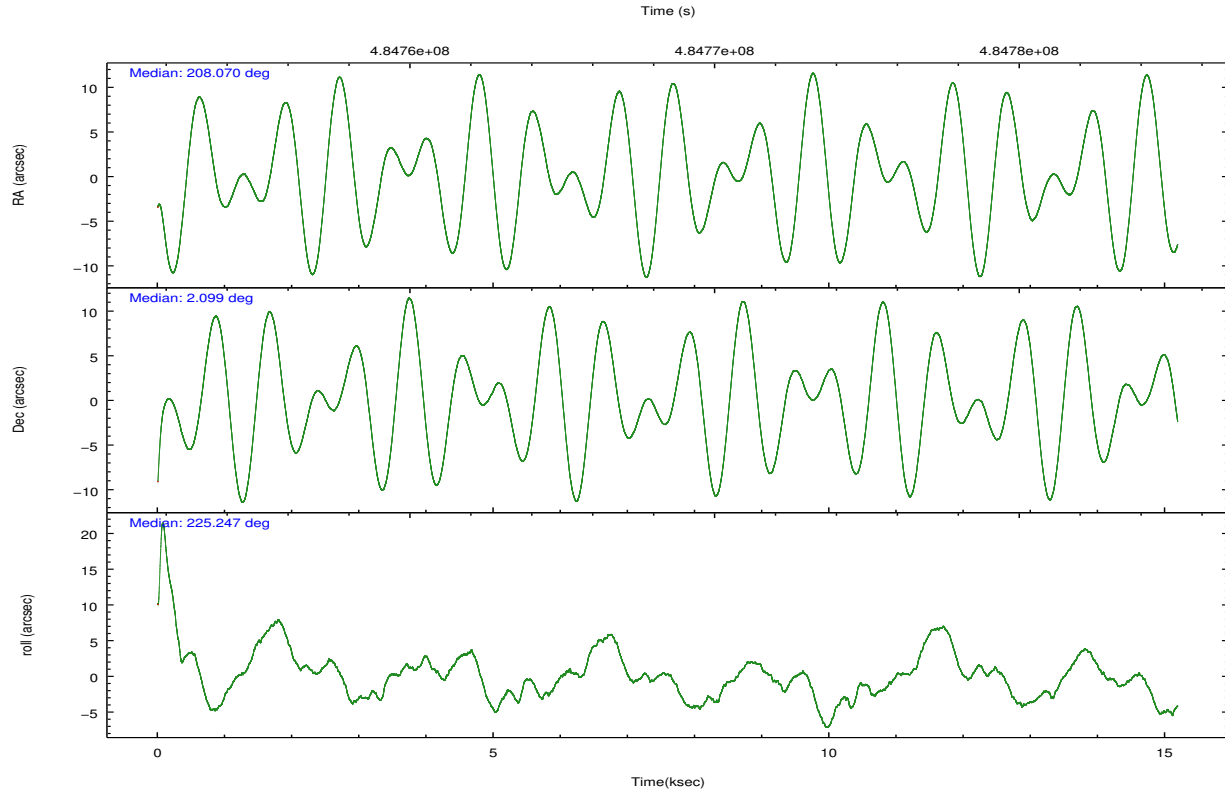
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	77229	74091	148821	79871	104788	104293	grade 0 events	3161	2948	17396	3236	4088	9932
rejected events	68422	65599	71771	70574	59076	75795		4%	3%	11%	4%	3%	9%
rejected %	88%	88%	48%	88%	56%	72%	grade 1 events	47	36	595	47	131	83
								0%	0%	0%	0%	0%	0%
							grade 2 events	2162	1836	19882	2084	9433	6178
								2%	2%	13%	2%	9%	5%
							grade 3 events	867	917	2502	929	3770	2658
								1%	1%	1%	1%	3%	2%
							grade 4 events	890	953	1997	918	3766	2596
								1%	1%	1%	1%	3%	2%
							grade 5 events	3403	4041	11172	3922	10655	5638
								4%	5%	7%	4%	10%	5%
							grade 6 events	1730	1840	35286	2132	24667	7136
								2%	2%	23%	2%	23%	6%
							grade 7 events	64969	61520	59991	66603	48278	70072
								84%	83%	40%	83%	46%	67%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	ACIS-235678	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	208.076435	208.0698064874293	CCD I2 on	O2	Y
[deg] Pointing Dec	2.125807	2.099271859872328	CCD I3 on	Y	Y
[deg] Pointing Roll	225.097229	225.2540919939315	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O1	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	Y	Y
[s] Observation start time (MET)	484761829.184000	484760156.79373	CCD S5 on	N	N
Observation start date	2013-05-12T16:02:42	2013-05-12T15:35:56	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	484776829.184000	484777644.83218	On-chip summing requested	N	N
Observation end date	2013-05-12T20:12:42	2013-05-12T20:27:24	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



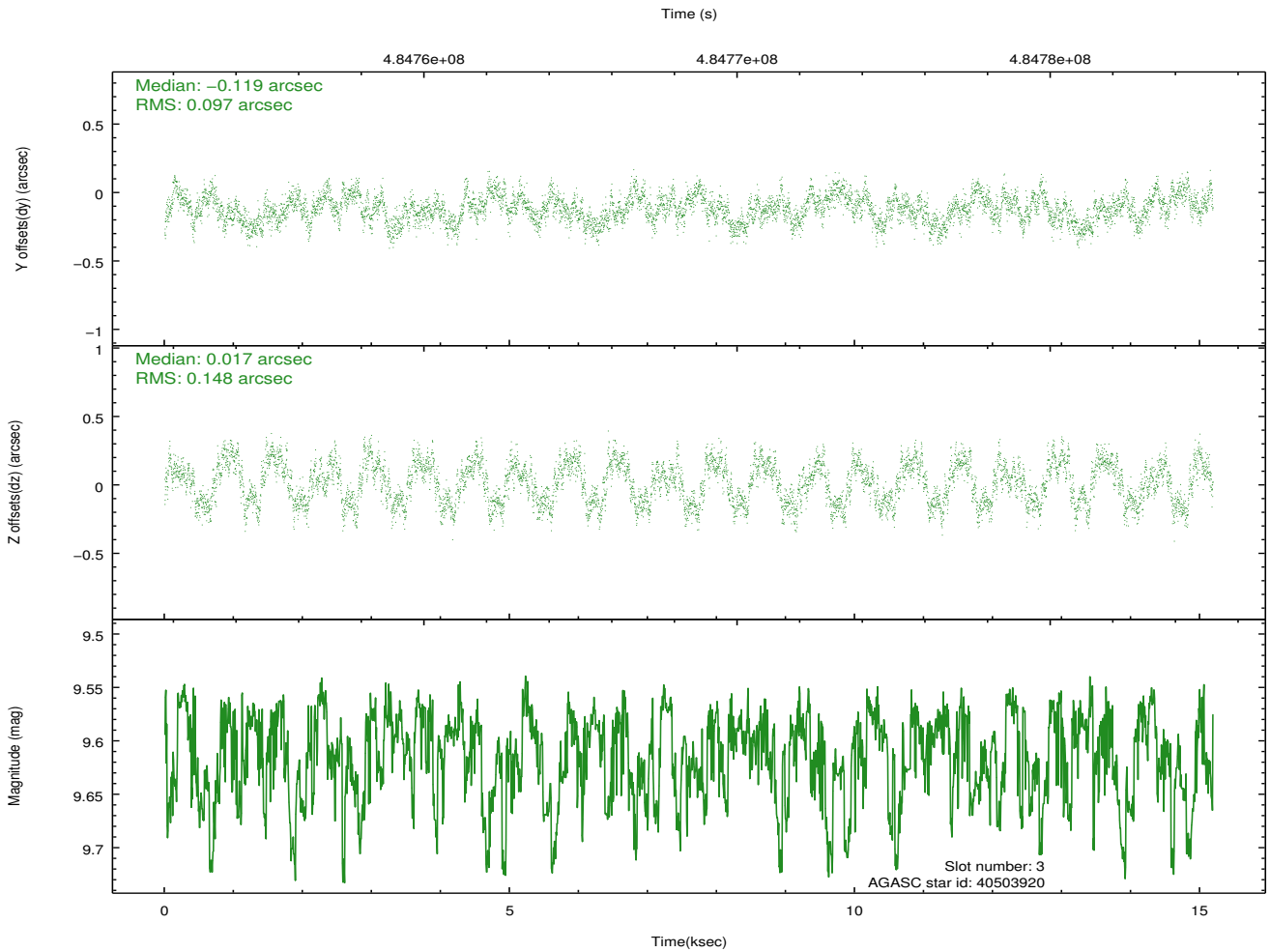
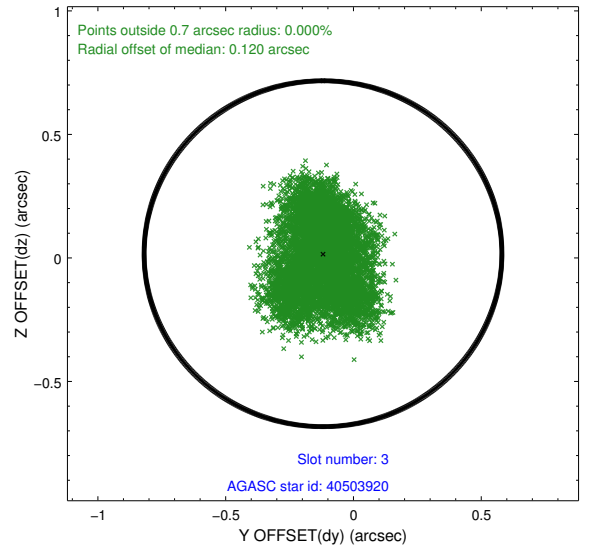
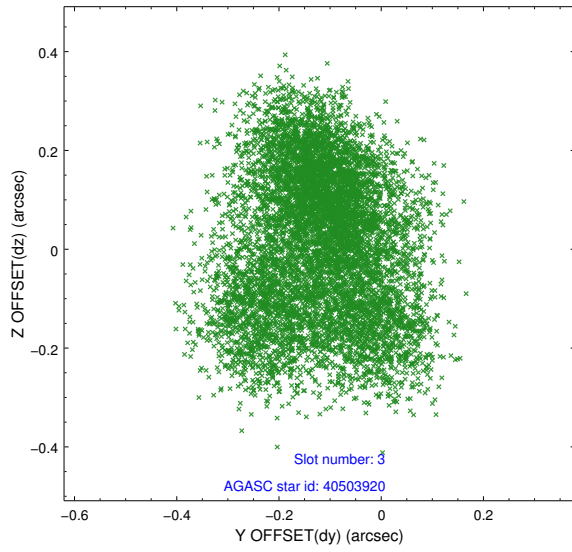


### Slot Statistics

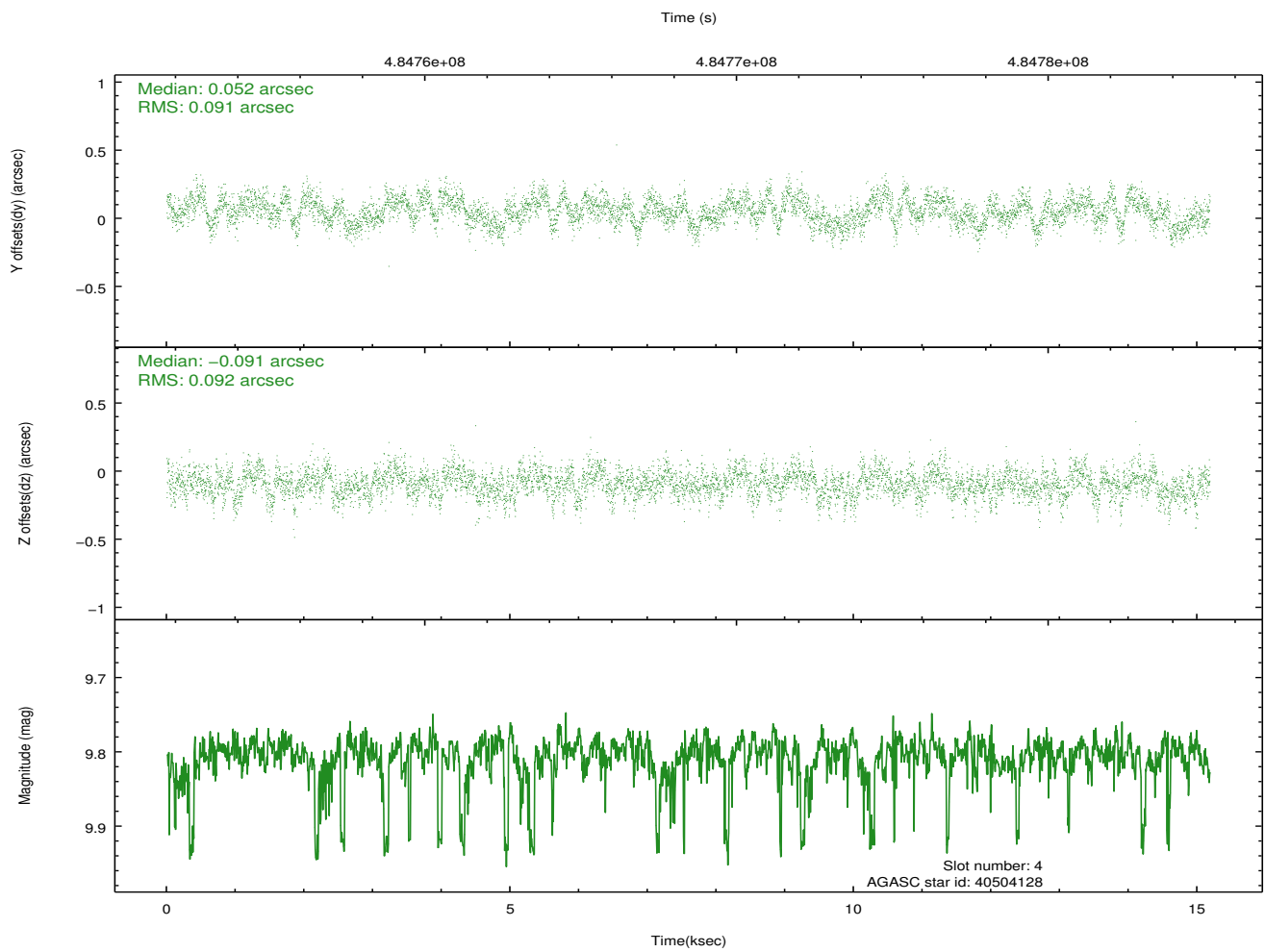
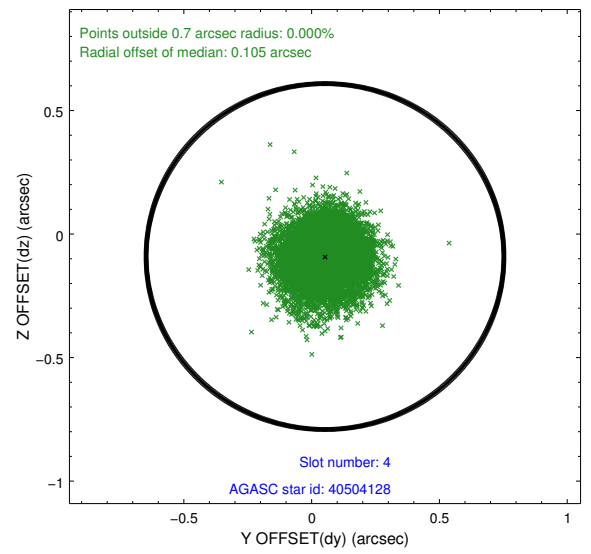
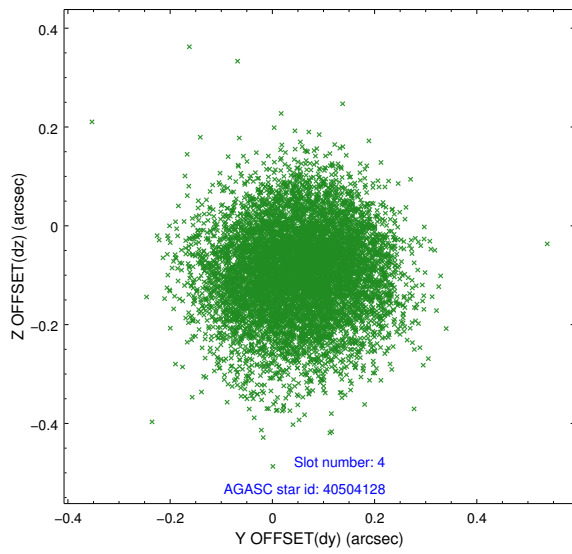
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.00	3705	-0.036	-0.029	0.007	0.011	0.000000	0.000000	-764.76	-1734.38
1	FID		ACIS-S-4	7.10	3705	0.138	0.025	0.005	0.011	0.000000	0.000000	2148.59	173.81
2	FID		ACIS-S-5	7.13	3705	-0.134	0.013	0.007	0.013	0.000000	0.000000	-1817.29	167.87
3	GUIDE	used	40503920	9.61	7368	-0.119	0.017	0.195	0.291	208.259779	1.515230	1091.09	2019.17
4	GUIDE	used	40504128	9.81	7362	0.052	-0.091	0.140	0.221	208.628898	1.975082	-1018.61	1790.93
5	GUIDE	used	40505264	8.44	7401	0.063	-0.079	0.084	0.149	208.328588	2.070929	-500.19	781.91
6	GUIDE	used	40895016	7.90	7408	0.004	0.047	0.061	0.103	207.609468	2.512770	199.38	-2172.89
7	GUIDE	used	40905536	9.26	7402	0.002	0.104	0.123	0.196	208.389767	2.694771	-2245.51	-648.15

## 2.4 Star Slots

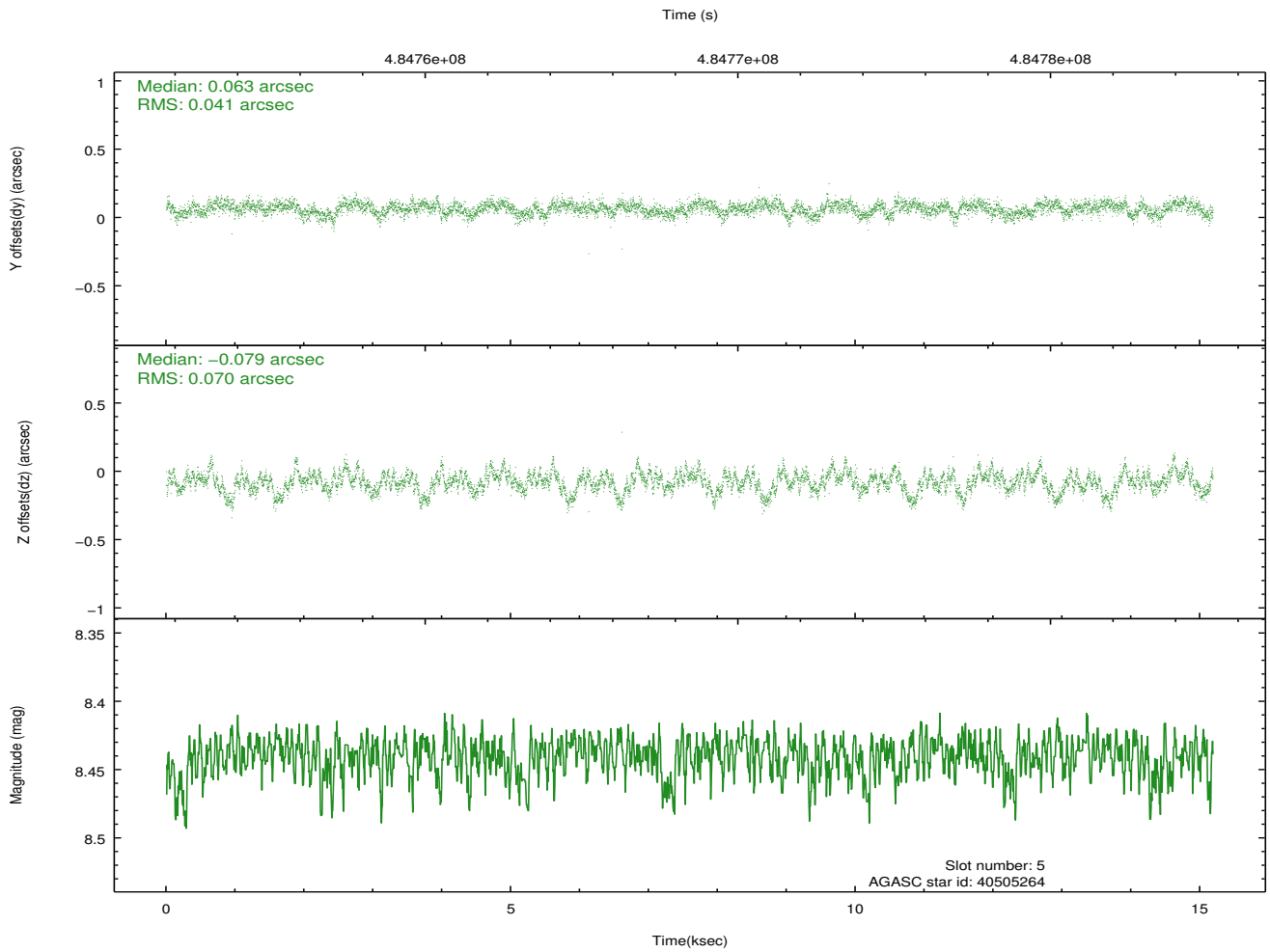
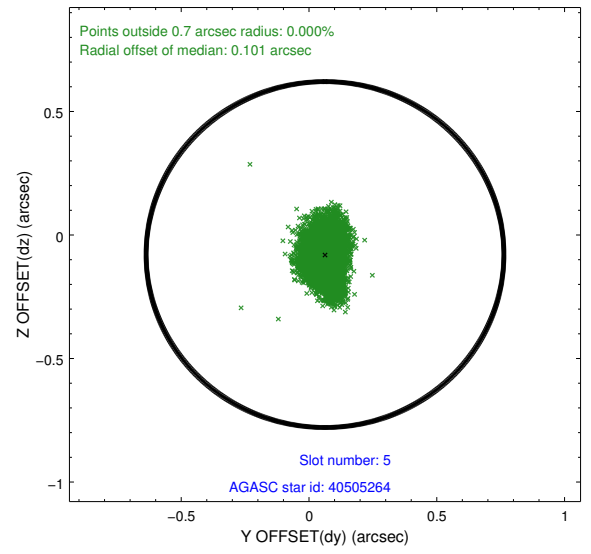
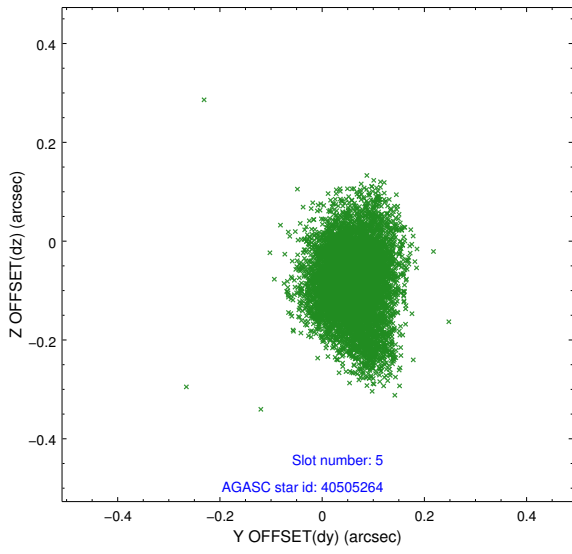
### 2.4.1 Slot 3



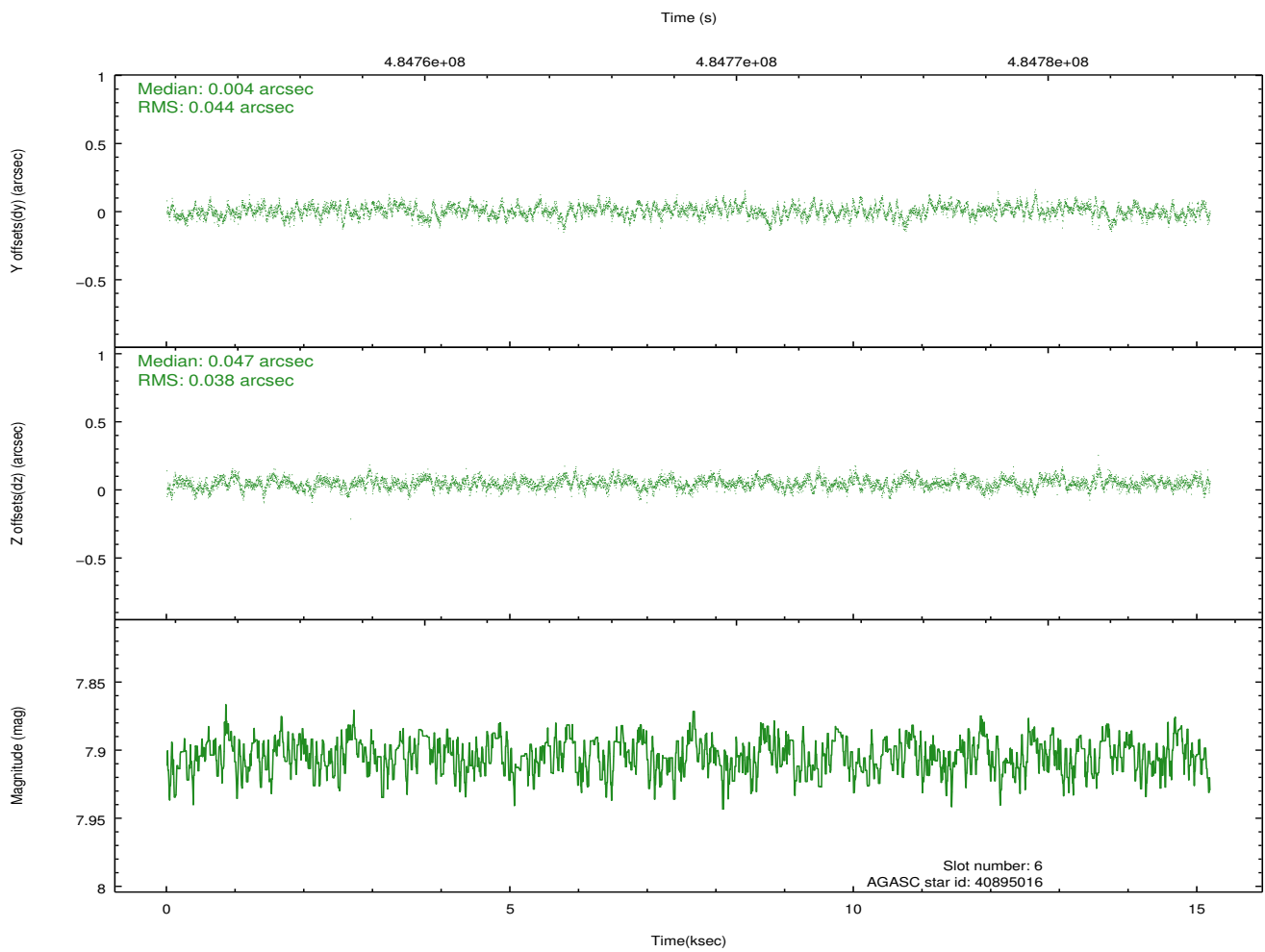
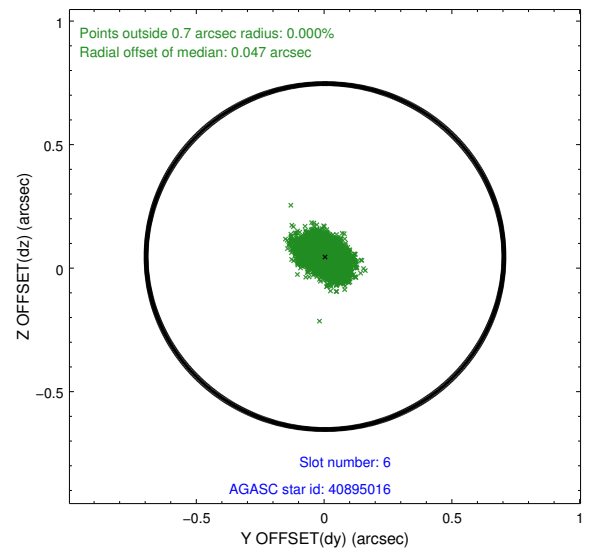
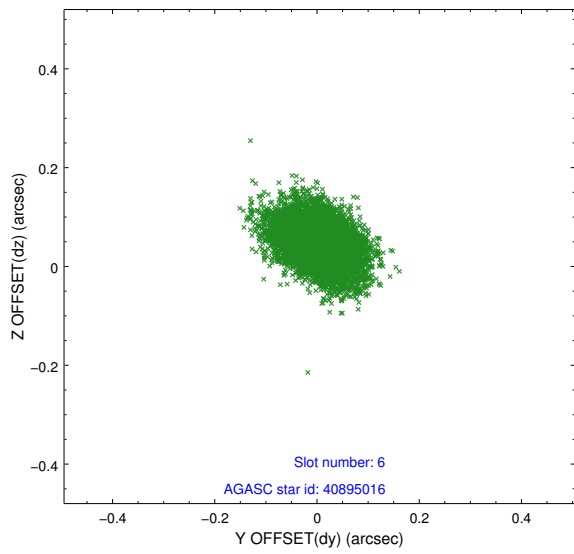
## 2.4.2 Slot 4



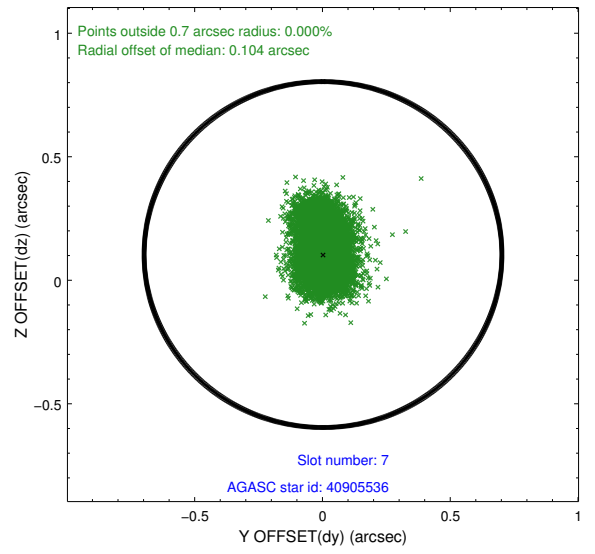
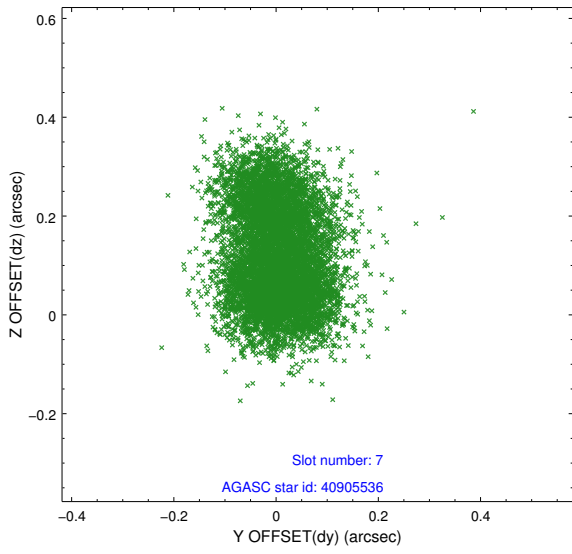
### 2.4.3 Slot 5



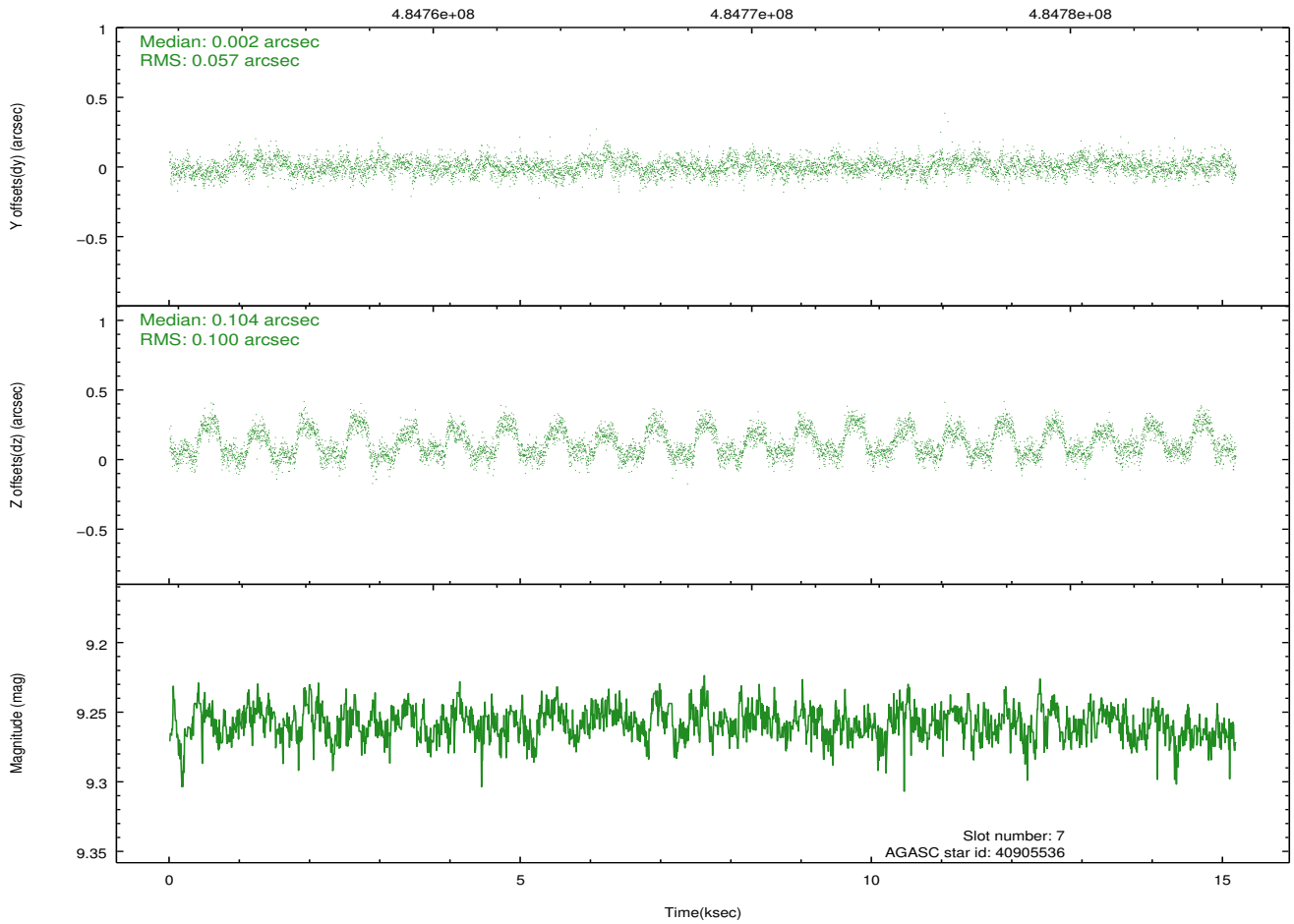
## 2.4.4 Slot 6



### 2.4.5 Slot 7

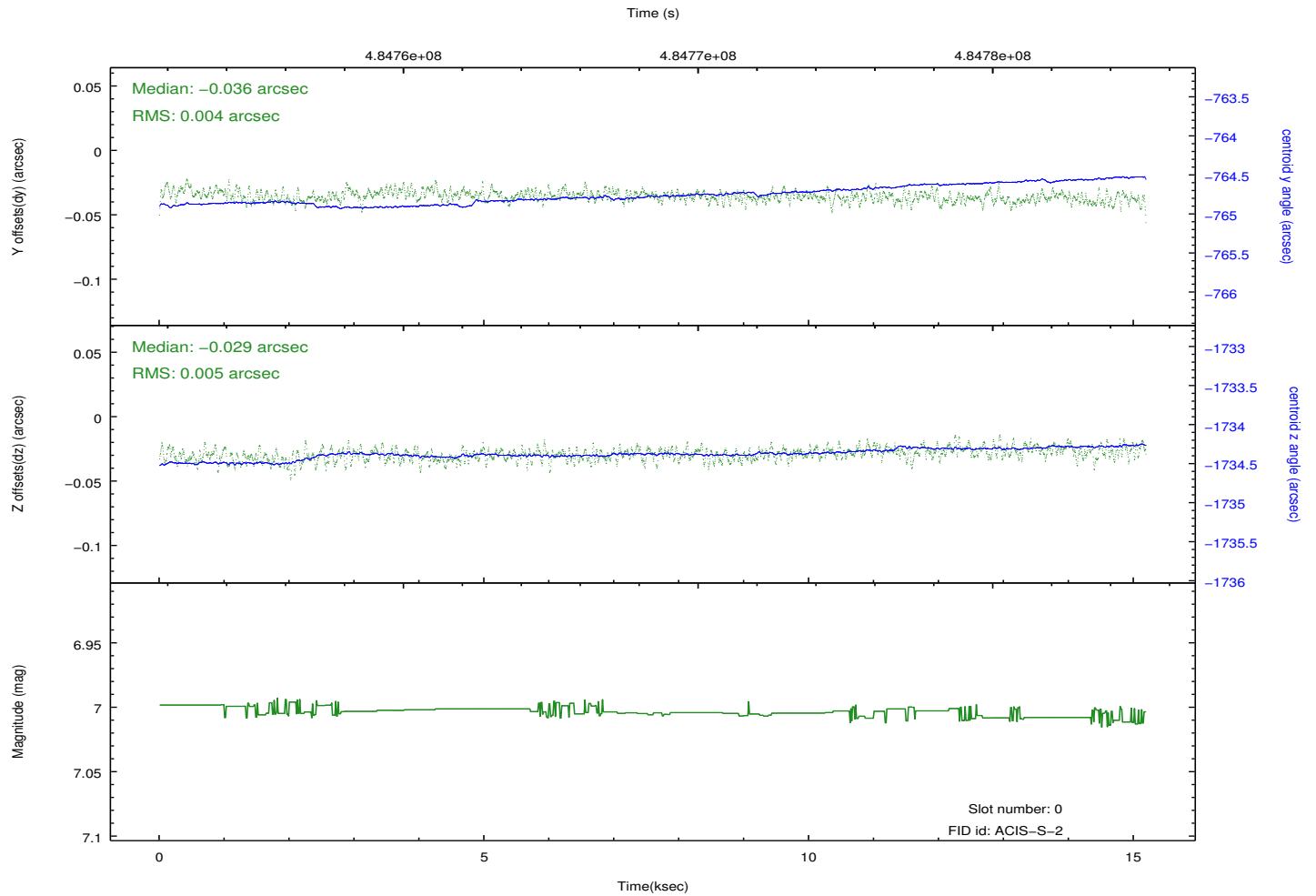
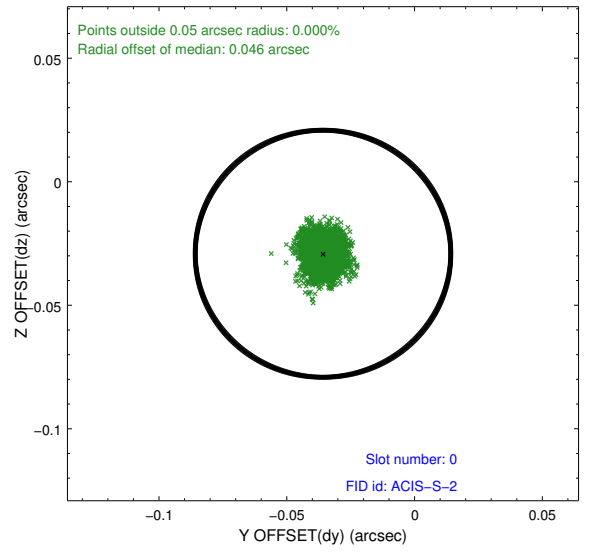
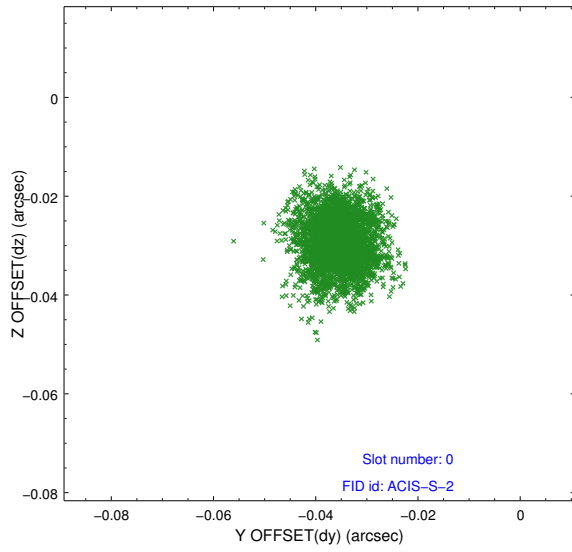


Time (s)

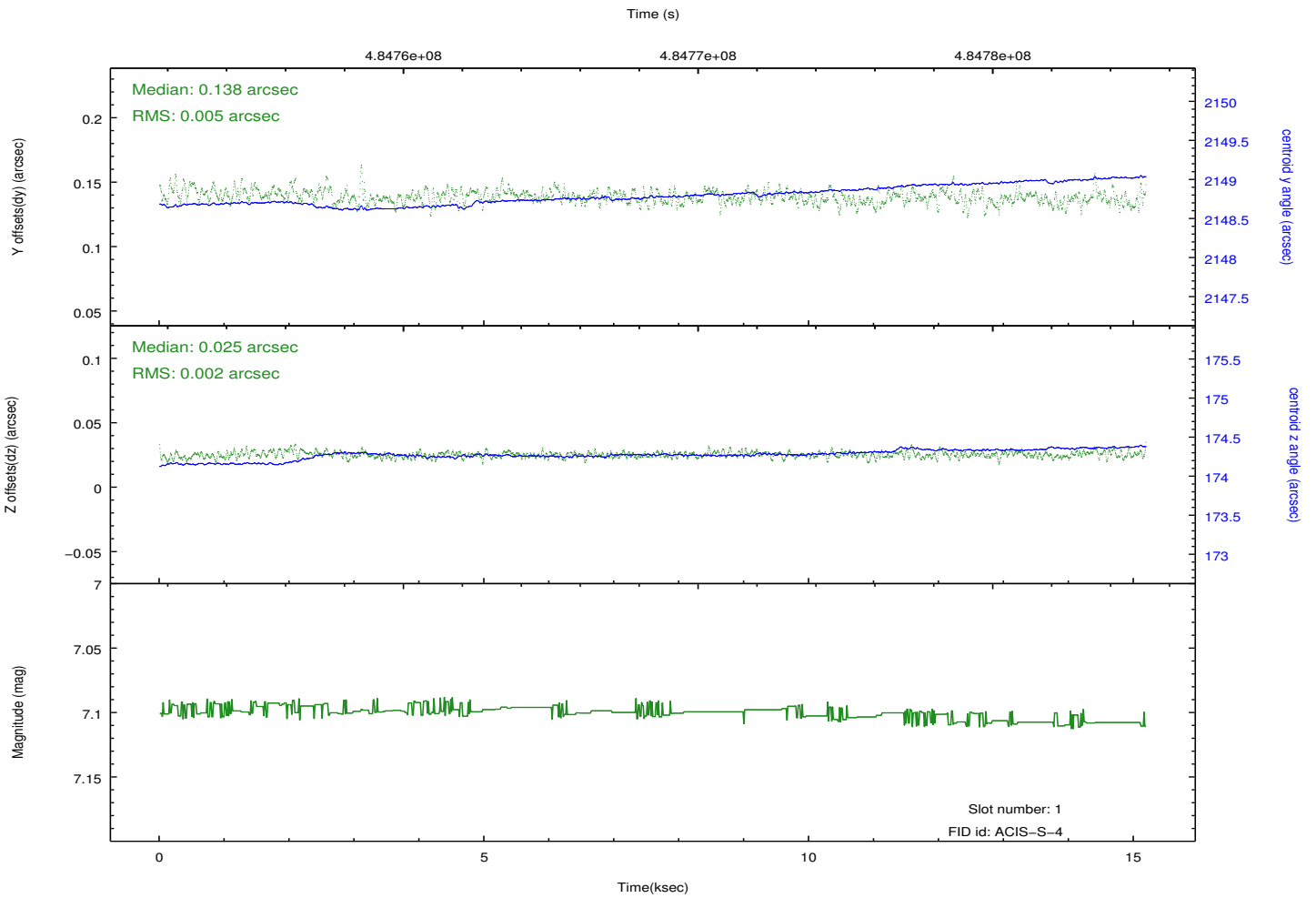
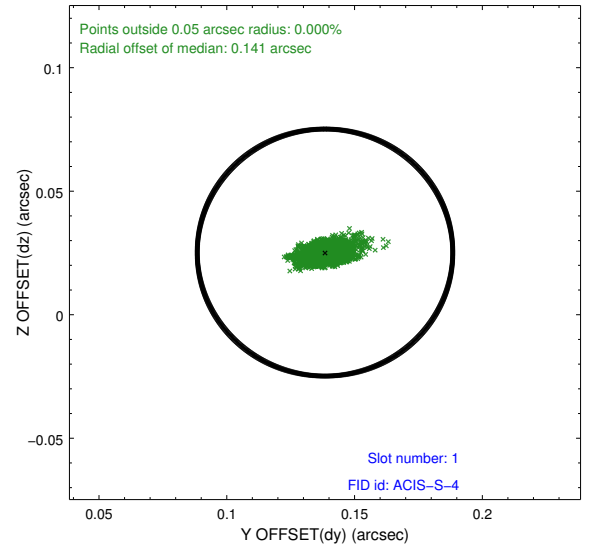
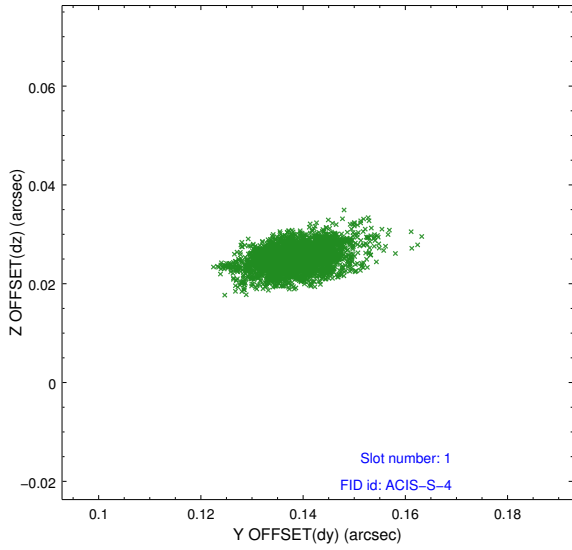


## 2.5 FID Slots

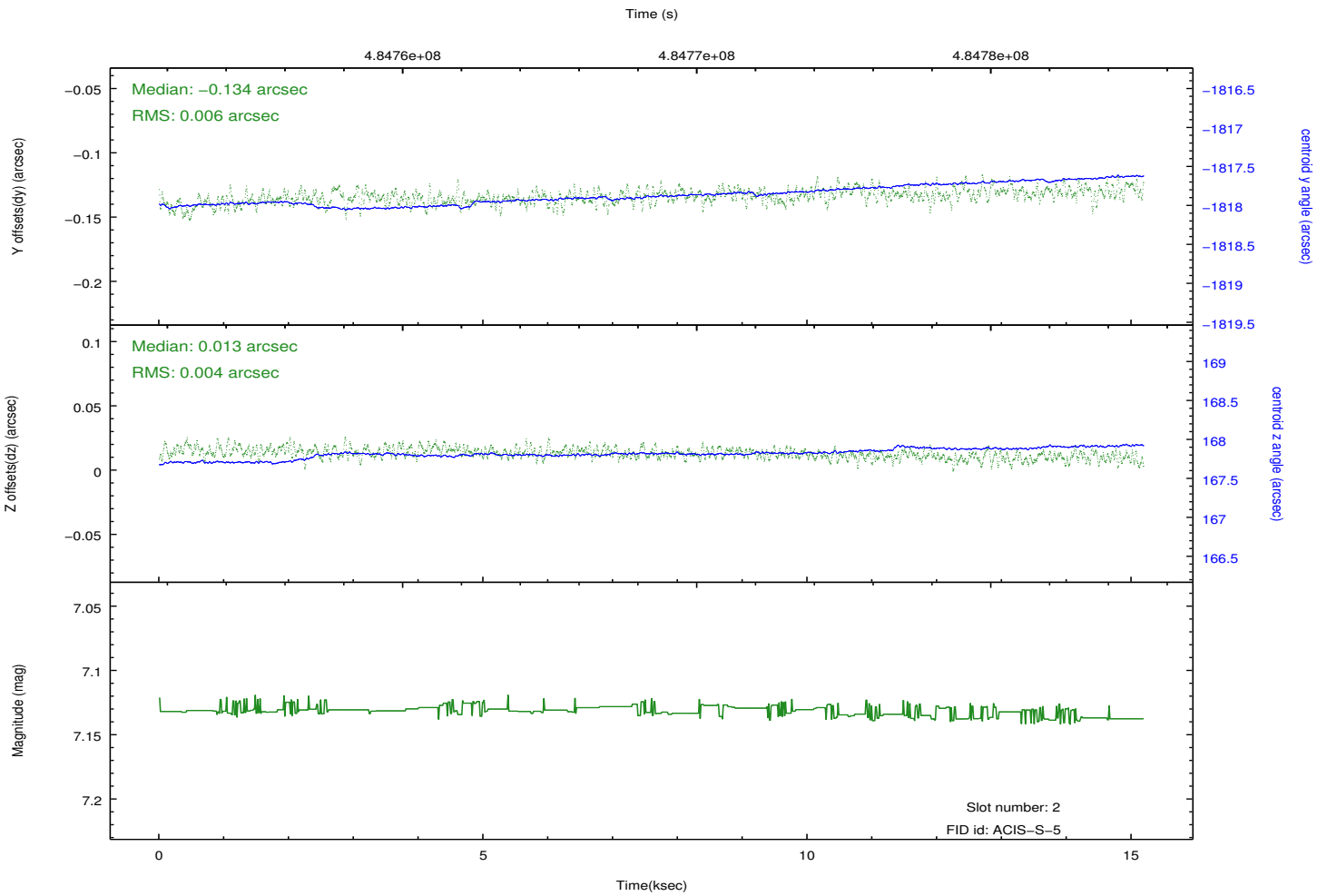
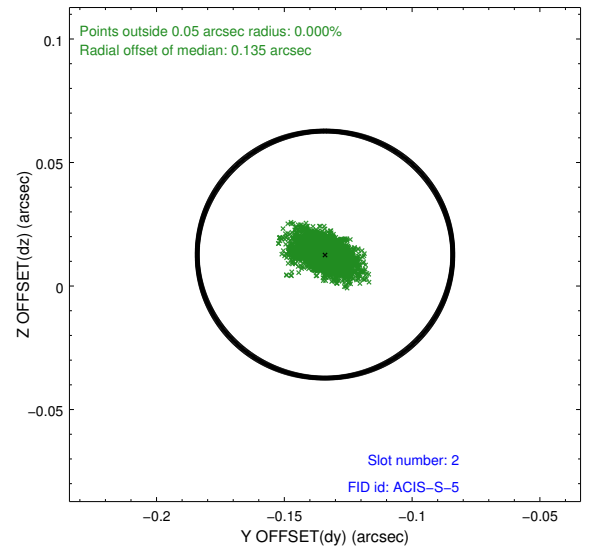
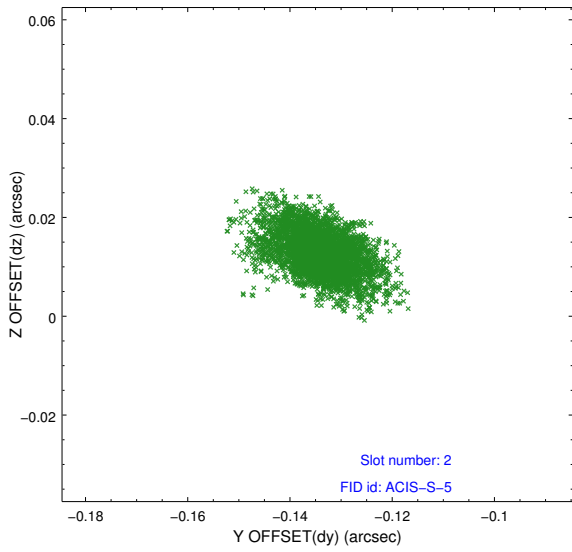
### 2.5.1 Slot 0



## 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)	2014.12.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	14.965954688549

## 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.