

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 12194 - L2 Version 2  
Chandra X-Ray Center

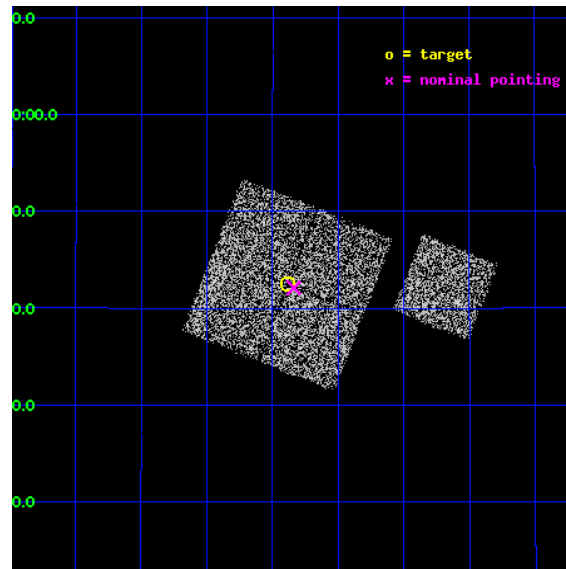
L2 Processing Date : Mar 7 2012

## 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

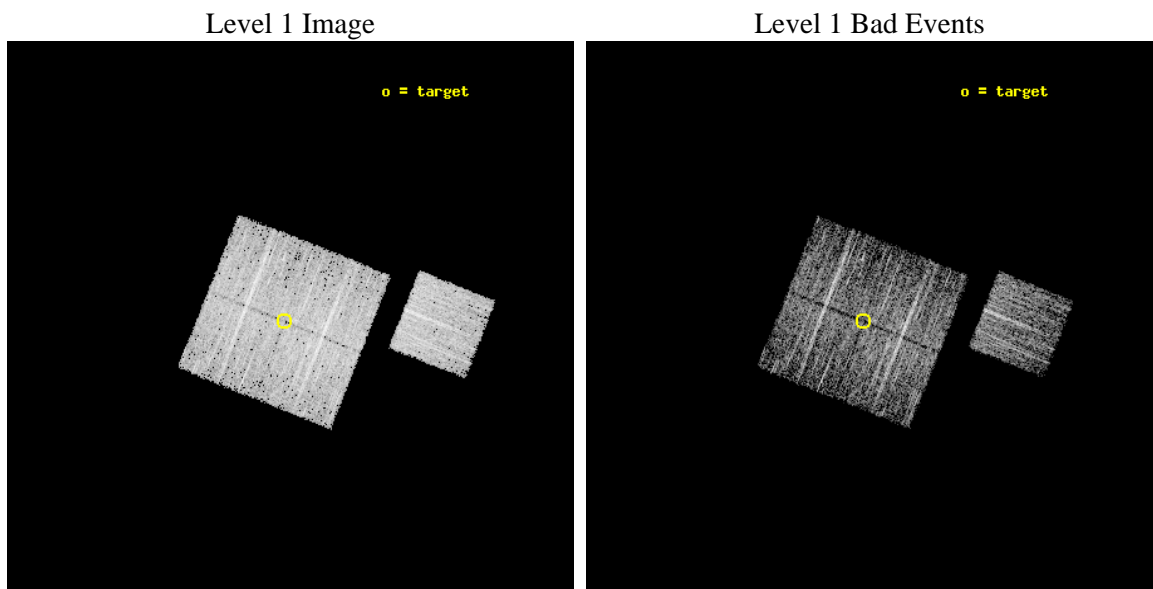
seq_num	800960	Sequence number
obs_id	12194	Observation id
title	The Chandra Cluster Outskirts Snapshot Survey	Proposal title
observer	Prof. Gordon Garmire	Principal investigator
object	A1413_Field1	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	178.84524	Observer's specified target RA [deg]
dec_targ	23.70832	Observer's specified target Dec [deg]
ra_nom	178.83438254252	Nominal RA [deg]
dec_nom	23.702042613594	Nominal Dec [deg]
roll_nom	111.70511578179	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5079.5144475102	Sum of GTIs [s]
livetime	5013.1468517694	Livetime [s]
ontime0	5079.4734075069	Sum of GTIs [s]
ontime1	5079.5144475102	Sum of GTIs [s]
ontime2	5079.5554875135	Sum of GTIs [s]
ontime3	5079.5965275168	Sum of GTIs [s]
ontime6	5076.2913572788	Sum of GTIs [s]
l2events	14967	Number of level 2 events



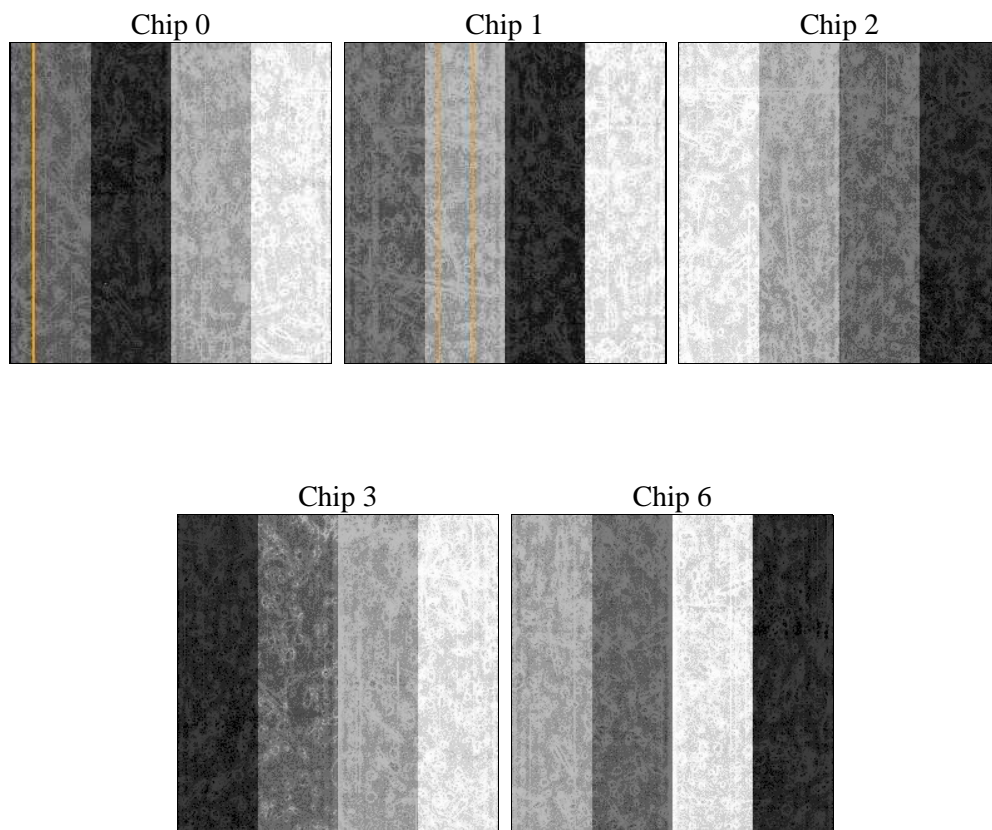
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	5079.5144475102	Sum of GTIs [s]
caldbver	4.4.8	&#160	ontime0	5079.4734075069	Sum of GTIs [s]
date	2012-03-07T18:30:05	Date and time of file creation	ontime1	5079.5144475102	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	5079.5554875135	Sum of GTIs [s]
			ontime3	5079.5965275168	Sum of GTIs [s]
			ontime6	5076.2913572788	Sum of GTIs [s]
			l1events	144208	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	27141	27629	29584	29404	30450
rejected events	23623	23863	26239	25958	26850
rejected %	87%	86%	88%	88%	88%

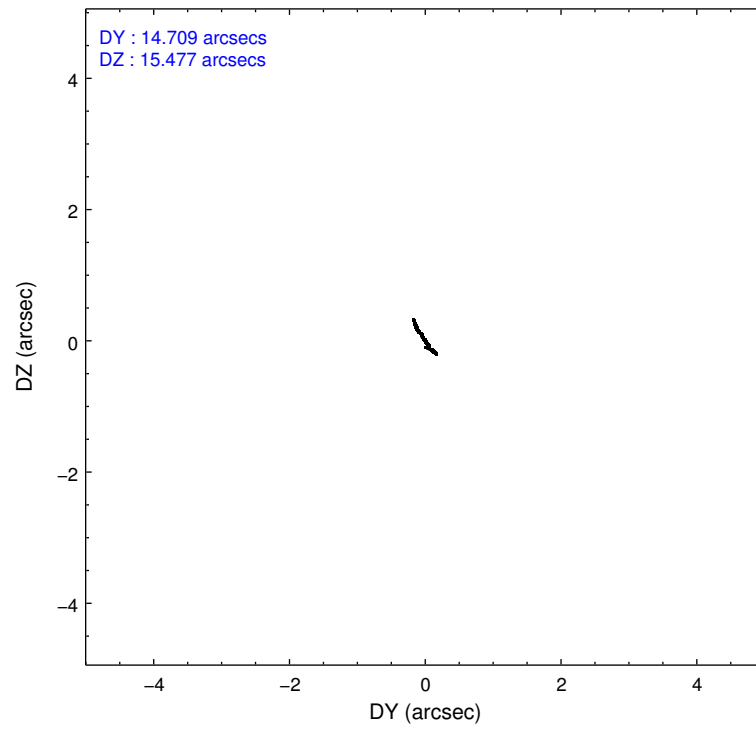
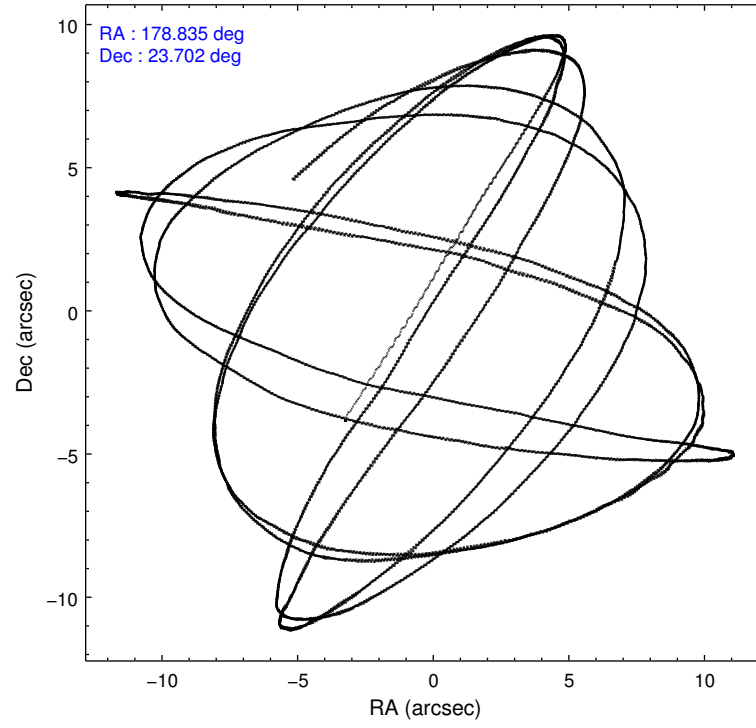
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	1217	1305	1184	1285	1276
	4%	4%	4%	4%	4%
grade 1 events	16	10	9	29	12
	0%	0%	0%	0%	0%
grade 2 events	882	899	811	764	835
	3%	3%	2%	2%	2%
grade 3 events	343	404	338	364	354
	1%	1%	1%	1%	1%
grade 4 events	344	370	333	349	348
	1%	1%	1%	1%	1%
grade 5 events	1355	1496	1342	1484	1461
	4%	5%	4%	5%	4%
grade 6 events	736	797	685	689	792
	2%	2%	2%	2%	2%
grade 7 events	22248	22348	24882	24440	25372
	81%	80%	84%	83%	83%

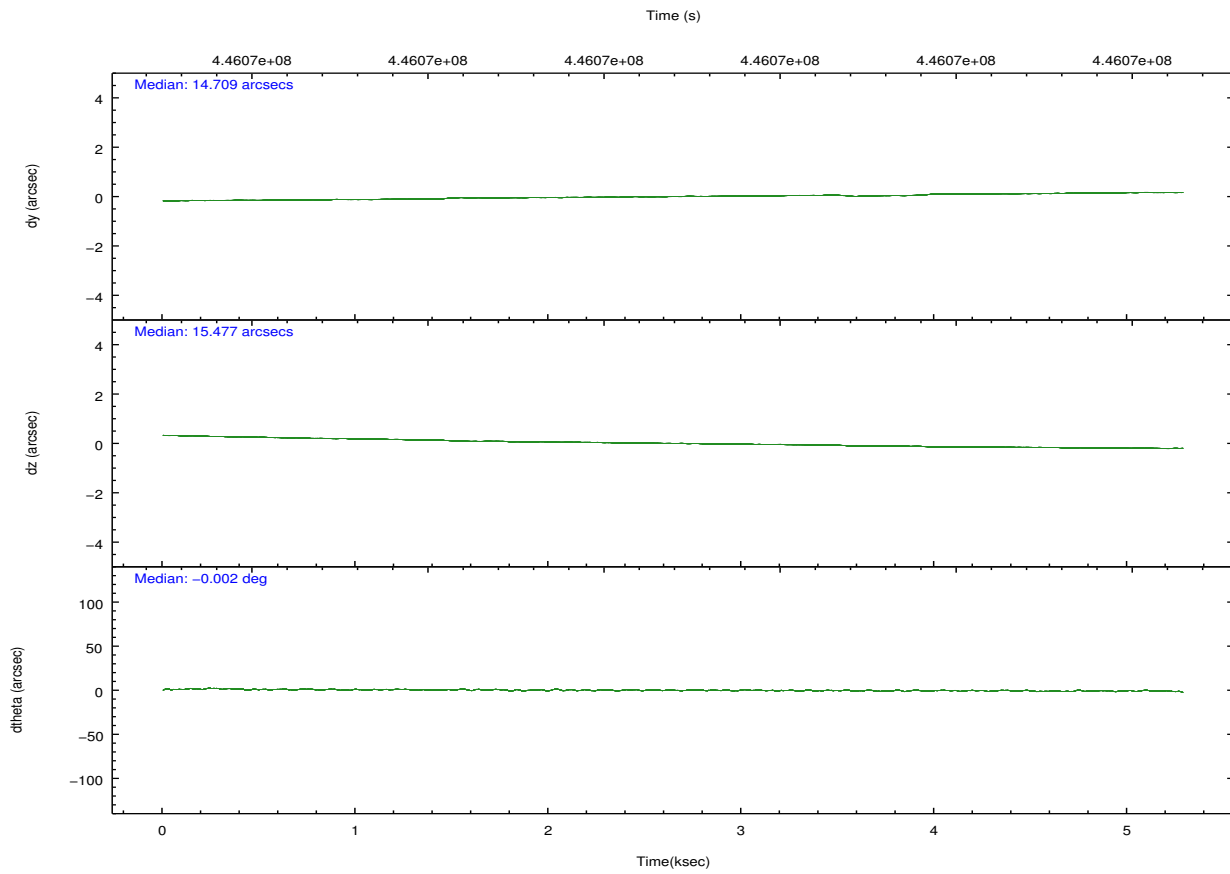
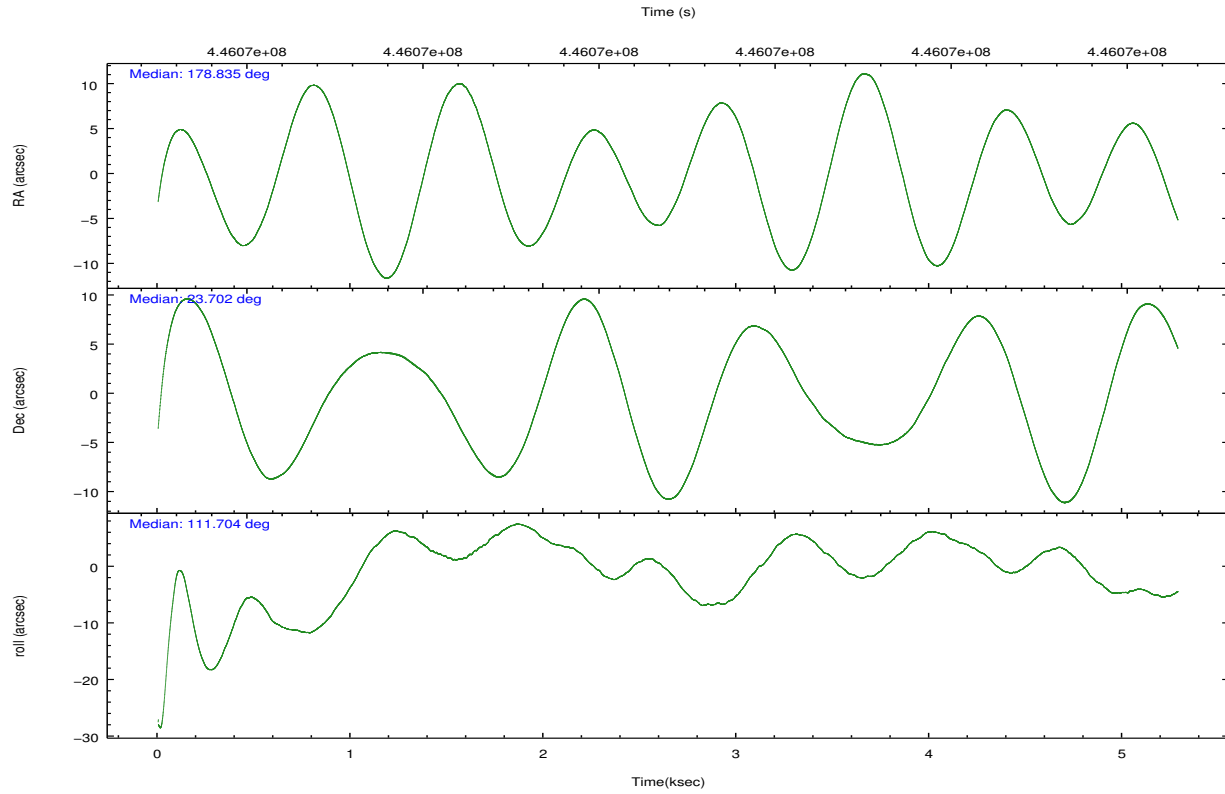


## 2.2 Compared Parameters

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	178.858011	178.8343825425206	CCD I2 on	Y	Y
[deg] Pointing Dec	23.684981	23.70204261359444	CCD I3 on	Y	Y
[deg] Pointing Roll	111.486998	111.7051157817928	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)	446067045.184000	446066041.36095	CCD S5 on	N	N
Observation start date	2012-02-19T19:29:39	2012-02-19T19:14:01	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	446072045.184000	446072179.06128	On-chip summing requested	N	N
Observation end date	2012-02-19T20:52:59	2012-02-19T20:56:19	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



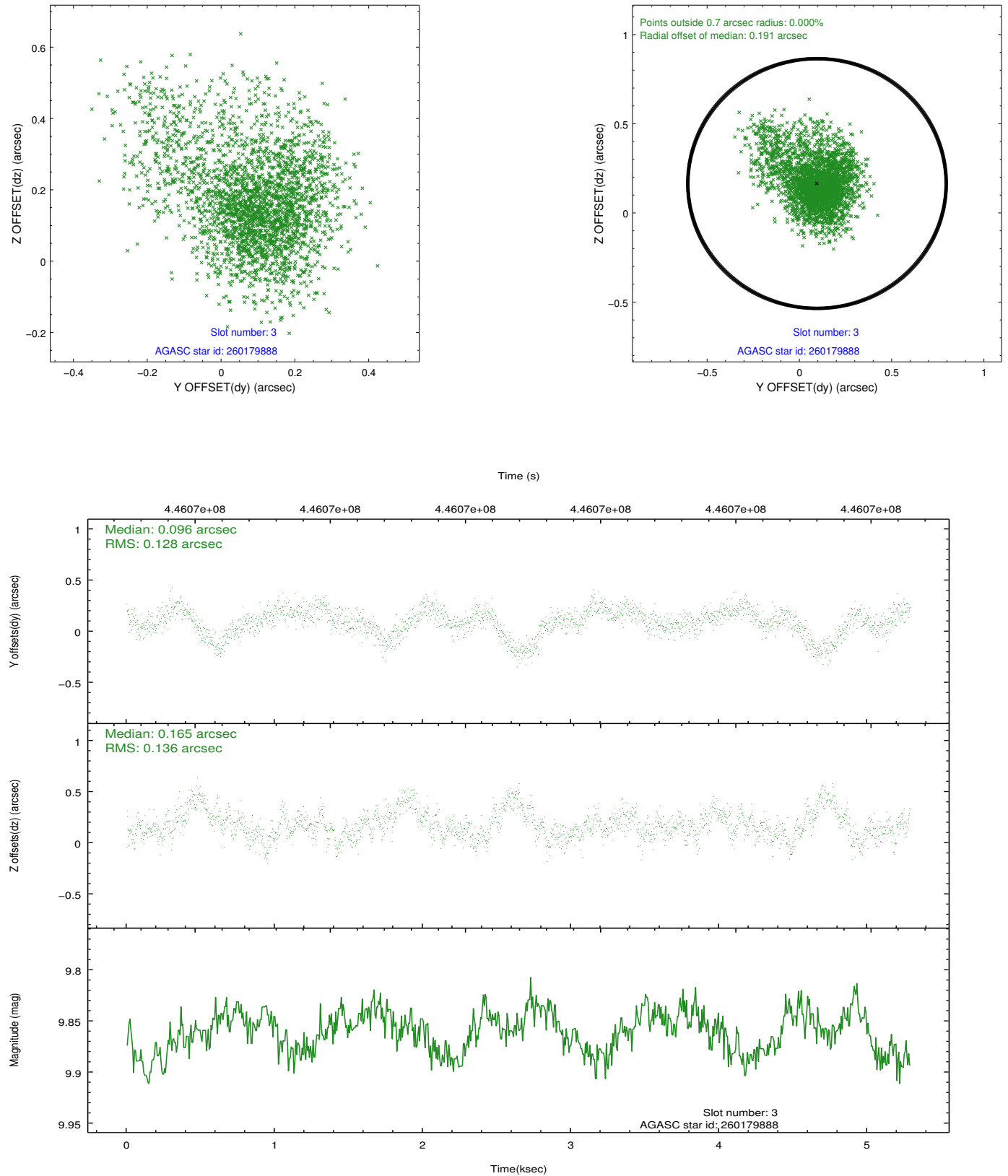


### Slot Statistics

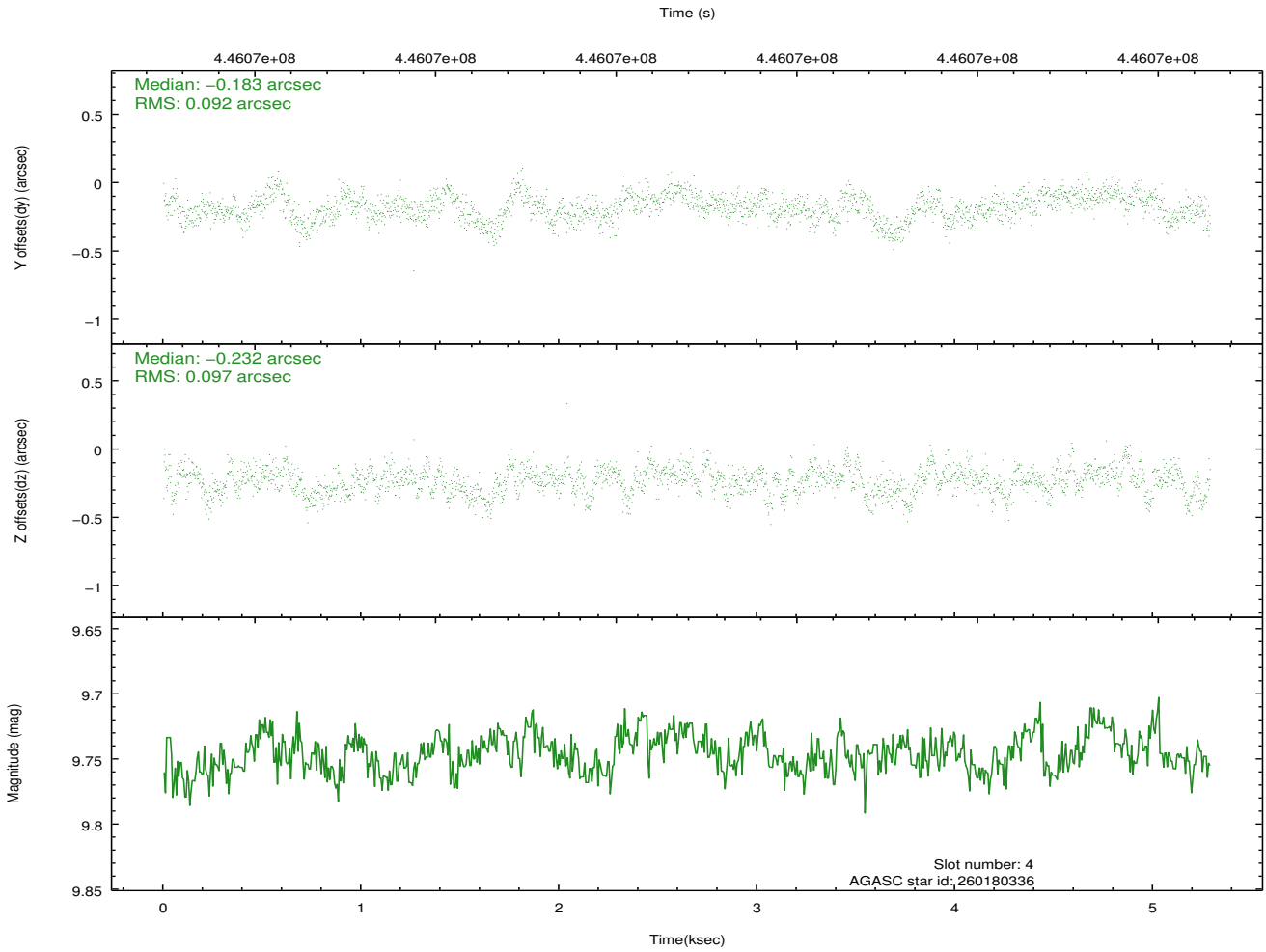
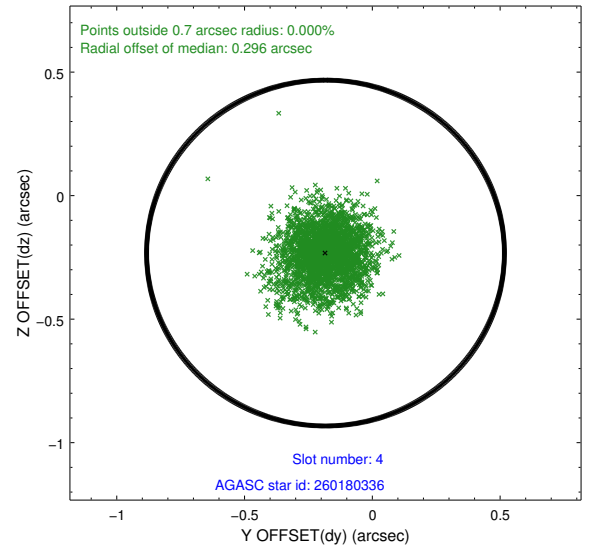
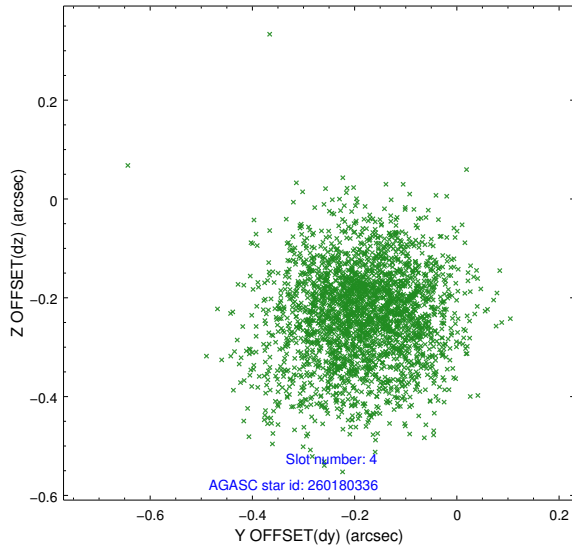
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.01	1290	0.054	-0.032	0.012	0.020	0.000000	0.000000	924.82	-839.13
1	FID	ACIS-I-5	7.01	1290	-0.232	0.049	0.007	0.013	0.000000	0.000000	-1822.95	1057.86
2	FID	ACIS-I-6	7.01	1290	0.087	0.054	0.009	0.013	0.000000	0.000000	389.15	1703.66
3	GUIDE	260179888	9.86	2580	0.096	0.165	0.191	0.345	179.434994	23.519279	-1248.86	-1554.10
4	GUIDE	260180336	9.75	2577	-0.183	-0.232	0.142	0.232	178.222989	23.655513	671.34	1986.15
5	GUIDE	260182304	9.21	2577	-0.113	-0.169	0.105	0.170	178.643100	23.810976	680.88	492.33
6	GUIDE	260186296	9.57	2564	0.118	0.037	0.170	0.266	179.246996	23.604894	-736.33	-1087.73
7	GUIDE	260187736	9.80	2559	0.093	0.193	0.169	0.262	179.012077	23.473451	-895.17	-193.67

## 2.4 Star Slots

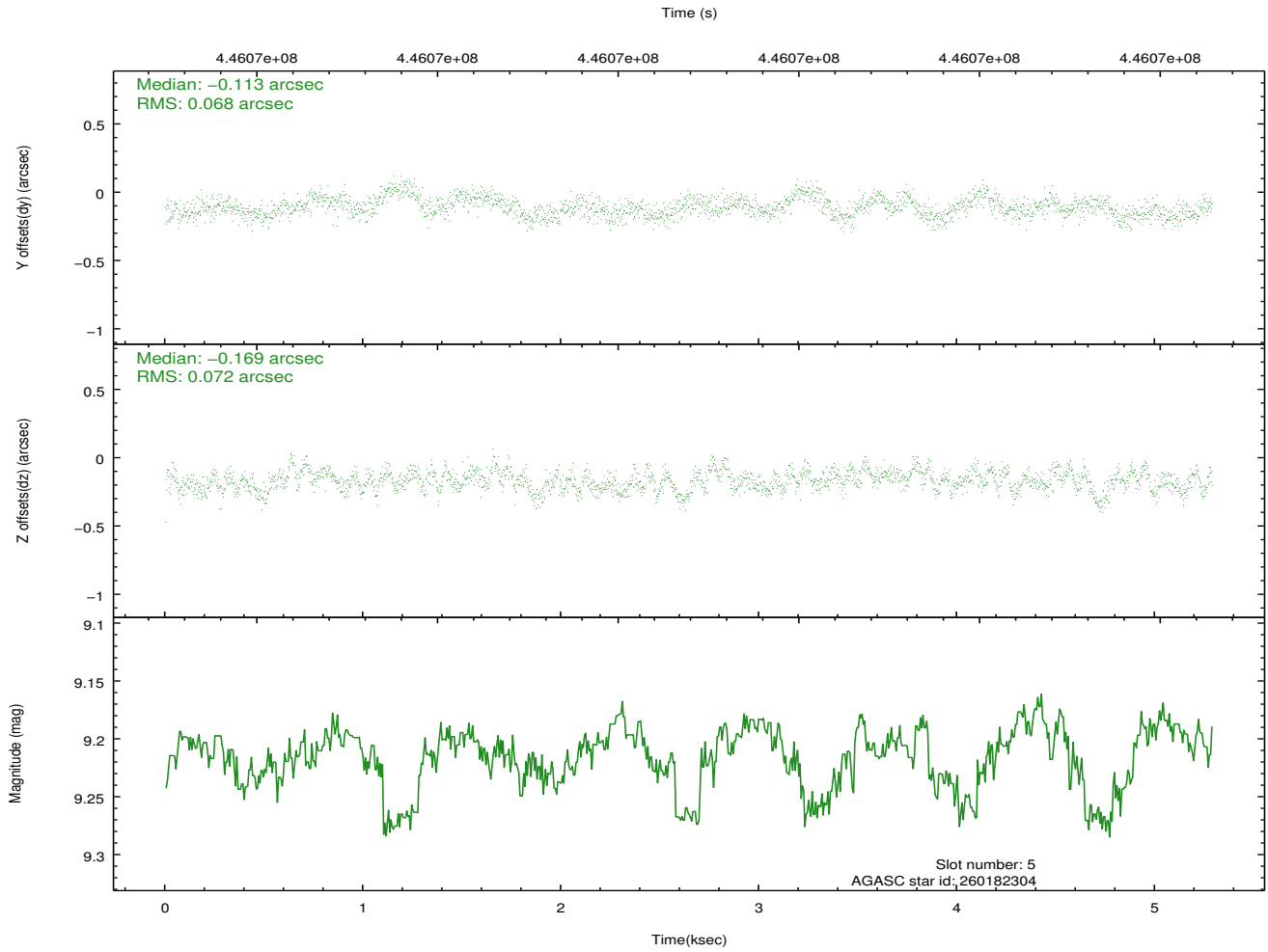
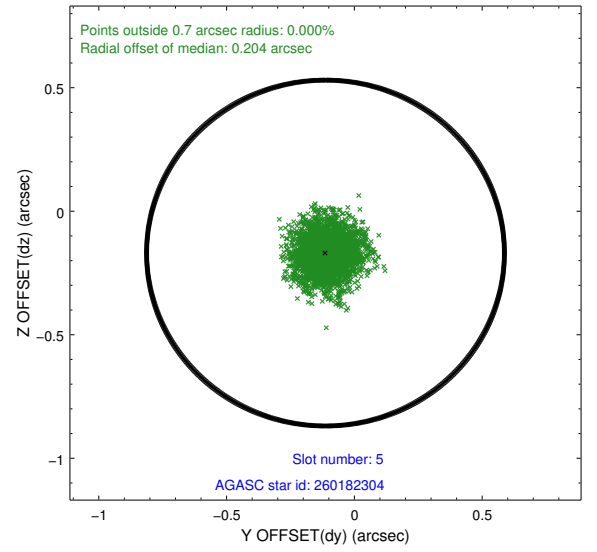
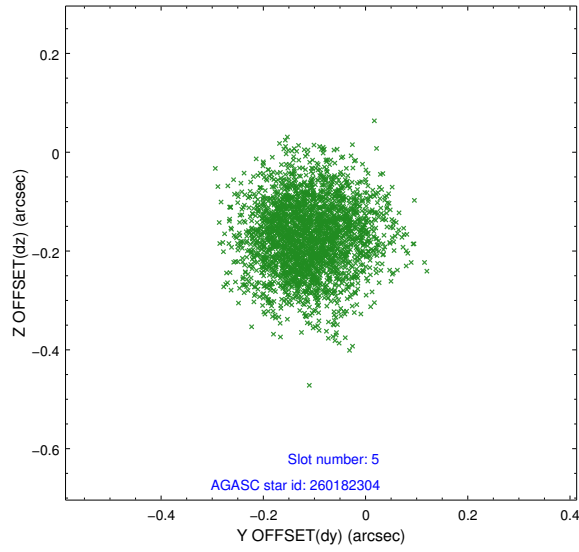
### 2.4.1 Slot 3



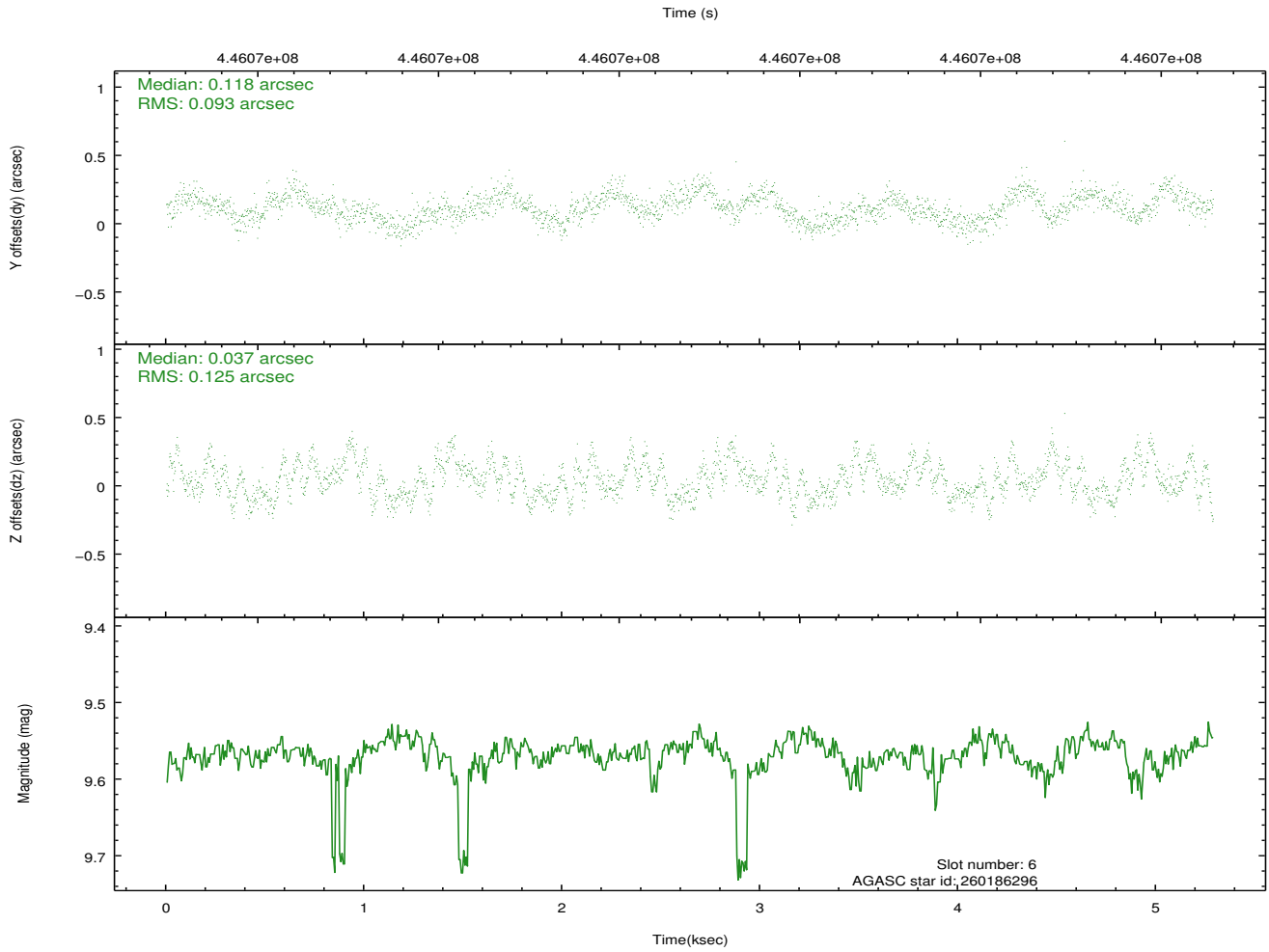
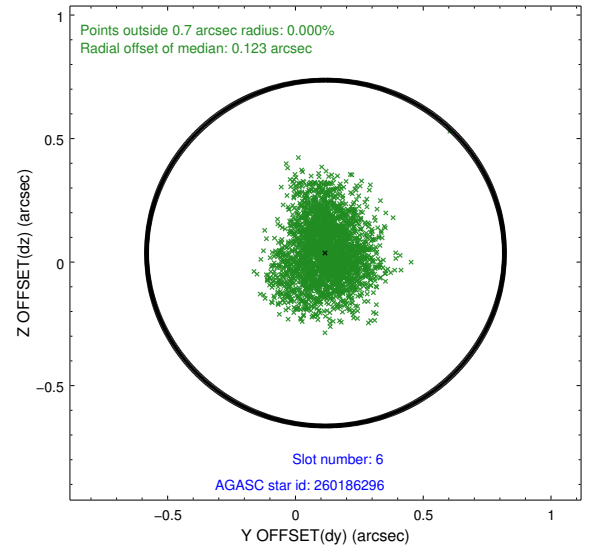
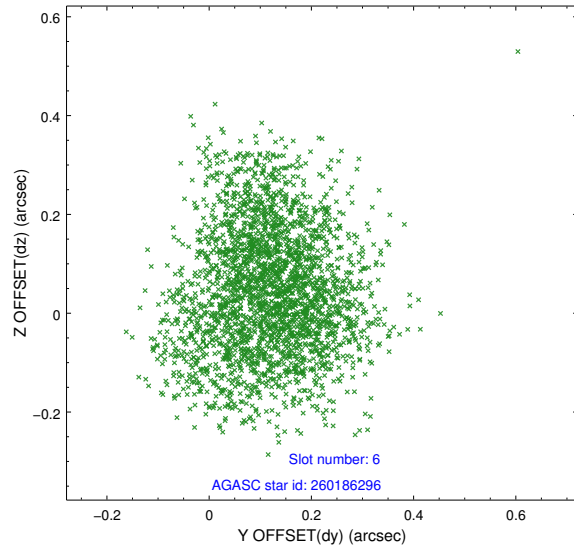
## 2.4.2 Slot 4



### 2.4.3 Slot 5

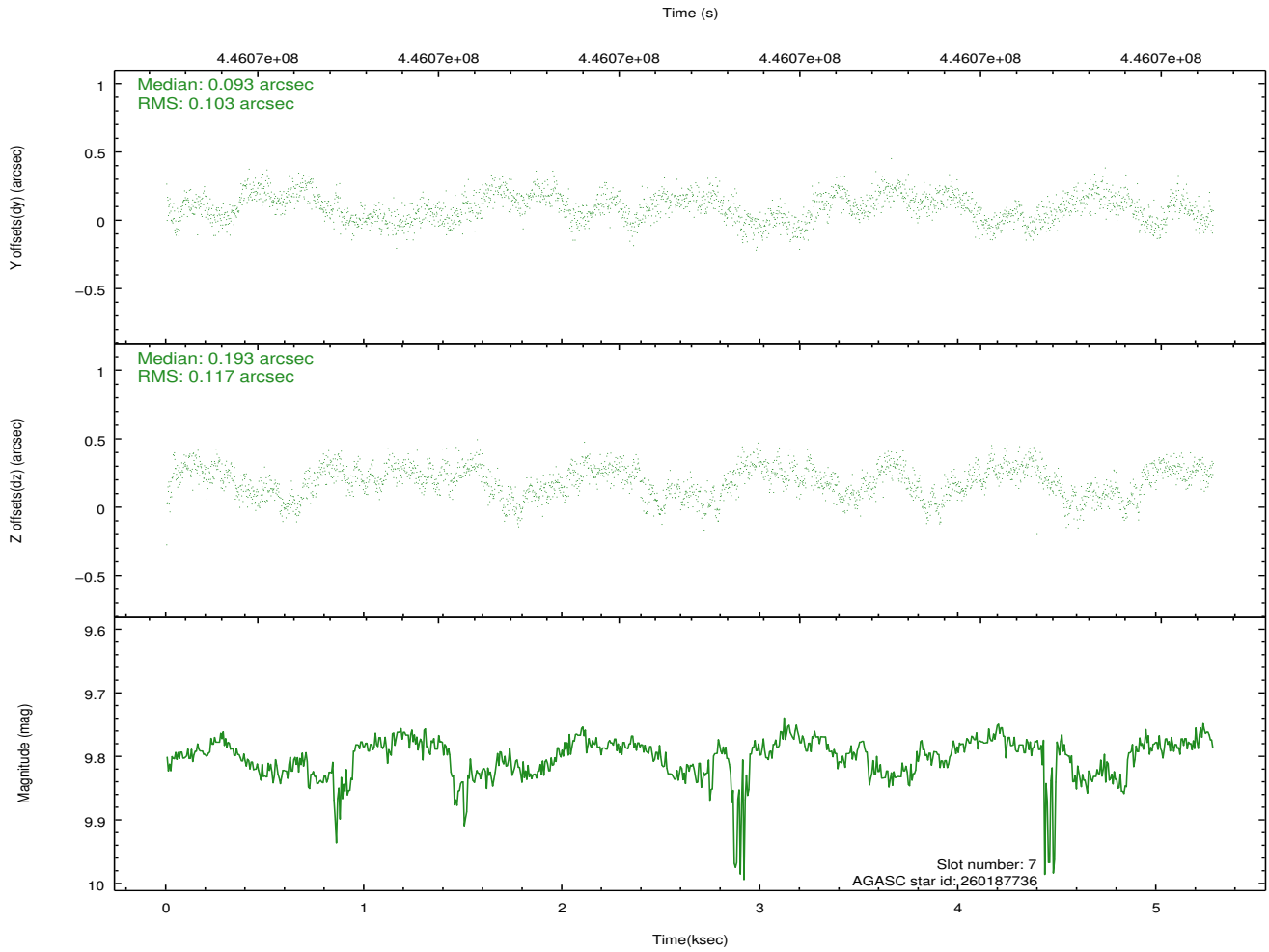
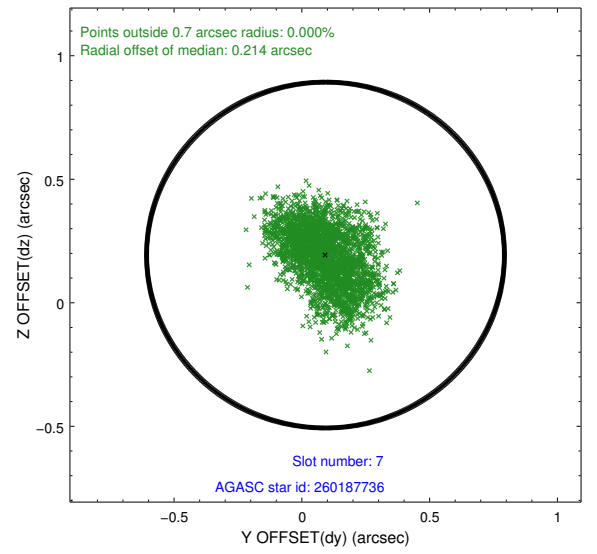
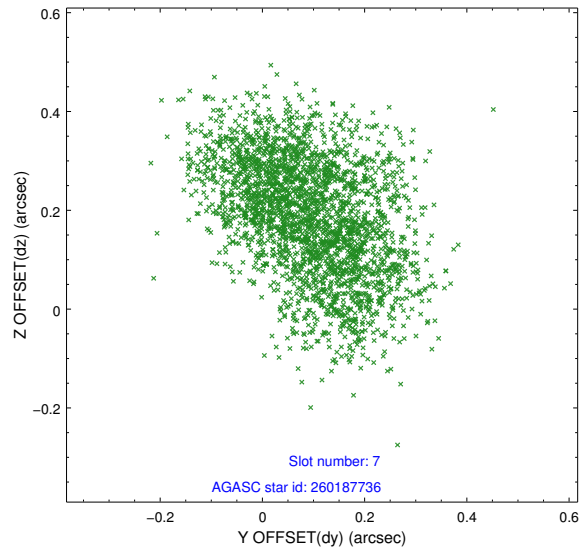


## 2.4.4 Slot 6



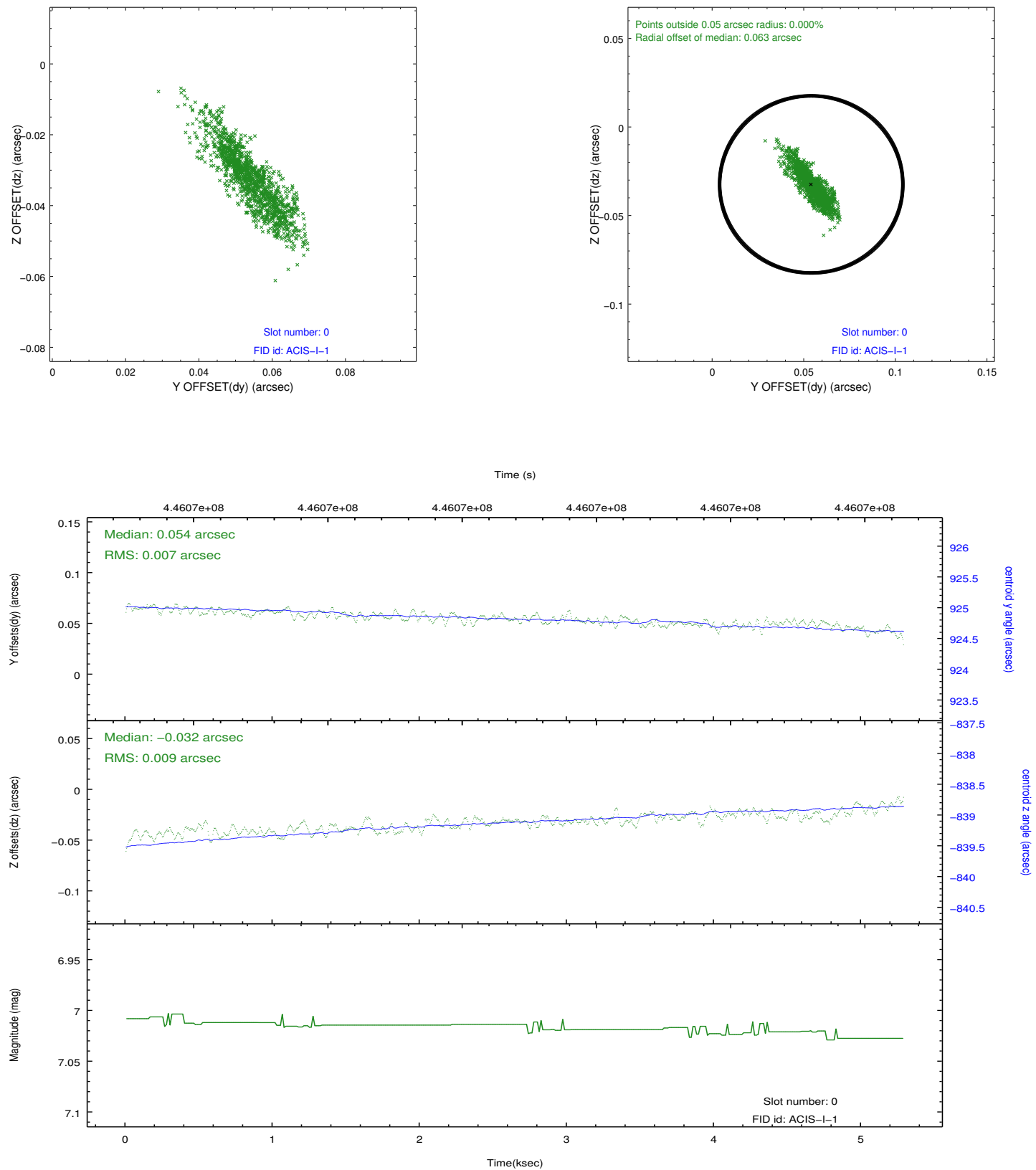


## 2.4.5 Slot 7

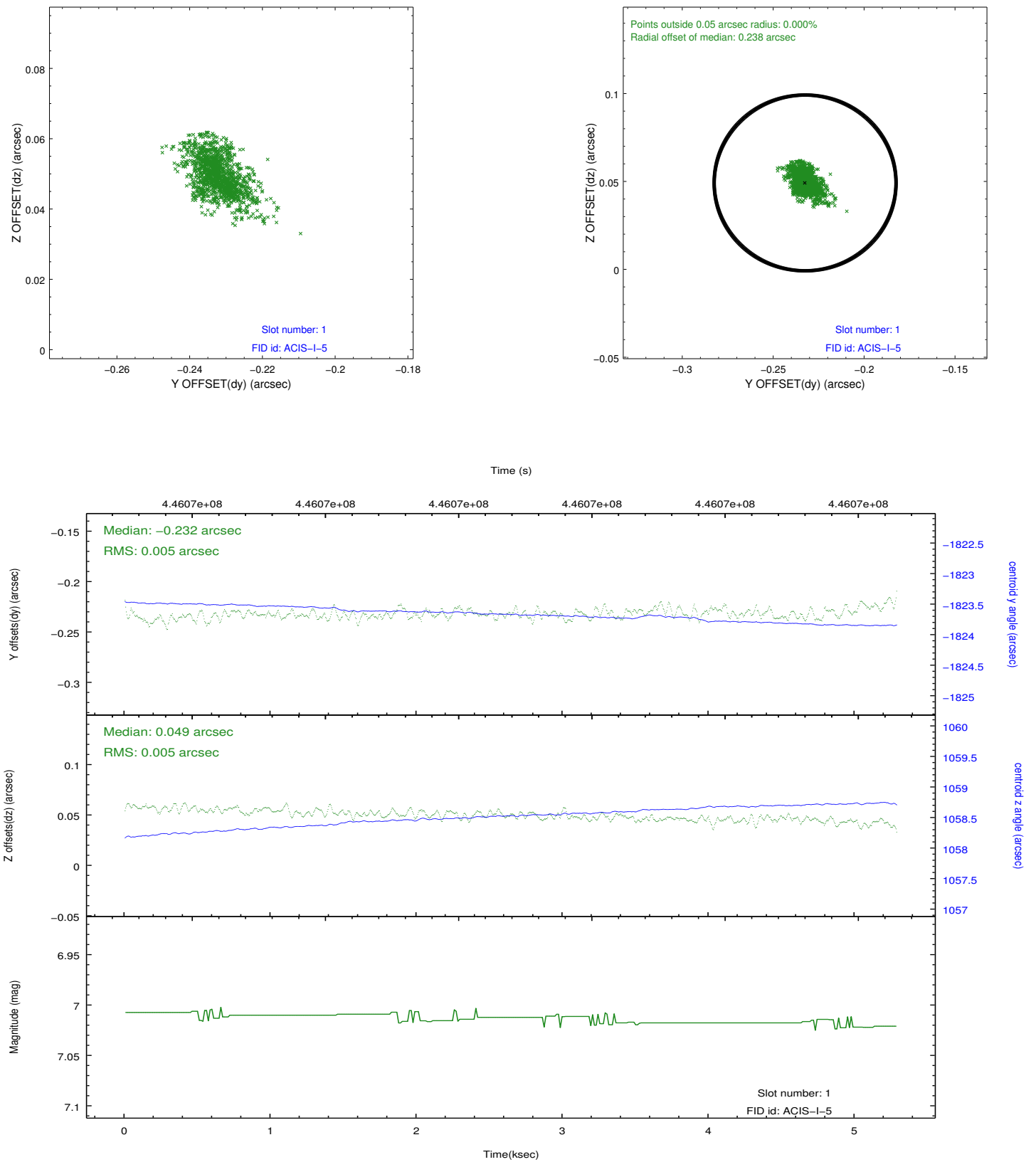


## 2.5 FID Slots

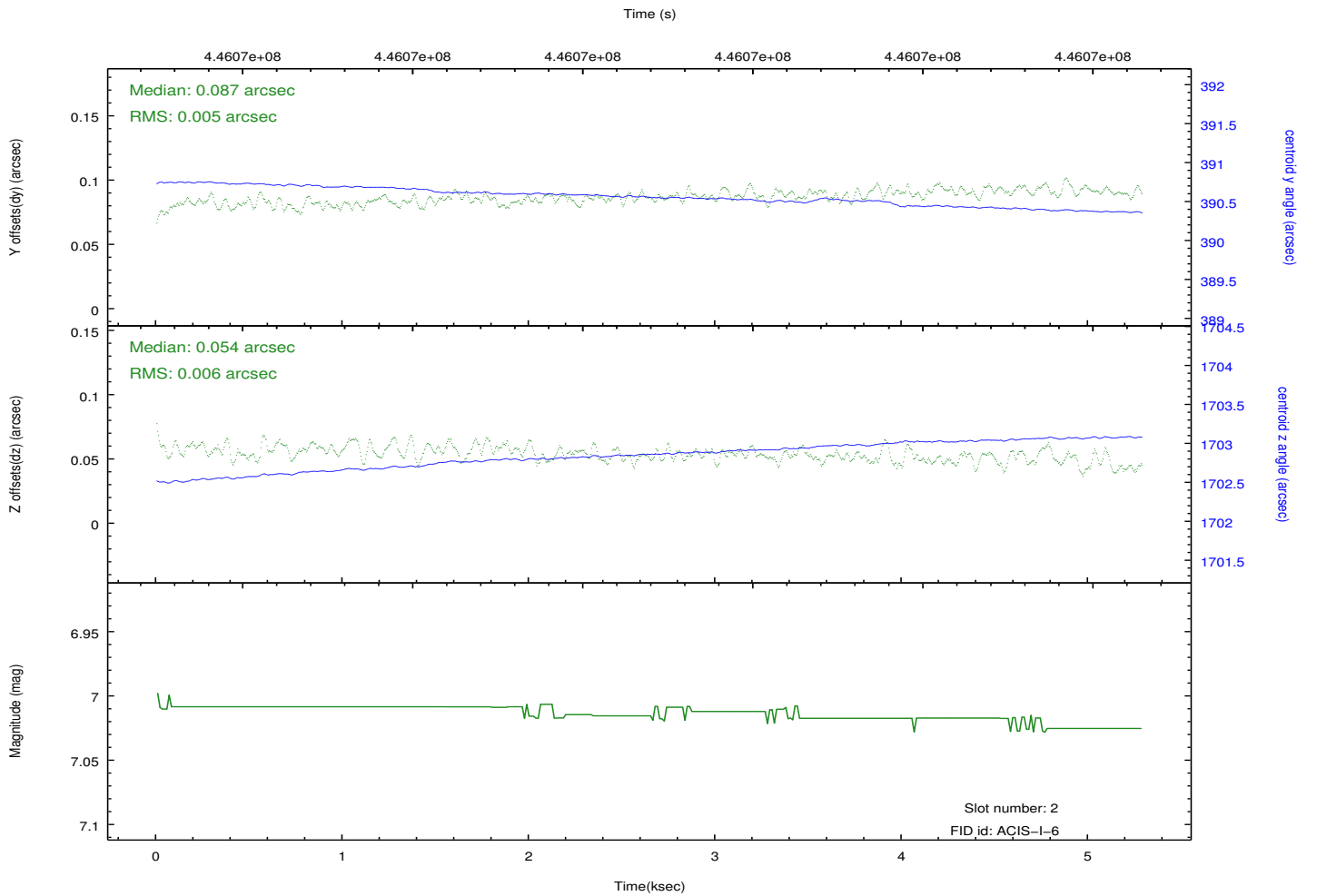
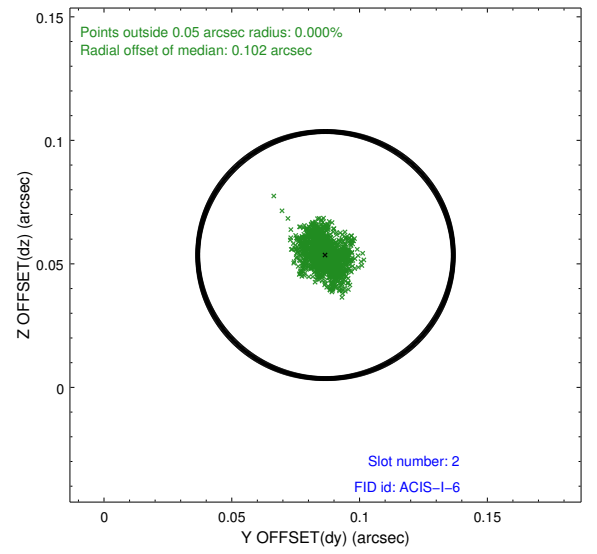
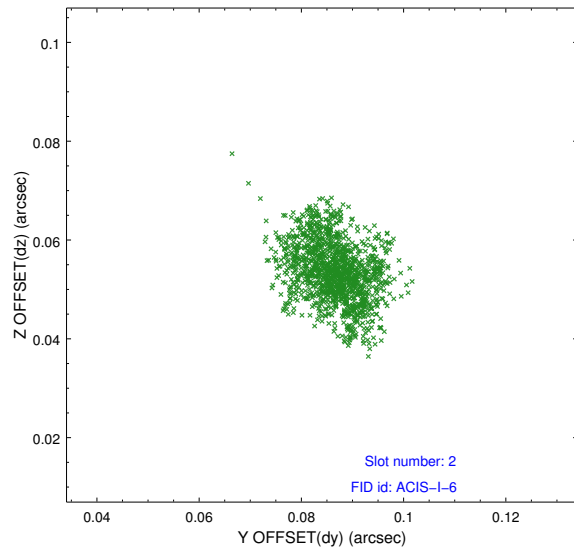
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.03.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.0795144475102

## A.2 Comments

A spatial region of the original bias map for CCD = 1 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small ( $\sim 20$  eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 1 has been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels affected by the anomaly are bounded by sky coords:  
(178.91635,23.58159), (178.91856,23.58240), (178.86230,23.71199), (178.86009,23.71118)