

# V&V Reference Report

## L2 ASCDS Version : 10

Observation 15206 - L2 Version 2  
Chandra X-Ray Center

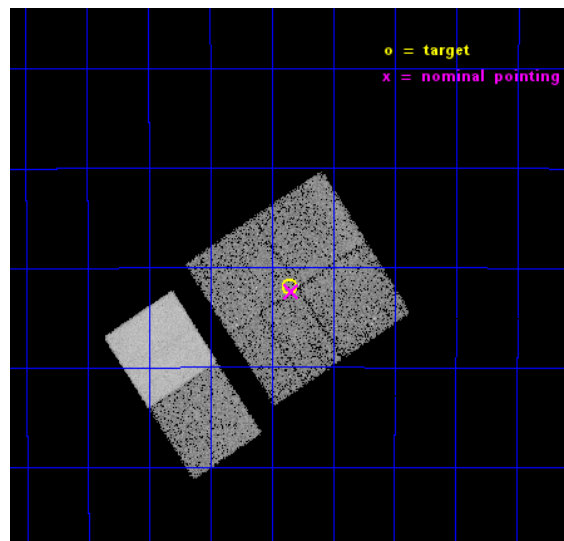
L2 Processing Date : Dec 6 2014

## 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

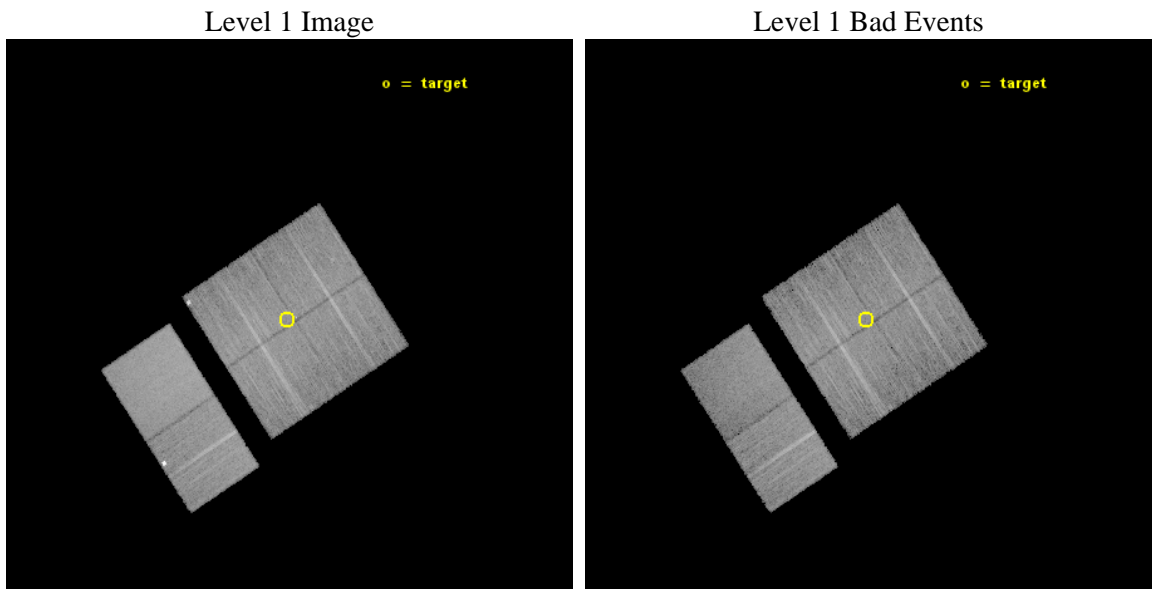
seq_num	901036	Sequence number
obs_id	15206	Observation id
title	Mapping Galaxy Groups and the Hot WHIM in Shapley Supercluster Filaments with Chandra and Suzaku	Proposal title
observer	Dr Marie Machacek	Principal investigator
object	Shapley C	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	202.0875	Observer's specified target RA [deg]
dec_targ	-31.032222	Observer's specified target Dec [deg]
ra_nom	202.08491511614	Nominal RA [deg]
dec_nom	-31.039992748772	Nominal Dec [deg]
roll_nom	236.77223708937	Nominal Roll [deg]
revision	2	Processing version of data
ontime	19970.853232741	Sum of GTIs [s]
livetime	19717.970264104	Livetime [s]
ontime0	19970.730112731	Sum of GTIs [s]
ontime1	19970.771152735	Sum of GTIs [s]
ontime2	19964.330152035	Sum of GTIs [s]
ontime3	19970.853232741	Sum of GTIs [s]
ontime6	19970.935312748	Sum of GTIs [s]
ontime7	19970.894272745	Sum of GTIs [s]
l2events	107001	Number of level 2 events



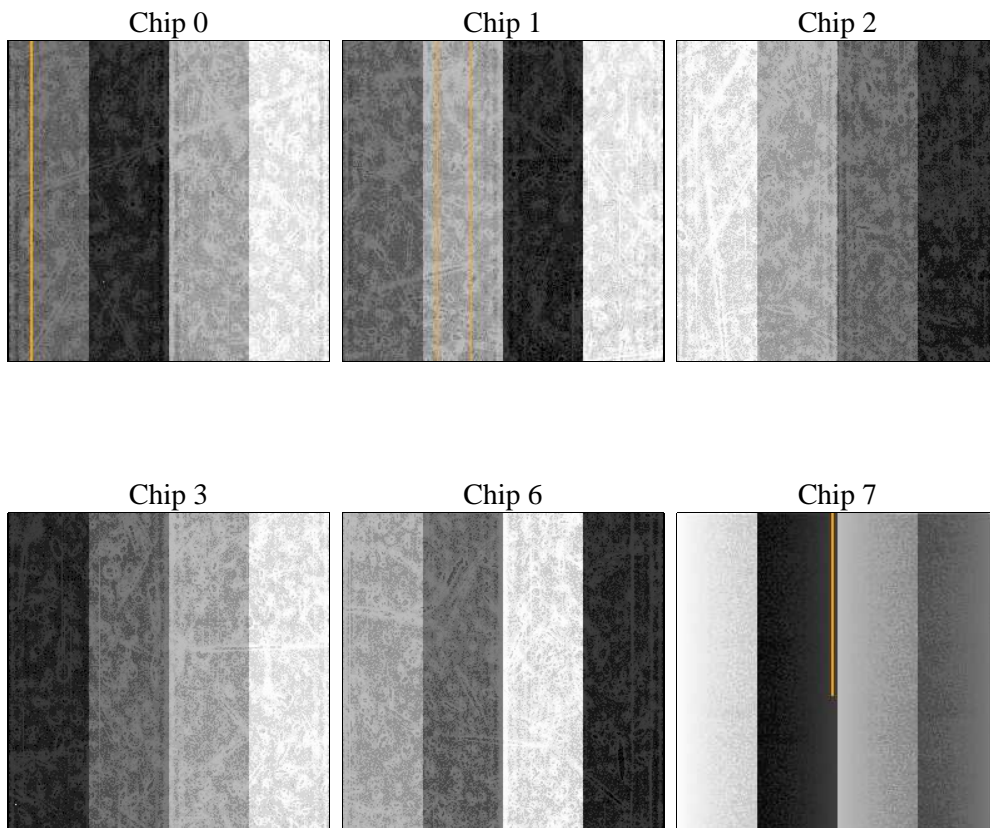
## 2 OBI

### 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	10.3.1	Processing system revision	ontime	19970.853232741	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime0	19970.730112731	Sum of GTIs [s]
date	2014-12-06T06:12:12	Date and time of file creation	ontime1	19970.771152735	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	19964.330152035	Sum of GTIs [s]
			ontime3	19970.853232741	Sum of GTIs [s]
			ontime6	19970.935312748	Sum of GTIs [s]
			ontime7	19970.894272745	Sum of GTIs [s]
			l1events	611612	Number of level 1 events

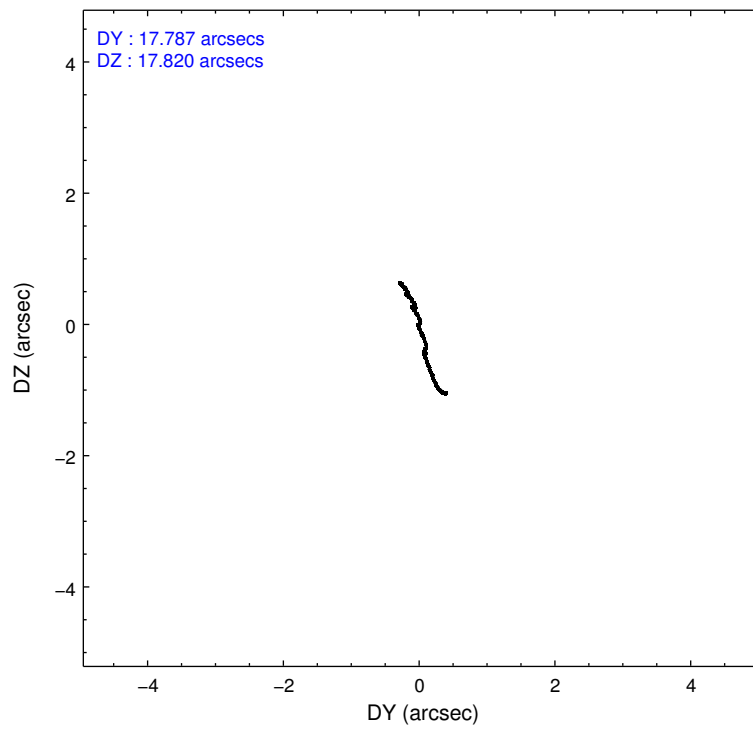
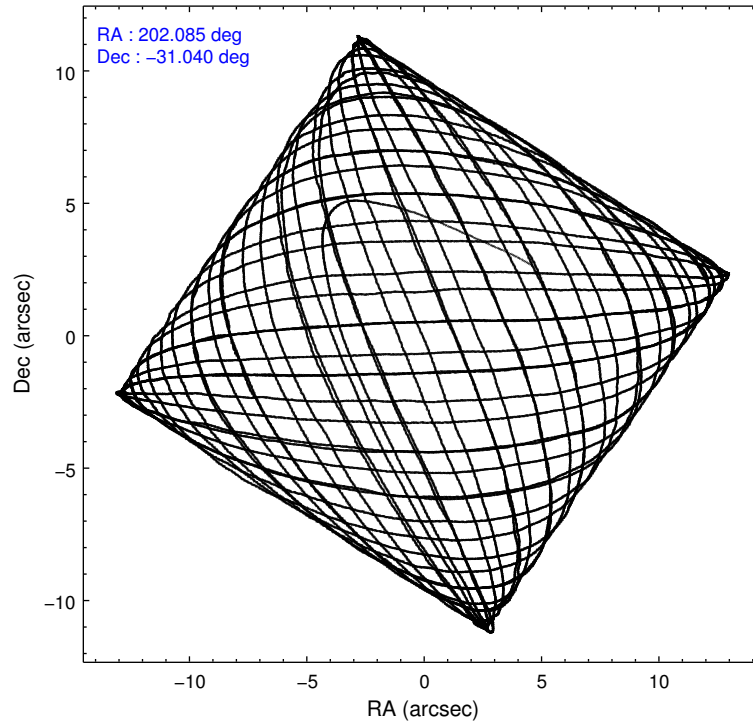
### 2.1.4 Events

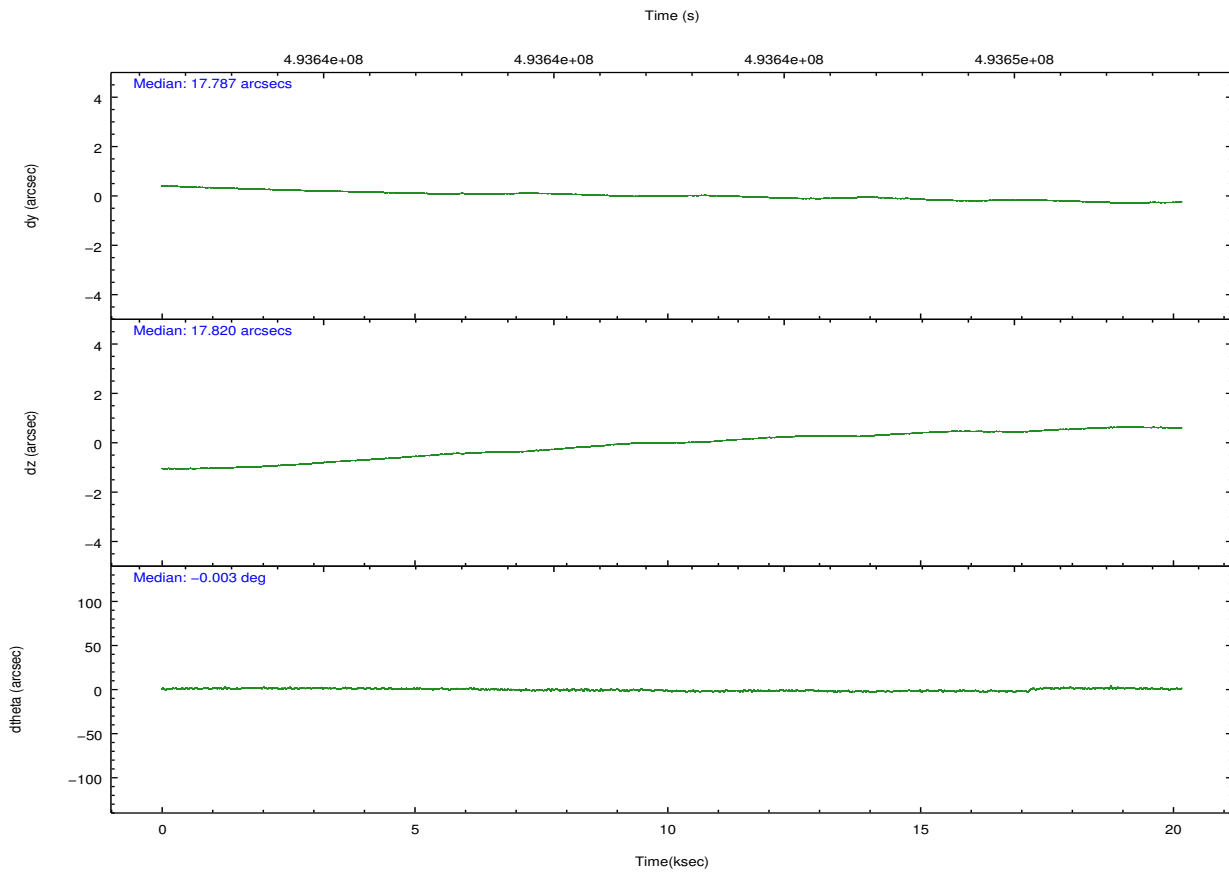
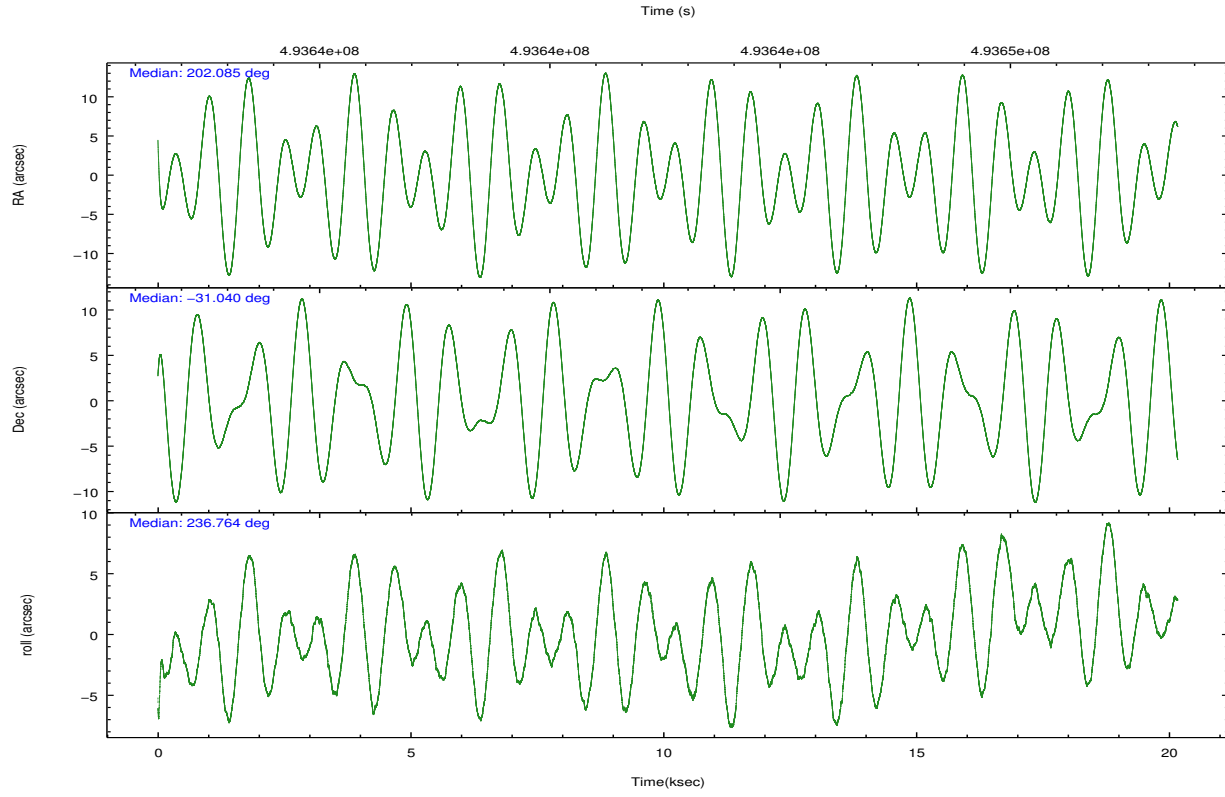
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	87717	88200	97045	97576	108648	132426	grade 0 events	4191	4486	4219	5921	10544	5147
rejected events	76212	75308	85819	84814	90056	74060		4%	5%	4%	6%	9%	3%
rejected %	86%	85%	88%	86%	82%	55%	grade 1 events	49	38	52	50	52	157
								0%	0%	0%	0%	0%	0%
							grade 2 events	2789	3128	2601	2374	2788	11928
								3%	3%	2%	2%	2%	9%
							grade 3 events	1161	1237	1167	1128	1174	4830
								1%	1%	1%	1%	1%	3%
							grade 4 events	1080	1202	1146	1130	1263	4825
								1%	1%	1%	1%	1%	3%
							grade 5 events	4498	4616	4110	5246	5160	13249
								5%	5%	4%	5%	4%	10%
							grade 6 events	2288	2842	2096	2210	2827	31647
								2%	3%	2%	2%	2%	23%
							grade 7 events	71661	70651	81654	79517	84840	60643
								81%	80%	84%	81%	78%	45%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-012367	ACIS-012367	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	202.086590	202.0849151161406	CCD I2 on	Y	Y
[deg] Pointing Dec	-31.012535	-31.03999274877196	CCD I3 on	Y	Y
[deg] Pointing Roll	236.564419	236.7722370893695	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	O2	Y
[mm] SIM translation stage pos	-233.592463	-233.5874344608287	CCD S3 on	O1	Y
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	493632643.184000	493631509.72603	CCD S5 on	N	N
Observation start date	2013-08-23T08:09:36	2013-08-23T07:51:49	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	493652643.184000	493653592.83973	On-chip summing requested	N	N
Observation end date	2013-08-23T13:42:56	2013-08-23T13:59:52	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect





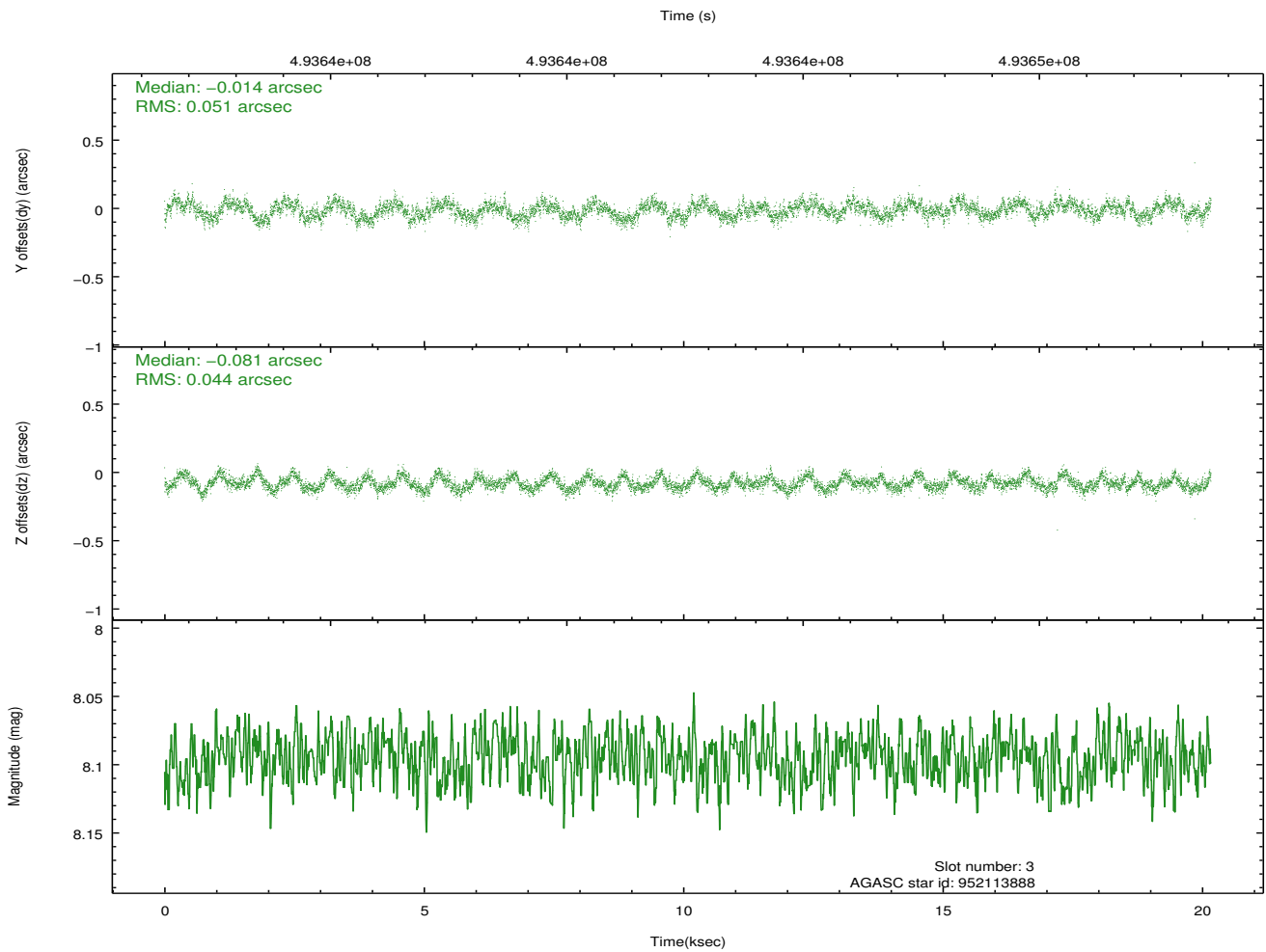
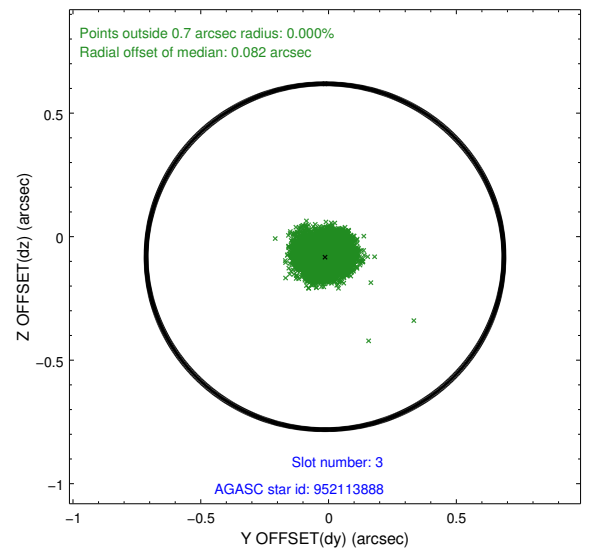
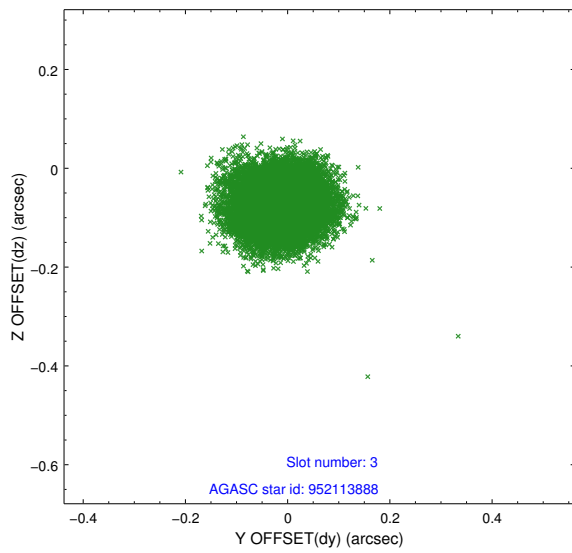
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.17	4919	-0.034	-0.068	0.033	0.057	0.000000	0.000000	921.58	-841.44
1	FID		ACIS-I-4	7.10	4918	0.266	0.088	0.016	0.040	0.000000	0.000000	2141.98	1058.45
2	FID		ACIS-I-5	7.16	4919	-0.331	0.051	0.018	0.029	0.000000	0.000000	-1826.53	1056.39
3	GUIDE	used	952113888	8.09	9835	-0.014	-0.081	0.073	0.112	201.647854	-31.450482	2061.13	-254.18
4	GUIDE	used	952114936	8.50	9839	0.077	-0.121	0.121	0.187	201.294532	-31.198626	1911.19	-1660.26
5	GUIDE	used	952116240	8.36	9839	-0.109	-0.047	0.119	0.168	202.422973	-31.388320	561.40	1608.67
6	GUIDE	used	952117384	8.48	9825	0.101	0.242	0.101	0.153	201.937376	-30.784118	-430.92	-839.37
7	GUIDE	used	952251232	7.29	9838	-0.064	0.000	0.089	0.135	202.949910	-31.055331	-1330.14	2312.63

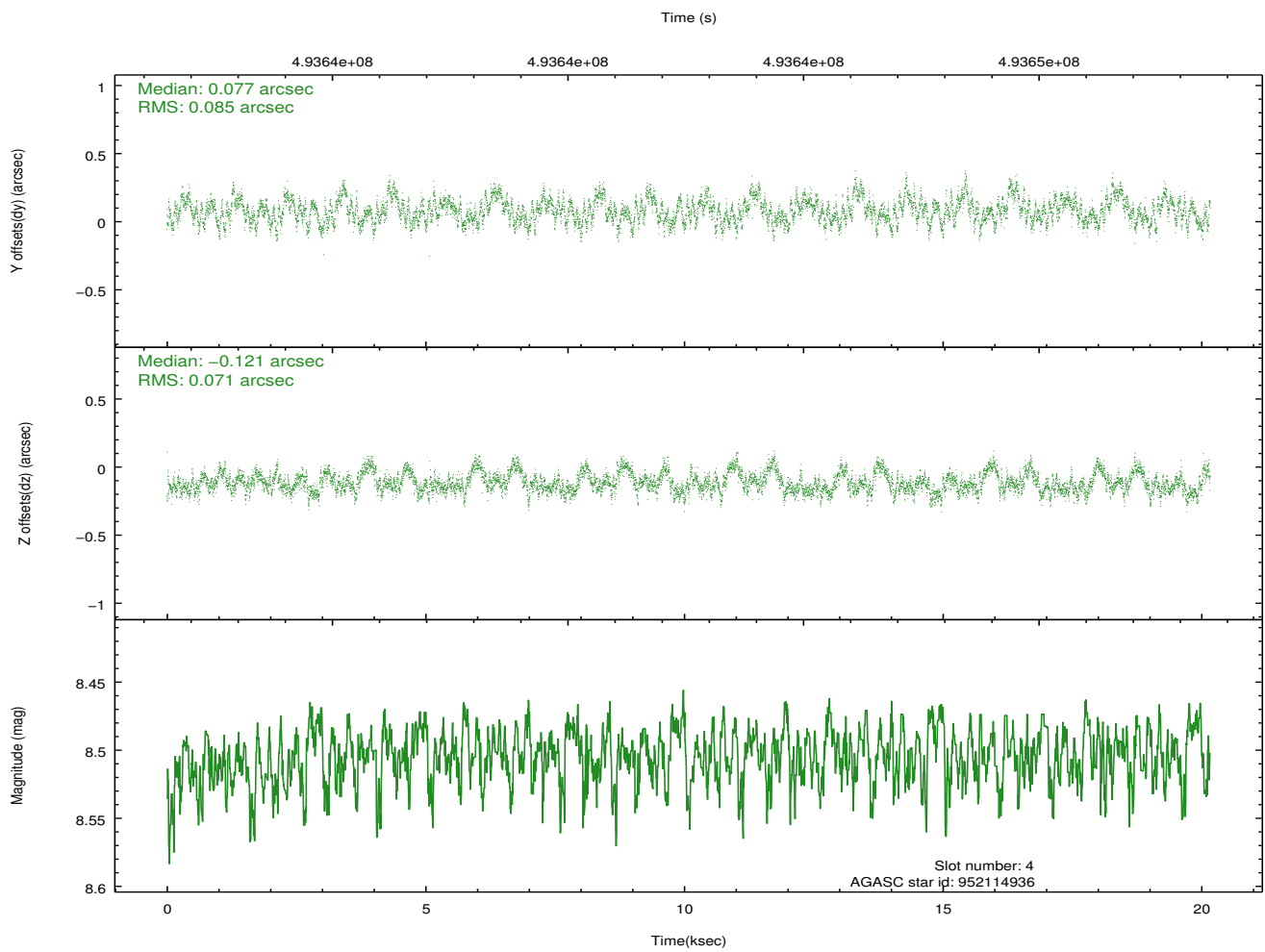
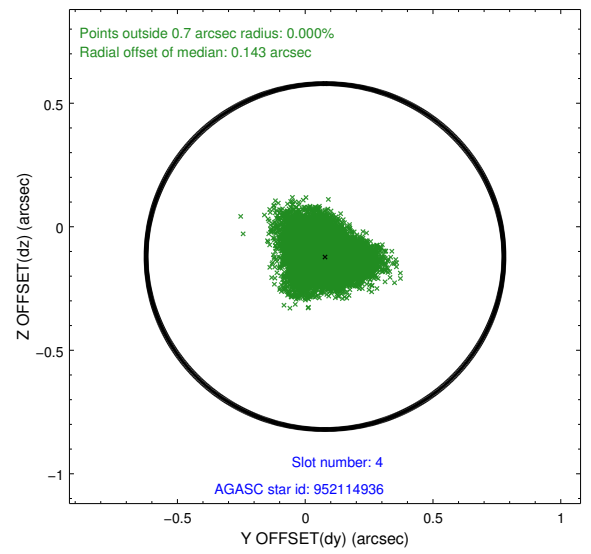
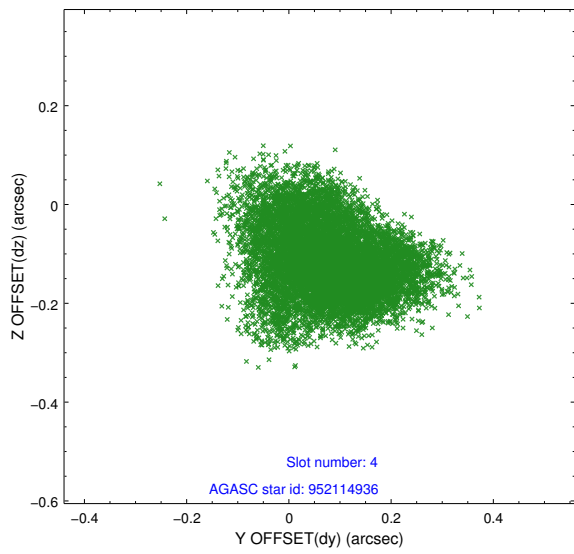
∞

## 2.4 Star Slots

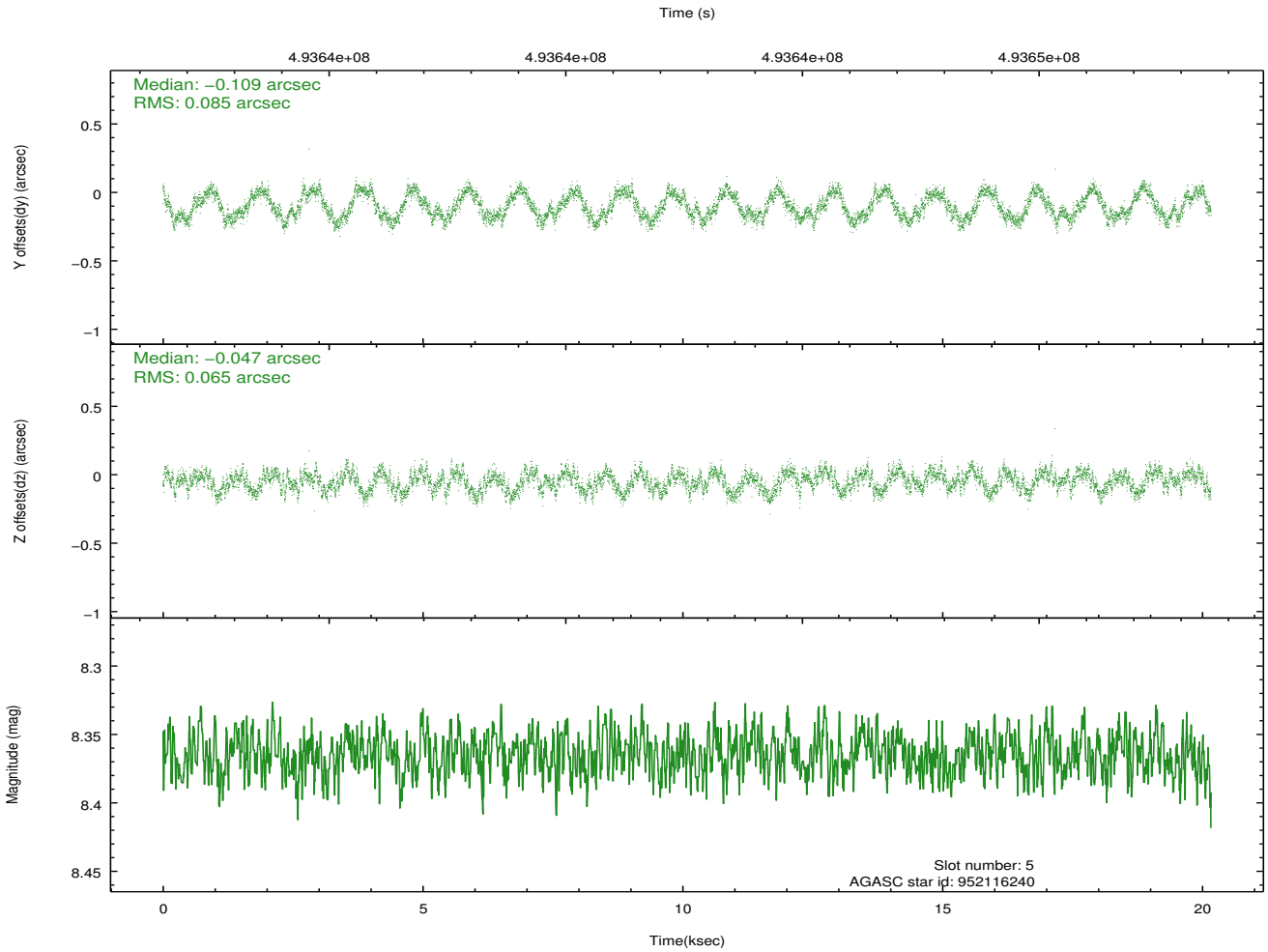
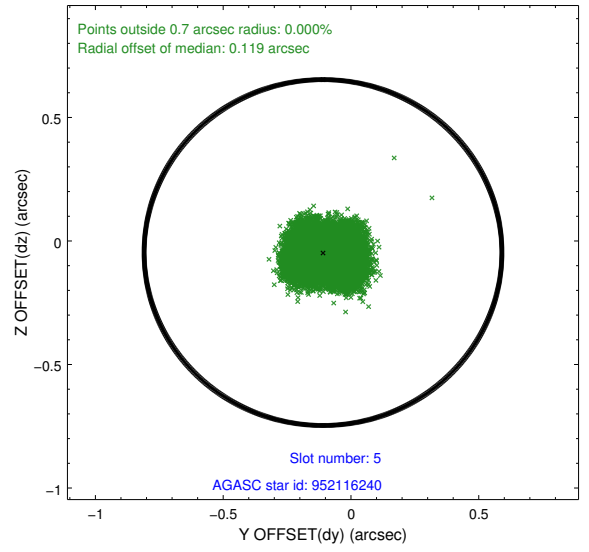
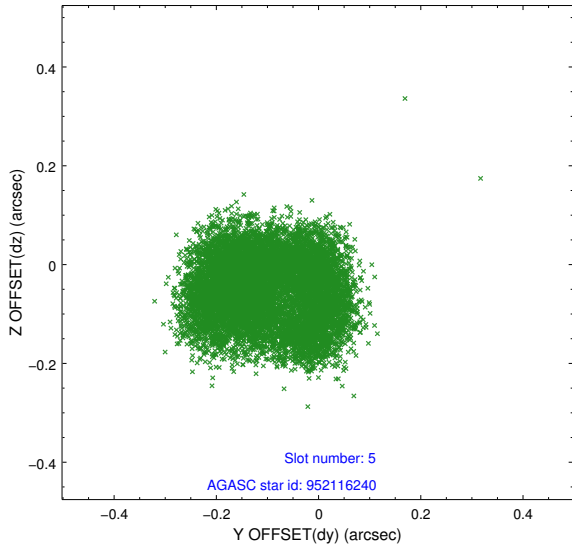
### 2.4.1 Slot 3



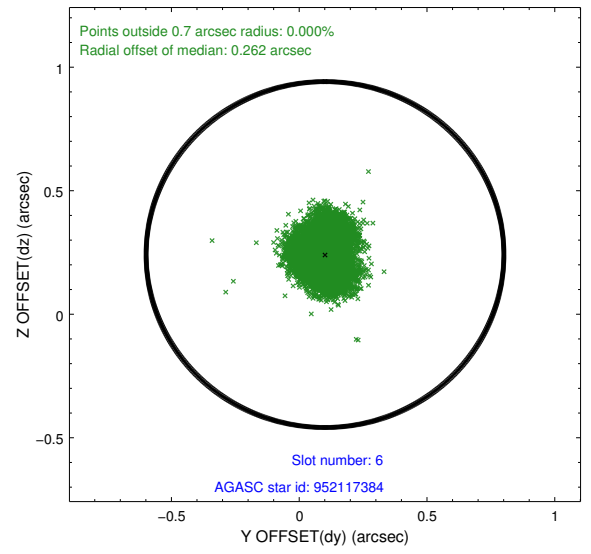
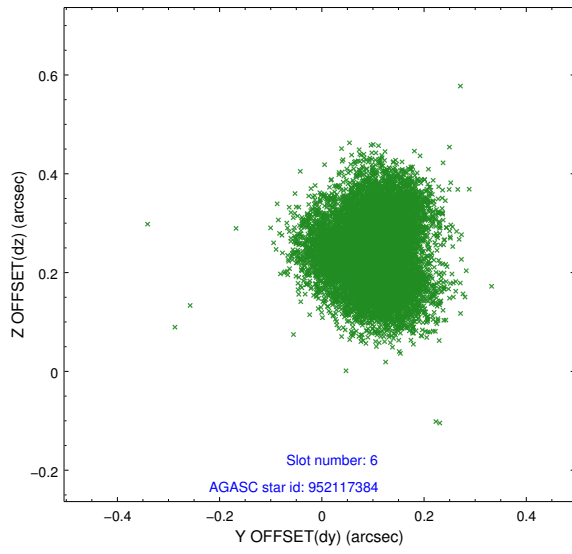
## 2.4.2 Slot 4



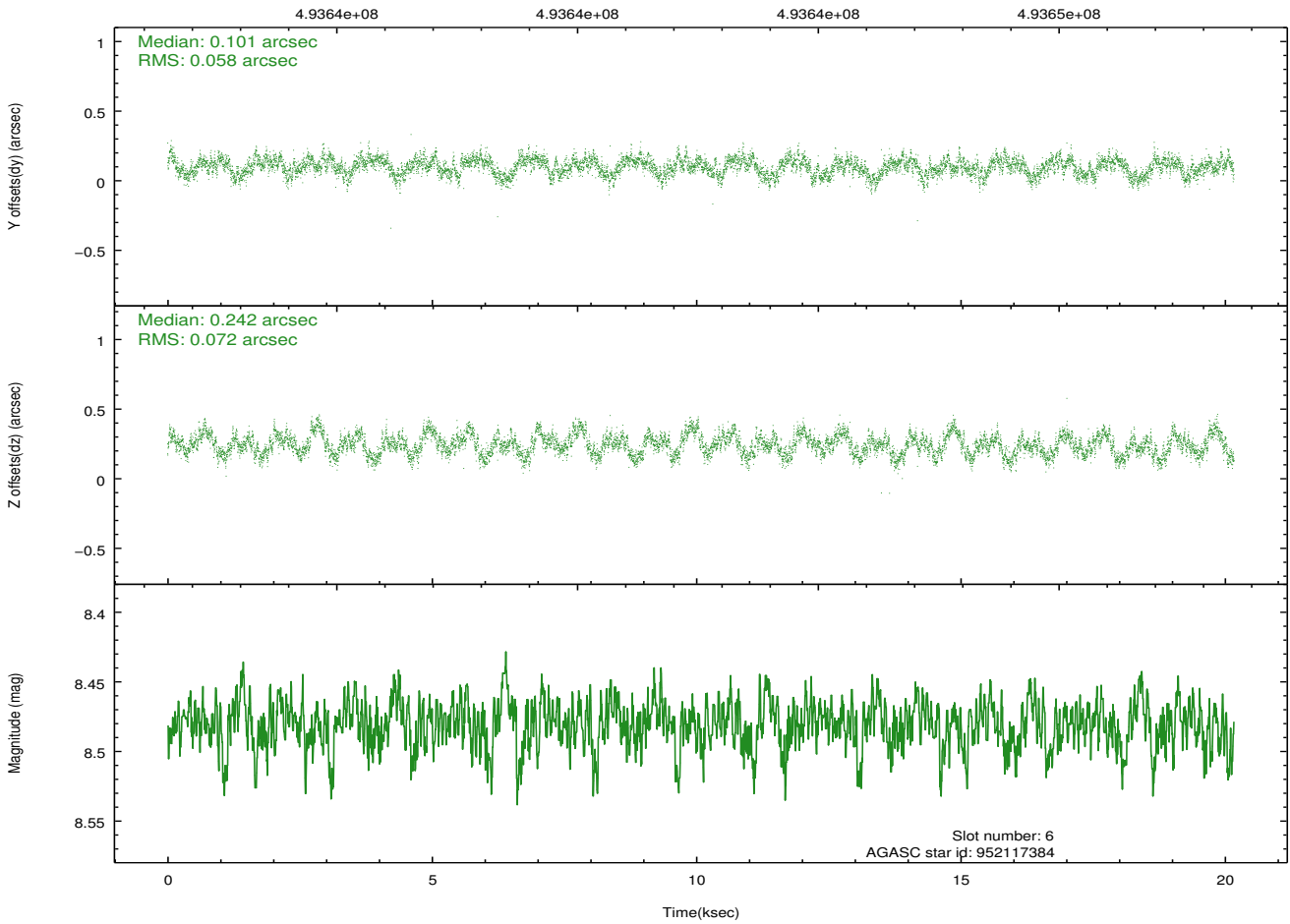
### 2.4.3 Slot 5



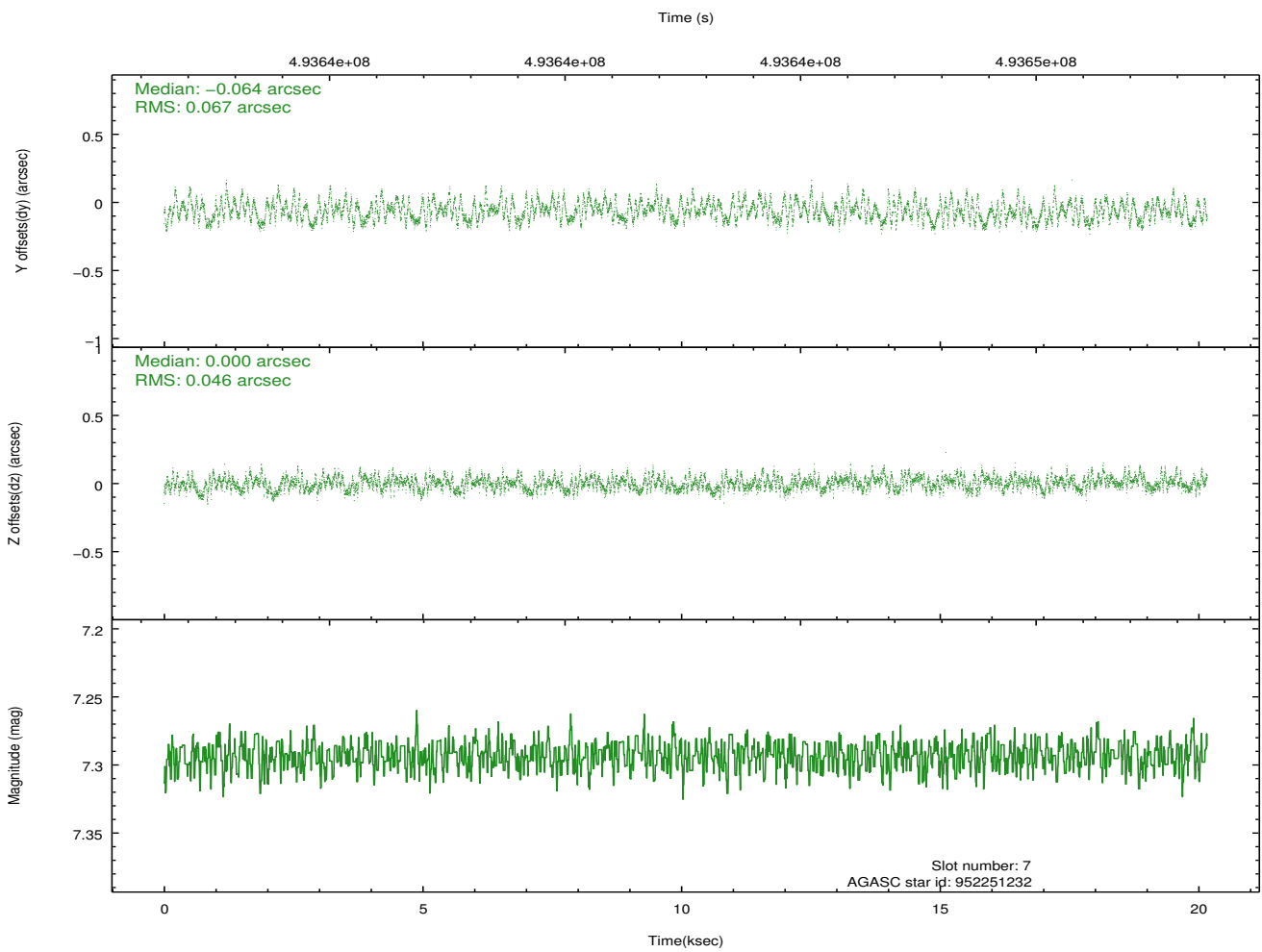
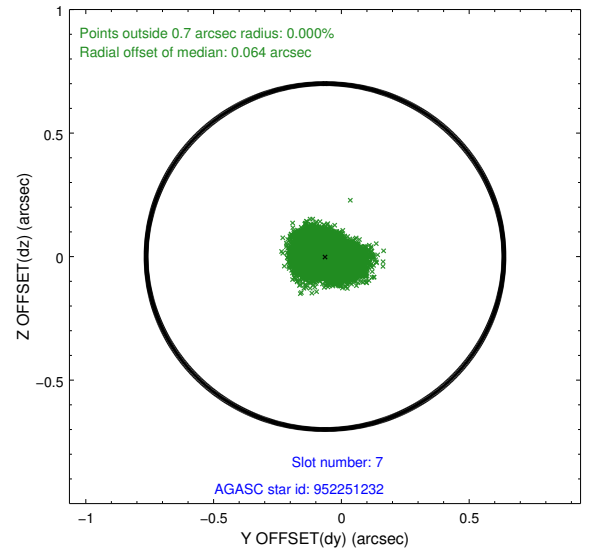
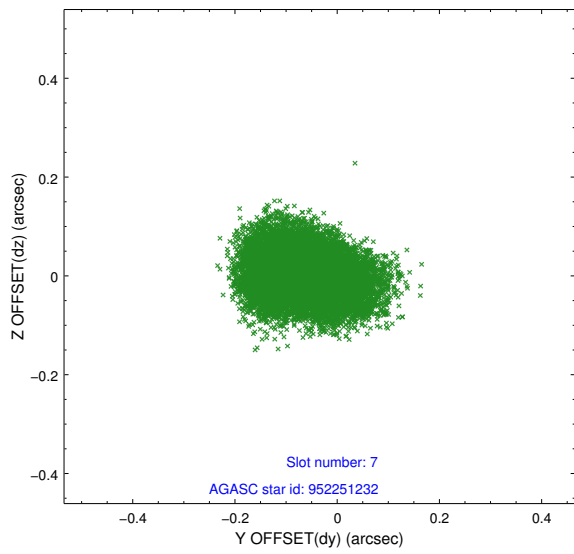
## 2.4.4 Slot 6



Time (s)

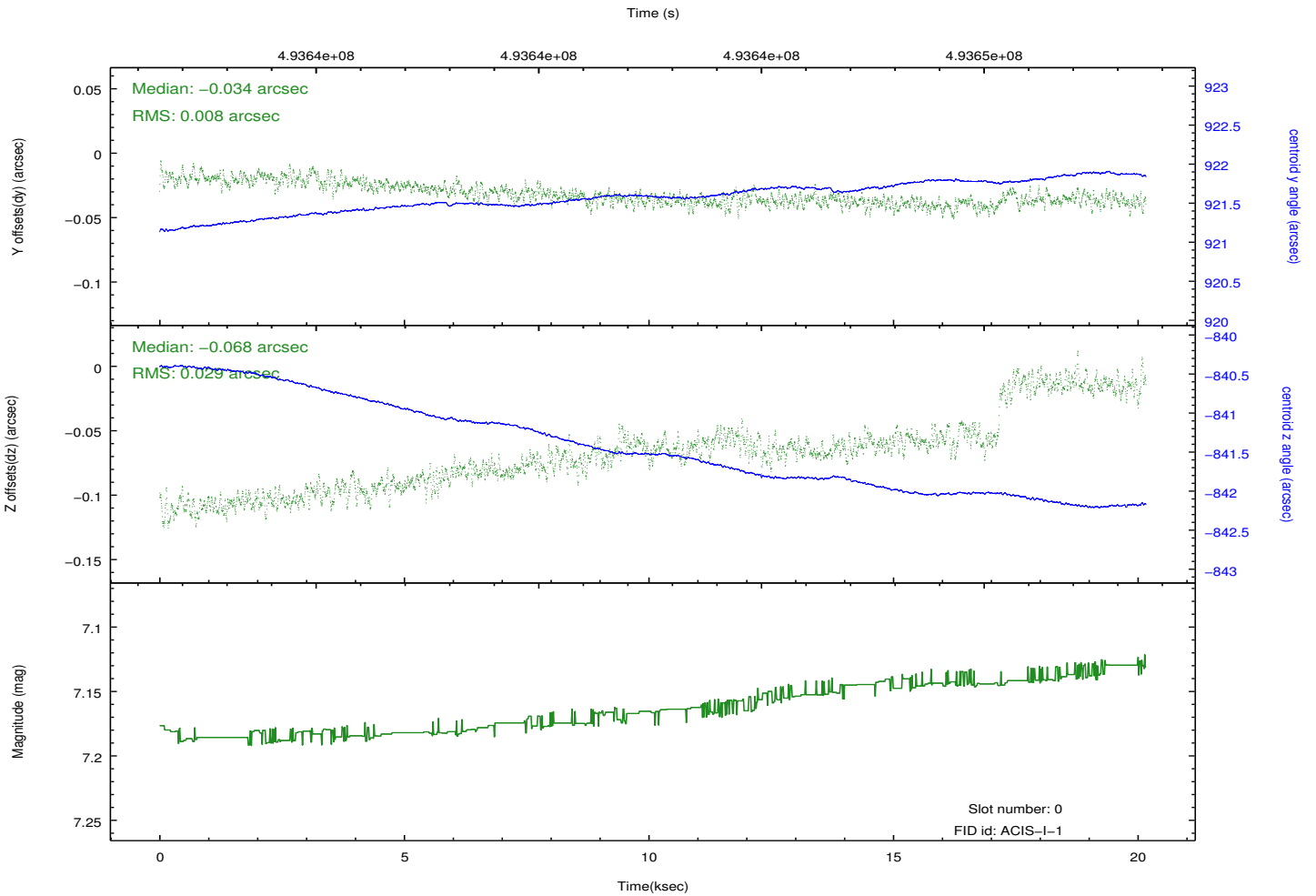
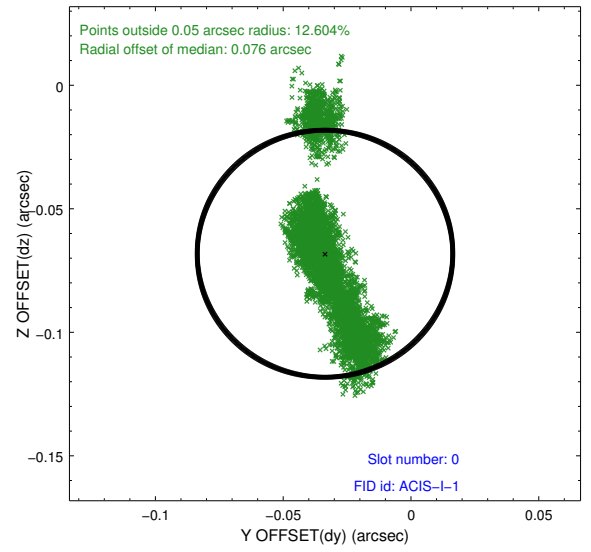
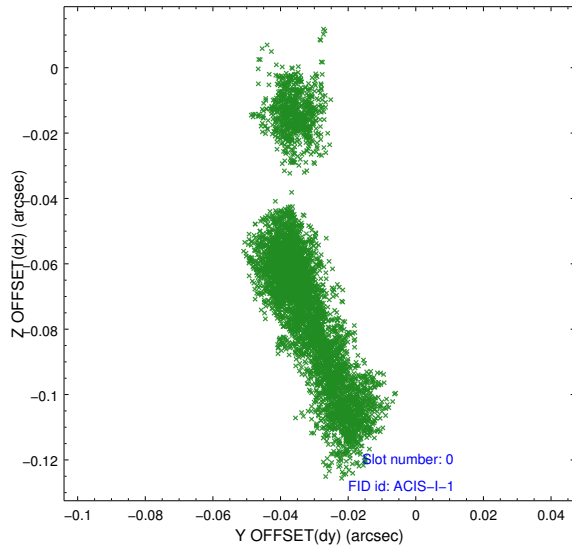


## 2.4.5 Slot 7

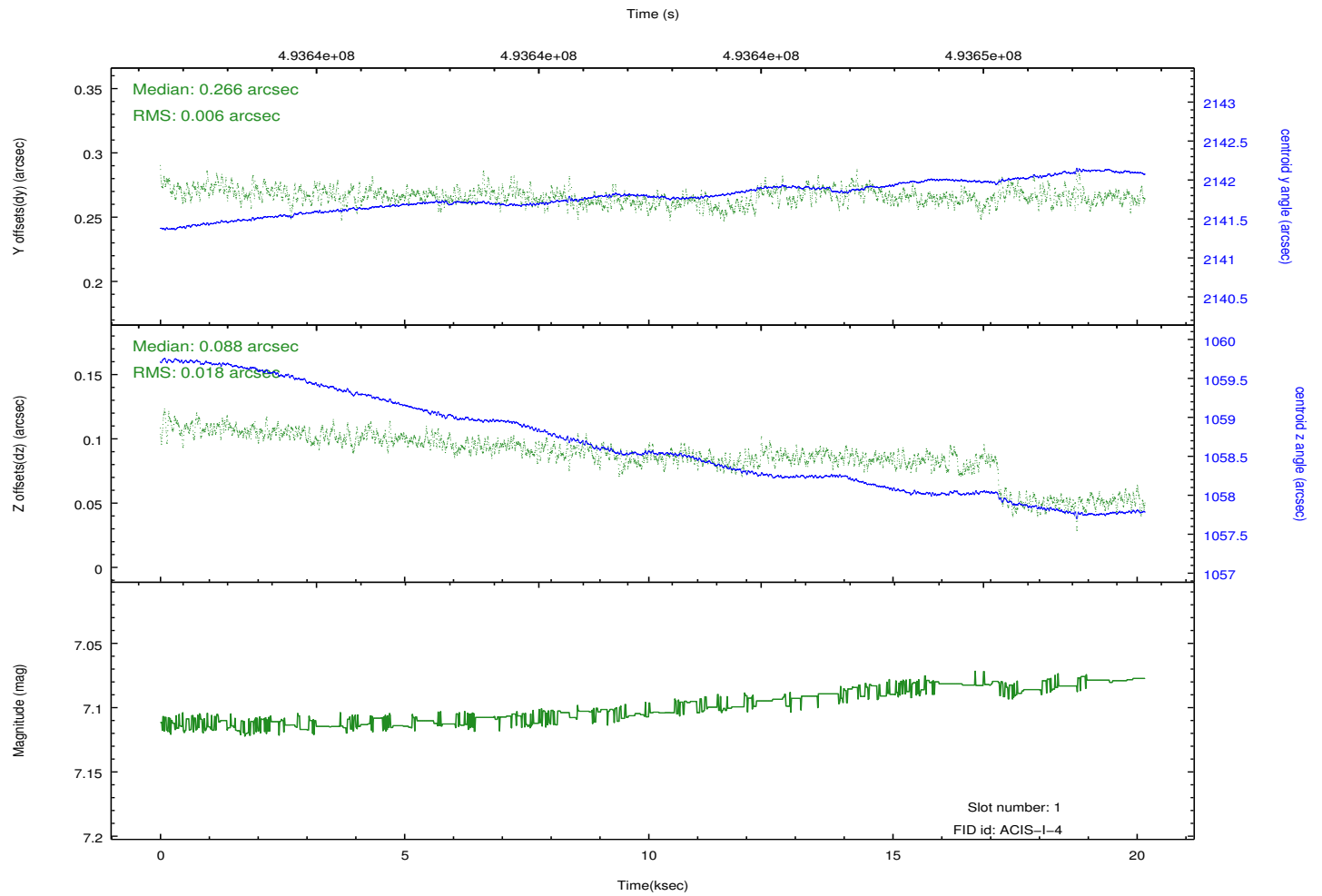
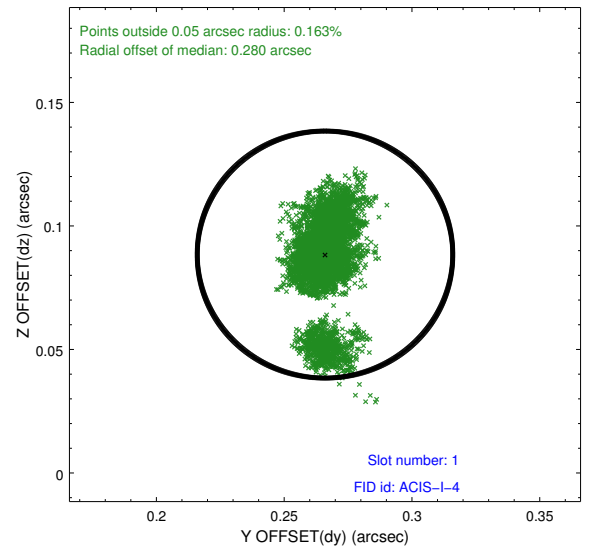
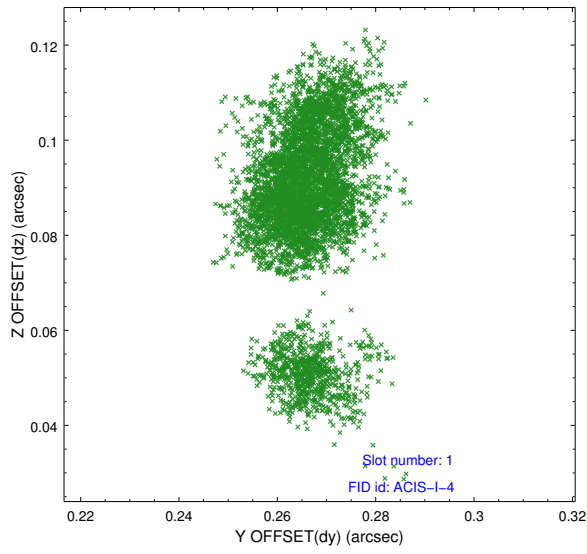


## 2.5 FID Slots

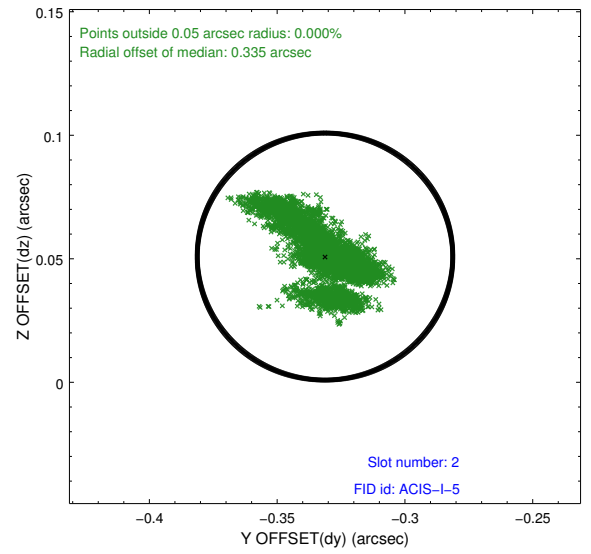
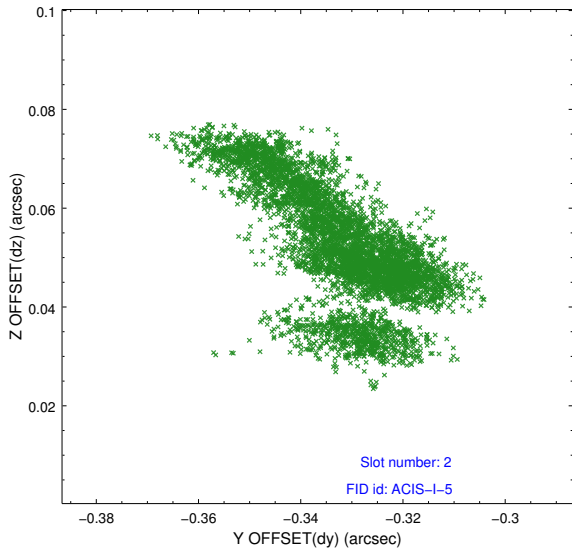
### 2.5.1 Slot 0



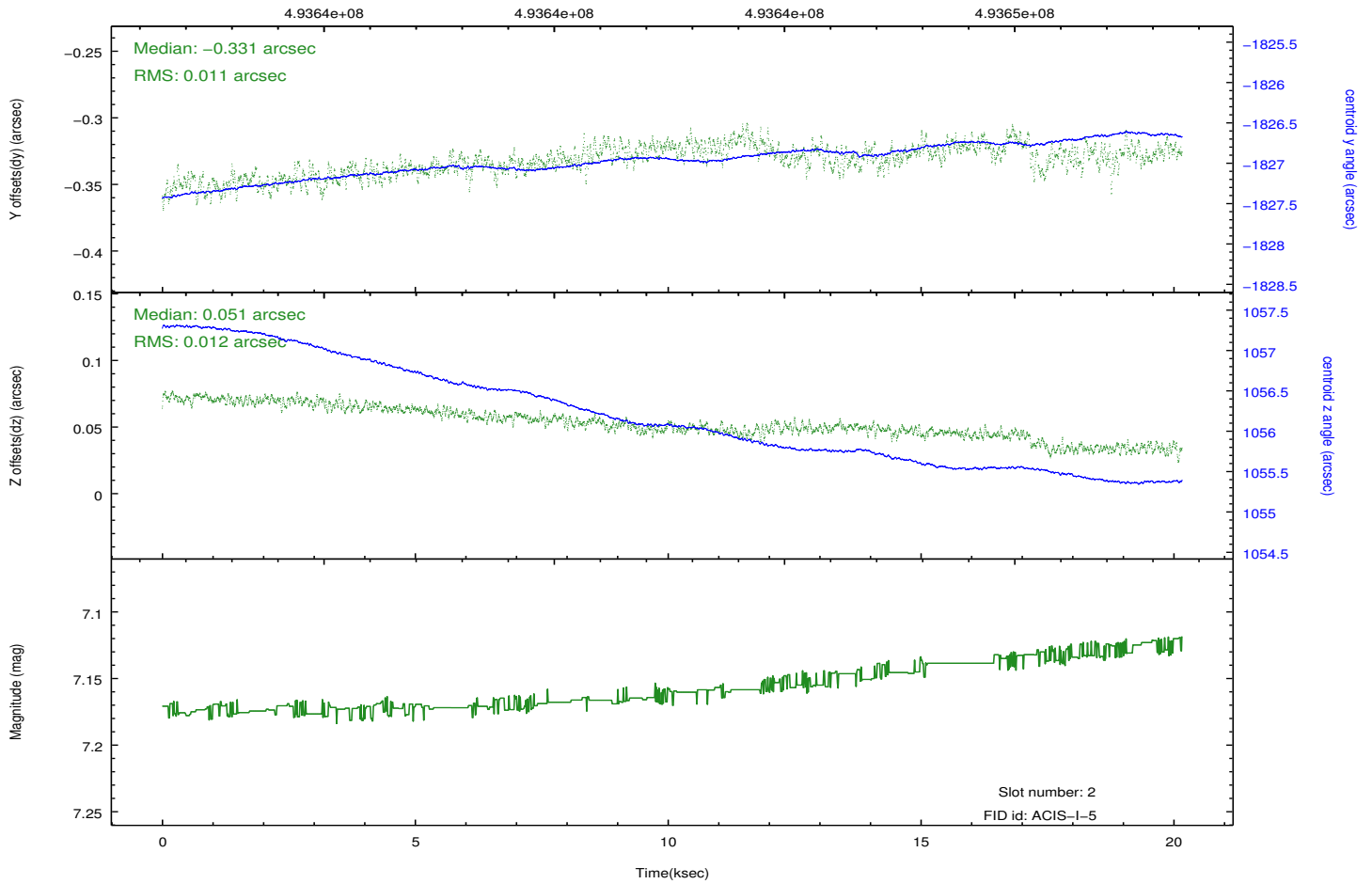
## 2.5.2 Slot 1



### 2.5.3 Slot 2



Time (s)



# A Summary

## A.1 Status

V&V Scientist	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	19.970853232741

## A.2 Comments

Joint proposal with Suzaku.

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.