

# V&V Reference Report

## L2 ASCDS Version : 10.2.1

Observation 16140 - L2 Version 3  
Chandra X-Ray Center

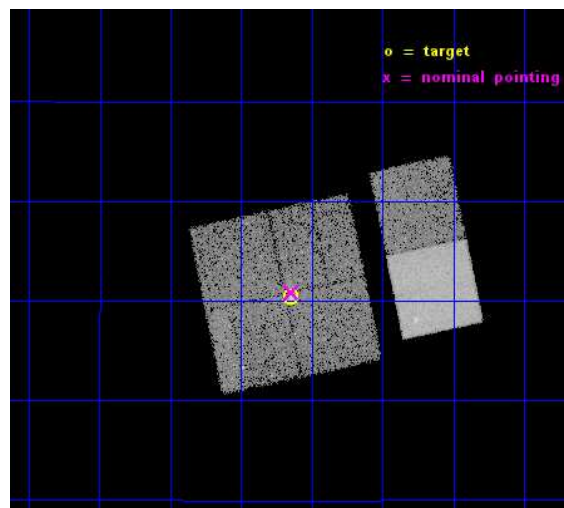
L2 Processing Date : Dec 10 2014

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# 1 Front

seq_num	801394	Sequence number
obs_id	16140	Observation id
title	Unmasking Galaxy Clusters Masquerading As Quasars	Proposal title
observer	Dr. Megan Donahue	Principal investigator
object	RXJ111908.5+090017	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	169.787083	Observer's specified target RA [deg]
dec_targ	9.006333	Observer's specified target Dec [deg]
ra_nom	169.786297136	Nominal RA [deg]
dec_nom	9.0143753978262	Nominal Dec [deg]
roll_nom	78.14609152615	Nominal Roll [deg]
revision	3	Processing version of data
ontime	20972.385063529	Sum of GTIs [s]
livetime	20706.8200958	Livetime [s]
ontime0	20972.261943519	Sum of GTIs [s]
ontime1	20972.302983522	Sum of GTIs [s]
ontime2	20972.344023526	Sum of GTIs [s]
ontime3	20972.385063529	Sum of GTIs [s]
ontime6	20972.467143536	Sum of GTIs [s]
ontime7	20972.426103532	Sum of GTIs [s]
l2events	113564	Number of level 2 events

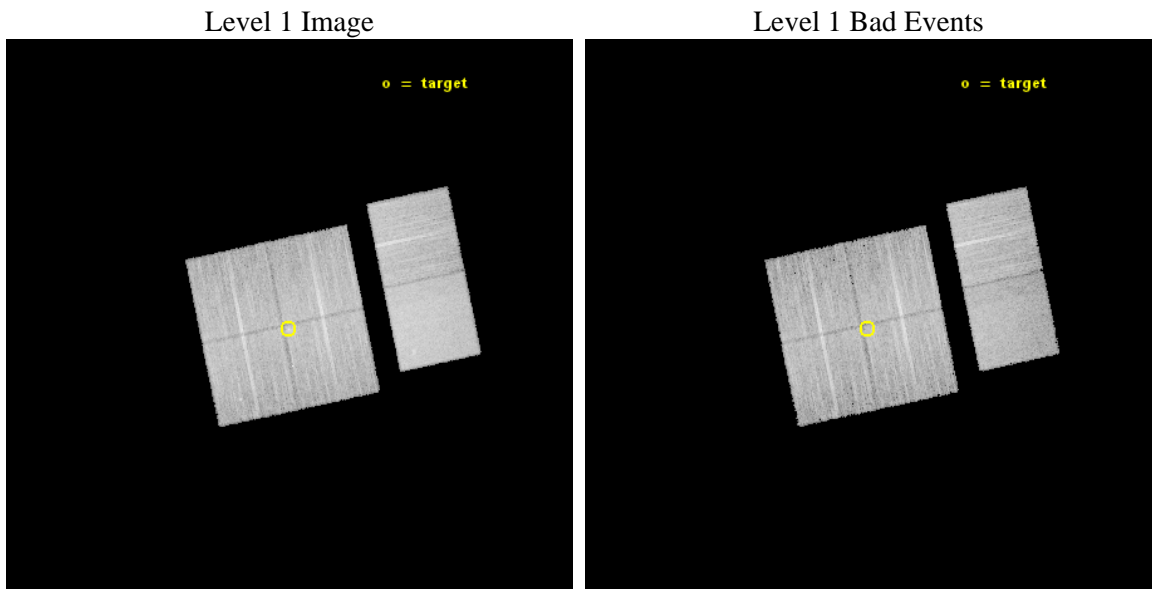




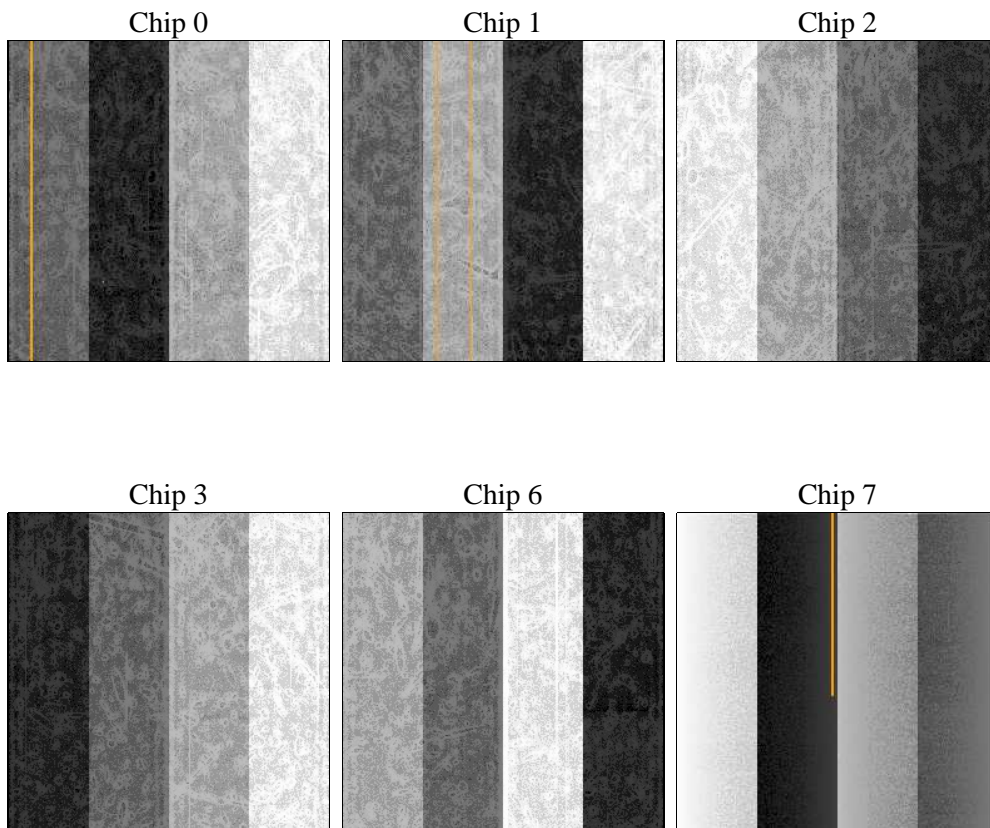
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	21000.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	20972.385063529	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime0	20972.261943519	Sum of GTIs [s]
date	2014-12-10T14:30:39	Date and time of file creation	ontime1	20972.302983522	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	20972.344023526	Sum of GTIs [s]
			ontime3	20972.385063529	Sum of GTIs [s]
			ontime6	20972.467143536	Sum of GTIs [s]
			ontime7	20972.426103532	Sum of GTIs [s]
			l1events	622305	Number of level 1 events

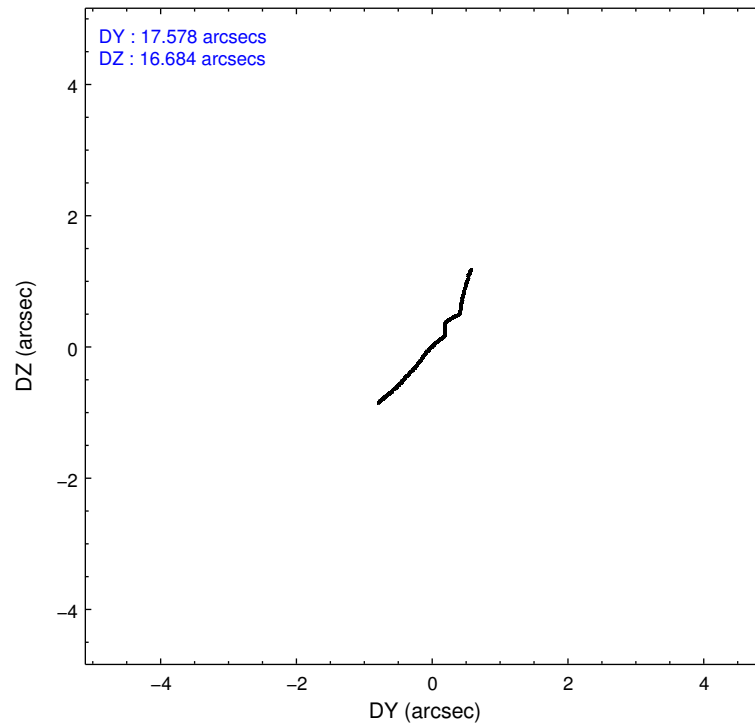
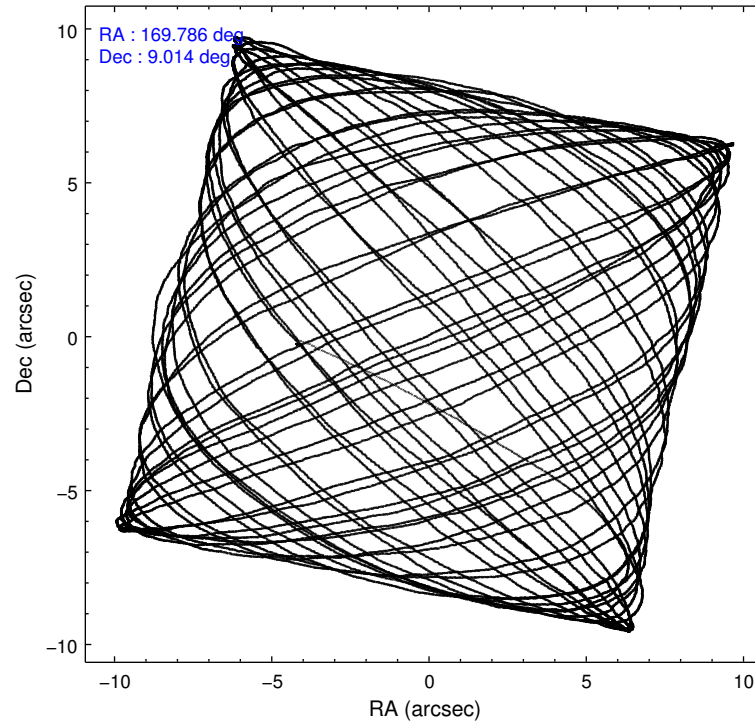
### 2.1.4 Events

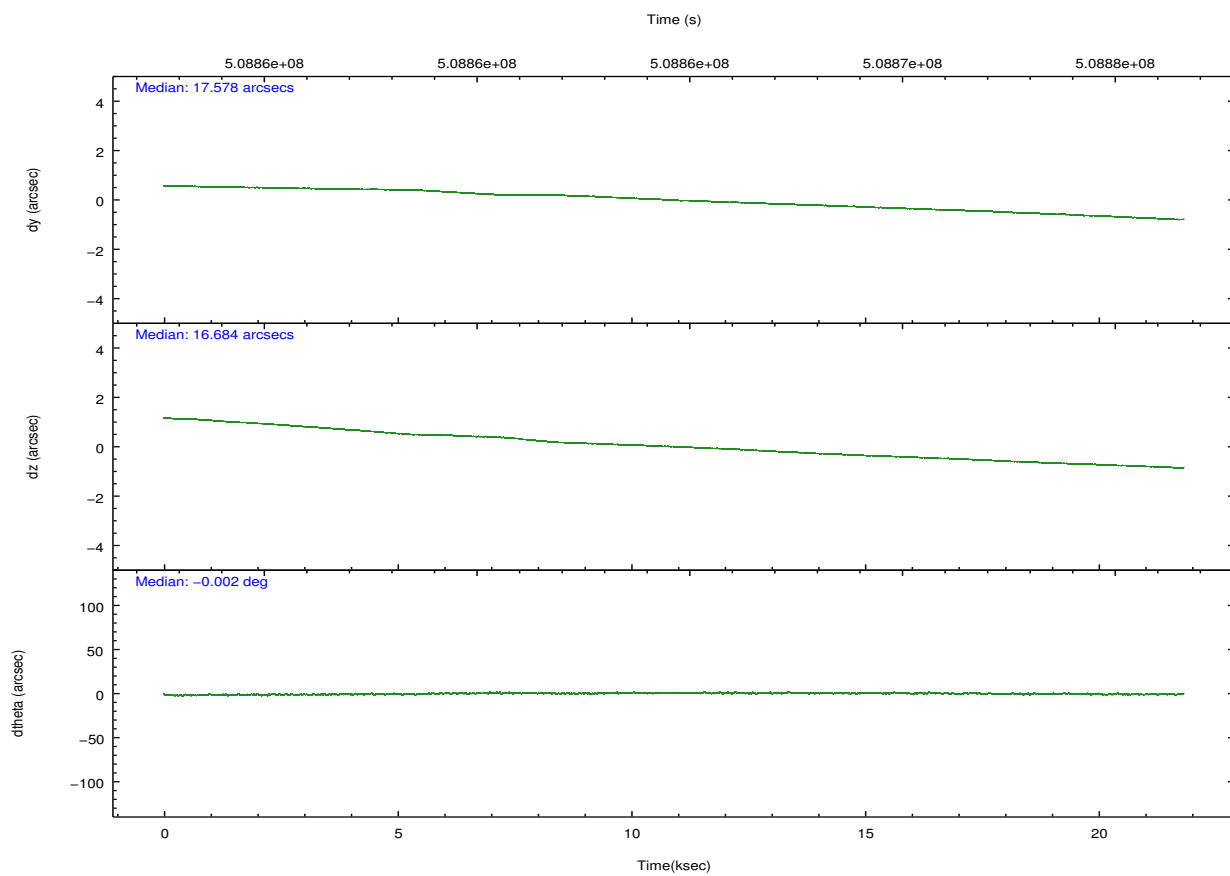
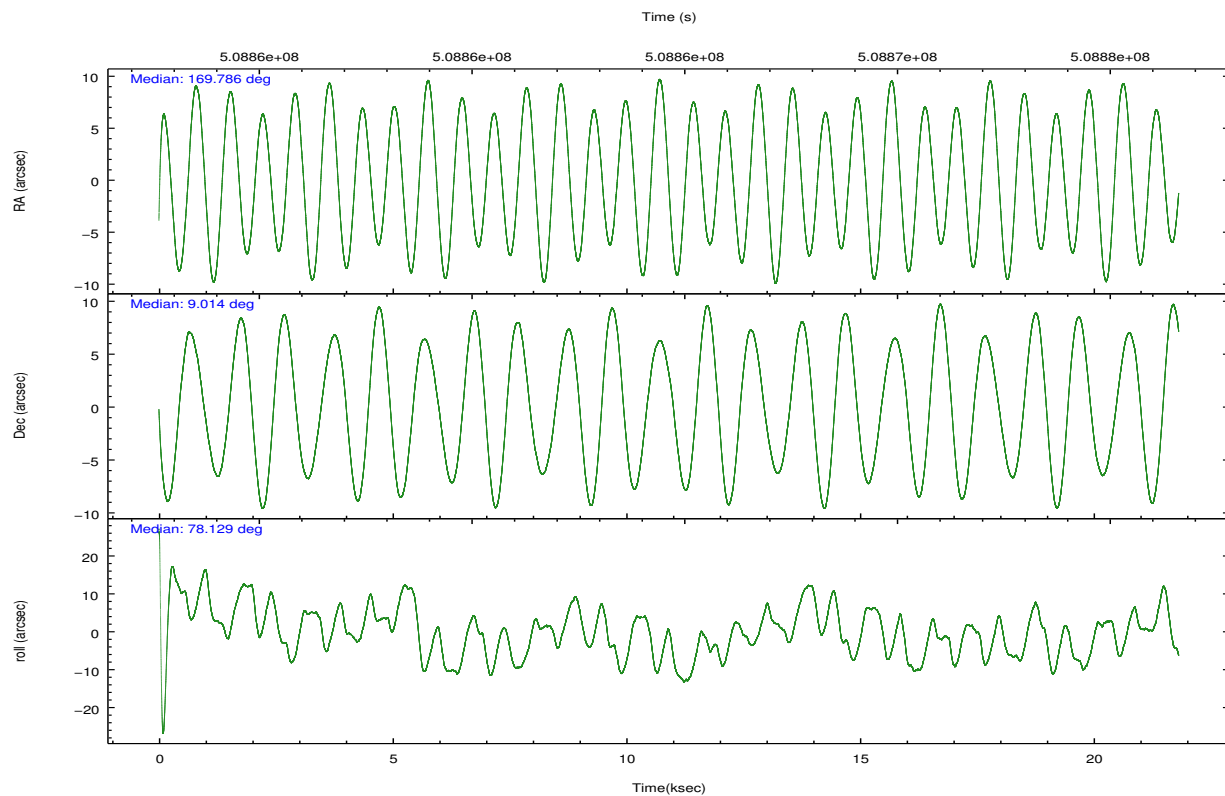
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	89860	93184	97853	97747	105886	137775	grade 0 events	4639	5015	4746	4905	4895	5323
rejected events	77302	79364	85675	85651	92857	76743		5%	5%	4%	5%	4%	3%
rejected %	86%	85%	87%	87%	87%	55%	grade 1 events	56	44	49	62	44	188
								0%	0%	0%	0%	0%	0%
							grade 2 events	3085	3321	2848	2531	2880	12635
								3%	3%	2%	2%	2%	9%
							grade 3 events	1214	1305	1145	1134	1168	5035
								1%	1%	1%	1%	1%	3%
							grade 4 events	1195	1313	1280	1179	1193	5070
								1%	1%	1%	1%	1%	3%
							grade 5 events	4539	4998	4416	5421	5359	13880
								5%	5%	4%	5%	5%	10%
							grade 6 events	2427	2867	2162	2347	2894	32975
								2%	3%	2%	2%	2%	23%
							grade 7 events	72705	74321	81207	80168	87453	62669
								80%	79%	82%	82%	82%	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	FAINT	FAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	169.795085	169.7862971360037	CCD I2 on	Y	Y
[deg] Pointing Dec	8.988289	9.014375397826182	CCD I3 on	Y	Y
[deg] Pointing Roll	77.935985	78.14609152615024	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	O2	Y
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	508854532.184000	508852485.86016	CCD S5 on	N	N
Observation start date	2014-02-15T12:27:45	2014-02-15T11:54:45	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	508875532.184000	508876615.38649	On-chip summing requested	N	N
Observation end date	2014-02-15T18:17:45	2014-02-15T18:36:55	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



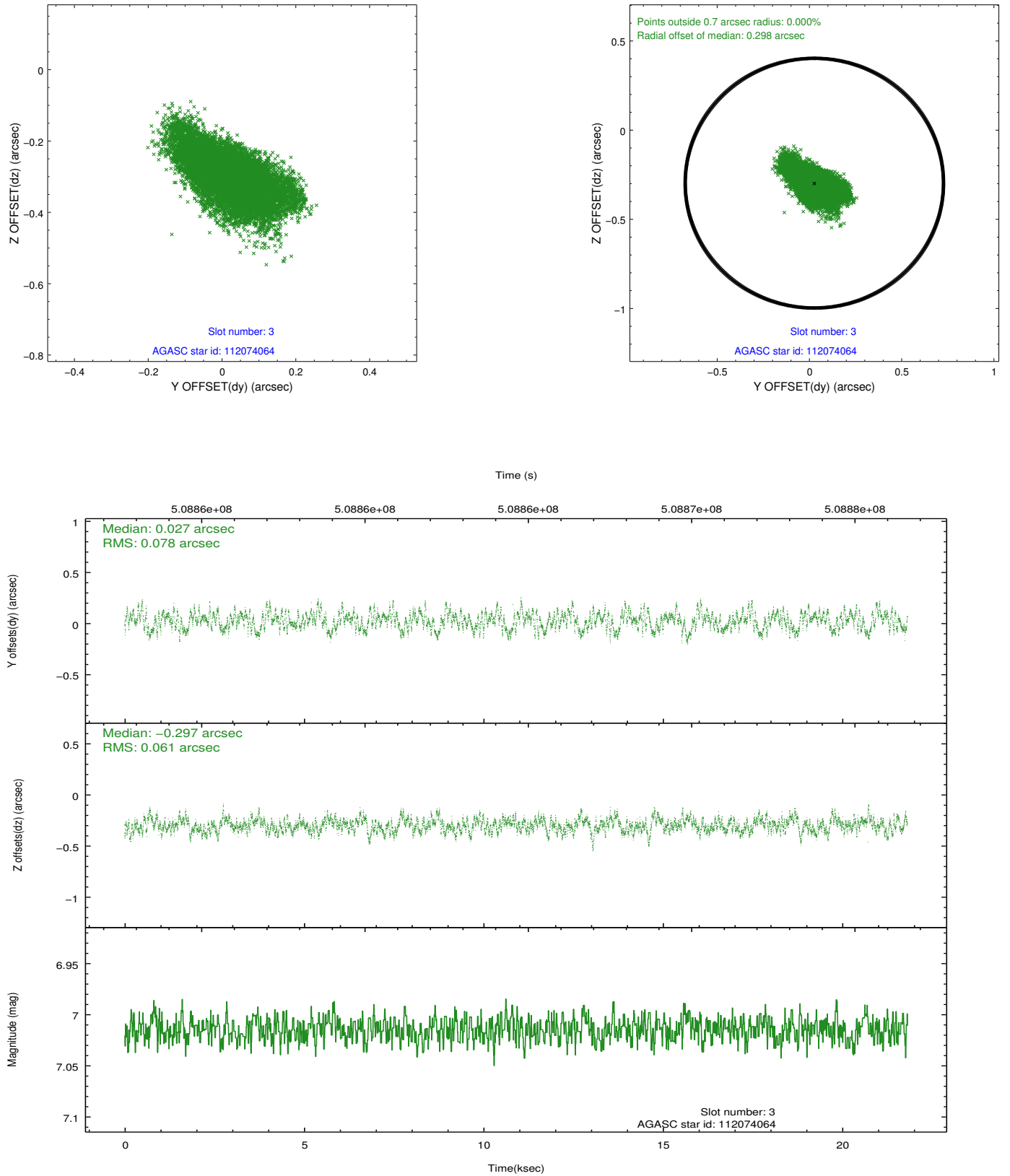


### Slot Statistics

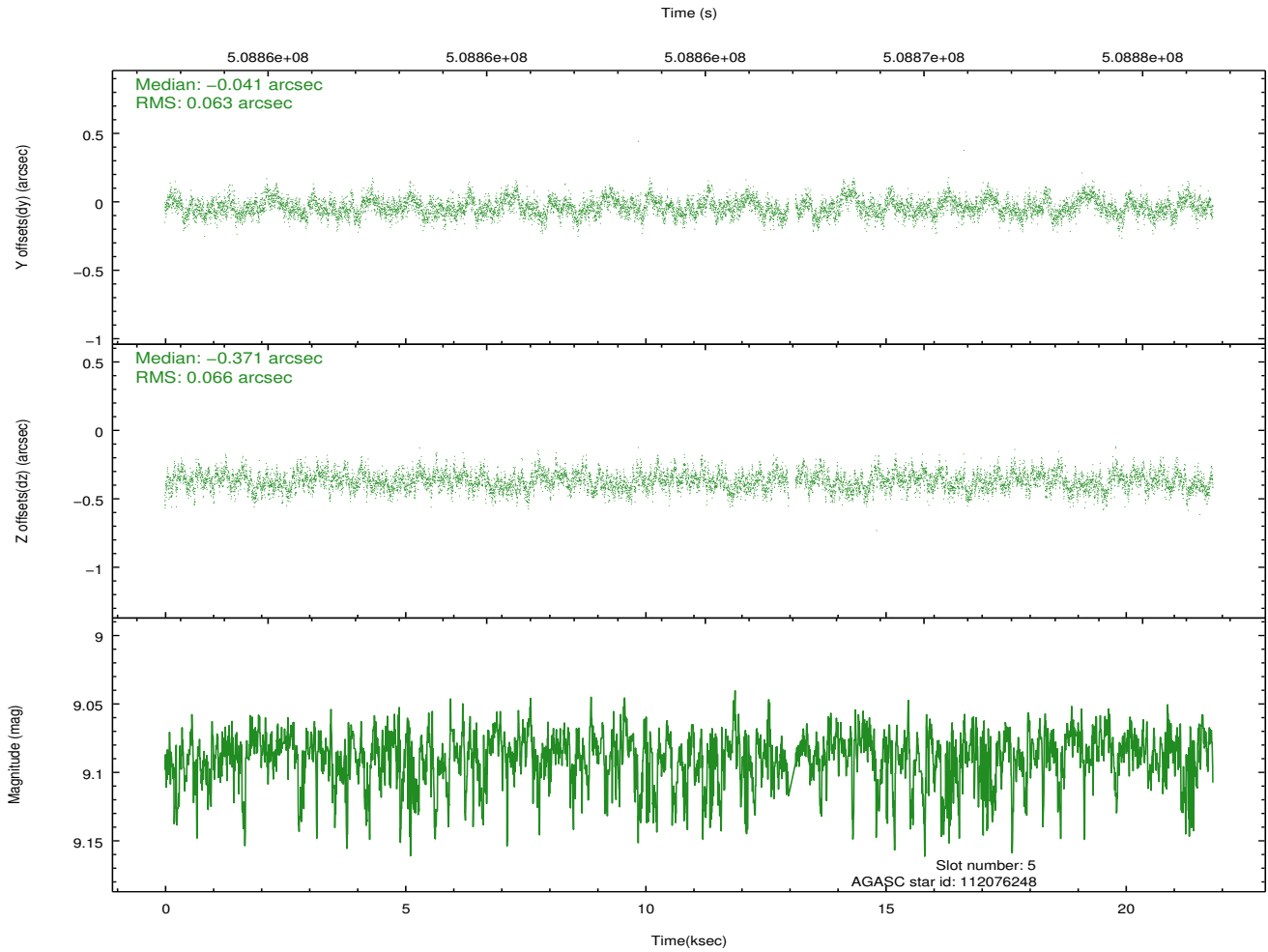
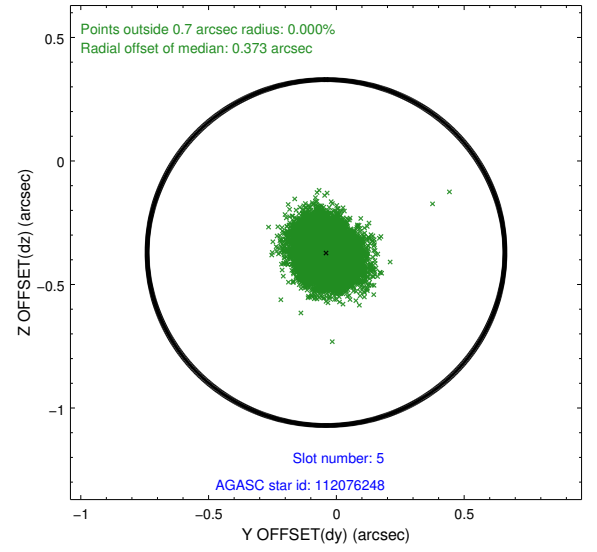
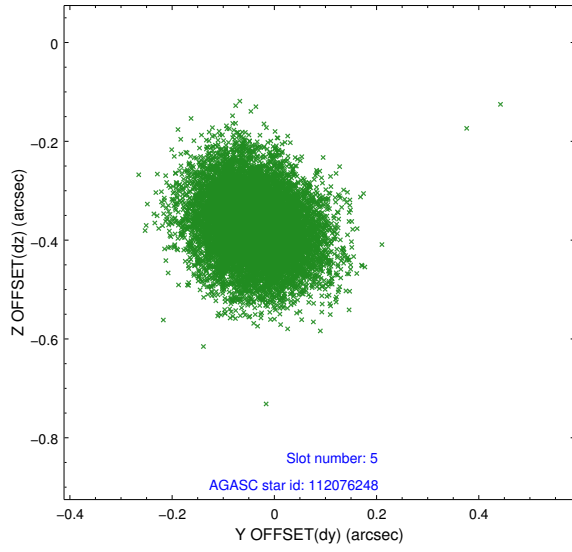
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.07	5322	0.062	-0.024	0.016	0.038	0.000000	0.000000	921.90	-840.40
1	FID		ACIS-I-5	7.06	5322	-0.251	0.057	0.012	0.029	0.000000	0.000000	-1826.43	1057.08
2	FID		ACIS-I-6	7.07	5322	0.097	0.041	0.017	0.045	0.000000	0.000000	387.30	1701.75
3	GUIDE	used	112074064	7.01	10644	0.027	-0.297	0.105	0.180	170.459173	9.168379	1129.49	-2170.53
4	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
5	GUIDE	used	112076248	9.09	10568	-0.041	-0.371	0.098	0.157	170.008273	9.092029	523.77	-662.57
6	GUIDE	used	112076816	9.72	10638	-0.291	0.516	0.171	0.269	170.178395	9.155391	873.85	-1205.25
7	GUIDE	used	112076968	9.42	10640	0.305	0.143	0.223	0.317	170.283883	8.445645	-1544.80	-2109.83

## 2.4 Star Slots

### 2.4.1 Slot 3

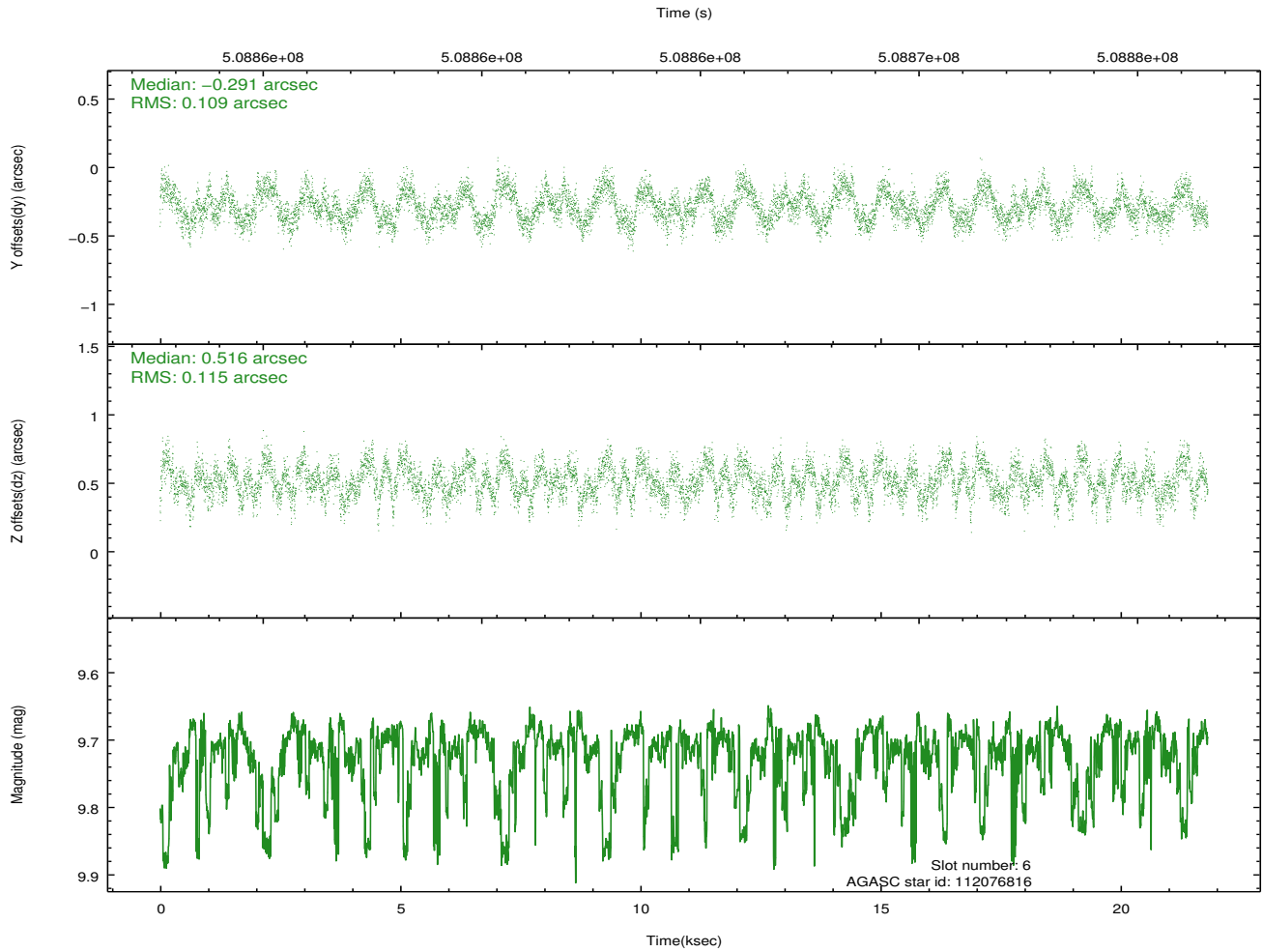
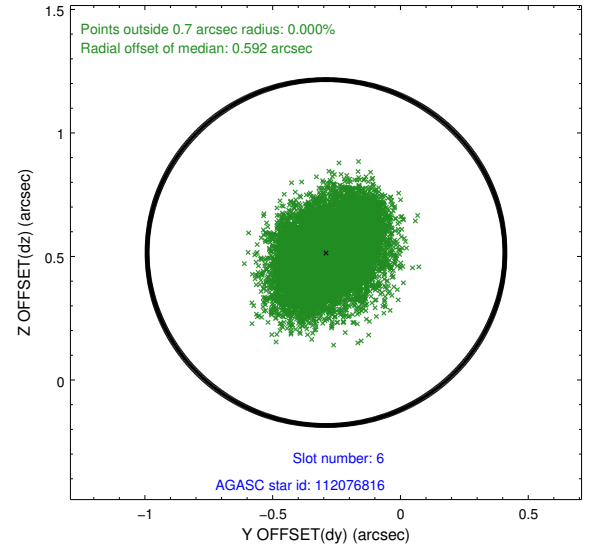
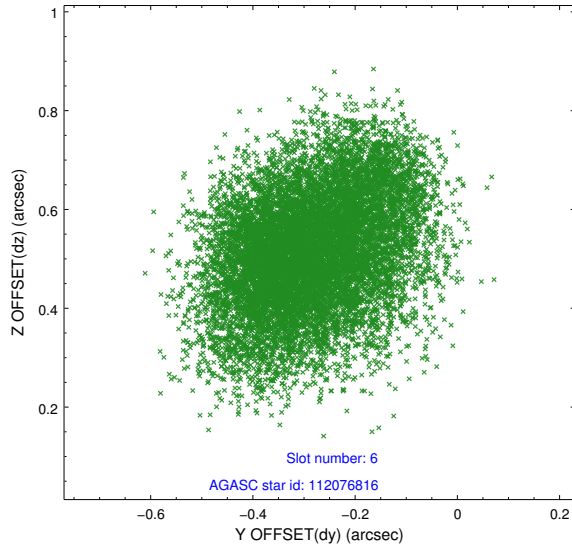


## 2.4.2 Slot 5

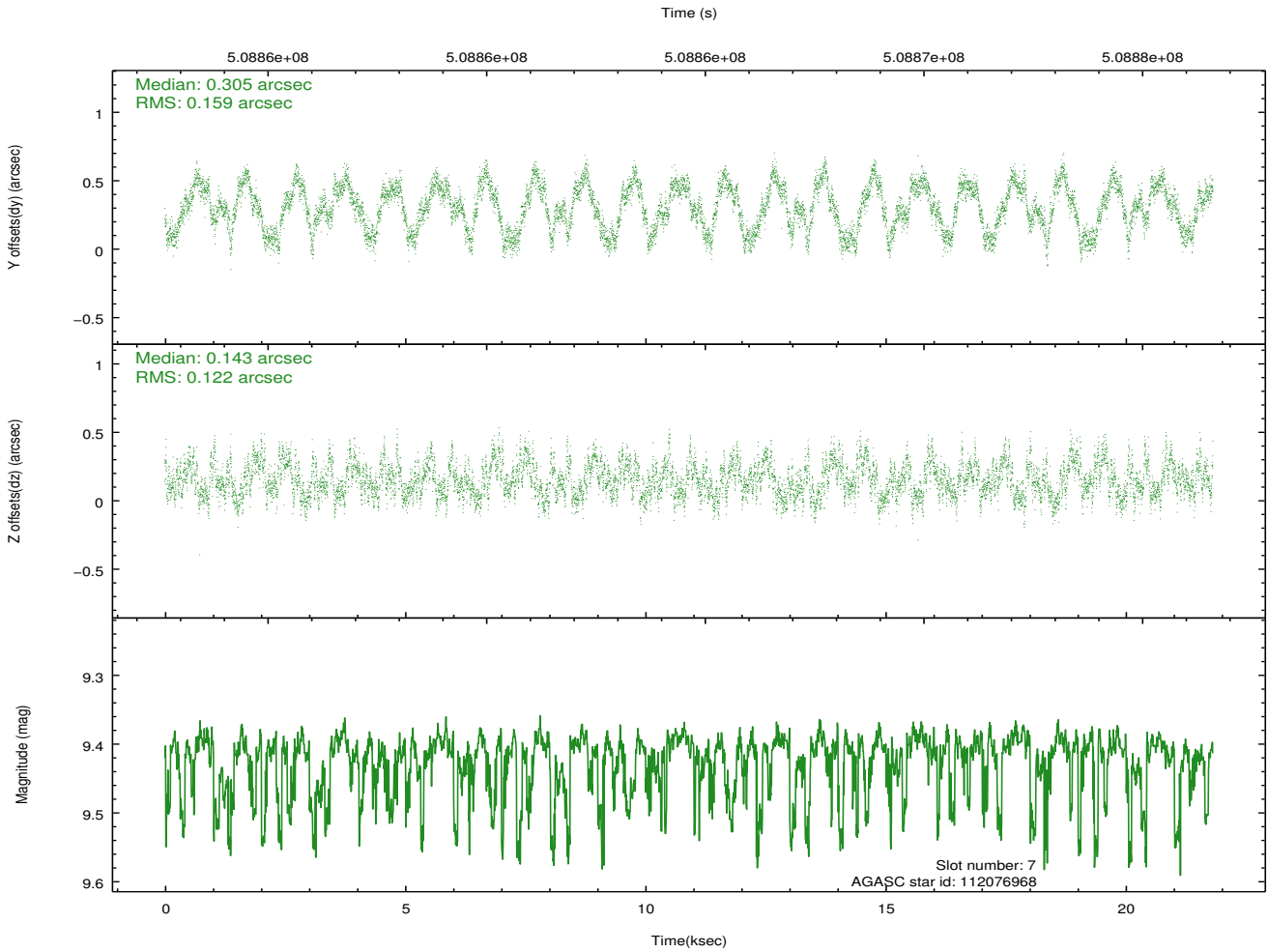
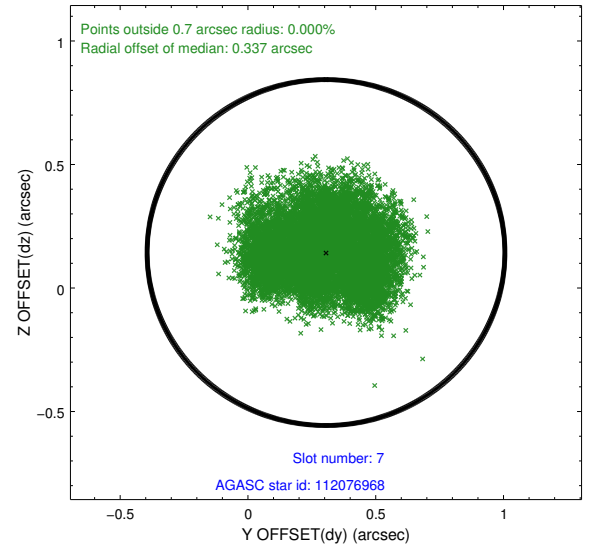
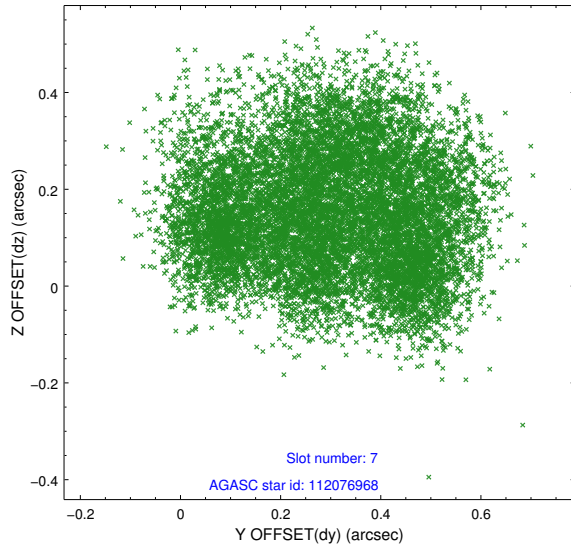




### 2.4.3 Slot 6

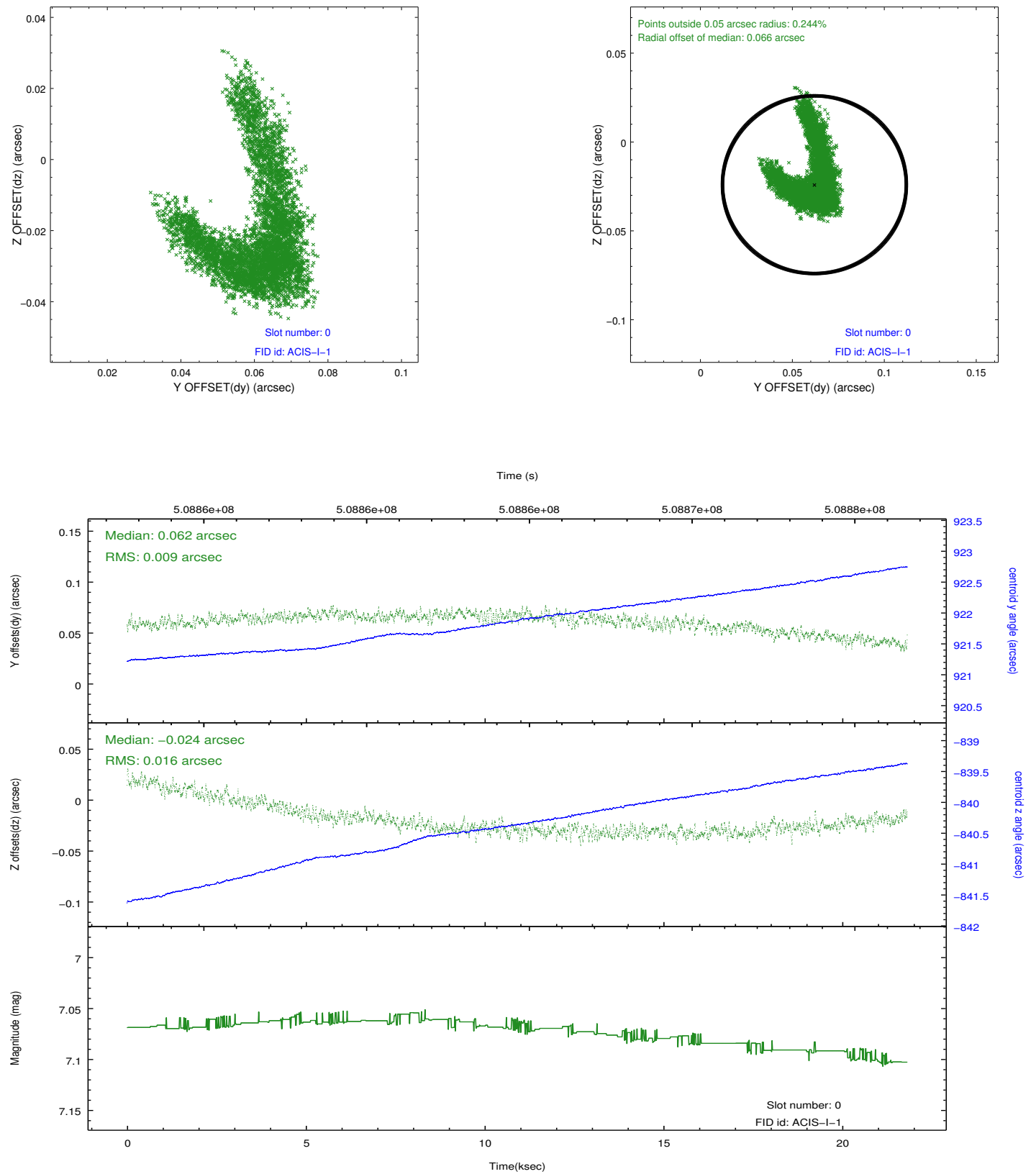


## 2.4.4 Slot 7

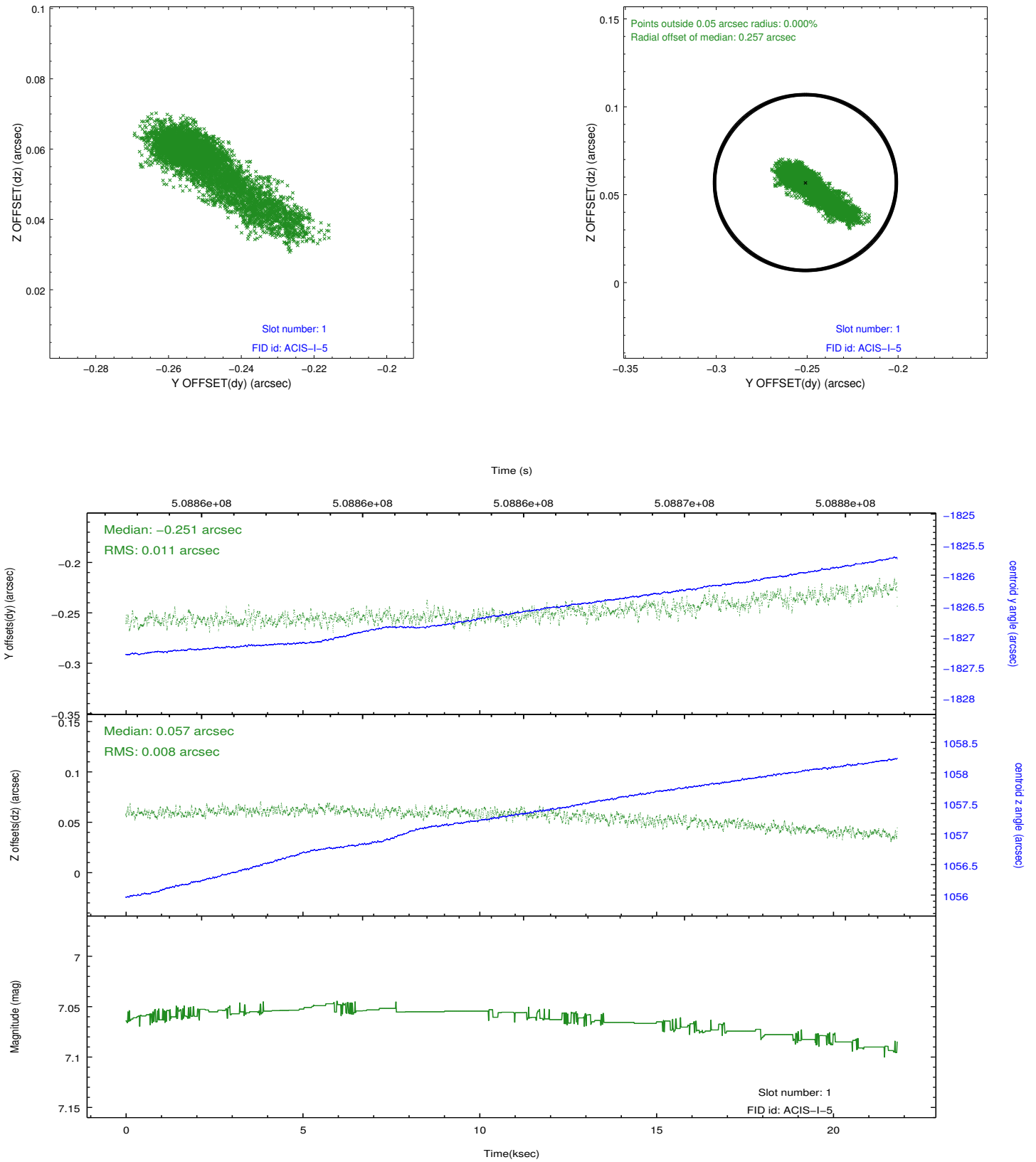


## 2.5 FID Slots

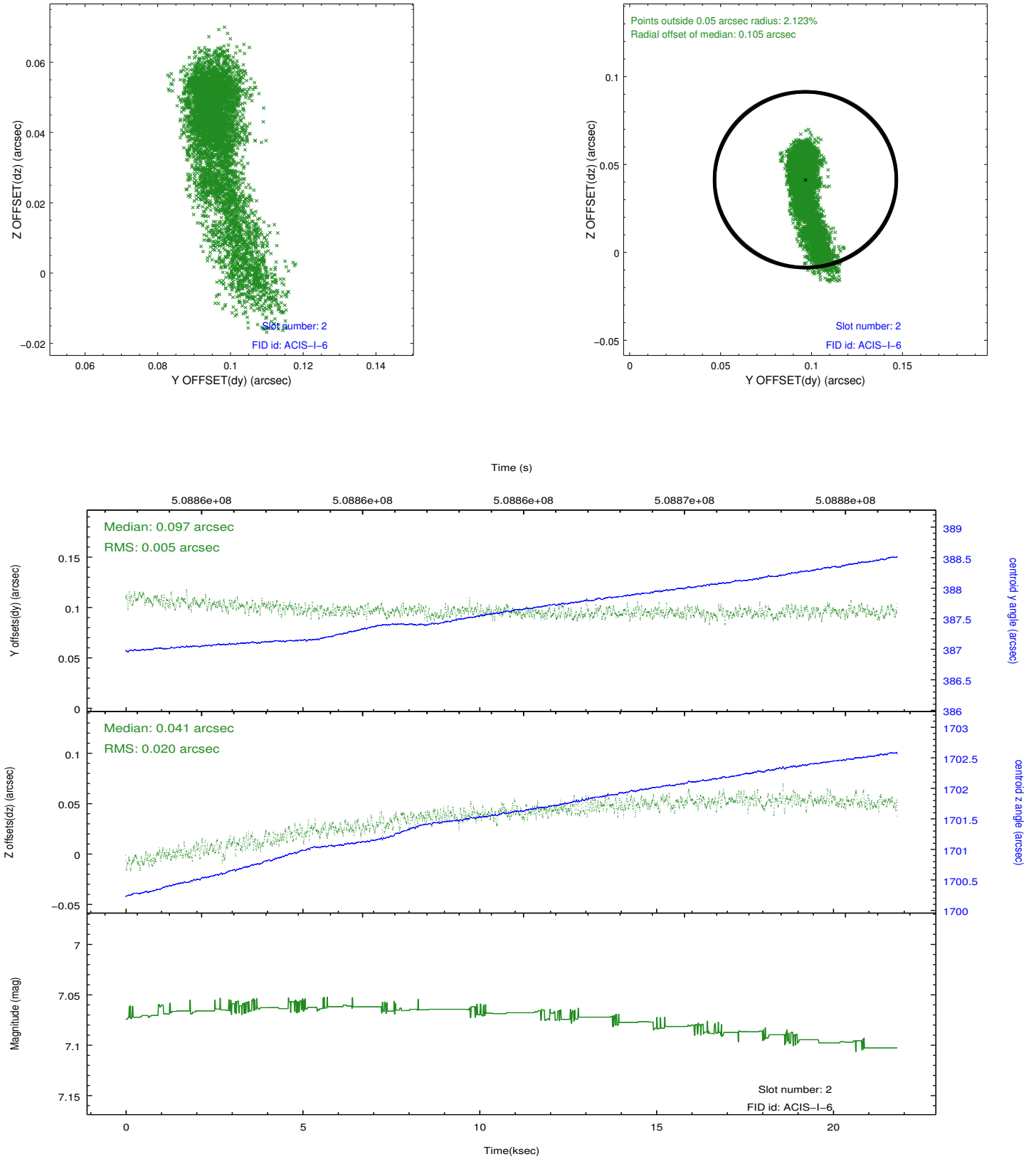
### 2.5.1 Slot 0



## 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)	2014.12.18
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.972385063529

## A.2 Comments

The guide star in slot 4 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this star from the solution.

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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.