

# V&V Reference Report

## L2 ASCDS Version : 10.3.3

Observation 17156 - L2 Version 1  
Chandra X-Ray Center

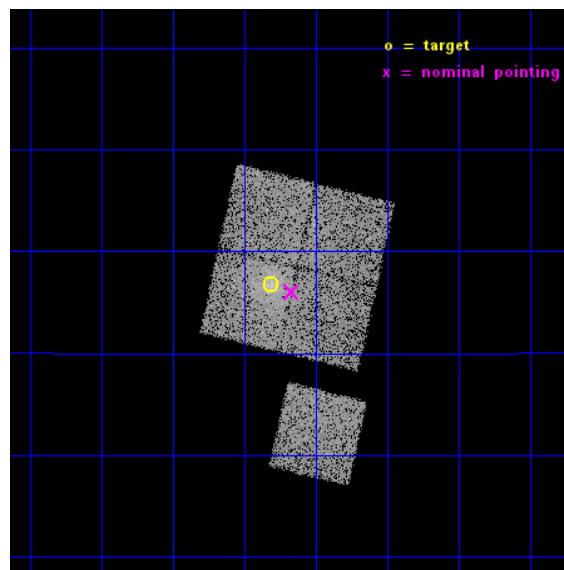
L2 Processing Date : May 31 2015

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# 1 Front

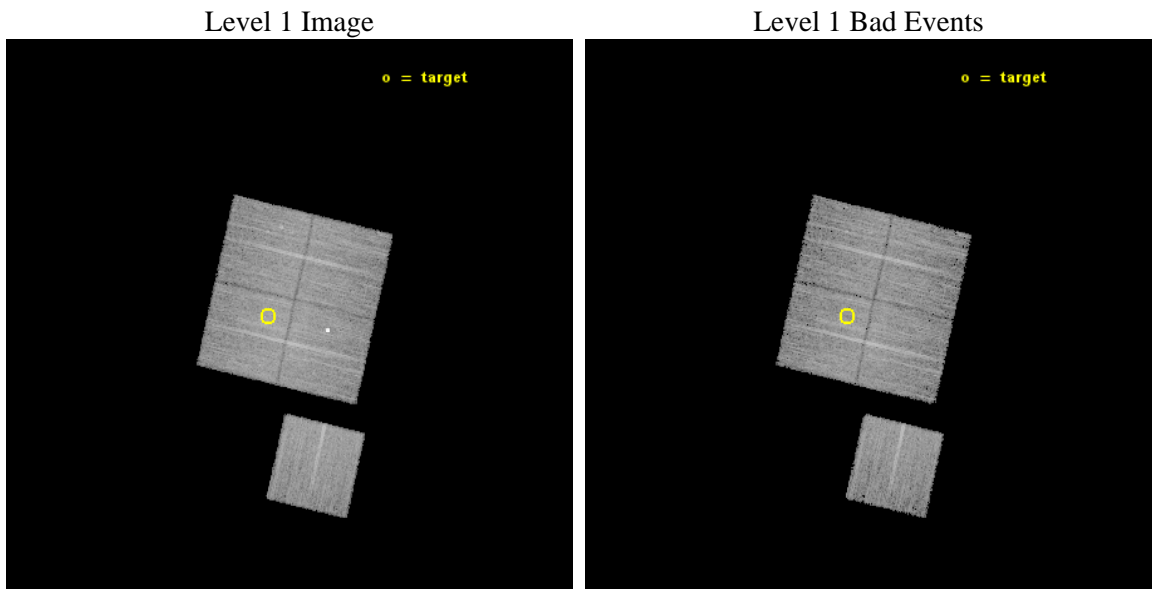
seq_num	801444	Sequence number
obs_id	17156	Observation id
title	Chandra Calibration of the Richness-Mass Relation of Galaxy Clusters: Enabling Cluster Cosmology with the DES	Proposal title
observer	Eduardo Rozo	Principal investigator
object	RM J160319.0+031644.6	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	240.829167	Observer's specified target RA [deg]
dec_targ	3.279056	Observer's specified target Dec [deg]
ra_nom	240.79300377023	Nominal RA [deg]
dec_nom	3.2673394210771	Nominal Dec [deg]
roll_nom	193.18008947897	Nominal Roll [deg]
revision	1	Processing version of data
ontime	14678.50011301	Sum of GTIs [s]
livetime	14486.714702879	Livetime [s]
ontime0	14675.359053016	Sum of GTIs [s]
ontime1	14678.50011301	Sum of GTIs [s]
ontime2	14678.50011301	Sum of GTIs [s]
ontime3	14678.50011301	Sum of GTIs [s]
ontime6	14678.50011301	Sum of GTIs [s]
l2events	40436	Number of level 2 events



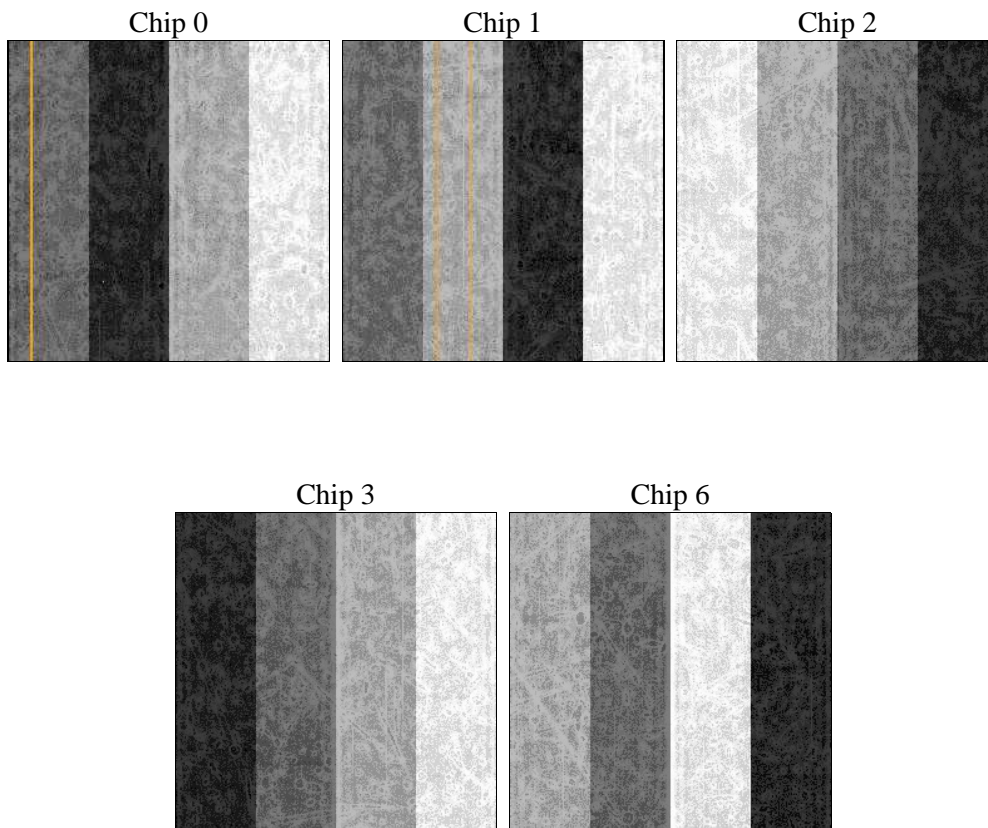
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	14600.000000	[s] Scheduled observation exposure time
ascdsver	10.3.3	Processing system revision	ontime	14678.50011301	Sum of GTIs [s]
caldbver	4.6.7	&#160	ontime0	14675.359053016	Sum of GTIs [s]
date	2015-05-31T05:20:15	Date and time of file creation	ontime1	14678.50011301	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	14678.50011301	Sum of GTIs [s]
			ontime3	14678.50011301	Sum of GTIs [s]
			ontime6	14678.50011301	Sum of GTIs [s]
			l1events	378096	Number of level 1 events

### 2.1.4 Events

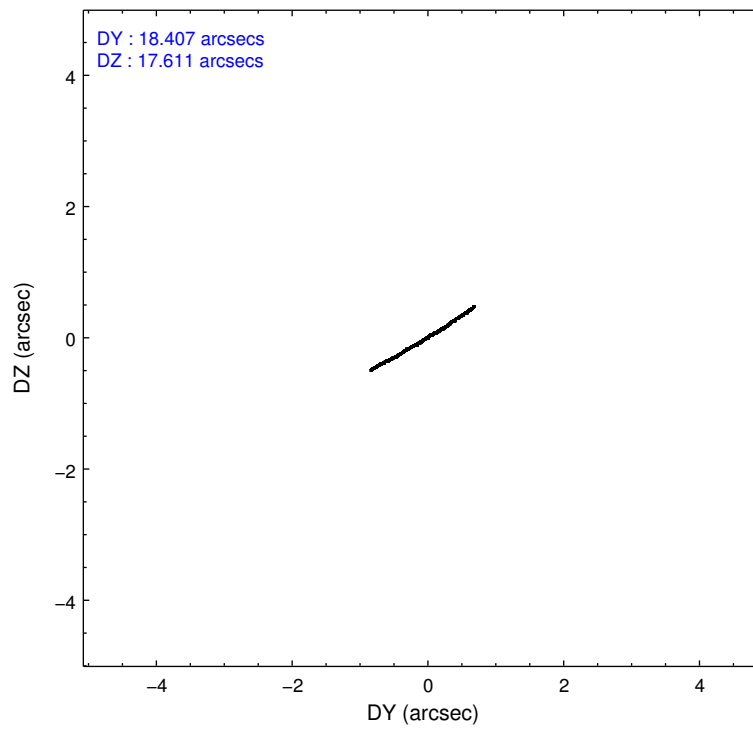
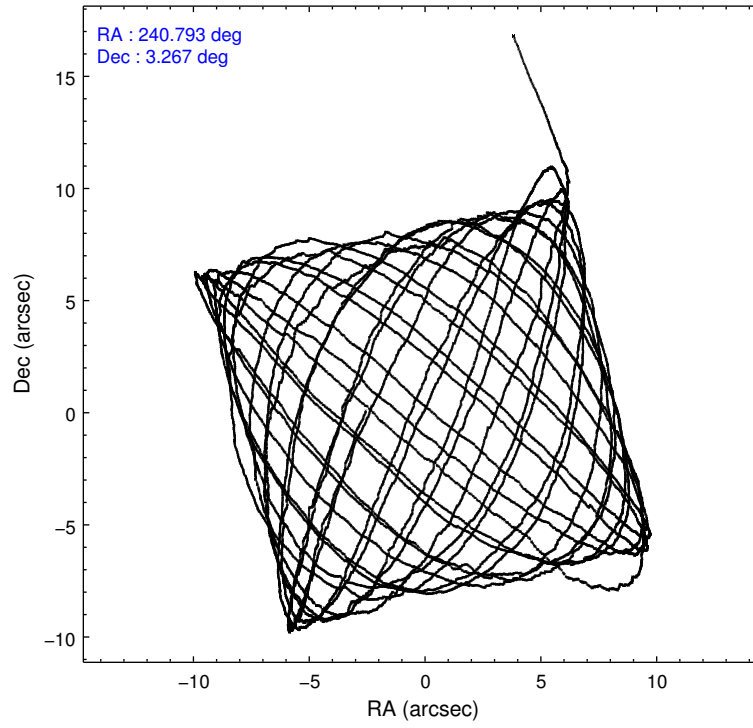
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	70420	71622	81995	78870	75189
rejected events	61578	61789	68674	67934	66051
rejected %	87%	86%	83%	86%	87%

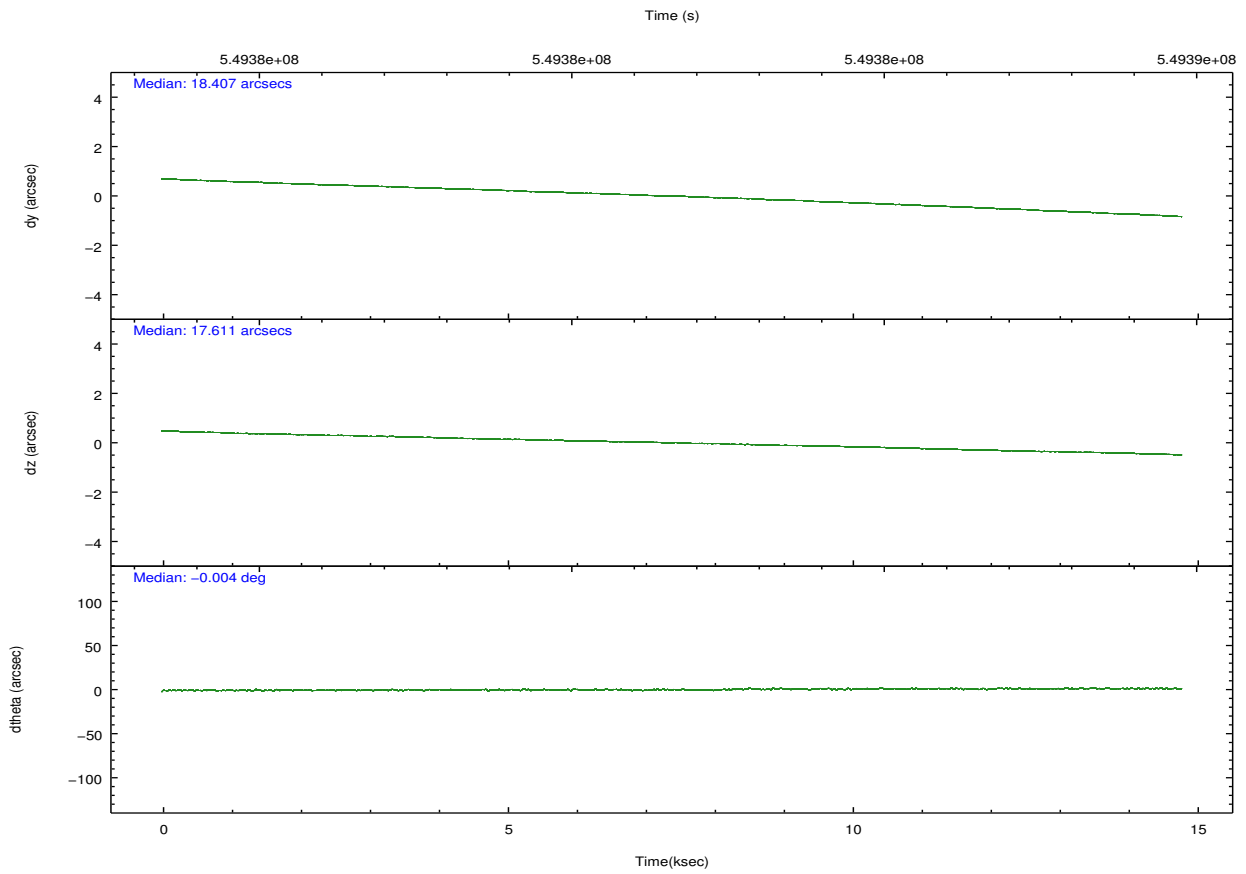
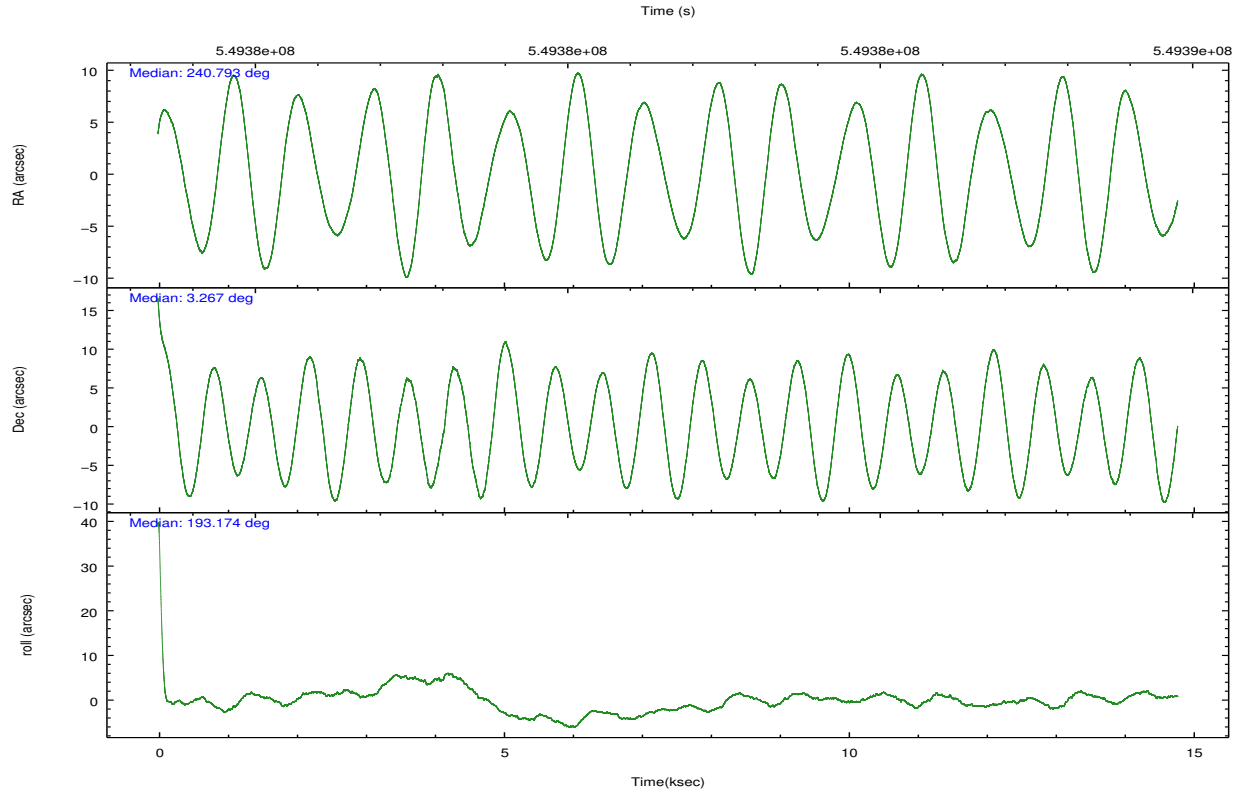
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	3031	3512	7777	4951	3119
	4%	4%	9%	6%	4%
grade 1 events	35	45	59	57	28
	0%	0%	0%	0%	0%
grade 2 events	2177	2247	2125	2186	2037
	3%	3%	2%	2%	2%
grade 3 events	916	940	826	967	887
	1%	1%	1%	1%	1%
grade 4 events	860	910	892	987	895
	1%	1%	1%	1%	1%
grade 5 events	3448	3679	3265	4042	3880
	4%	5%	3%	5%	5%
grade 6 events	1861	2230	1707	1851	2203
	2%	3%	2%	2%	2%
grade 7 events	58092	58059	65344	63829	62140
	82%	81%	79%	80%	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	240.813107	240.7930037702255	CCD I2 on	Y	Y
[deg] Pointing Dec	3.286311	3.267339421077089	CCD I3 on	Y	Y
[deg] Pointing Roll	192.970211	193.1800894789658	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	-228.472463	-228.4783457680588	CCD S3 on	N	N
[mm] SIM translation stage offset	-5.12	-5.114107234870914	CCD S4 on	N	N
[s] Observation start time (MET)	549374368.184000	549372946.47466	CCD S5 on	N	N
Observation start date	2015-05-30T11:58:21	2015-05-30T11:35:46	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	549388968.184000	549390014.77562	On-chip summing requested	N	N
Observation end date	2015-05-30T16:01:41	2015-05-30T16:20:14	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



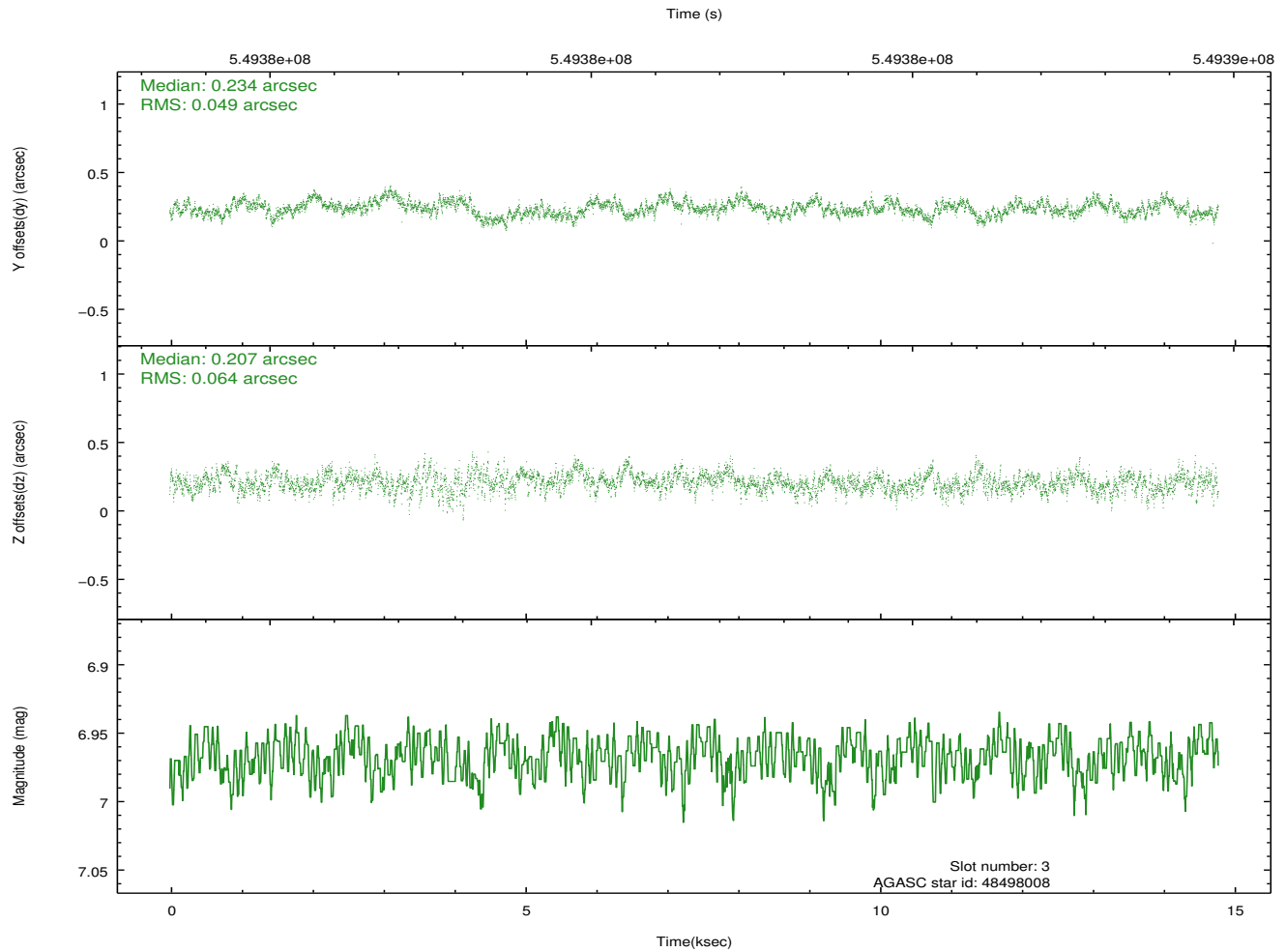
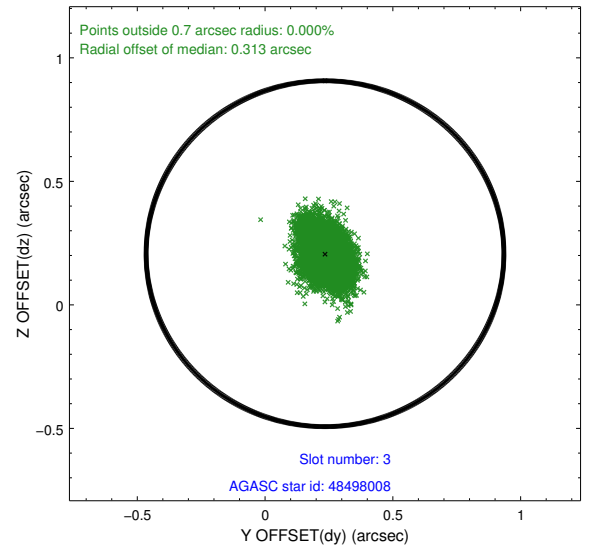
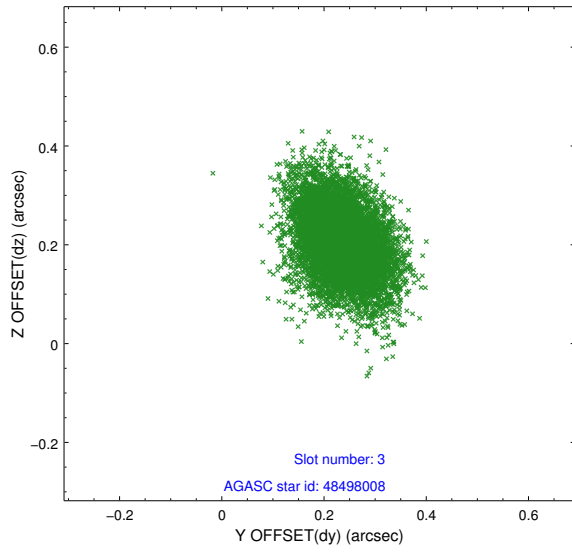


### Slot Statistics

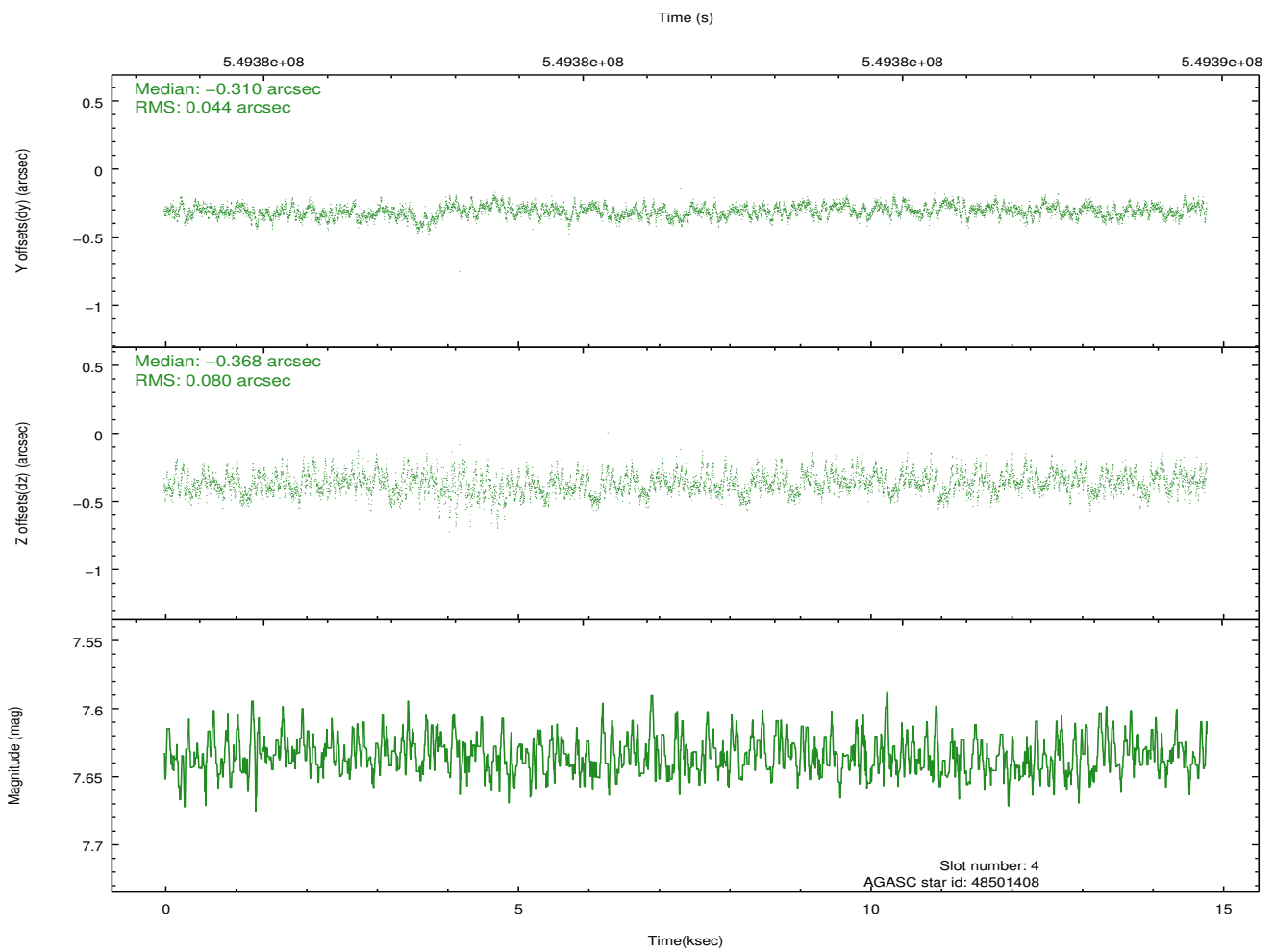
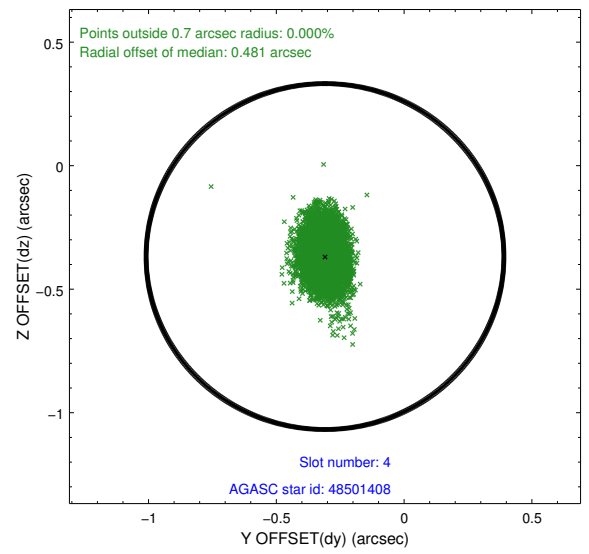
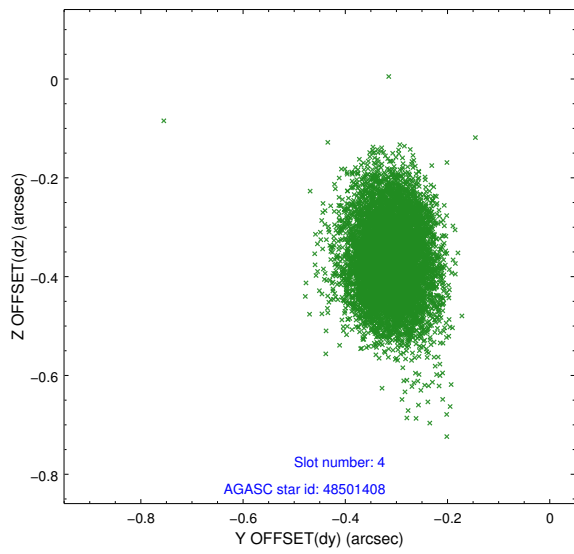
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.17	3606	0.108	-0.069	0.017	0.027	0.000000	0.000000	921.05	-946.26
1	FID		ACIS-I-5	7.17	3606	-0.357	0.065	0.018	0.026	0.000000	0.000000	-1827.44	951.07
2	FID		ACIS-I-6	7.16	3605	0.158	0.076	0.022	0.032	0.000000	0.000000	386.19	1596.03
3	GUIDE	used	48498008	6.97	7213	0.234	0.207	0.084	0.144	240.970342	3.727233	-905.98	-1419.77
4	GUIDE	used	48501408	7.63	7213	-0.310	-0.368	0.095	0.159	240.648810	2.658835	1082.48	2068.43
5	GUIDE	used	48503680	8.44	7210	-0.129	-0.252	0.095	0.159	241.052974	2.780404	-431.52	1968.42
6	GUIDE	used	48505720	8.70	7207	0.107	-0.023	0.097	0.161	241.040940	3.199600	-727.64	488.30
7	GUIDE	used	48501912	8.57	7210	0.102	0.440	0.108	0.170	241.266374	3.034484	-1384.32	1249.41

## 2.4 Star Slots

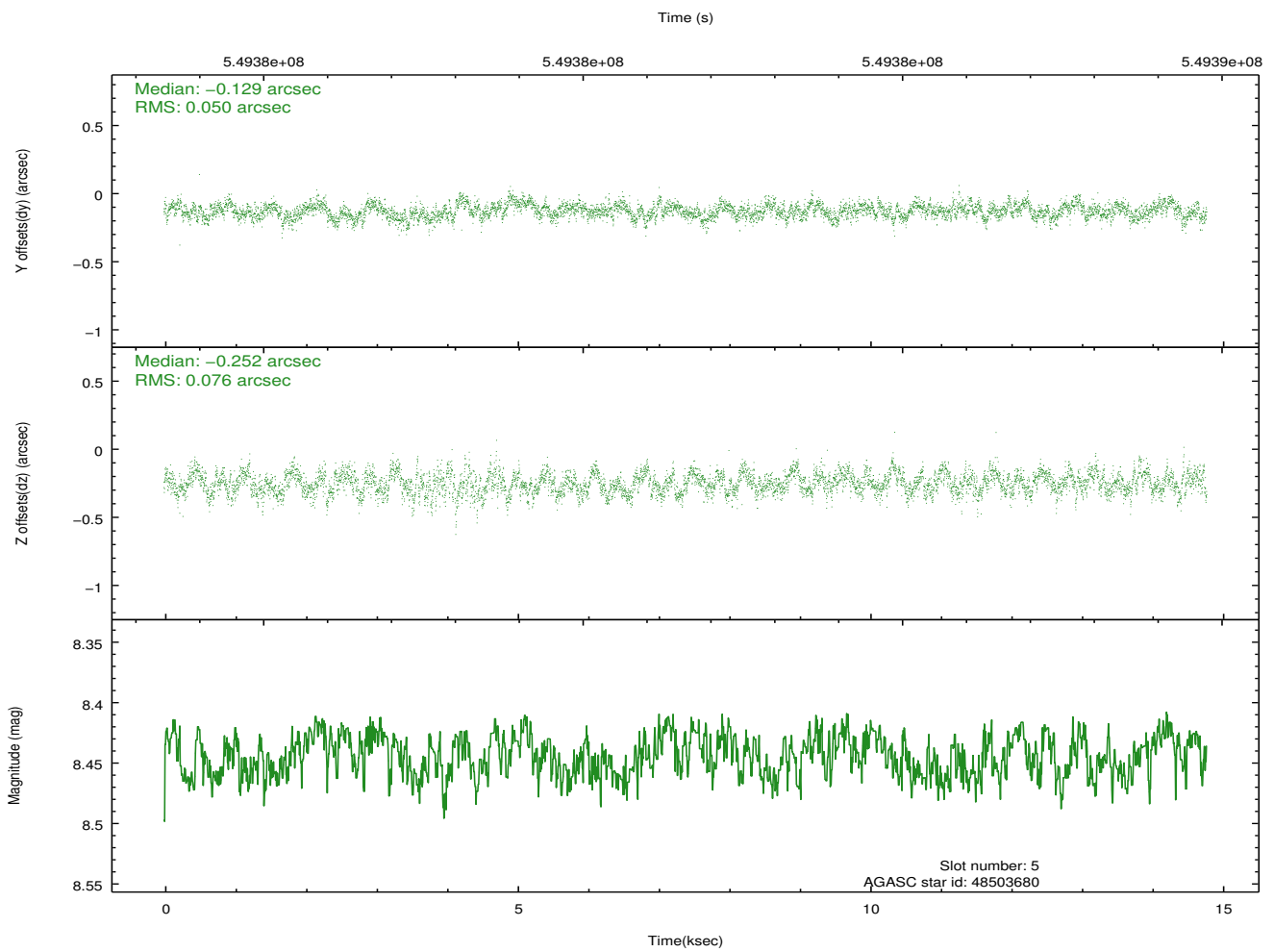
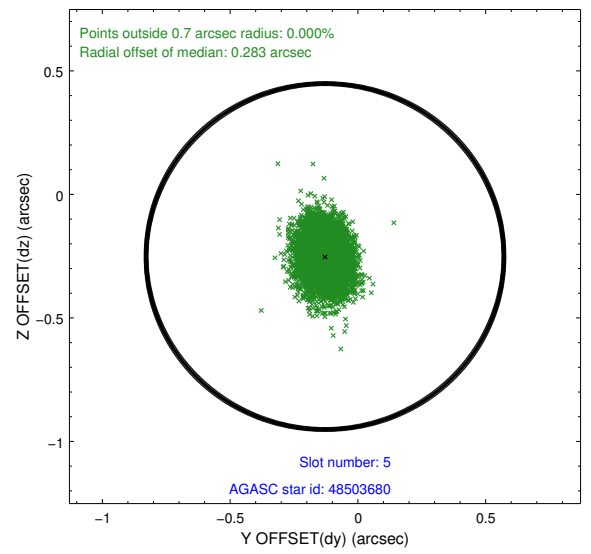
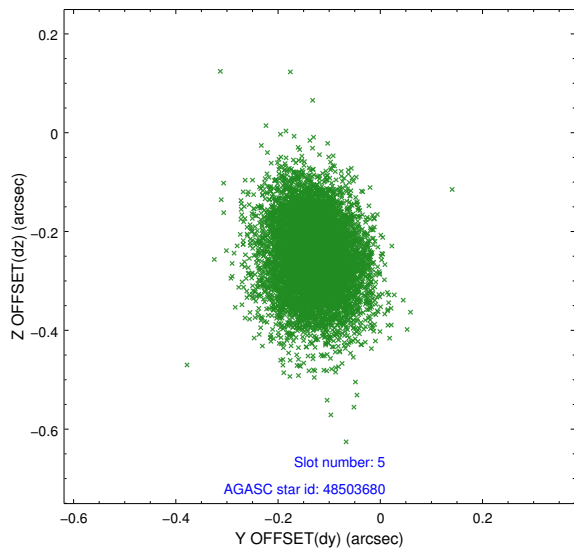
### 2.4.1 Slot 3



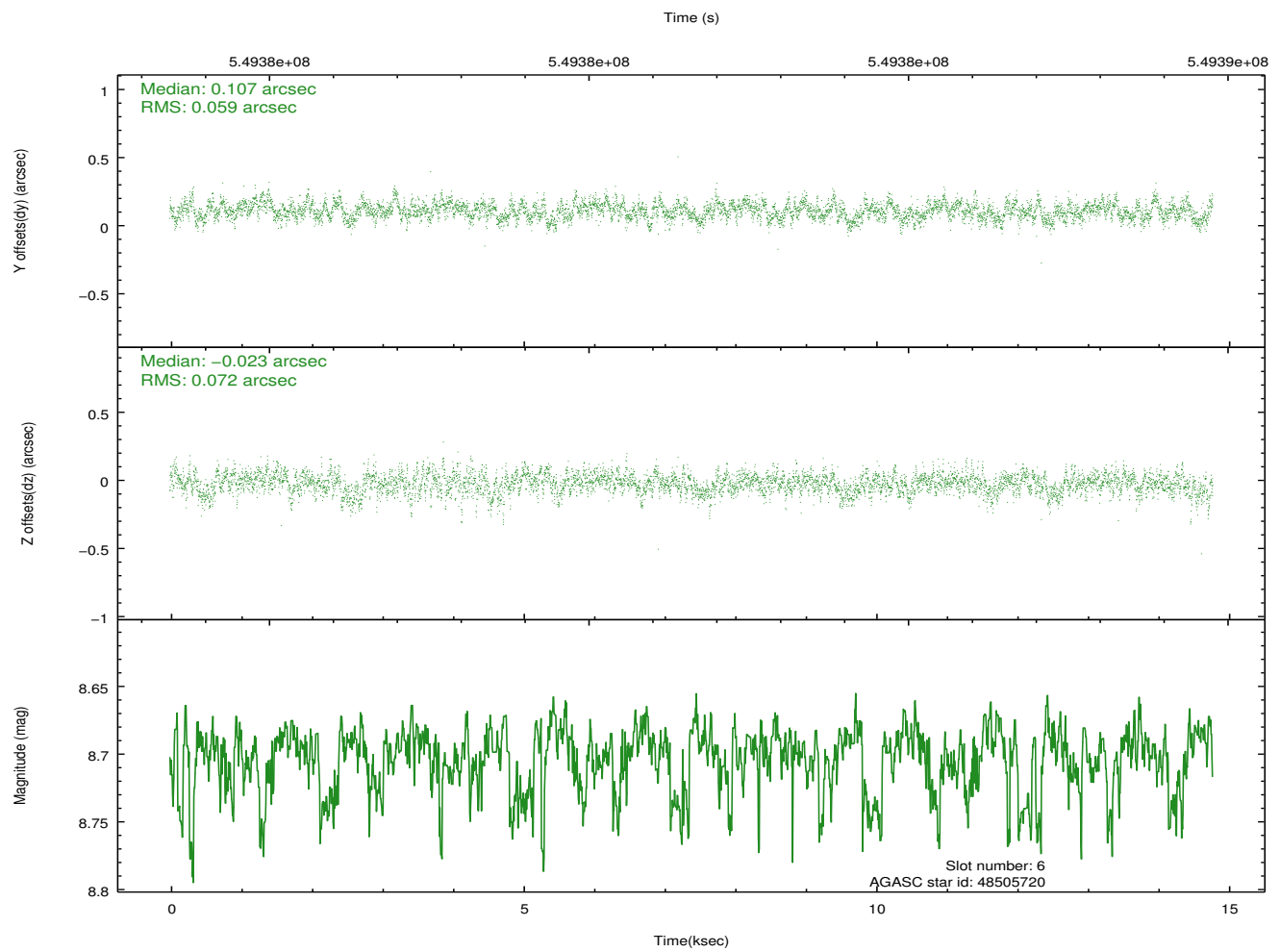
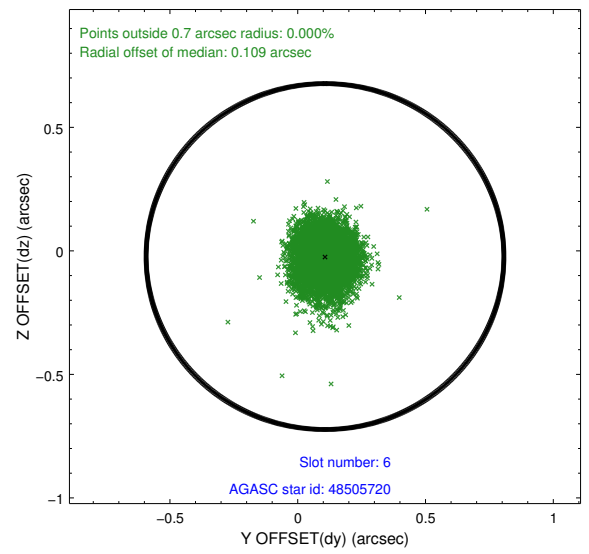
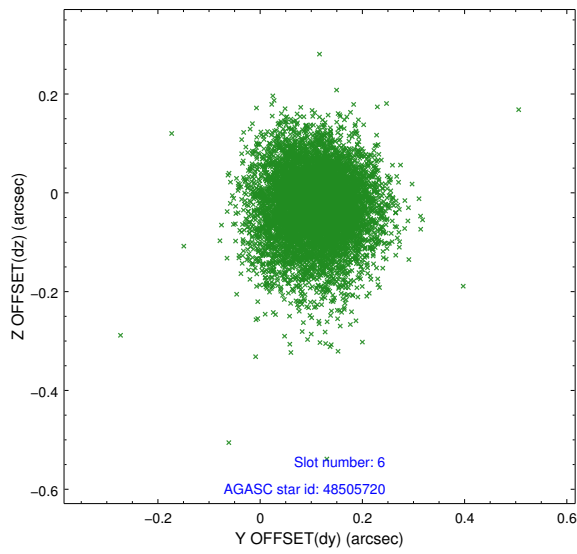
## 2.4.2 Slot 4



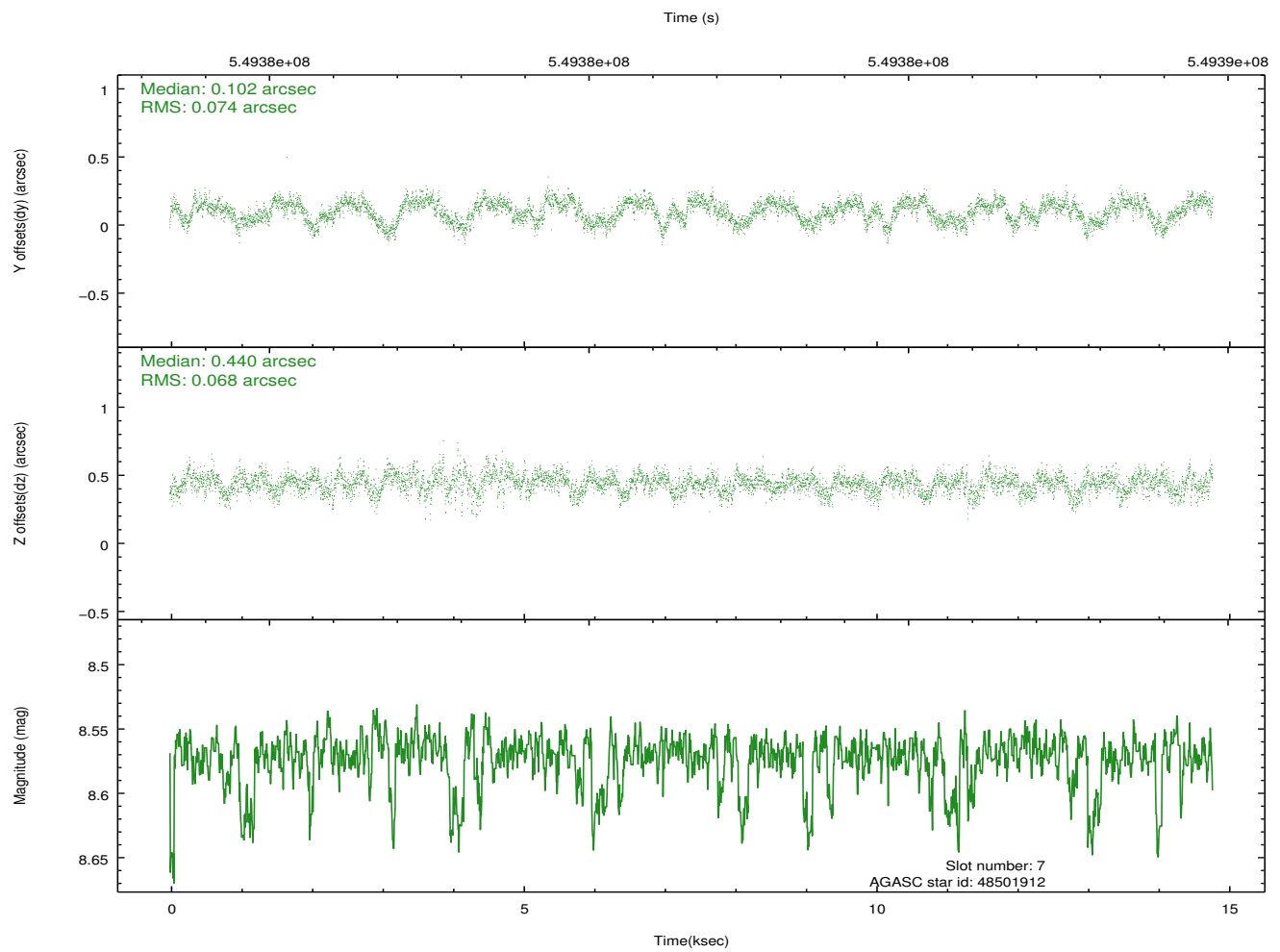
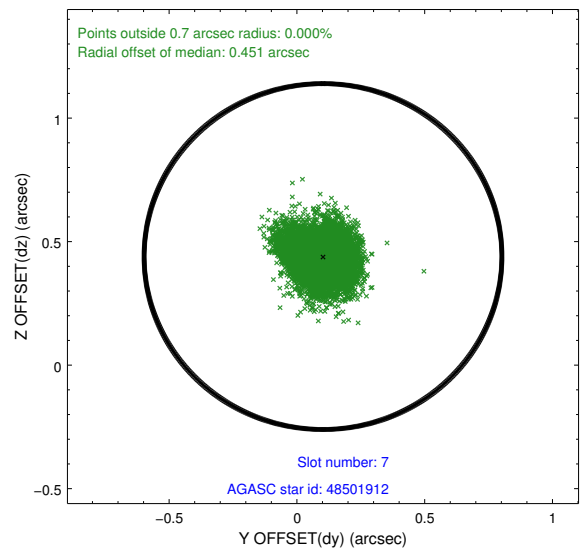
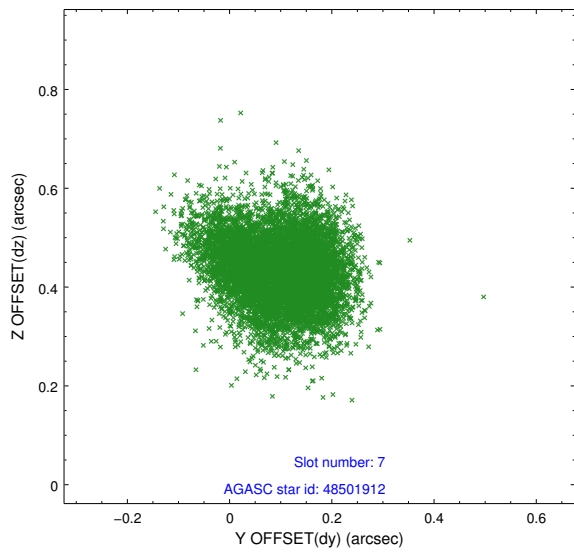
### 2.4.3 Slot 5



## 2.4.4 Slot 6

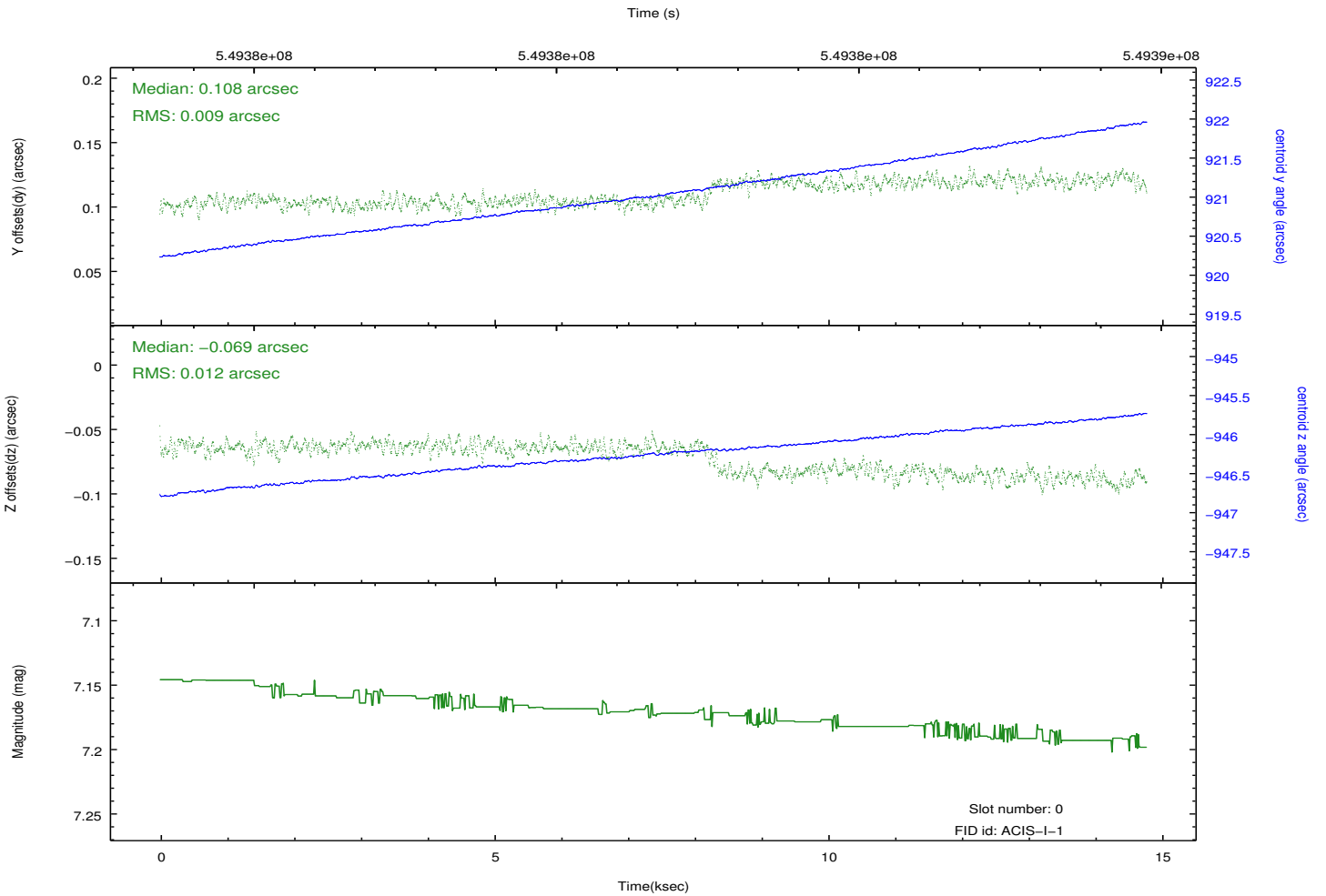
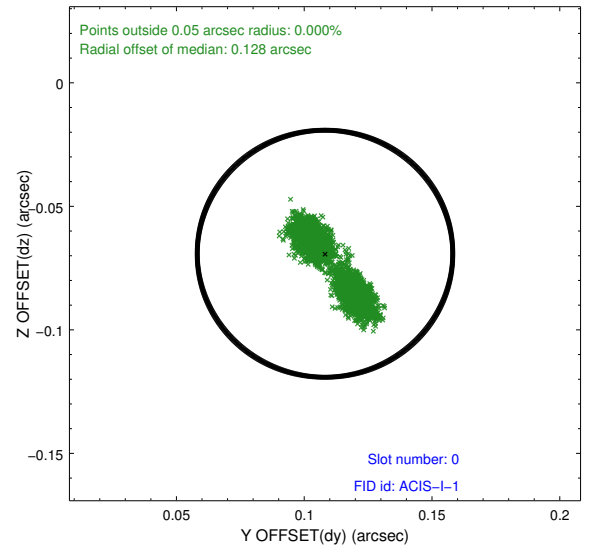
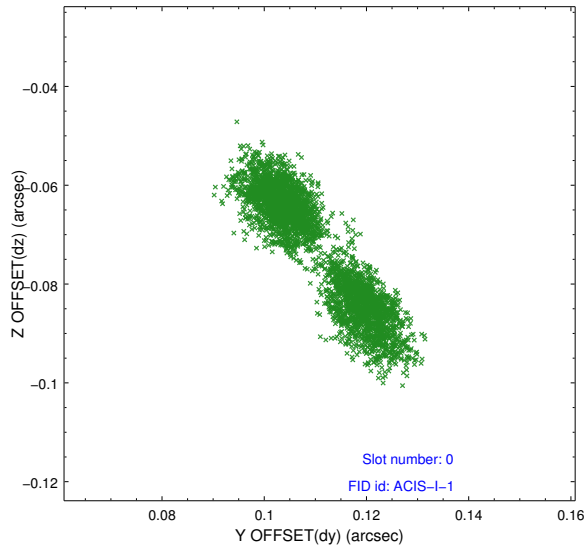


## 2.4.5 Slot 7

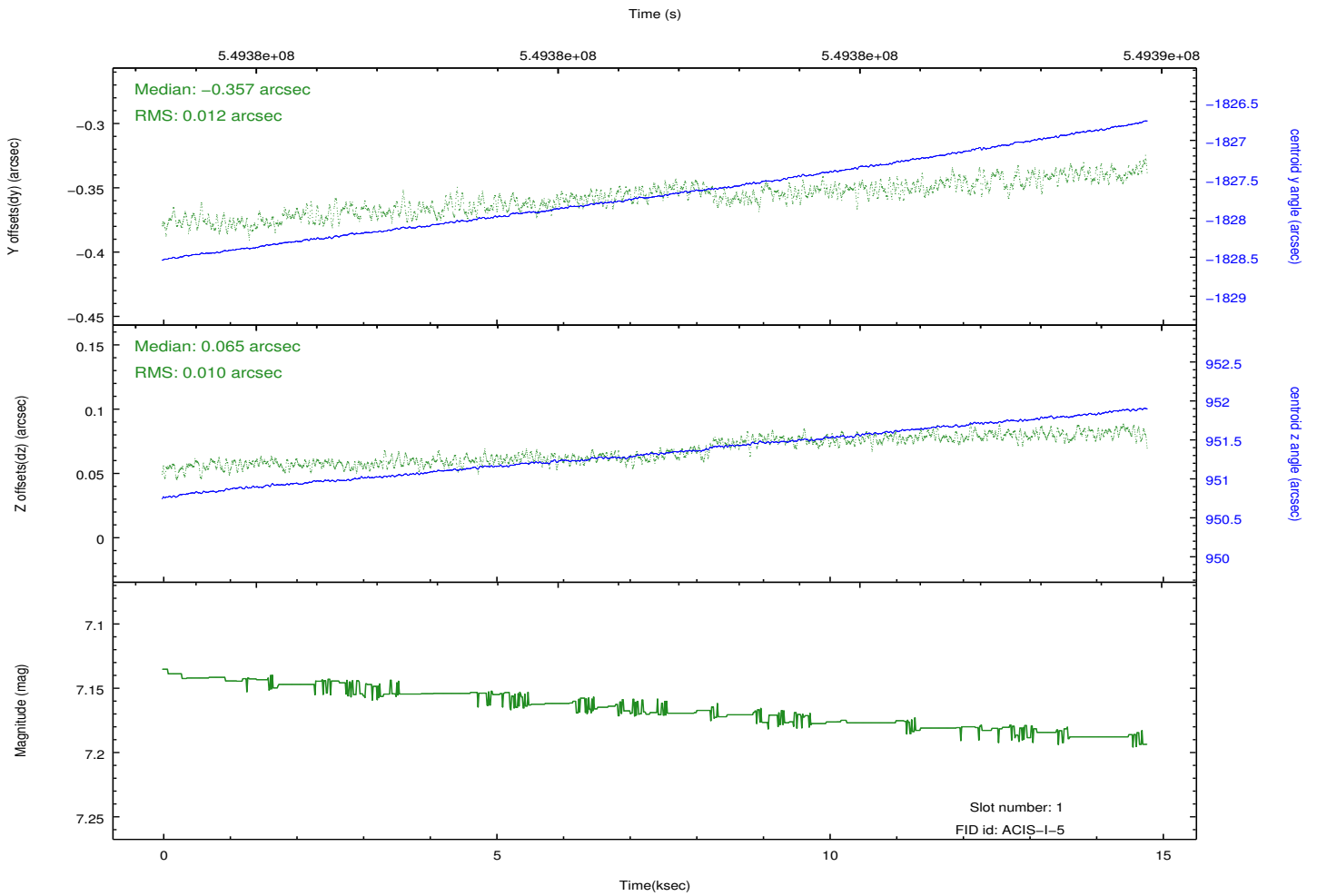
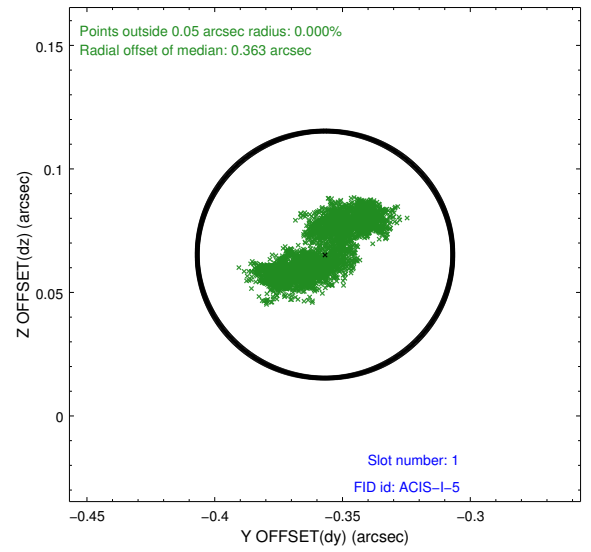
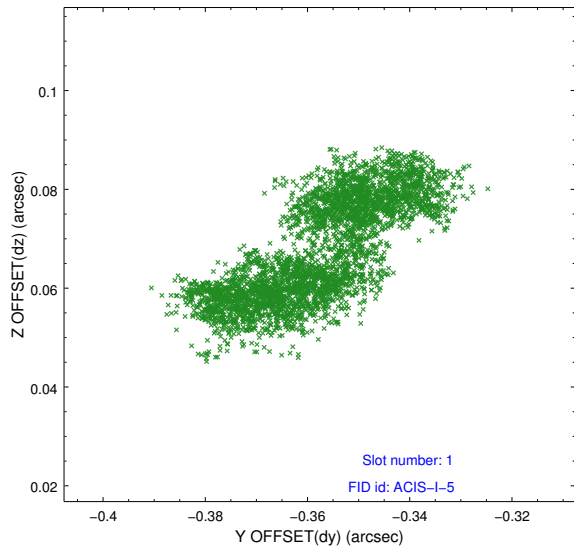


## 2.5 FID Slots

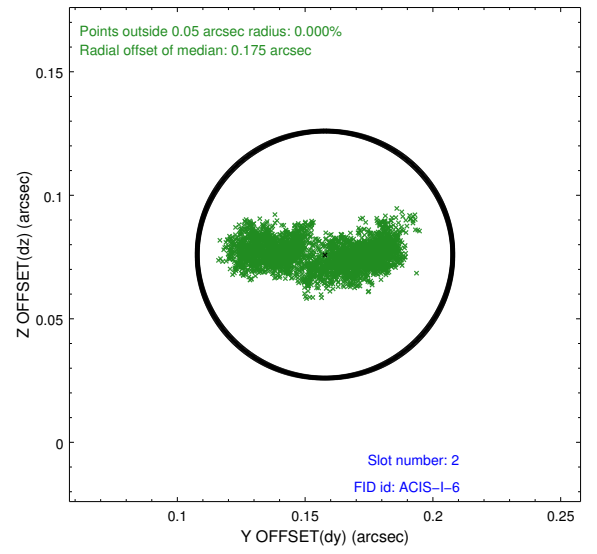
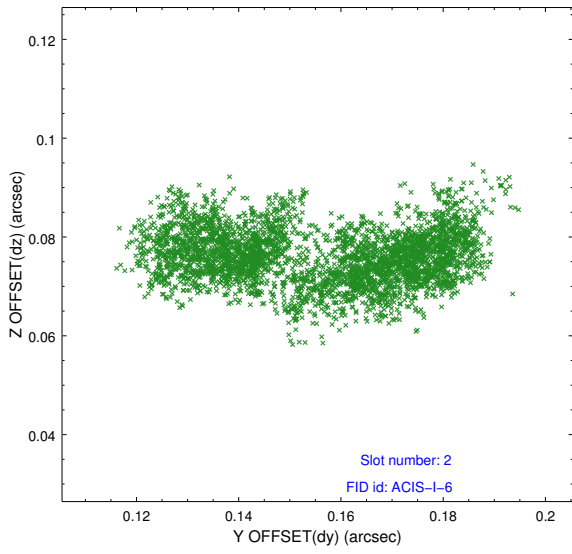
### 2.5.1 Slot 0



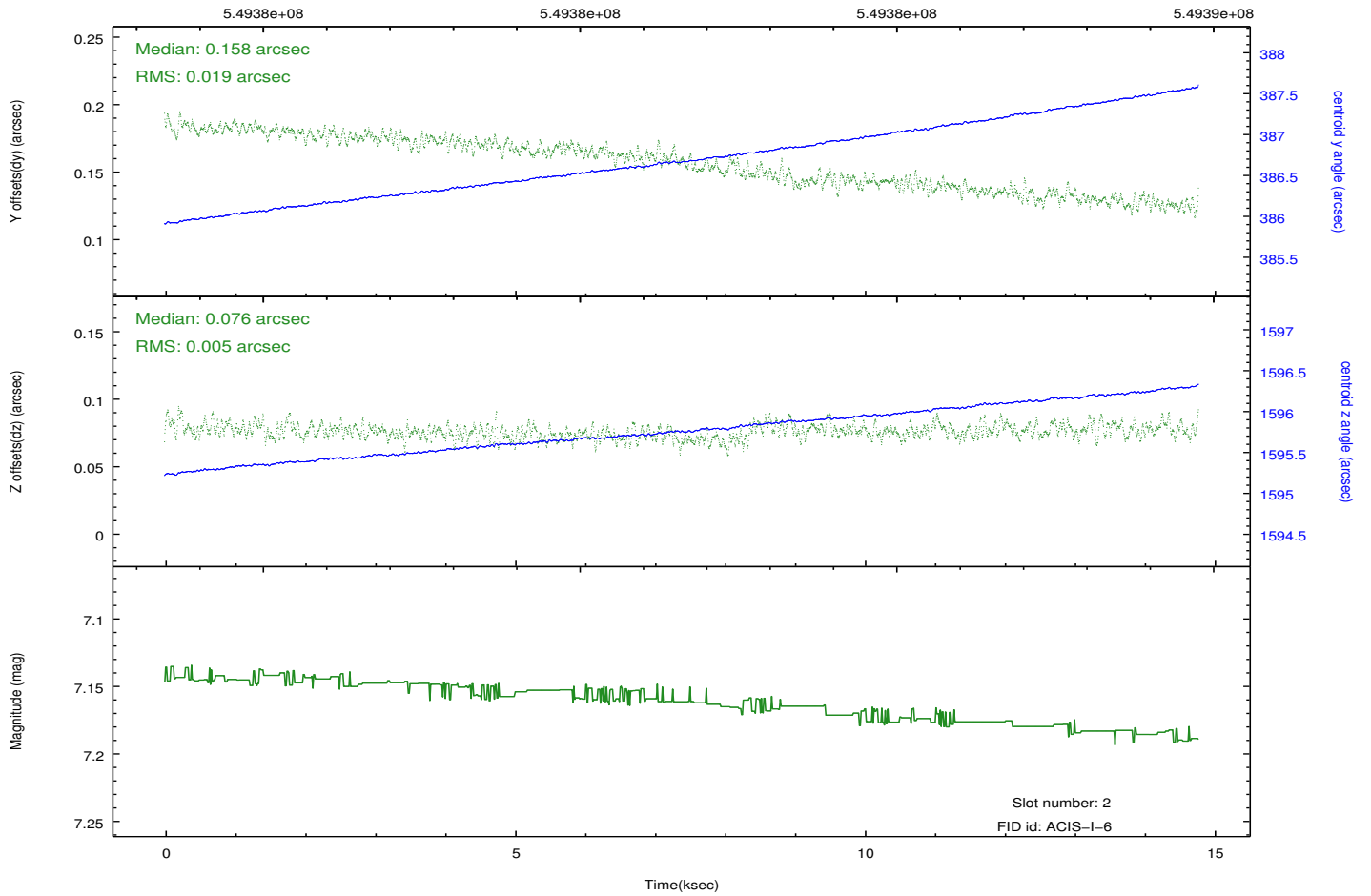
## 2.5.2 Slot 1



### 2.5.3 Slot 2



Time (s)



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2015.05.31
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	14.67850011301

## A.2 Comments