

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 13593 - L2 Version 2  
Chandra X-Ray Center

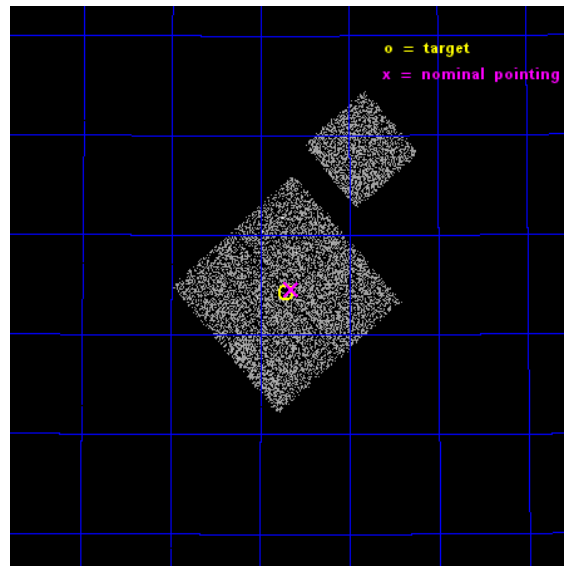
L2 Processing Date : Nov 26 2014

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# 1 Front

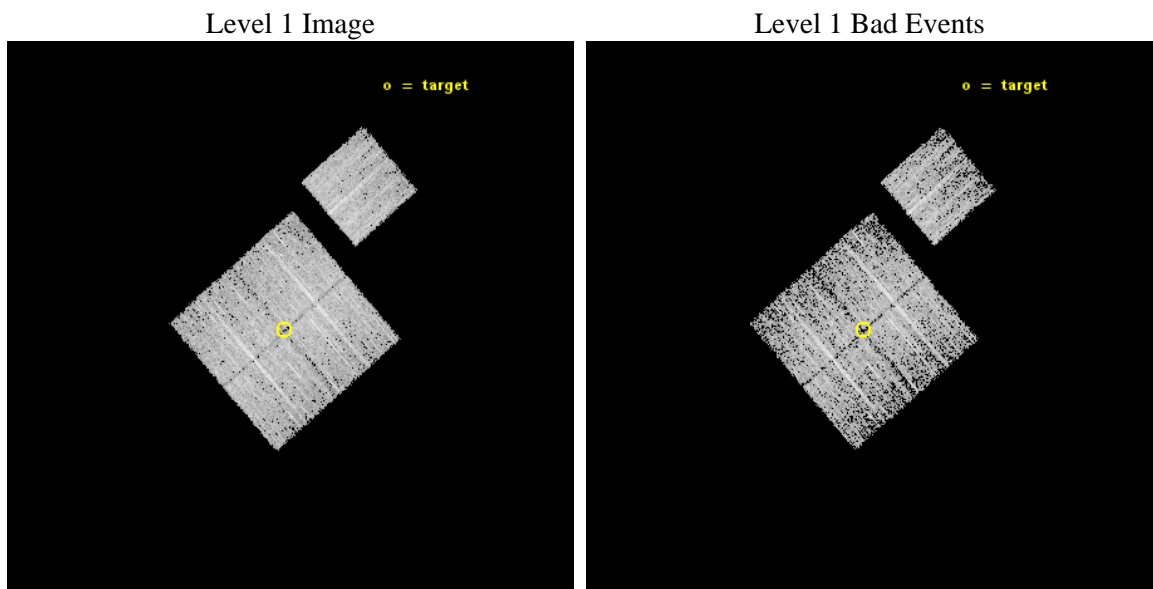
seq_num	801154	Sequence number
obs_id	13593	Observation id
title	To The Outer Limits of Clusters with Chandra and Suzaku	Proposal t
observer	Dr. Eric Miller	Principal investigator
object	A773	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	139.17874	Observer's specified target RA [deg]
dec_targ	51.570991	Observer's specified target Dec [deg]
ra_nom	139.16257473388	Nominal RA [deg]
dec_nom	51.575978748612	Nominal Dec [deg]
roll_nom	48.952318779085	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5083.5783298016	Sum of GTIs [s]
livetime	5017.1576364468	Livetime [s]
ontime0	5080.3962994814	Sum of GTIs [s]
ontime1	5083.5783298016	Sum of GTIs [s]
ontime2	5083.6193698049	Sum of GTIs [s]
ontime3	5080.5194394588	Sum of GTIs [s]
ontime6	5083.496249795	Sum of GTIs [s]
l2events	13820	Number of level 2 events



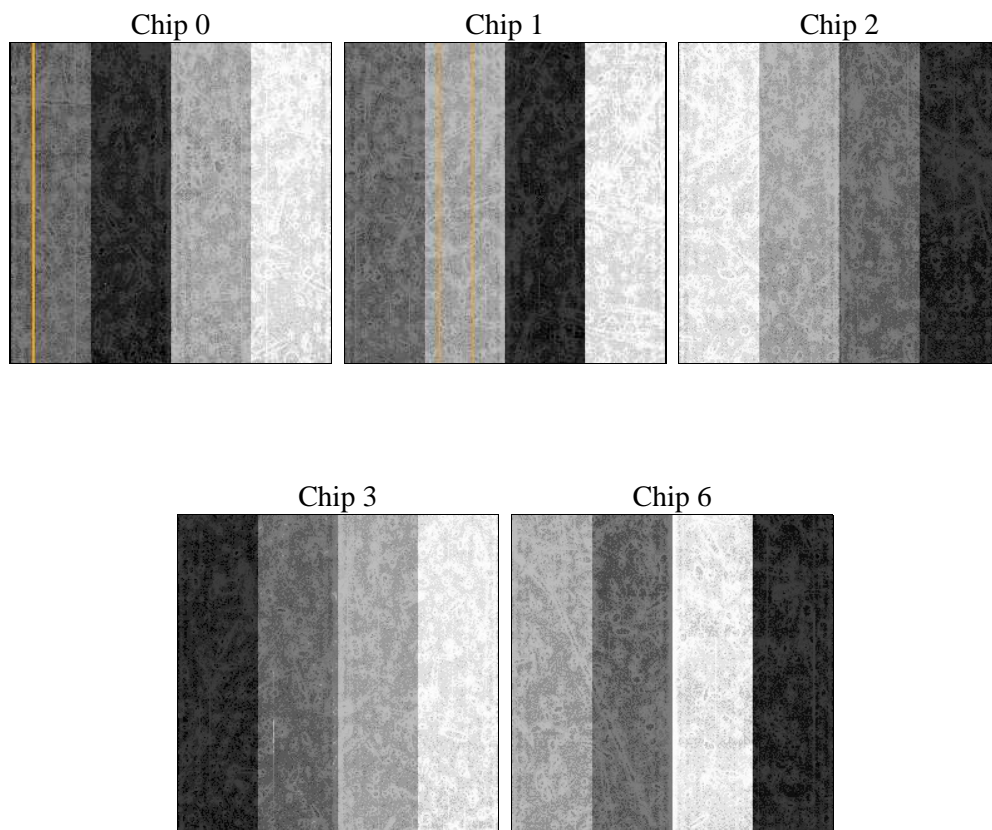
## 2 OBI

### 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	10.3	Processing system revision	ontime	5083.5783298016	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime0	5080.3962994814	Sum of GTIs [s]
date	2014-11-27T03:50:00	Date and time of file creation	ontime1	5083.5783298016	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	5083.6193698049	Sum of GTIs [s]
			ontime3	5080.5194394588	Sum of GTIs [s]
			ontime6	5083.496249795	Sum of GTIs [s]
			l1events	132642	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	25880	25367	26522	27374	27499
rejected events	22700	21798	23231	24297	24210
rejected %	87%	85%	87%	88%	88%

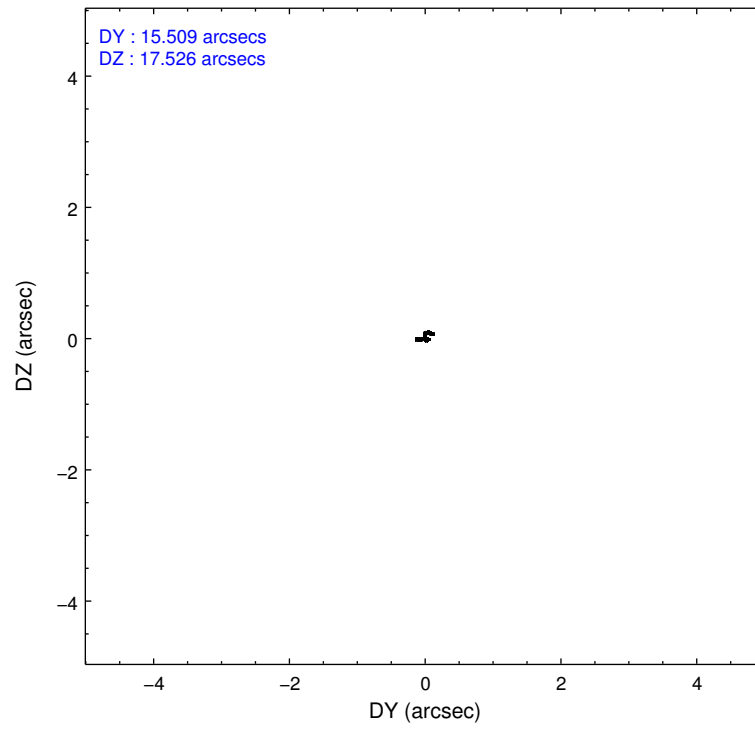
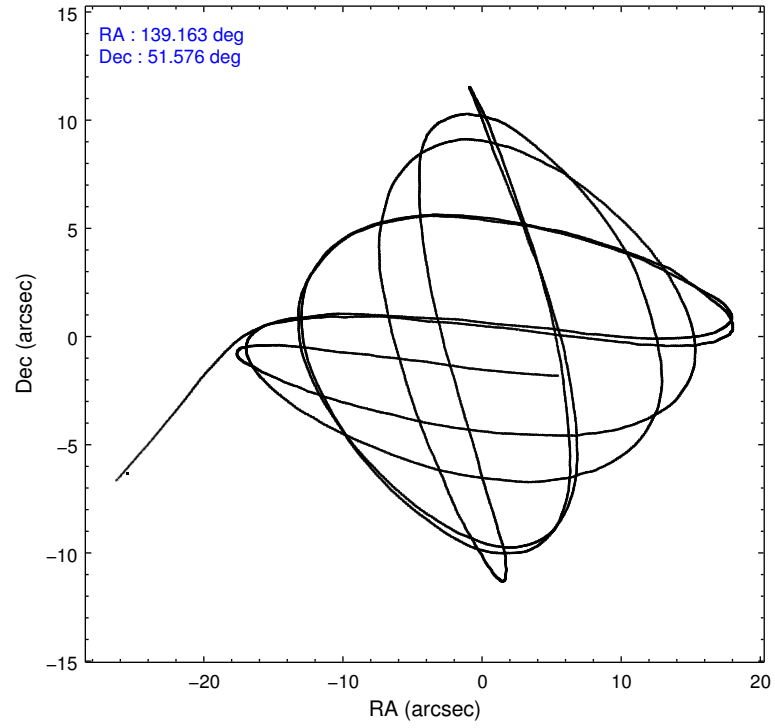
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	1122	1231	1181	1102	1141
	4%	4%	4%	4%	4%
grade 1 events	12	20	16	11	14
	0%	0%	0%	0%	0%
grade 2 events	762	867	830	705	709
	2%	3%	3%	2%	2%
grade 3 events	329	372	323	347	354
	1%	1%	1%	1%	1%
grade 4 events	290	373	299	320	326
	1%	1%	1%	1%	1%
grade 5 events	1256	1321	1280	1410	1356
	4%	5%	4%	5%	4%
grade 6 events	681	732	663	607	762
	2%	2%	2%	2%	2%
grade 7 events	21428	20451	21930	22872	22837
	82%	80%	82%	83%	83%

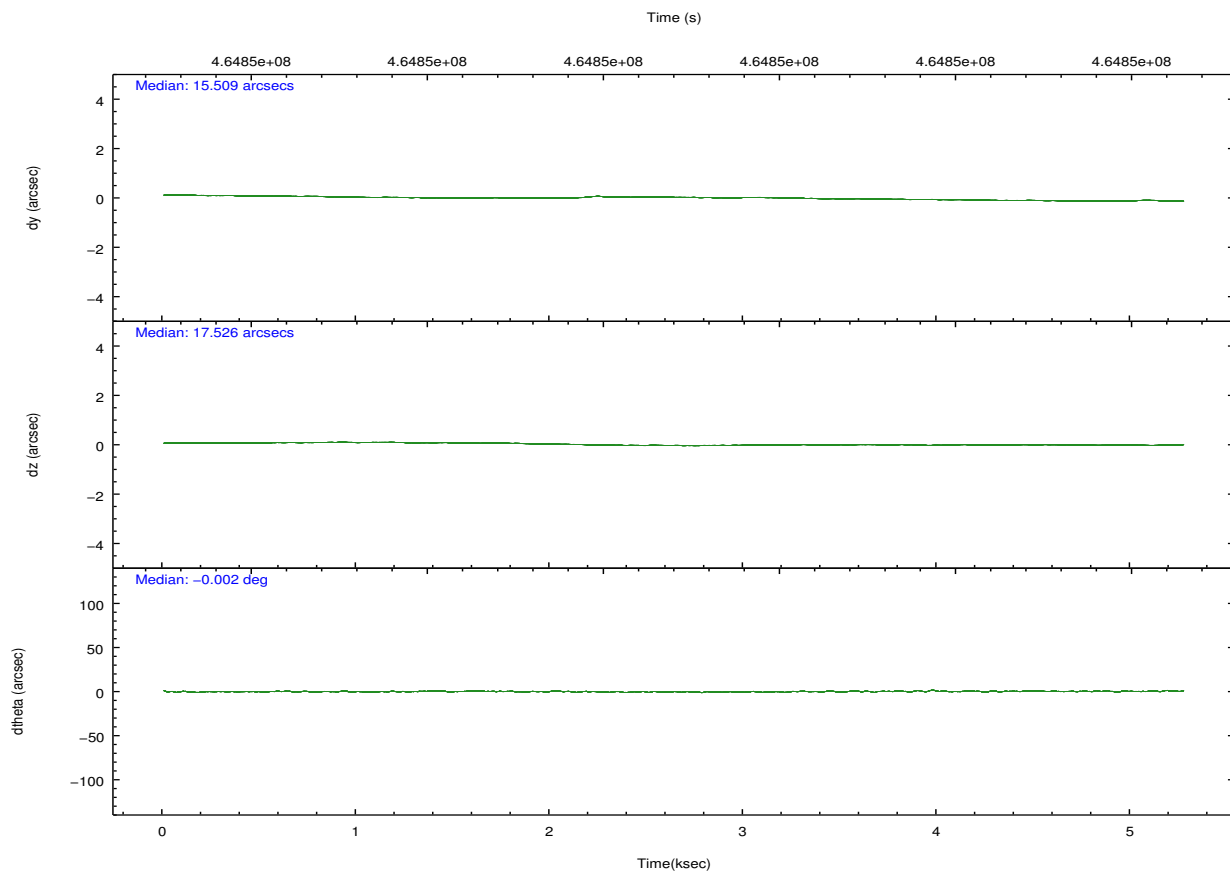
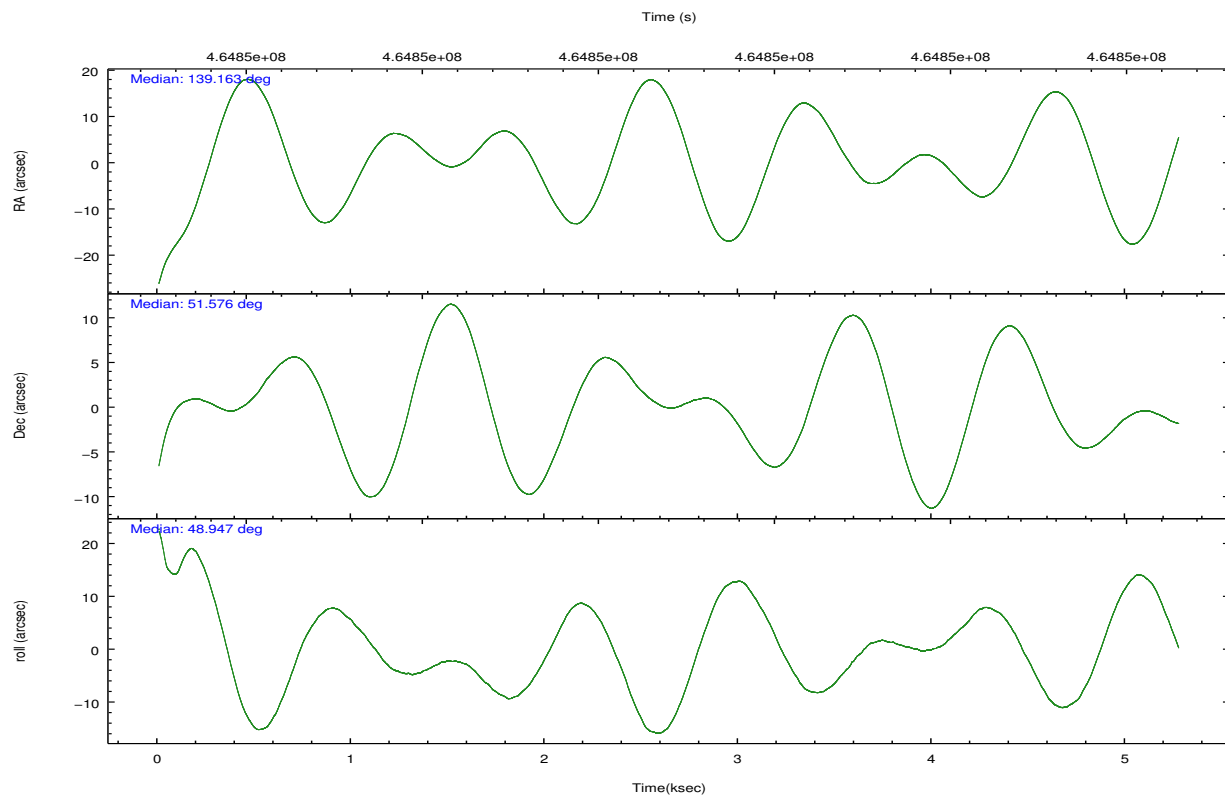


## 2.2 Compared Parameters

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	139.154455	139.1625747338837	CCD I2 on	Y	Y
[deg] Pointing Dec	51.548978	51.57597874861227	CCD I3 on	Y	Y
[deg] Pointing Roll	48.750010	48.95231877908459	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)	464846040.184000	464845056.59471	CCD S5 on	N	N
Observation start date	2012-09-24T03:52:53	2012-09-24T03:37:36	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	464851040.184000	464851477.19505	On-chip summing requested	N	N
Observation end date	2012-09-24T05:16:13	2012-09-24T05:24:37	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



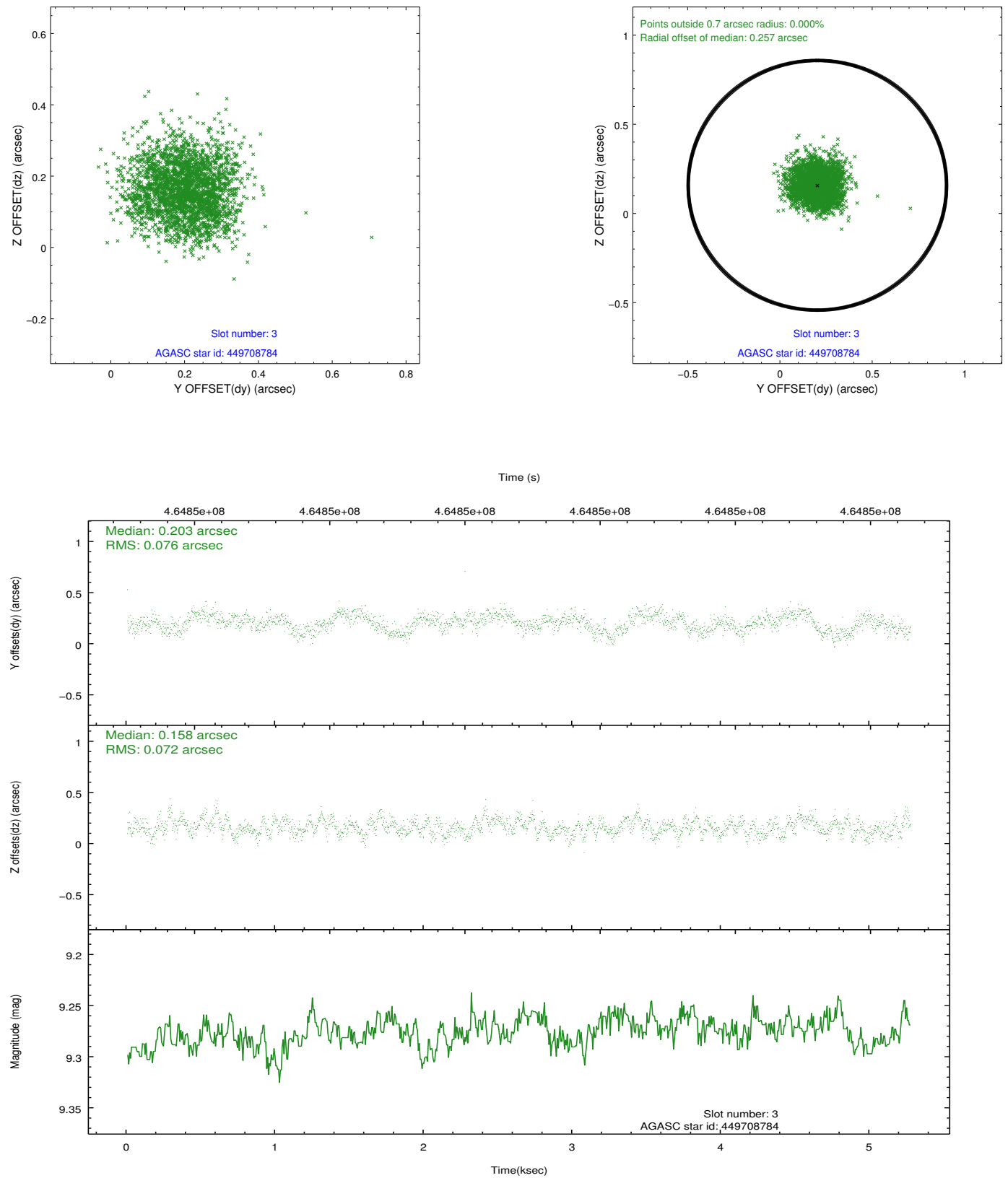


### Slot Statistics

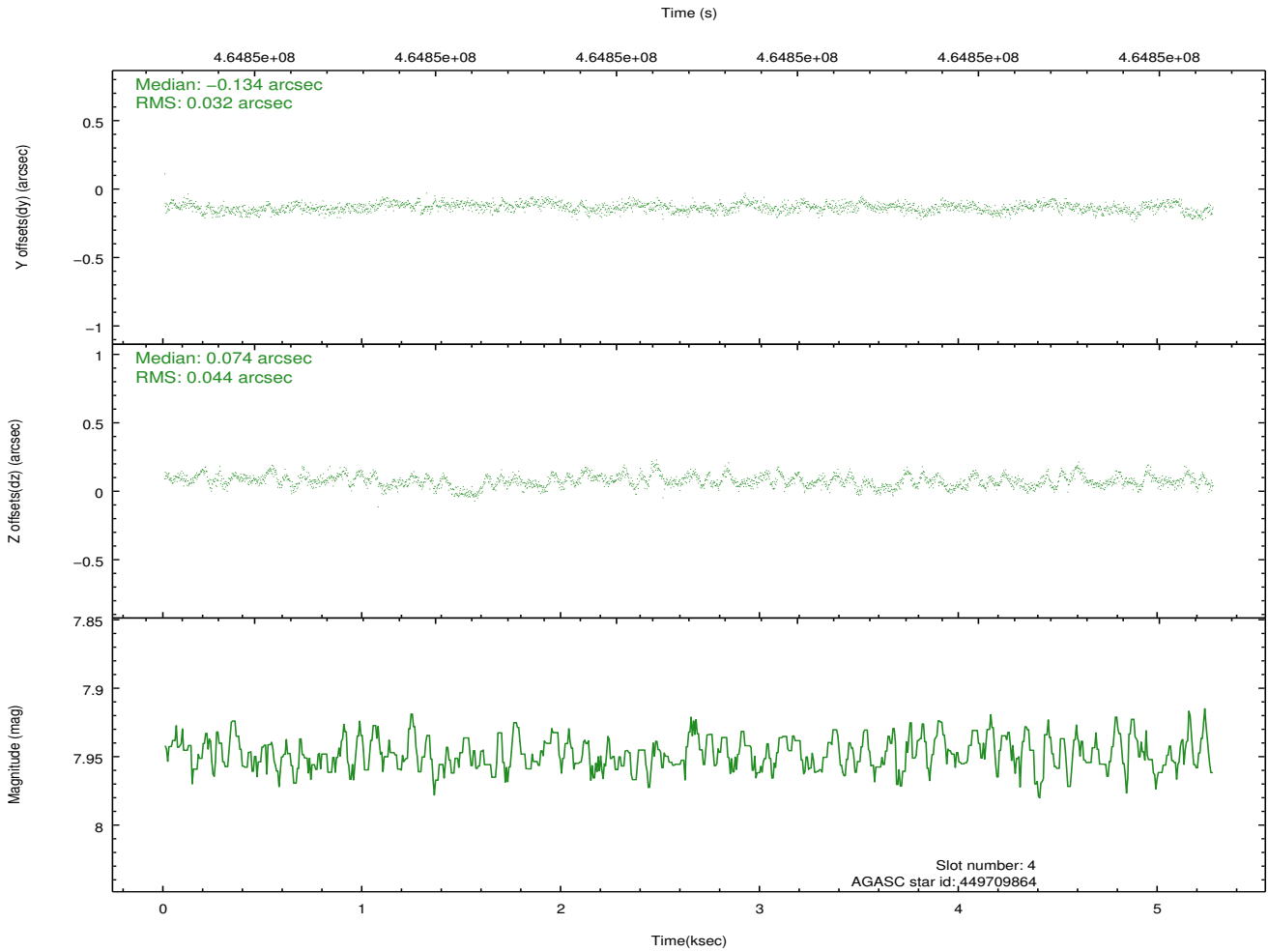
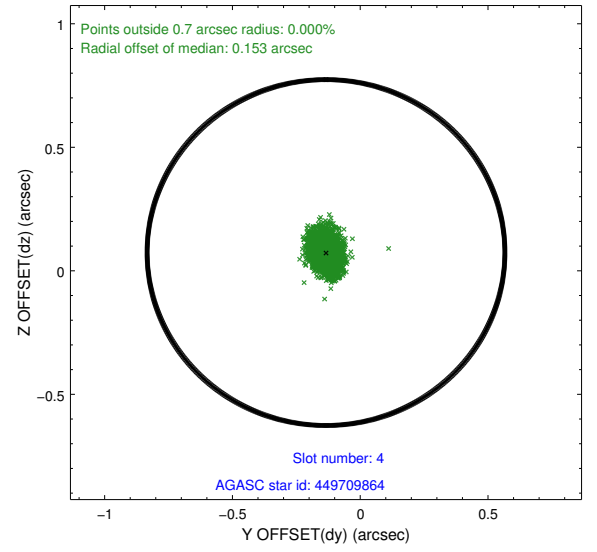
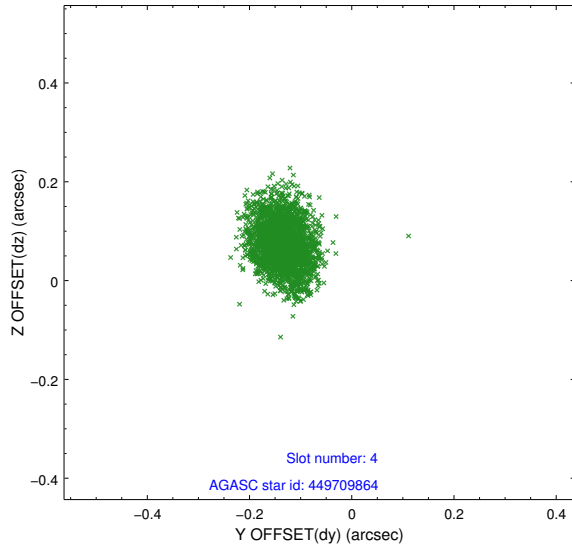
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.04	1286	0.048	0.018	0.006	0.011	0.000000	0.000000	923.99	-841.20
1	FID		ACIS-I-5	7.04	1286	-0.199	0.064	0.006	0.010	0.000000	0.000000	-1823.72	1055.77
2	FID		ACIS-I-6	7.04	1286	0.059	-0.012	0.006	0.010	0.000000	0.000000	388.31	1701.49
3	GUIDE	used	449708784	9.28	2571	0.203	0.158	0.113	0.174	139.281247	51.322176	-425.20	-752.15
4	GUIDE	used	449709864	7.95	2572	-0.134	0.074	0.057	0.097	139.601682	51.402076	267.49	-1102.13
5	GUIDE	used	449712184	9.43	2568	0.124	0.206	0.118	0.203	138.777153	51.162194	-1605.89	-276.73
6	GUIDE	used	449712984	8.73	2572	0.132	-0.026	0.097	0.155	139.803051	51.633381	1189.18	-885.17
7	GUIDE	used	449580800	9.62	2563	-0.322	-0.410	0.126	0.196	138.731484	52.256174	1302.27	2380.52

## 2.4 Star Slots

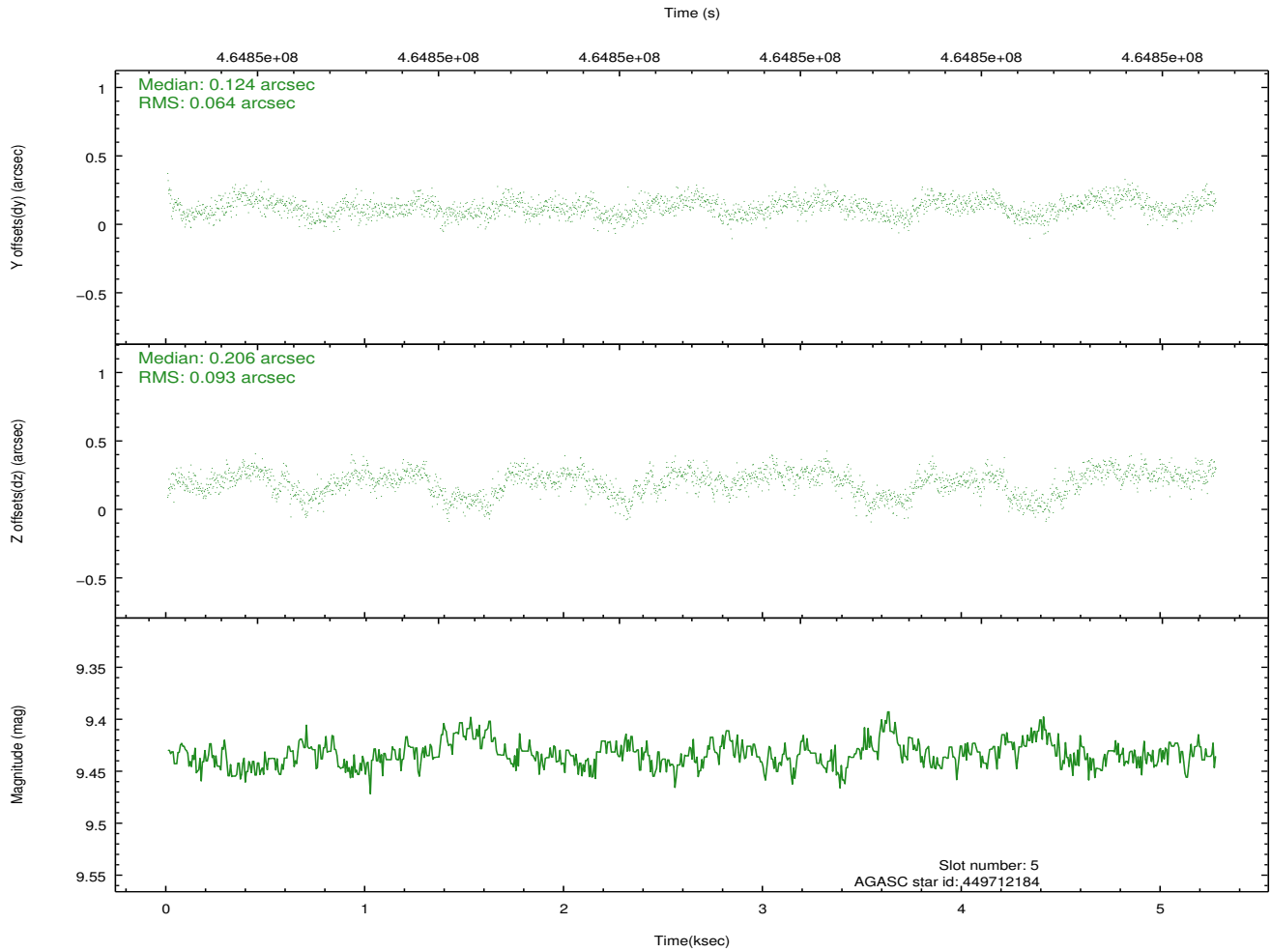
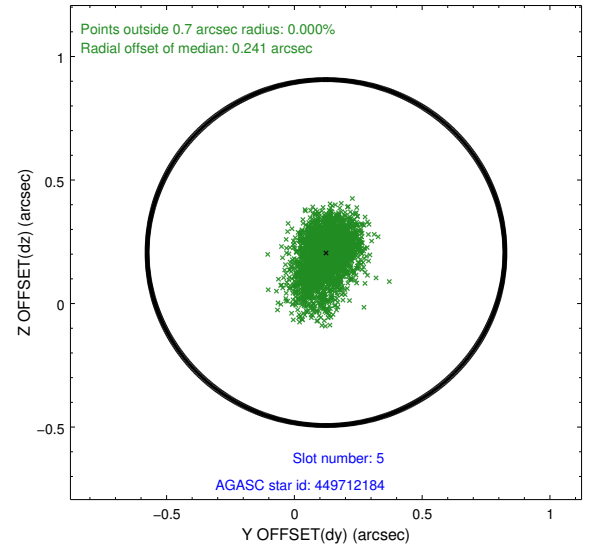
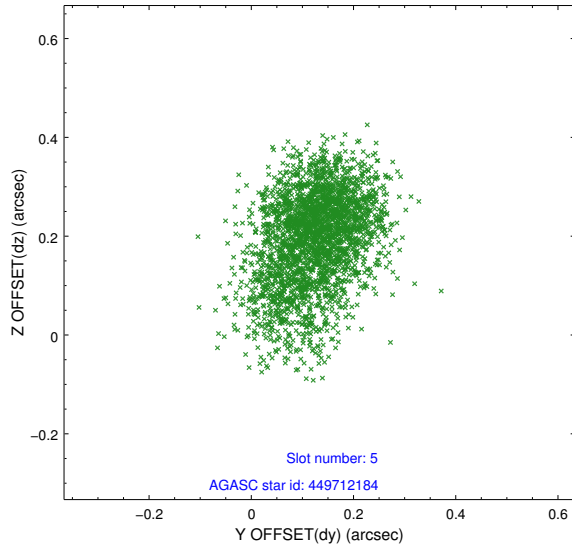
### 2.4.1 Slot 3



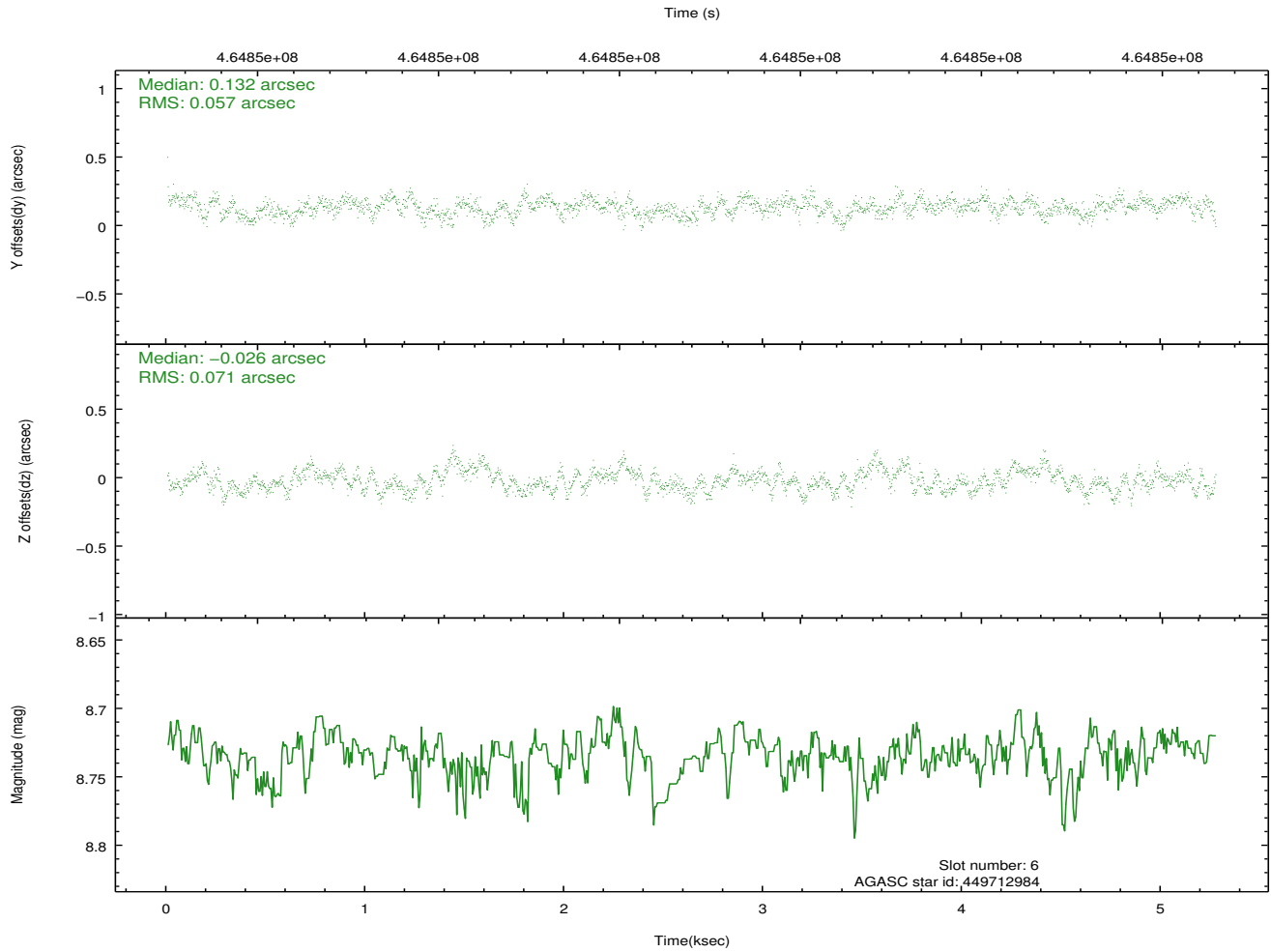
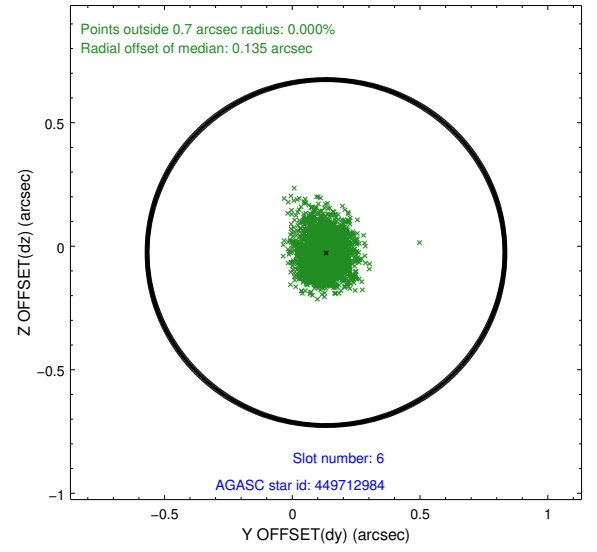
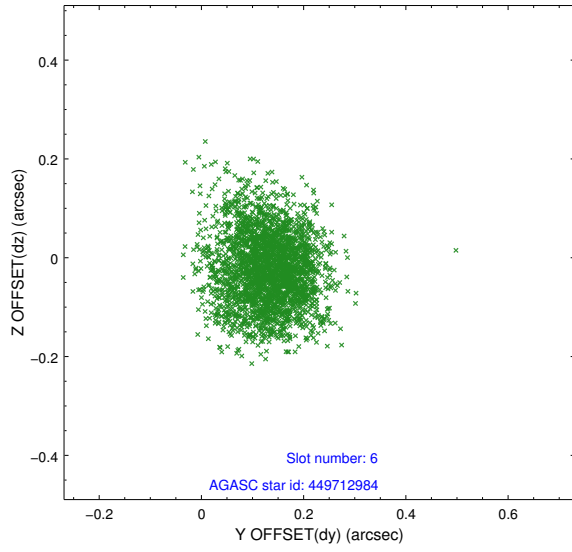
## 2.4.2 Slot 4



### 2.4.3 Slot 5

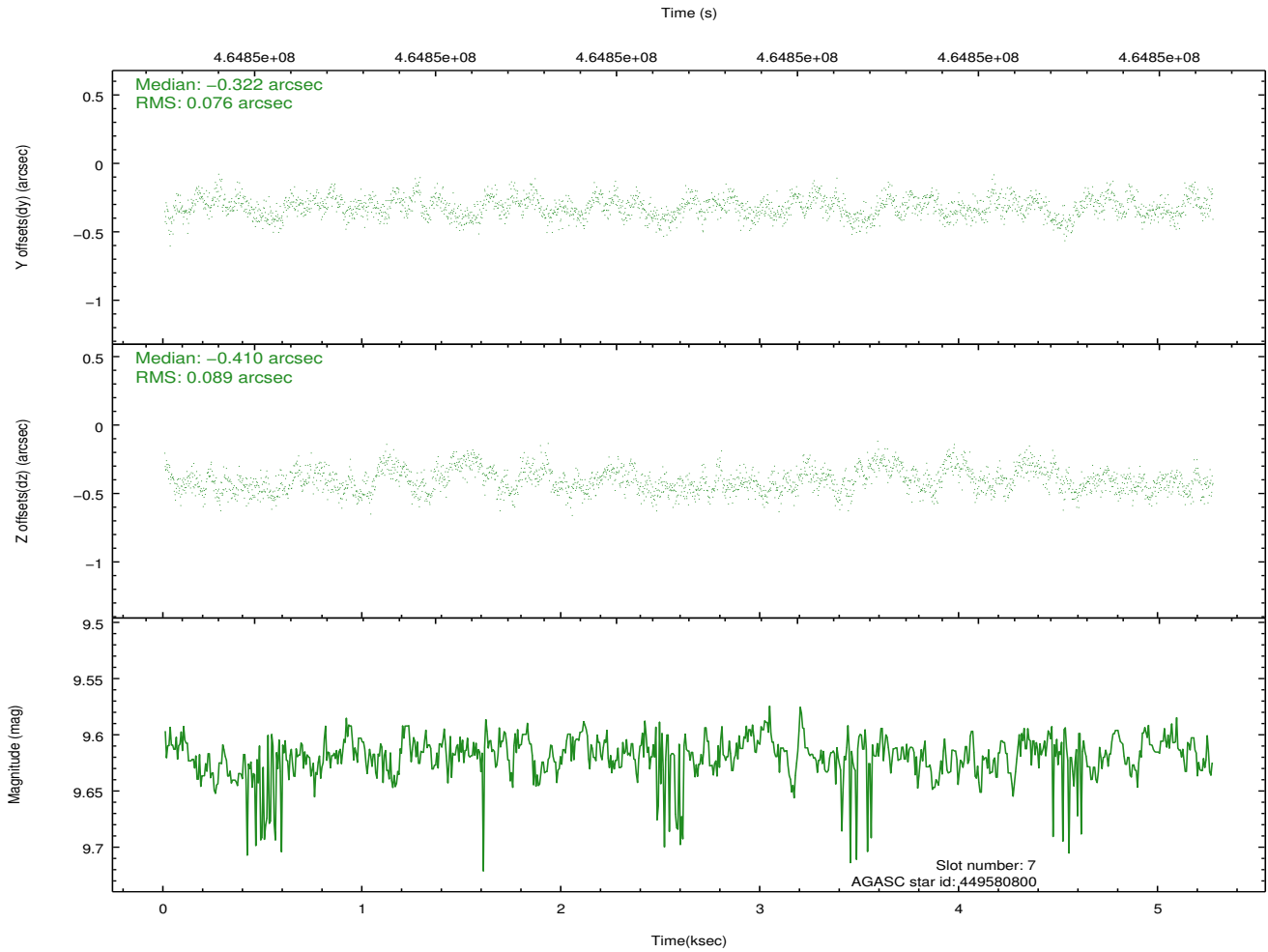
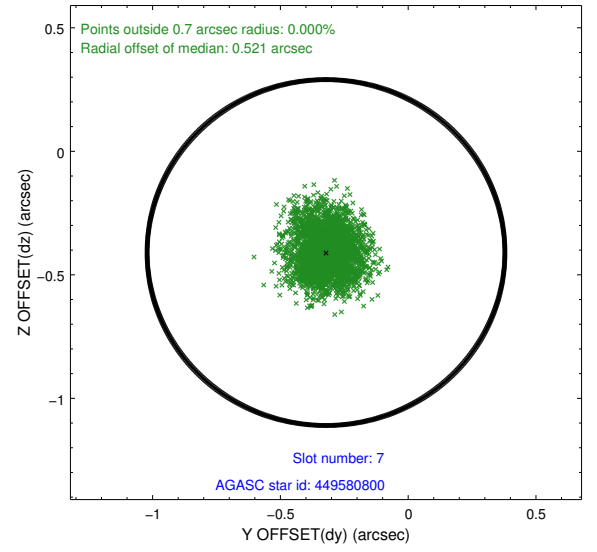
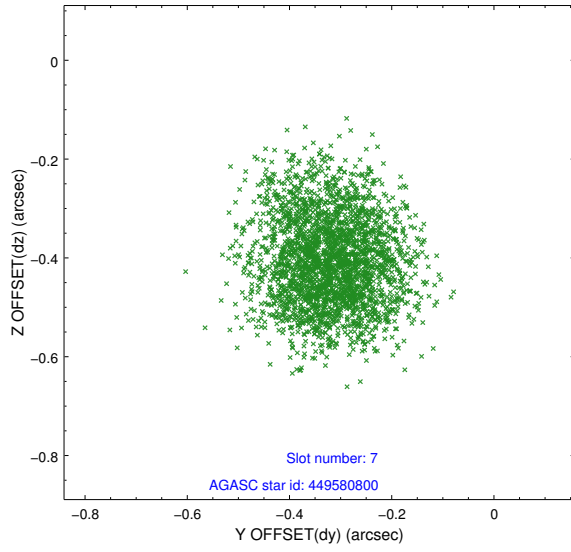


## 2.4.4 Slot 6



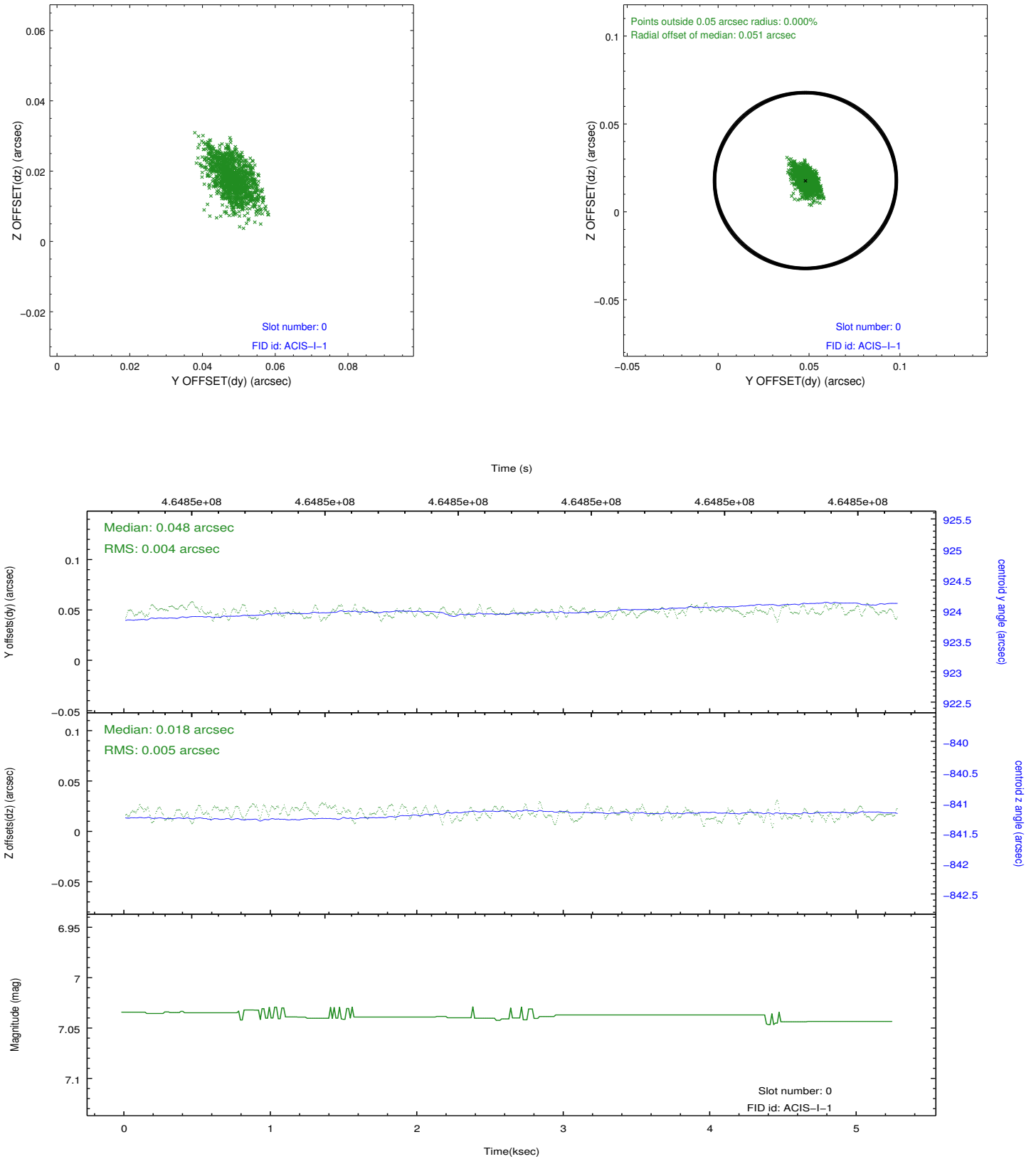


## 2.4.5 Slot 7

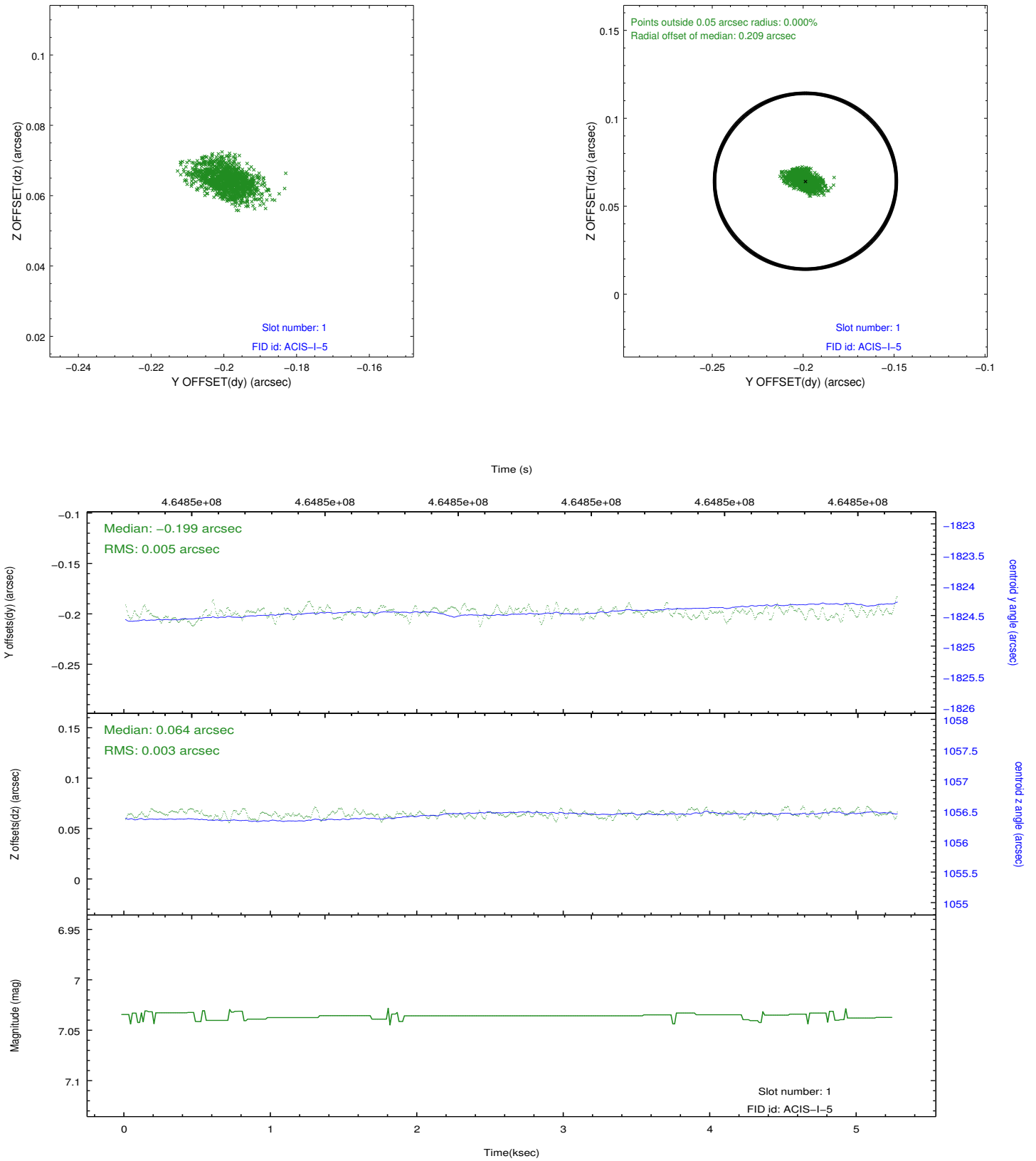


## 2.5 FID Slots

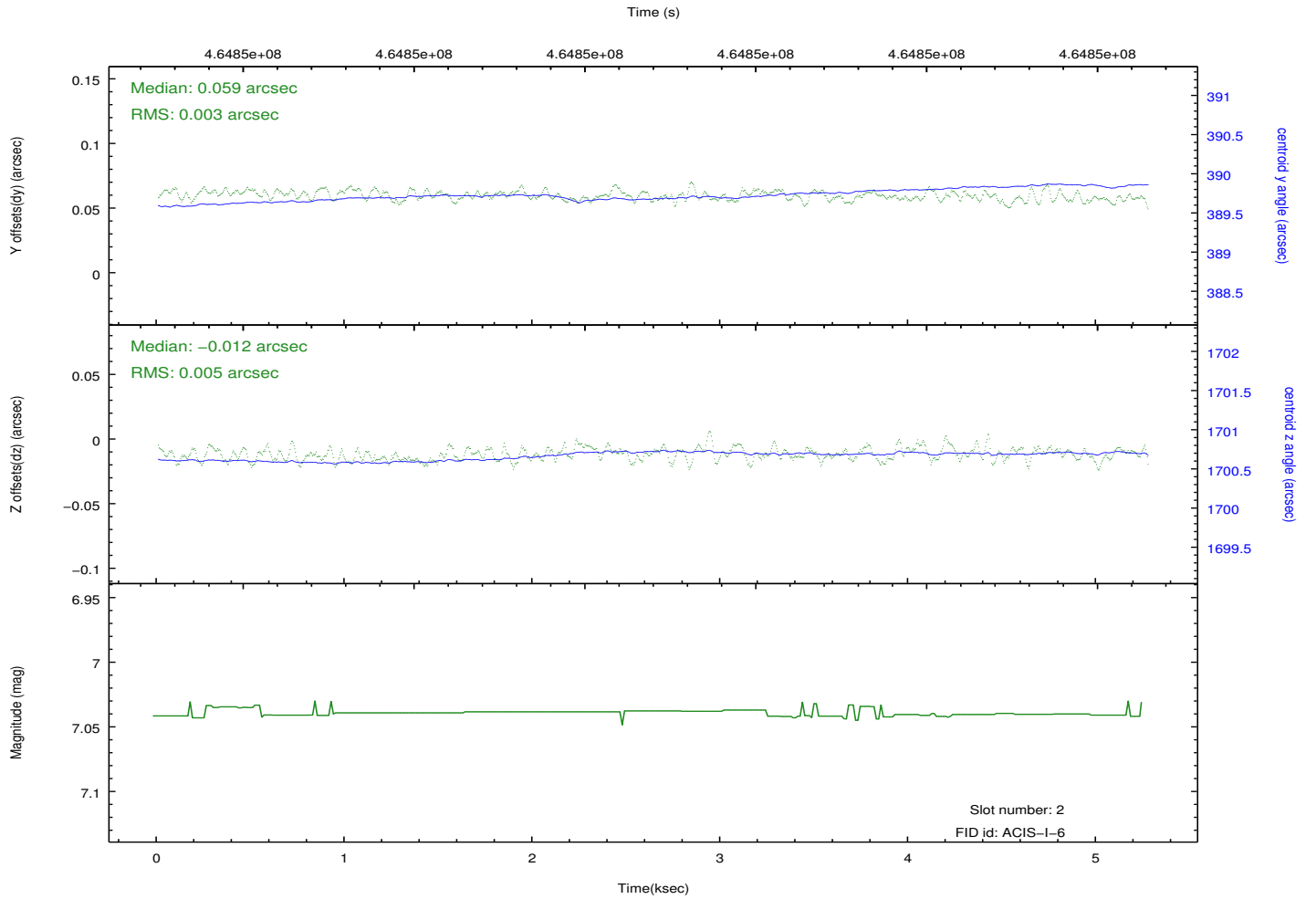
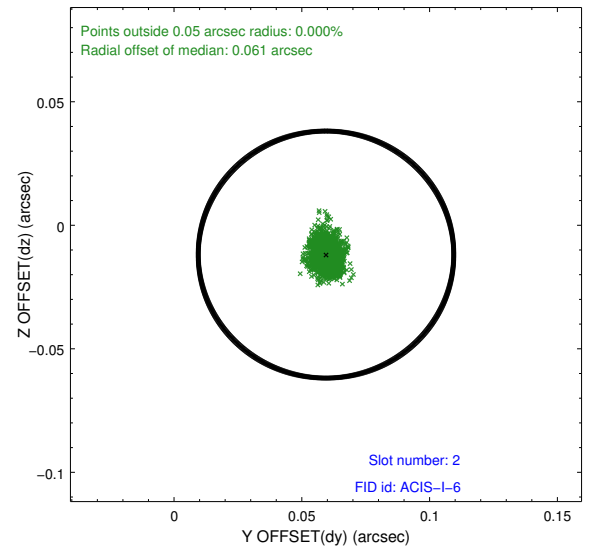
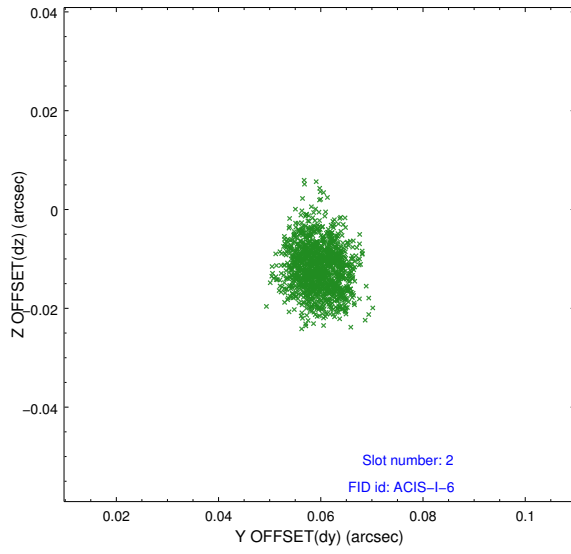
### 2.5.1 Slot 0



## 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	5.0835783298016

## 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.