

# V&V Reference Report

## L2 ASCDS Version : 10

Observation 15173 - L2 Version 2  
Chandra X-Ray Center

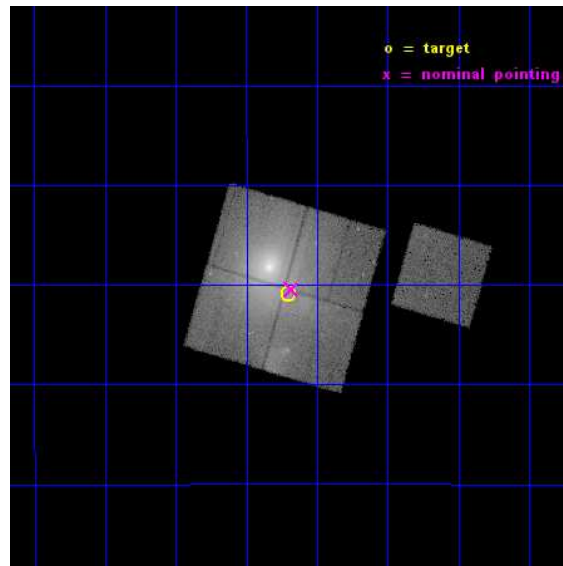
L2 Processing Date : Dec 5 2014

## 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

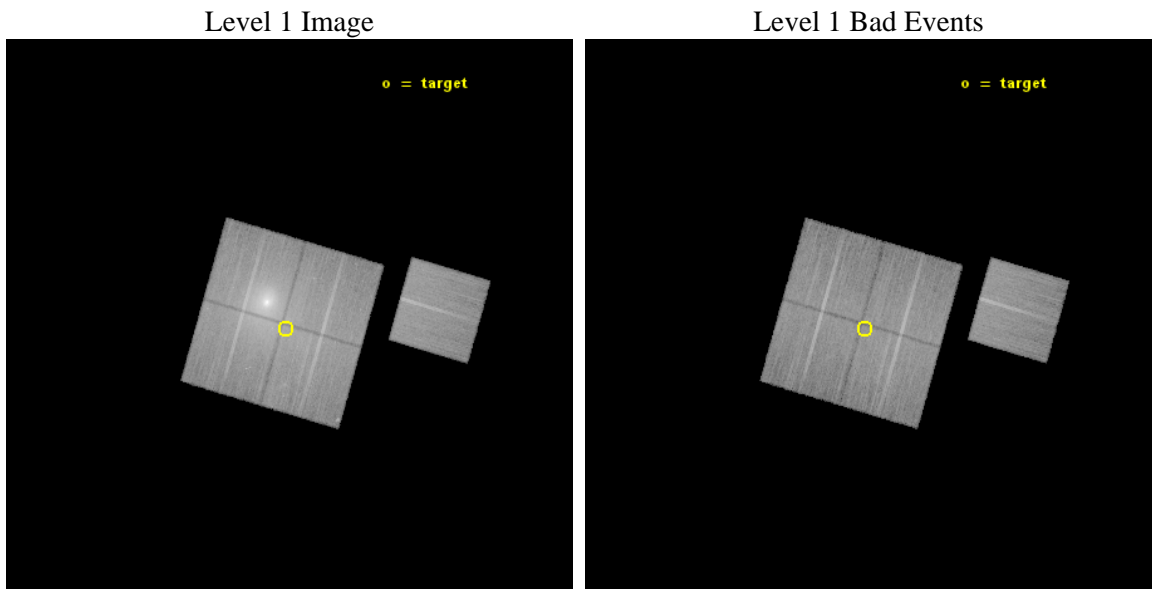
seq_num	801300	Sequence number
obs_id	15173	Observation id
title	Tracing a merger from start to finish in Abell 85	Proposal title
observer	Prof. Steven Allen	Principal investigator
object	Abell 85	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	10.424817	Observer's specified target RA [deg]
dec_targ	-9.347681	Observer's specified target Dec [deg]
ra_nom	10.420292376	Nominal RA [deg]
dec_nom	-9.3409368833274	Nominal Dec [deg]
roll_nom	106.20795907808	Nominal Roll [deg]
revision	2	Processing version of data
ontime	43079.423771441	Sum of GTIs [s]
livetime	42516.559385257	Livetime [s]
ontime0	43079.300641477	Sum of GTIs [s]
ontime1	43079.341691434	Sum of GTIs [s]
ontime2	43082.523771822	Sum of GTIs [s]
ontime3	43079.423771441	Sum of GTIs [s]
ontime6	43082.400651813	Sum of GTIs [s]
l2events	422268	Number of level 2 events



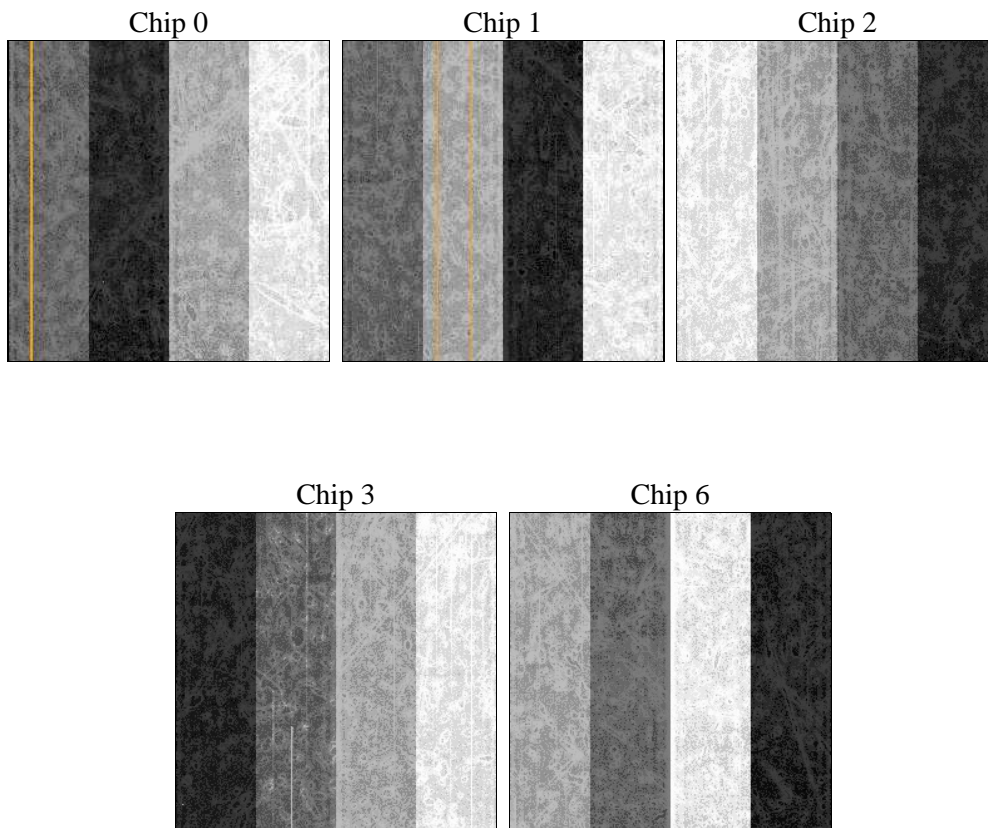
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	43000.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	43079.423771441	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime0	43079.300641477	Sum of GTIs [s]
date	2014-12-06T03:44:20	Date and time of file creation	ontime1	43079.341691434	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	43082.523771822	Sum of GTIs [s]
			ontime3	43079.423771441	Sum of GTIs [s]
			ontime6	43082.400651813	Sum of GTIs [s]
			l1events	1348881	Number of level 1 events

### 2.1.4 Events

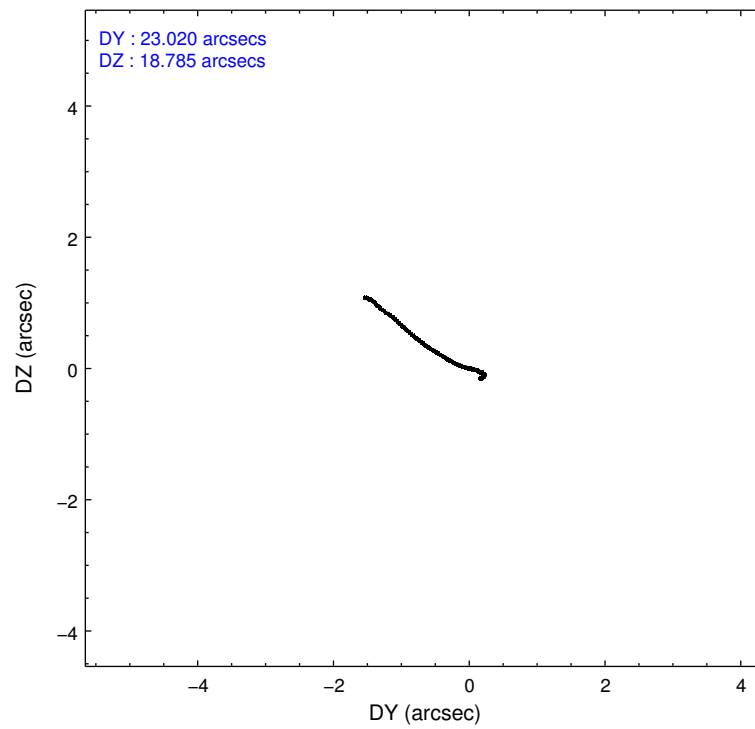
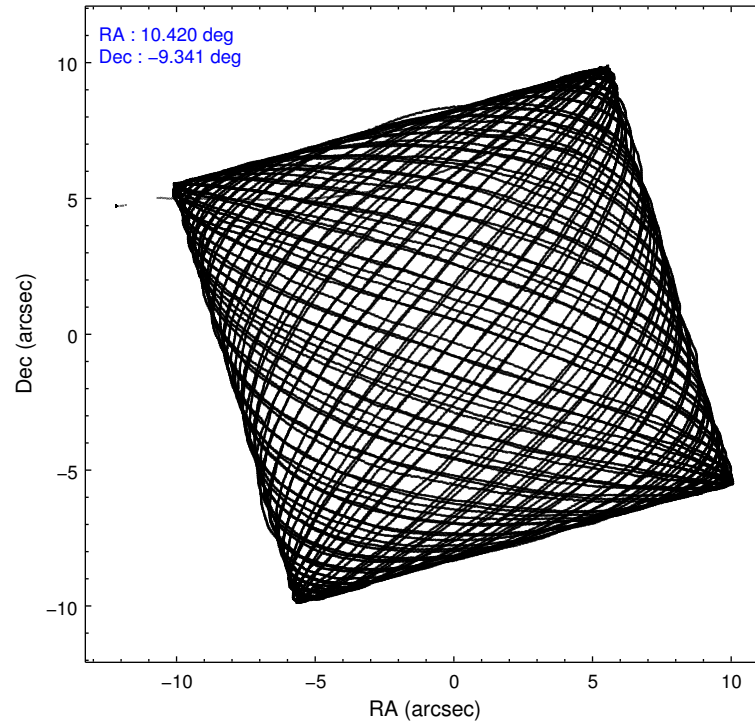
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	385882	261287	246029	241942	213741
rejected events	171000	167923	182304	181680	187147
rejected %	44%	64%	74%	75%	87%

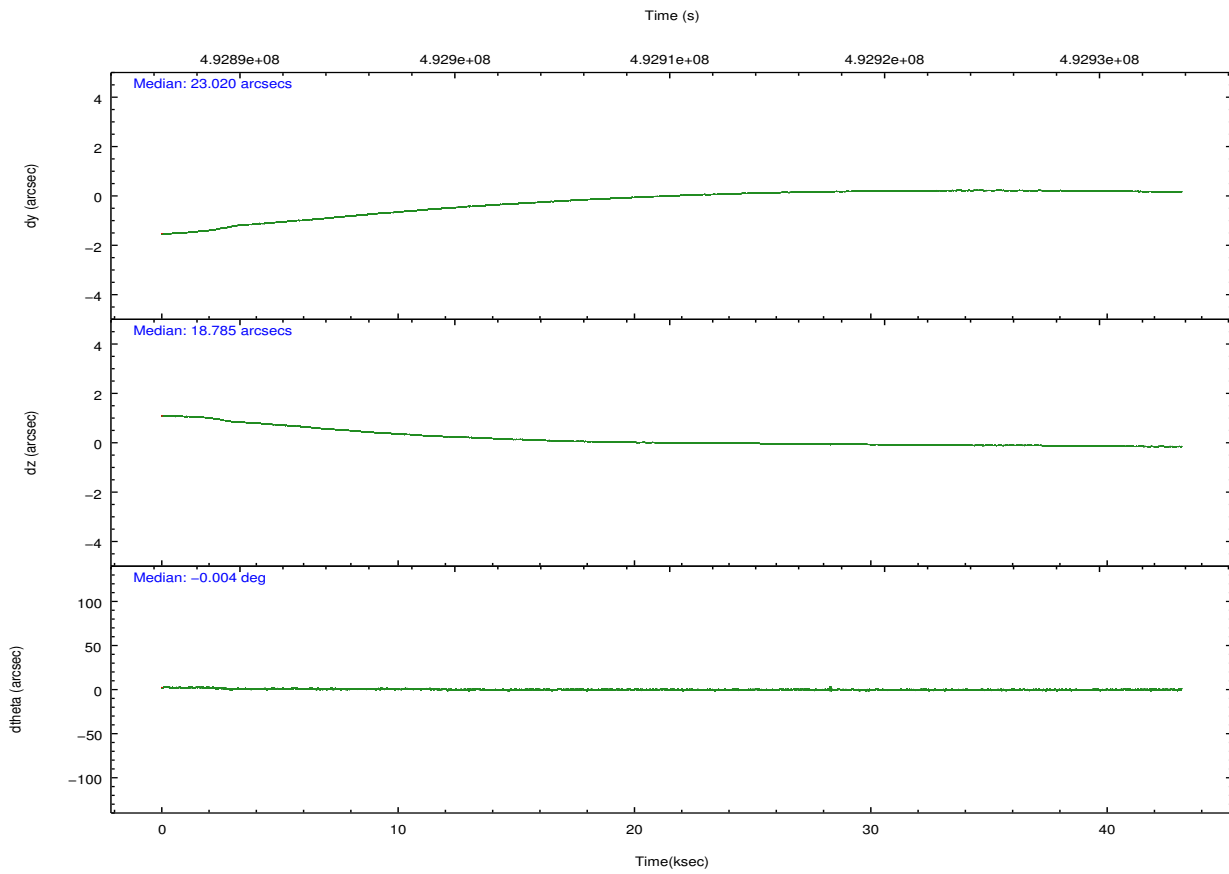
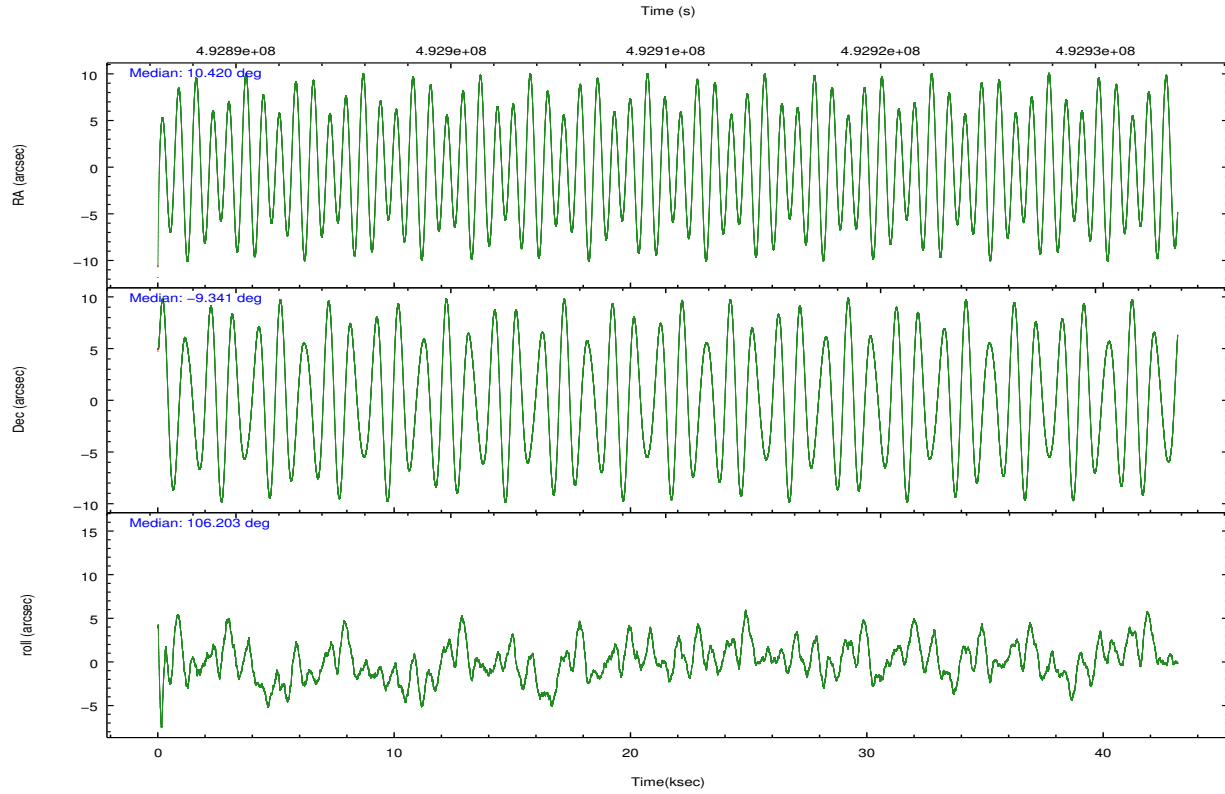
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	162701	62239	40445	37596	9436
	42%	23%	16%	15%	4%
grade 1 events	693	271	247	258	114
	0%	0%	0%	0%	0%
grade 2 events	25278	13937	9982	9161	6044
	6%	5%	4%	3%	2%
grade 3 events	8374	4627	3662	3696	2698
	2%	1%	1%	1%	1%
grade 4 events	8326	4672	3676	3716	2630
	2%	1%	1%	1%	1%
grade 5 events	10505	10758	9587	11609	11152
	2%	4%	3%	4%	5%
grade 6 events	10243	7906	5965	6104	5791
	2%	3%	2%	2%	2%
grade 7 events	159762	156877	172465	169802	175876
	41%	60%	70%	70%	82%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-01236	ACIS-01236	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	10.440492	10.42029237600044	CCD I2 on	Y	Y
[deg] Pointing Dec	-9.359896	-9.340936883327378	CCD I3 on	Y	Y
[deg] Pointing Roll	106.002548	106.2079590780788	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	O1	Y
[mm] SIM translation stage pos	-233.592463	-233.5874344608287	CCD S3 on	N	N
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	492888664.184000	492887685.63546	CCD S5 on	N	N
Observation start date	2013-08-14T17:29:57	2013-08-14T17:14:45	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	492931664.184000	492932056.35038	On-chip summing requested	N	N
Observation end date	2013-08-15T05:26:37	2013-08-15T05:34:16	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





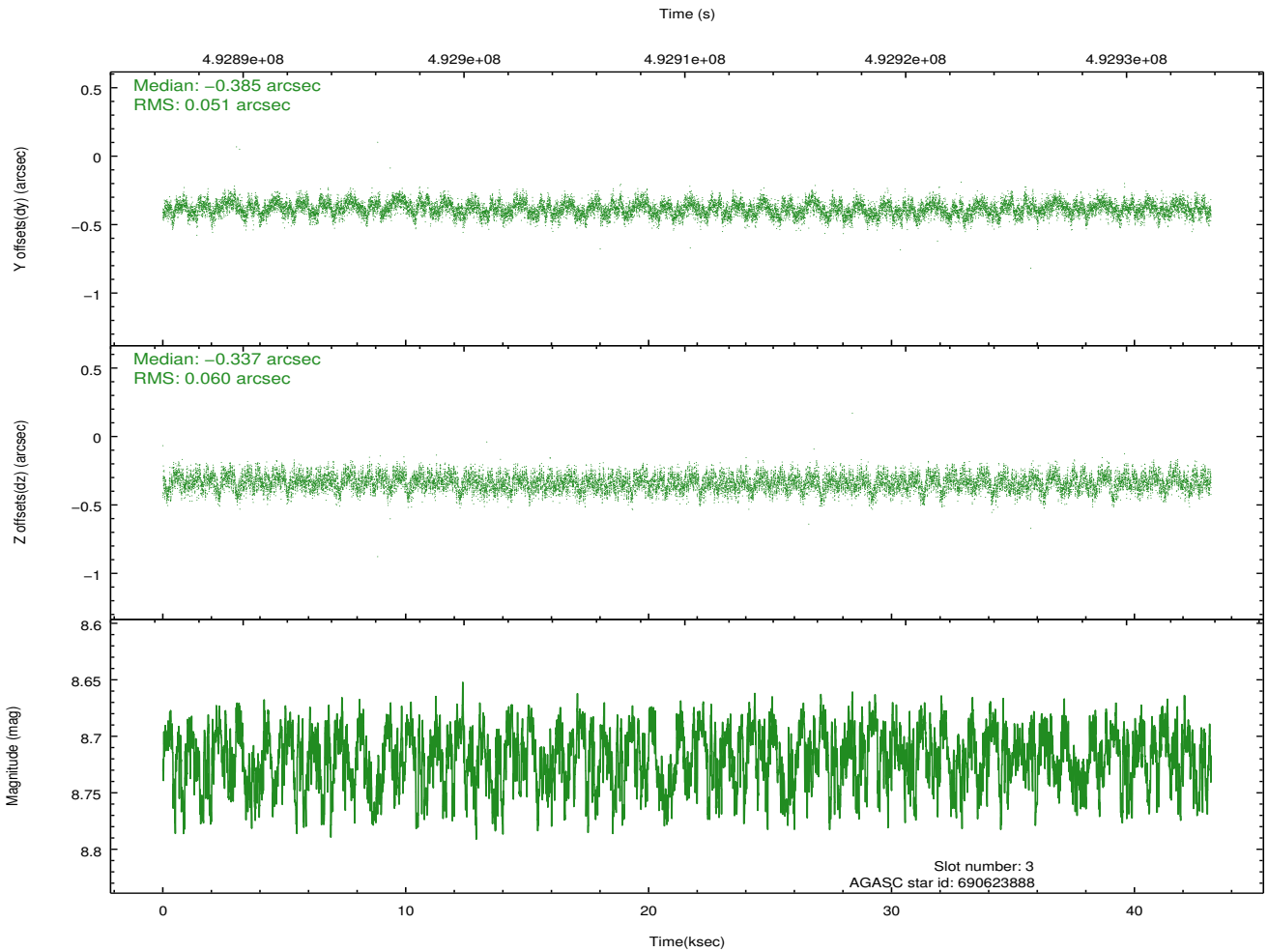
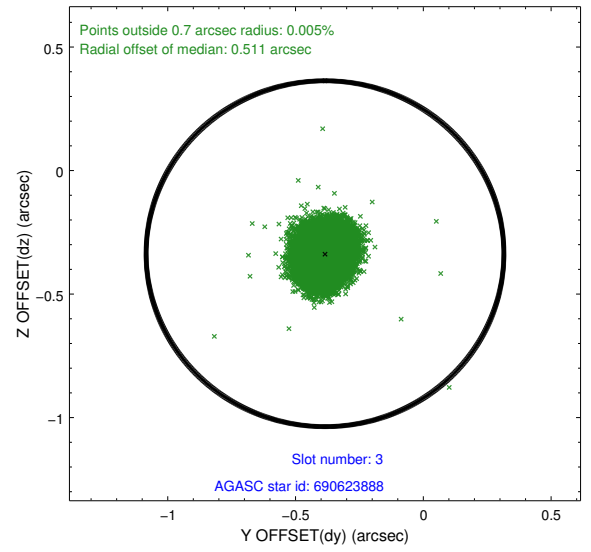
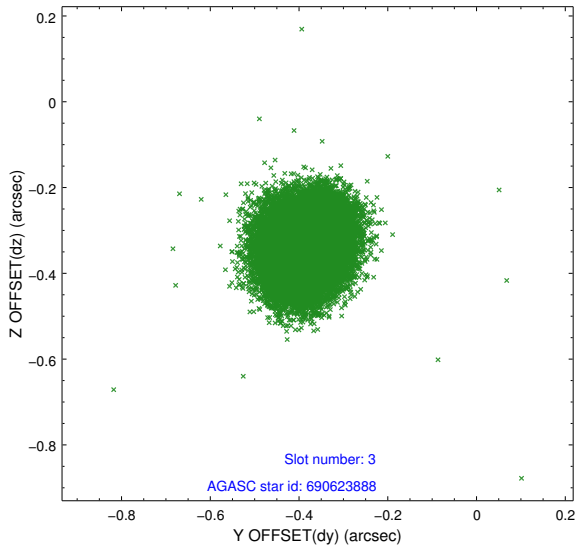
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.10	10524	0.035	0.035	0.011	0.028	0.000000	0.000000	916.54	-842.58
1	FID		ACIS-I-5	7.08	10524	-0.267	0.033	0.009	0.015	0.000000	0.000000	-1831.94	1054.80
2	FID		ACIS-I-6	7.09	10522	0.141	0.003	0.011	0.031	0.000000	0.000000	382.08	1699.37
3	GUIDE	used	690623888	8.72	20996	-0.385	-0.337	0.084	0.133	10.089843	-9.212040	854.19	1051.20
4	GUIDE	used	690625160	8.88	21021	0.000	-0.206	0.096	0.165	10.224219	-9.960066	-1865.61	1332.87
5	GUIDE	used	690632656	9.22	21011	0.054	-0.145	0.099	0.165	10.397747	-9.674983	-1048.68	458.88
6	GUIDE	used	690636928	9.24	20871	0.289	0.367	0.125	0.202	11.054156	-9.568424	-1323.44	-1886.01
7	GUIDE	used	690637960	6.80	21045	0.041	0.315	0.076	0.123	10.711431	-9.921690	-2209.29	-365.18

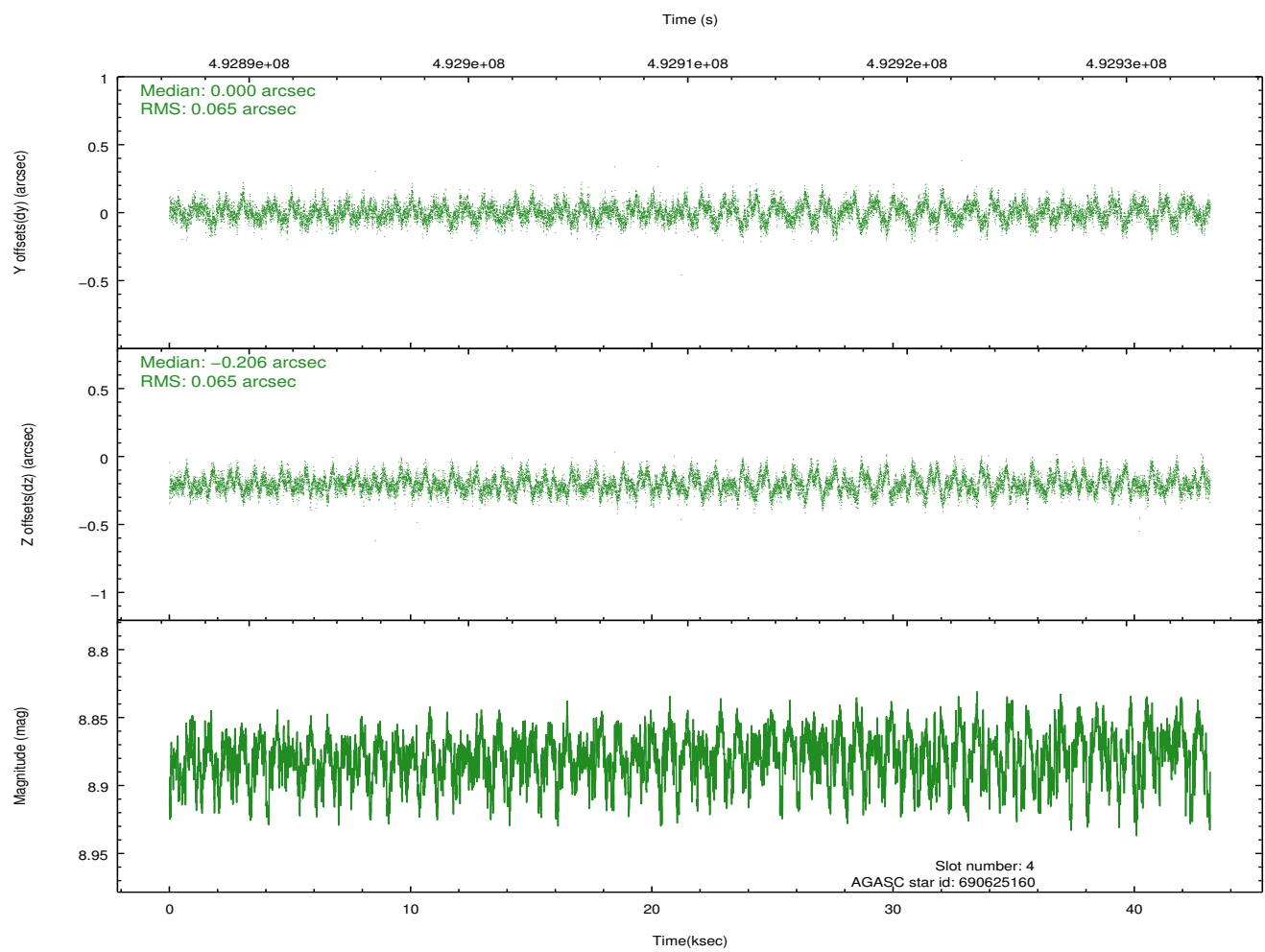
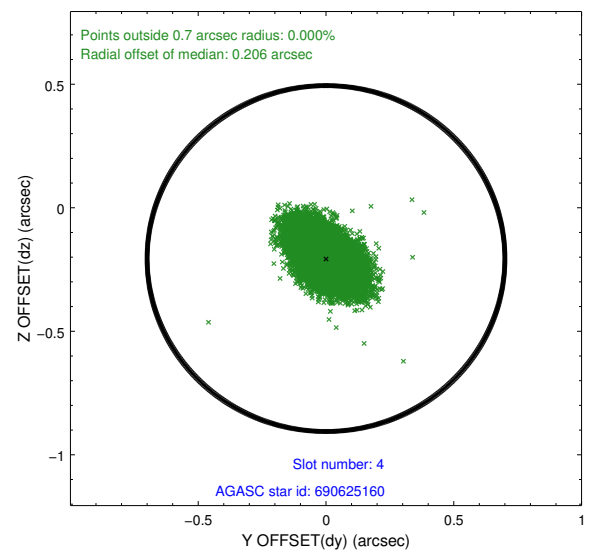
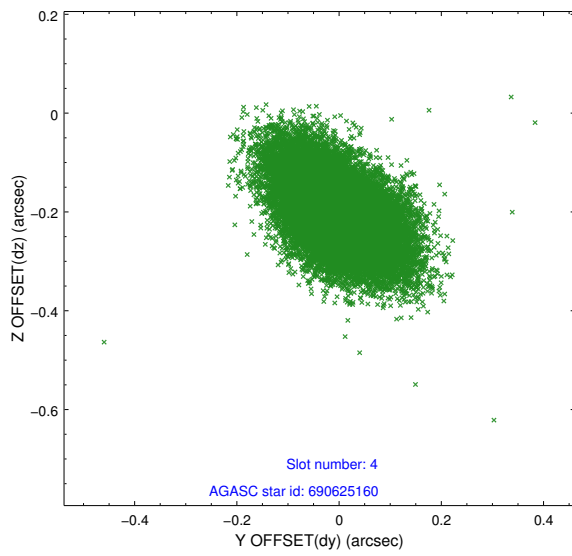
∞

## 2.4 Star Slots

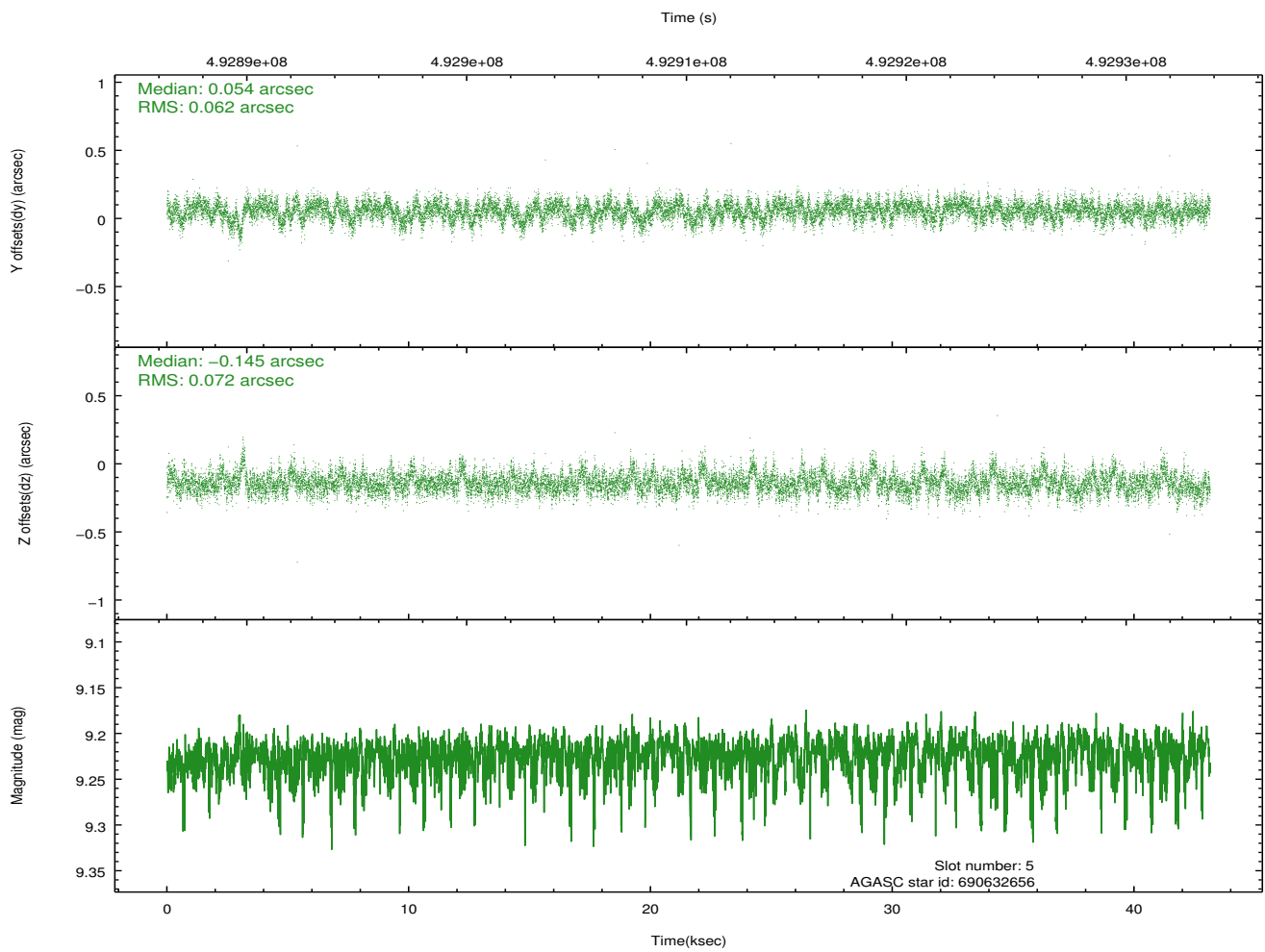
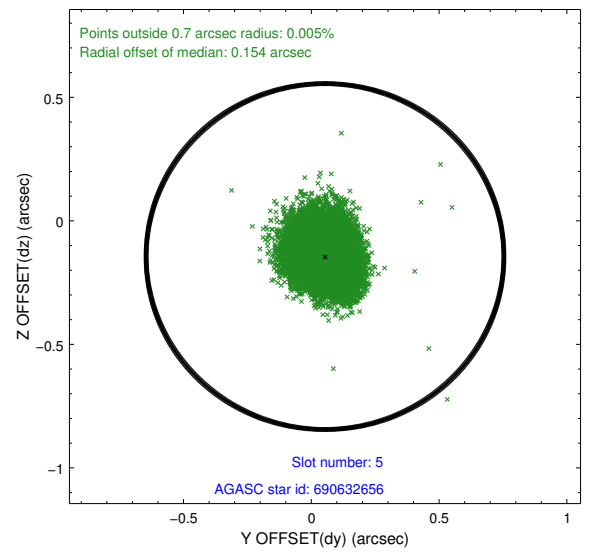
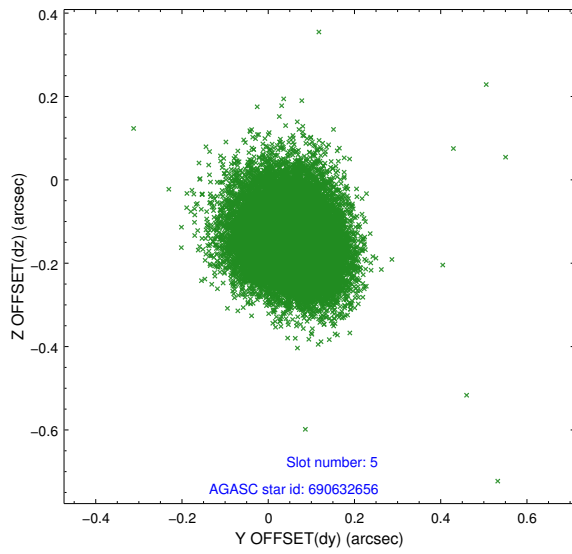
### 2.4.1 Slot 3



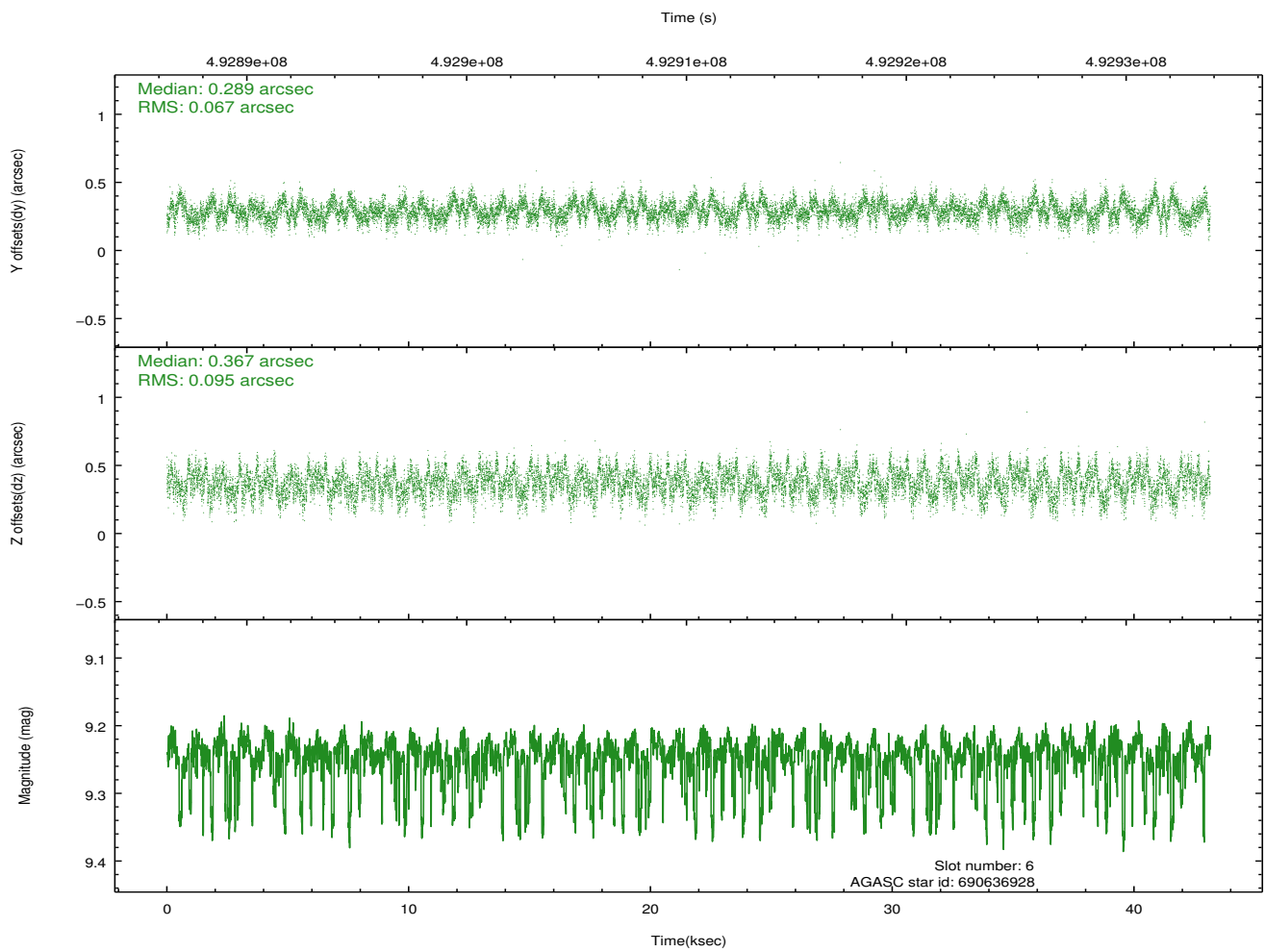
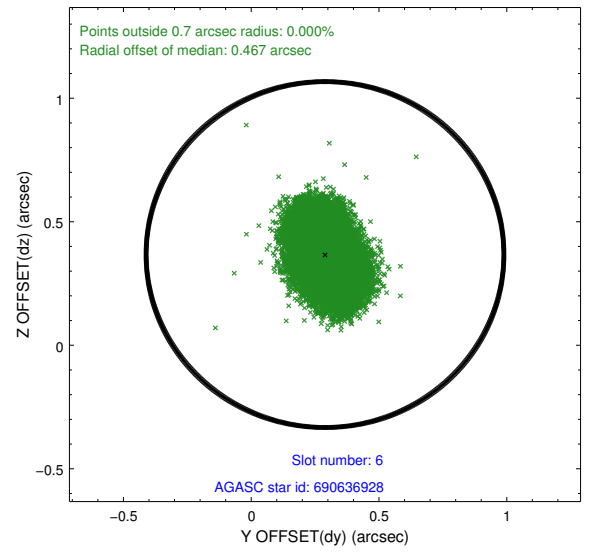
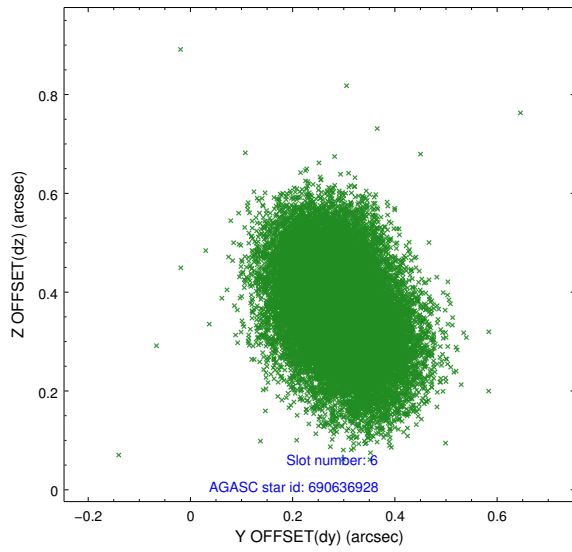
## 2.4.2 Slot 4



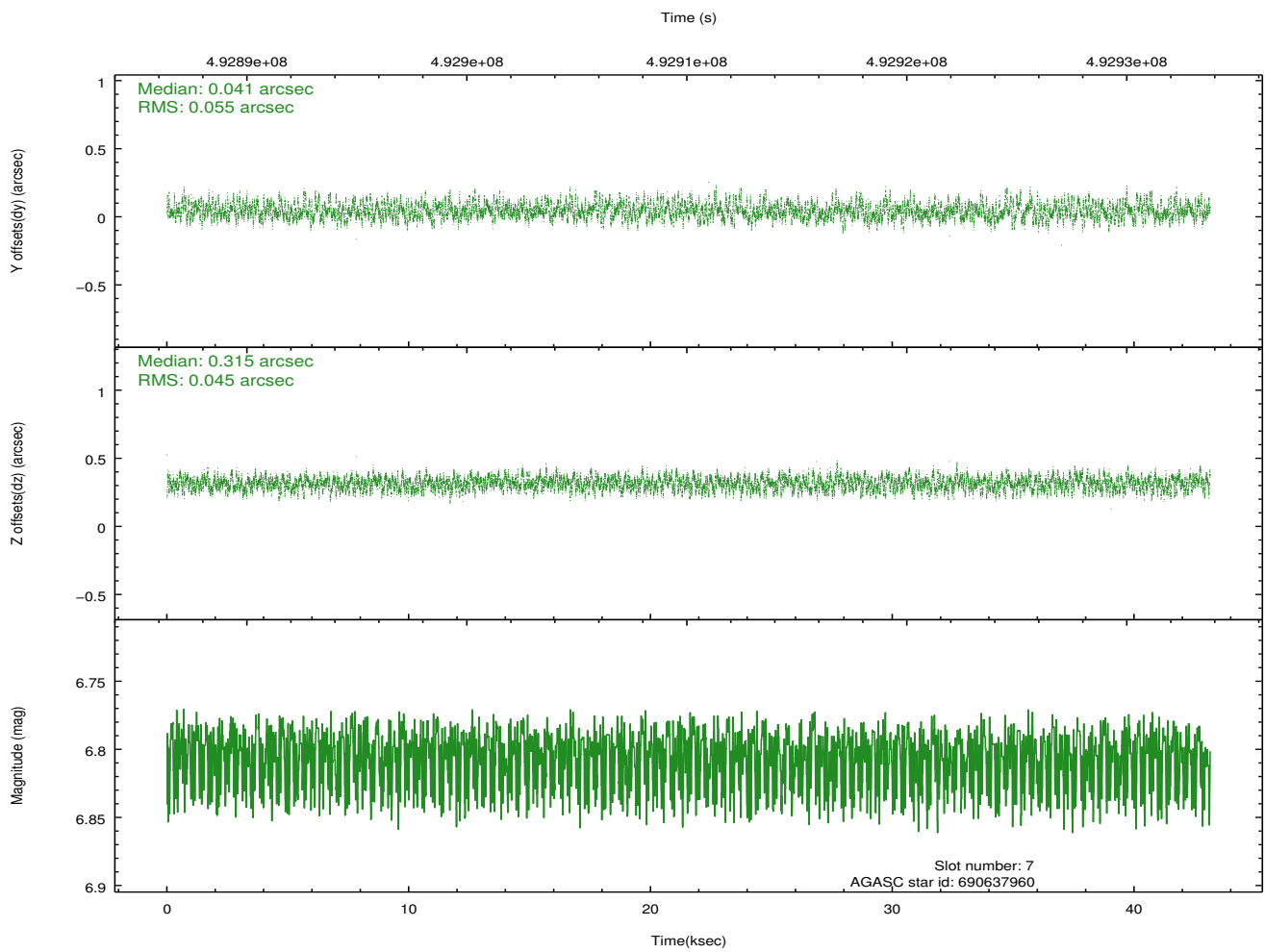
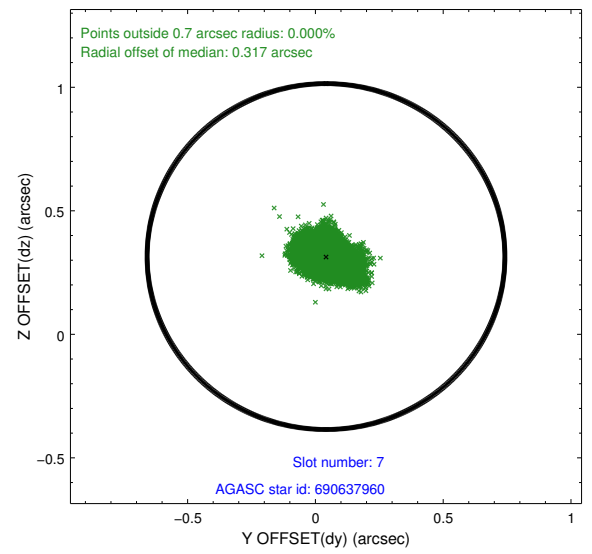
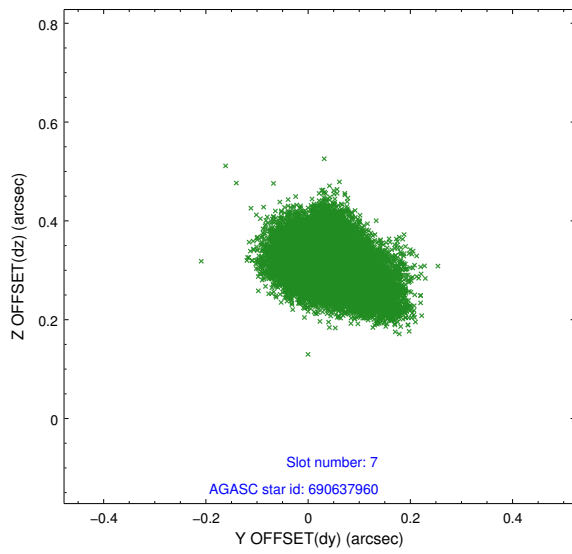
### 2.4.3 Slot 5



## 2.4.4 Slot 6

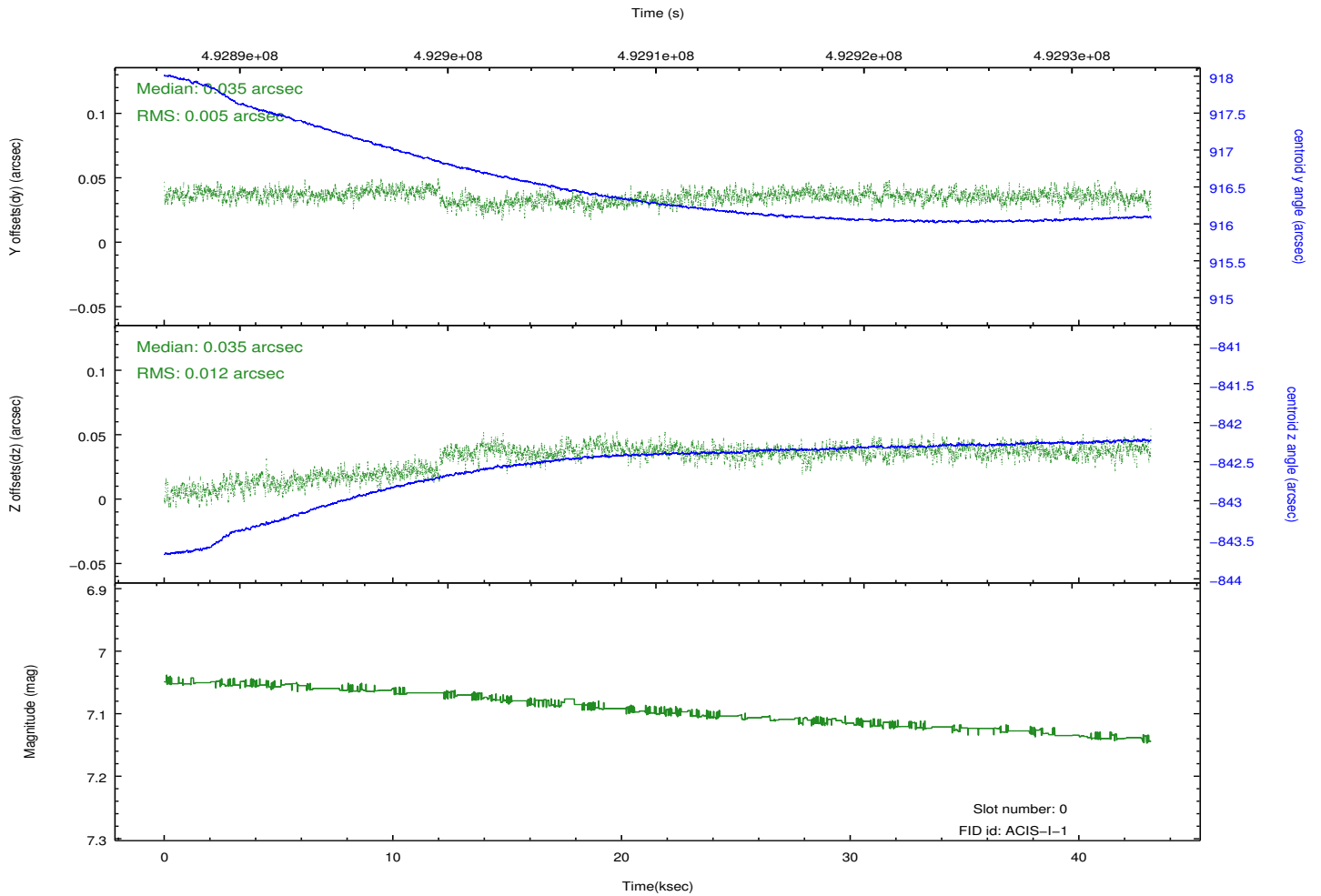
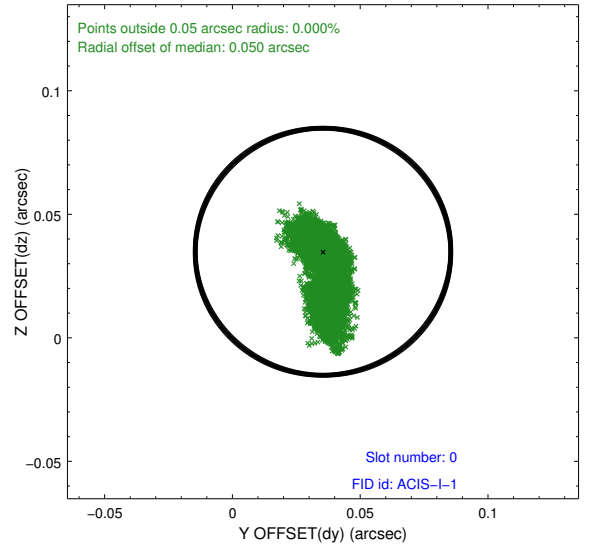
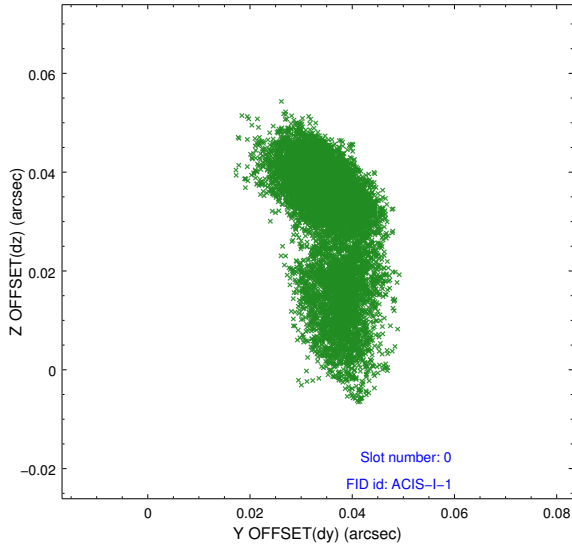


## 2.4.5 Slot 7

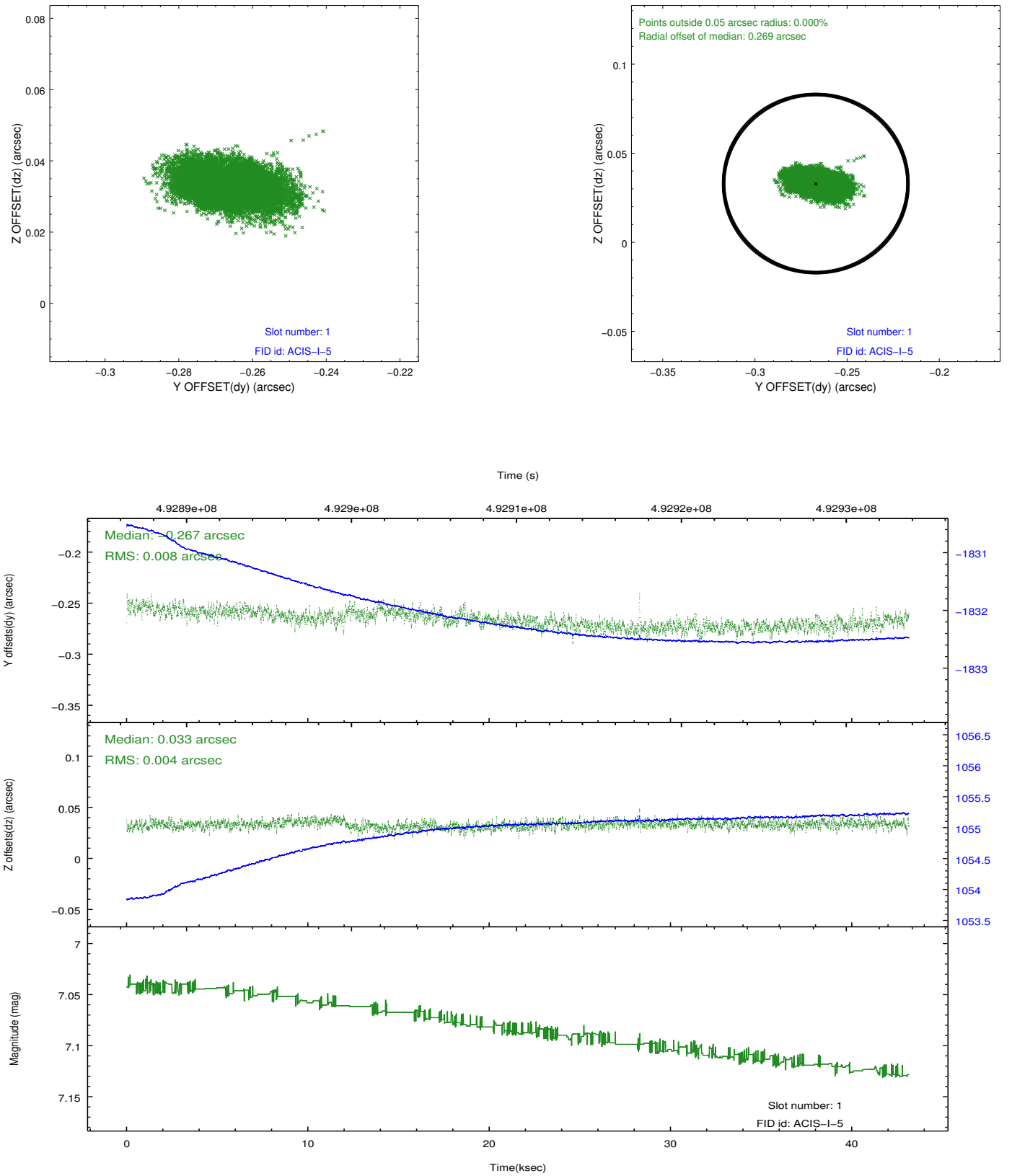


## 2.5 FID Slots

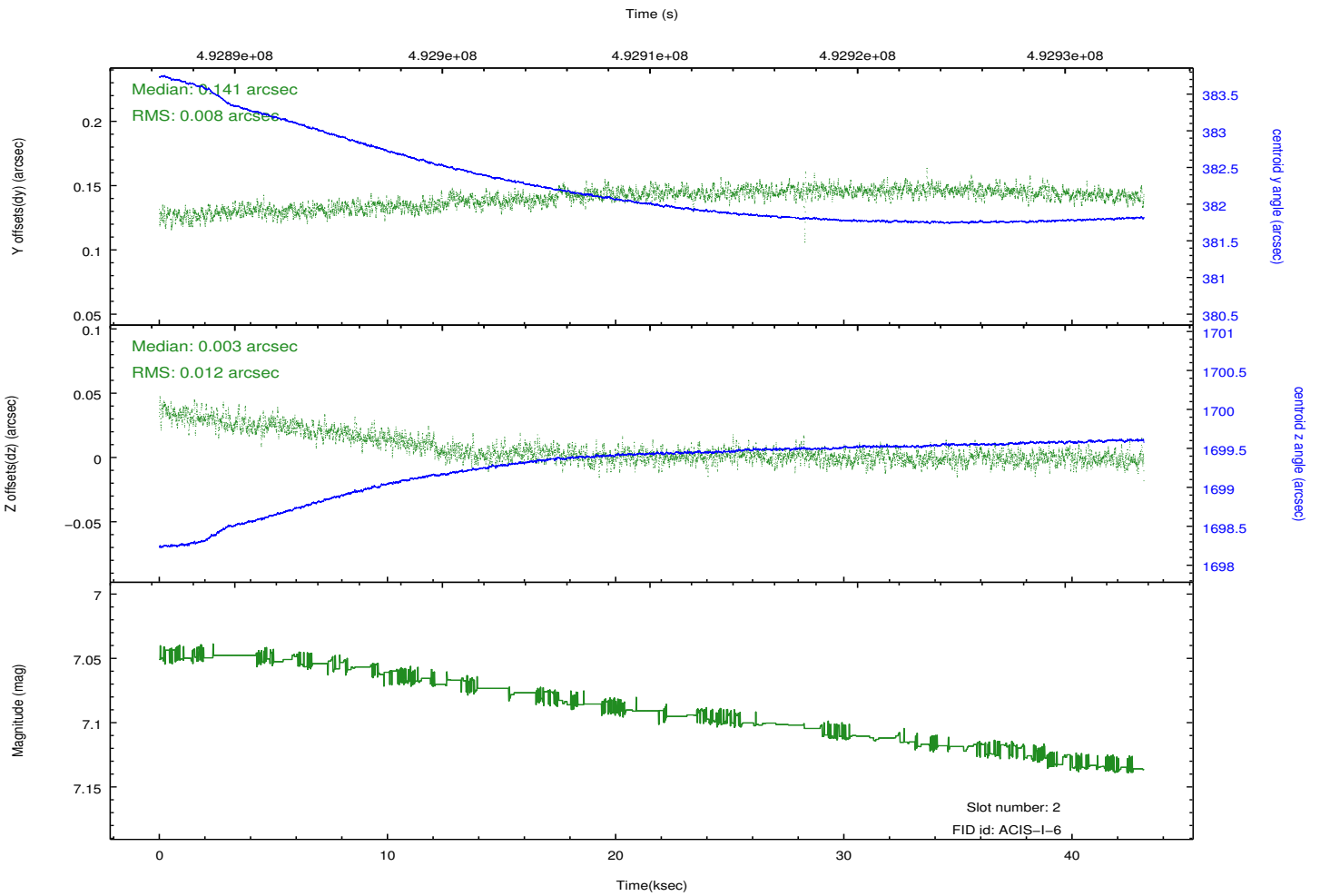
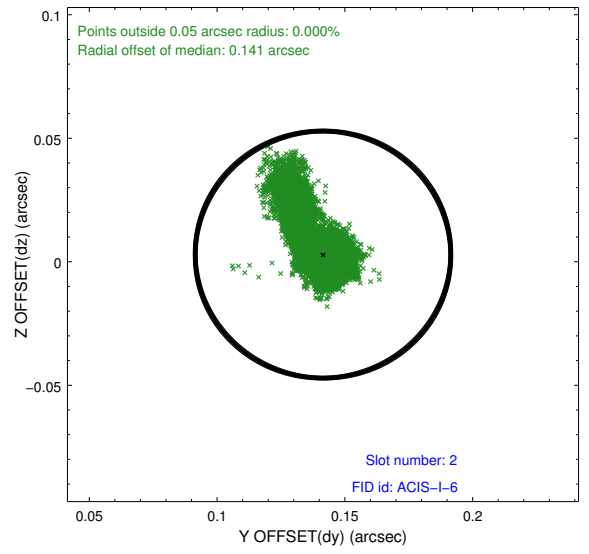
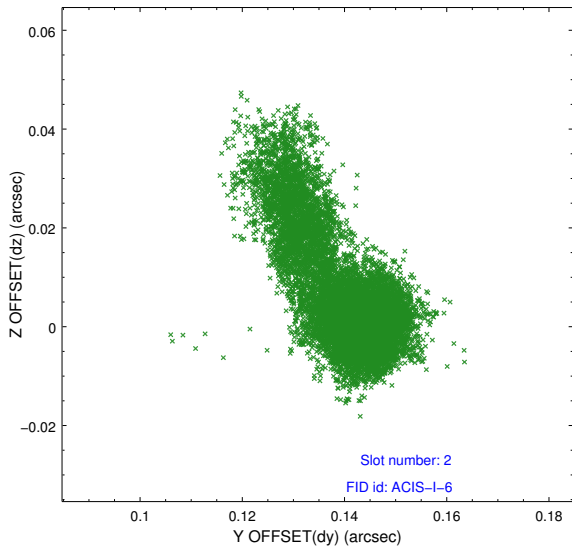
### 2.5.1 Slot 0



## 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	43.079423771441

## 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.