

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 3760 - L2 Version 3  
Chandra X-Ray Center

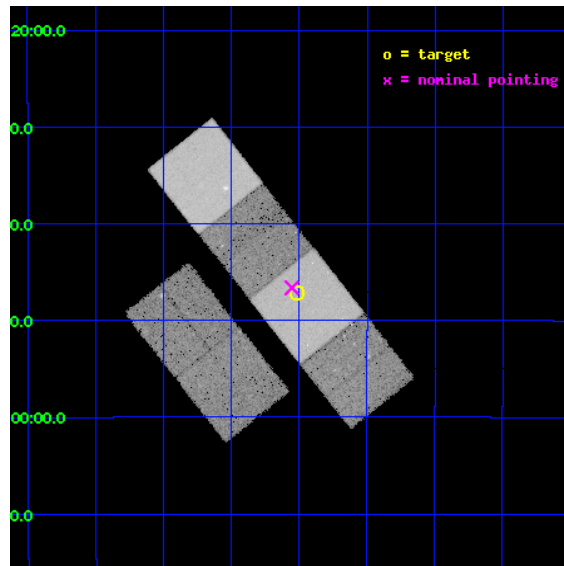
L2 Processing Date : Oct 23 2012

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# 1 Front

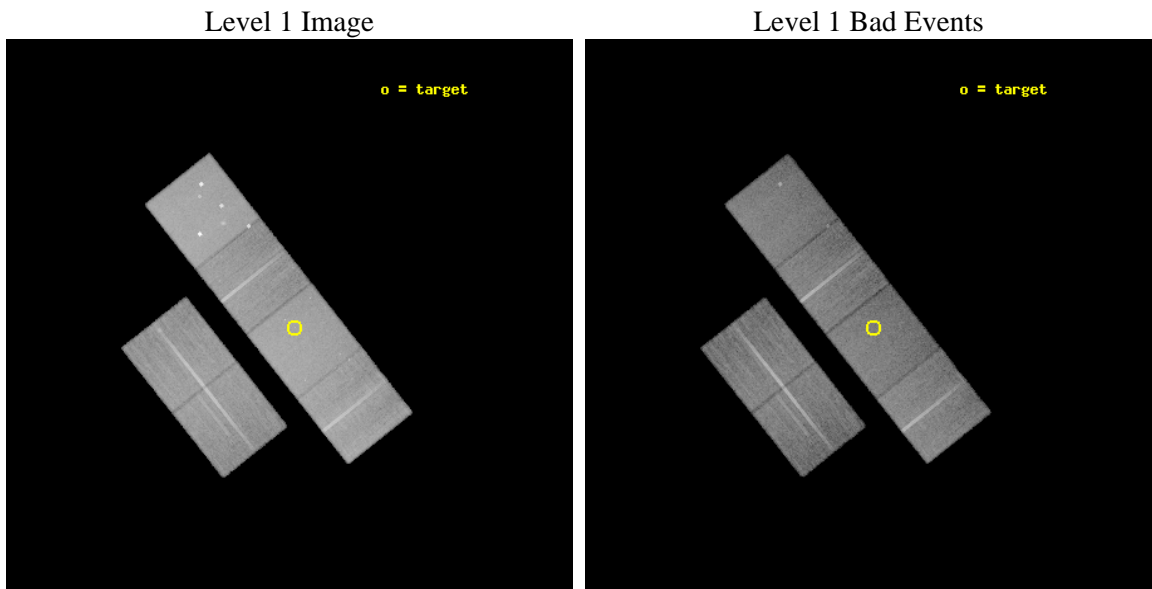
seq_num	200230	Sequence number
obs_id	3760	Observation id
title	FINE X-RAY TOMOGRAPHY OF PLANETARY NEBULA	Proposal title
observer	MR JUN'ICHI KOTOKU	Principal investigator
object	NGC 4361	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	186.129167	Observer's specified target RA [deg]
dec_targ	-18.785889	Observer's specified target Dec [deg]
ra_nom	186.13867431069	Nominal RA [deg]
dec_nom	-18.77728994516	Nominal Dec [deg]
roll_nom	51.602533423036	Nominal Roll [deg]
revision	3	Processing version of data
ontime	29756.799889147	Sum of GTIs [s]
livetime	29380.001371557	Livetime [s]
ontime2	29753.558928788	Sum of GTIs [s]
ontime3	29756.799889147	Sum of GTIs [s]
ontime5	29756.799889147	Sum of GTIs [s]
ontime6	29756.799889147	Sum of GTIs [s]
ontime7	29756.799889147	Sum of GTIs [s]
ontime8	29753.558898896	Sum of GTIs [s]
l2events	301976	Number of level 2 events



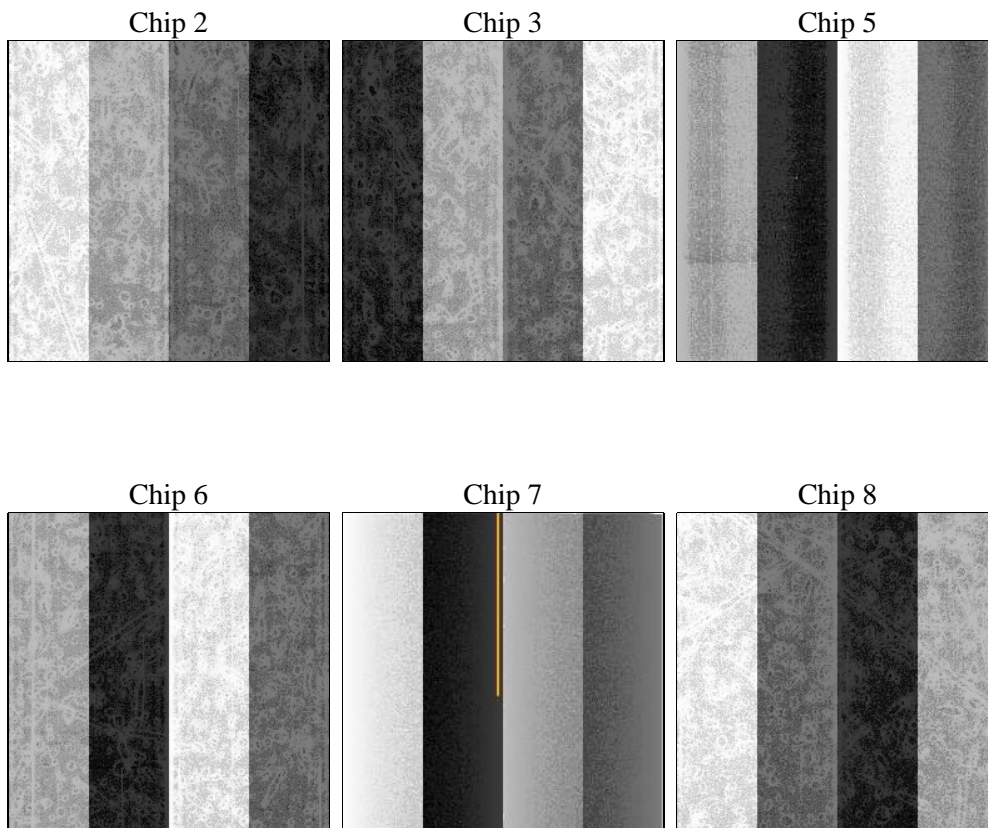
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	29756.799889147	Sum of GTIs [s]
caldbver	4.5.2	&#160	ontime2	29753.558928788	Sum of GTIs [s]
date	2012-10-23T09:16:01	Date and time of file creation	ontime3	29756.799889147	Sum of GTIs [s]
revision	3	Processing version of data	ontime5	29756.799889147	Sum of GTIs [s]
			ontime6	29756.799889147	Sum of GTIs [s]
			ontime7	29756.799889147	Sum of GTIs [s]
			ontime8	29753.558898896	Sum of GTIs [s]
			l1events	1344703	Number of level 1 events

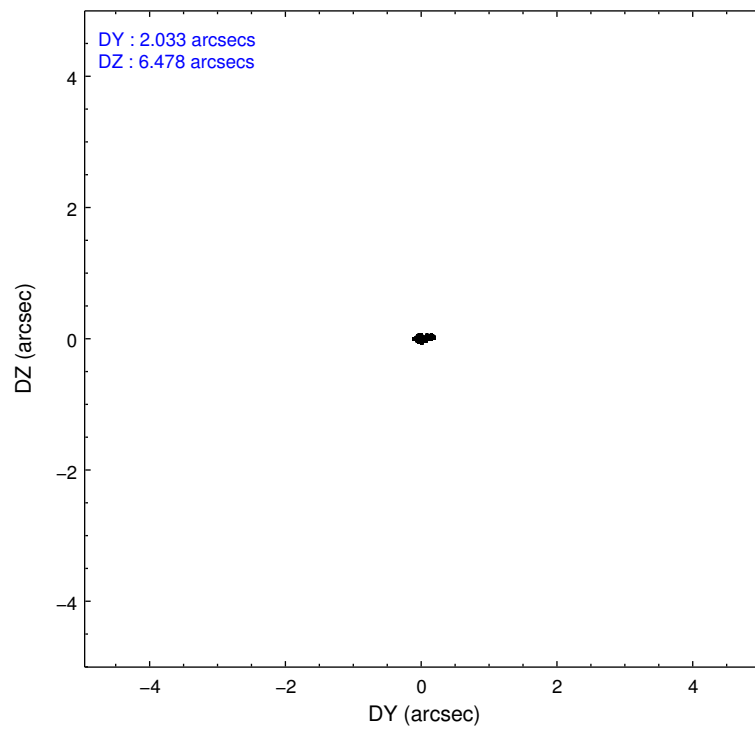
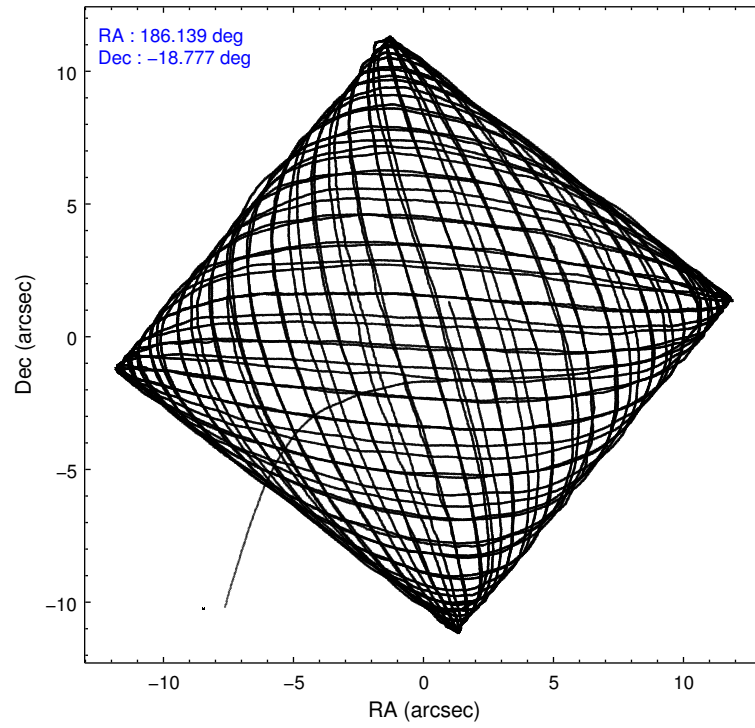
### 2.1.4 Events

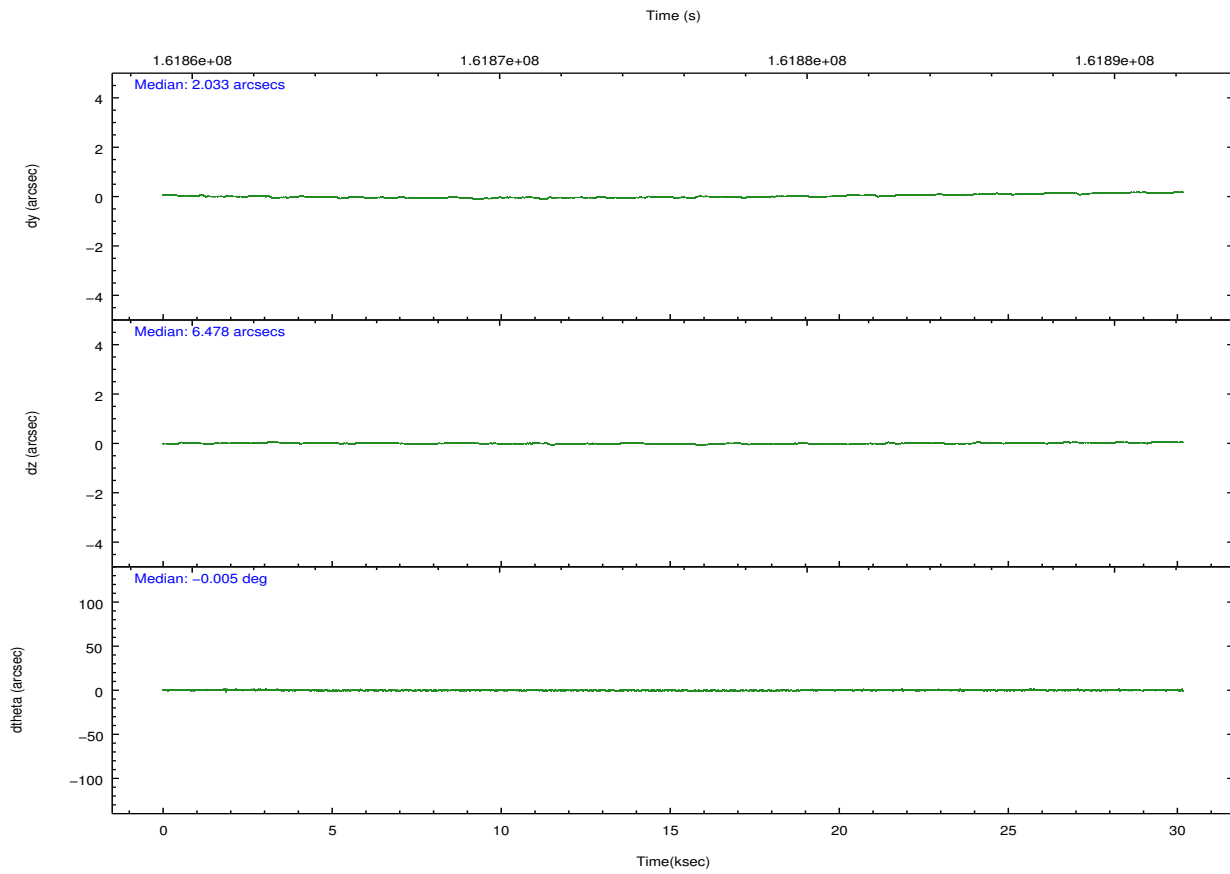
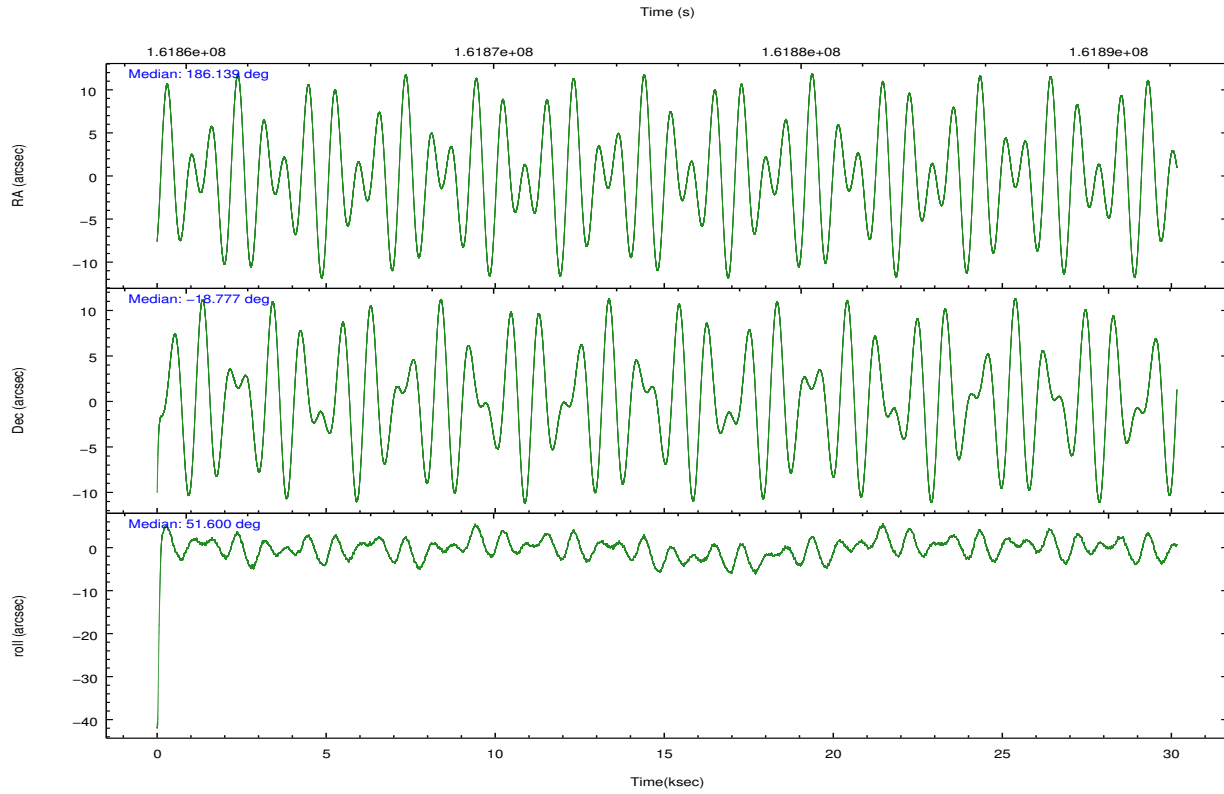
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	193440	181119	292297	186922	250020	240905	grade 0 events	9880	9246	28710	9026	10269	16420
rejected events	171138	159833	148979	164661	144935	190501		5%	5%	9%	4%	4%	6%
rejected %	88%	88%	50%	88%	57%	79%	grade 1 events	114	101	1199	86	197	162
								0%	0%	0%	0%	0%	0%
							grade 2 events	4443	4073	37780	4622	20981	10626
								2%	2%	12%	2%	8%	4%
							grade 3 events	2113	2127	5416	2104	9313	5471
								1%	1%	1%	1%	3%	2%
							grade 4 events	2121	2121	5230	2144	9328	5141
								1%	1%	1%	1%	3%	2%
							grade 5 events	7303	7852	20554	8490	23637	10796
								3%	4%	7%	4%	9%	4%
							grade 6 events	3745	3721	66193	4370	55208	12757
								1%	2%	22%	2%	22%	5%
							grade 7 events	163721	151878	127215	156080	121087	179532
								84%	83%	43%	83%	48%	74%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	ACIS-235678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	186.134869	186.1386743106883	Subarray requested	NONE	NONE
[deg] Pointing Dec	-18.804252	-18.77728994516045	Alternating exposures requested	N	N
[deg] Pointing Roll	51.444696	51.60253342303563	[s] Primary exposure time	0.000000	3.2
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
[s] Observation start time (MET)	161860725.184000	161859929.48882			
Observation start date	2003-02-17T09:17:41	2003-02-17T09:05:29			
[s] Observation end time (MET)	161890725.184000	161891514.86515			
Observation end date	2003-02-17T17:37:41	2003-02-17T17:51:54			
Read mode	TIMED	TIMED			

## 2.3 Aspect



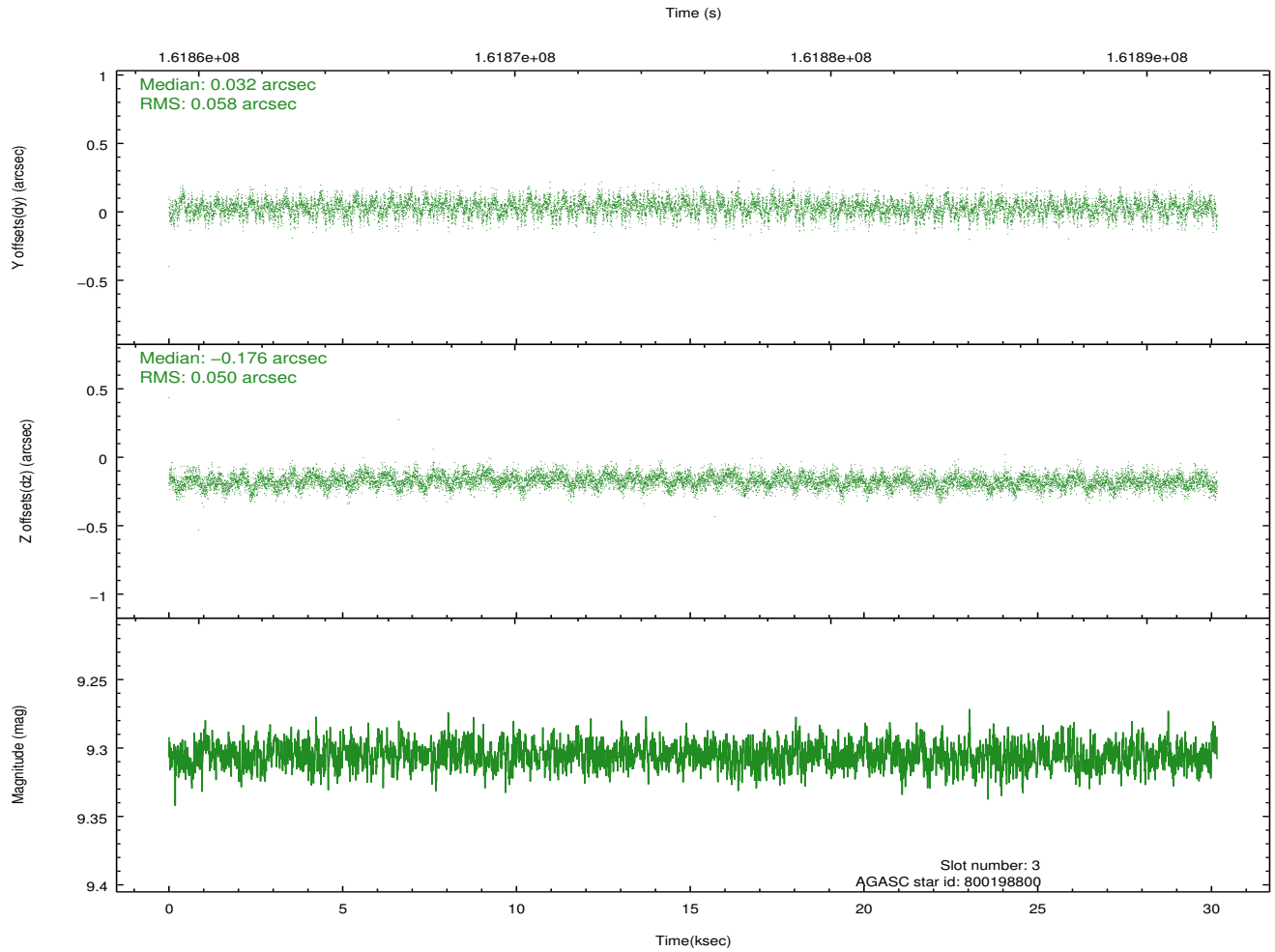
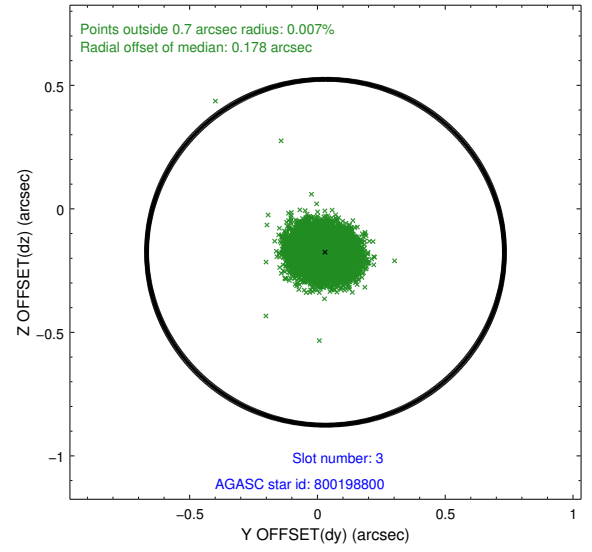
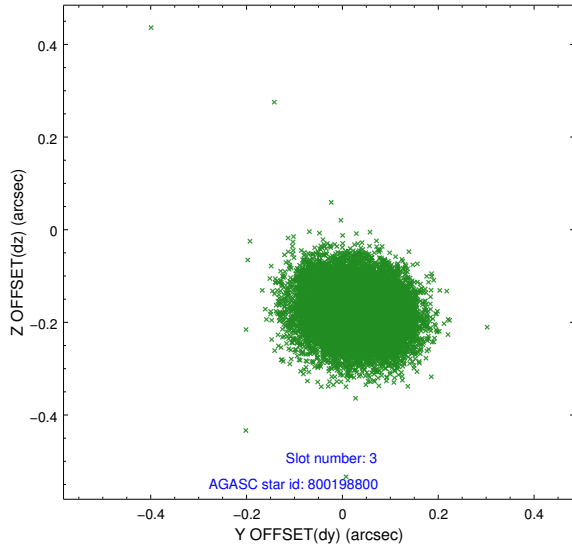


### Slot Statistics

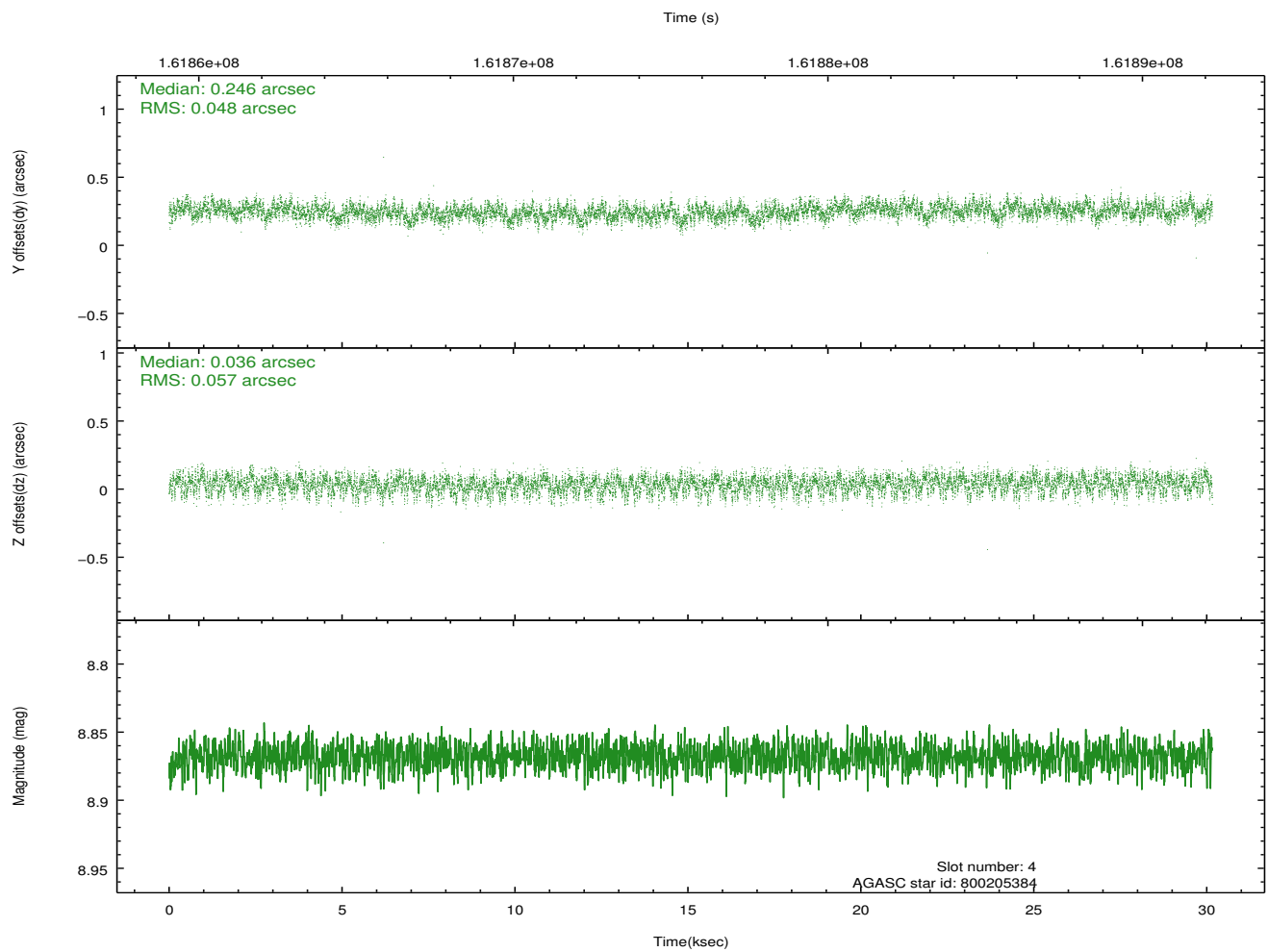
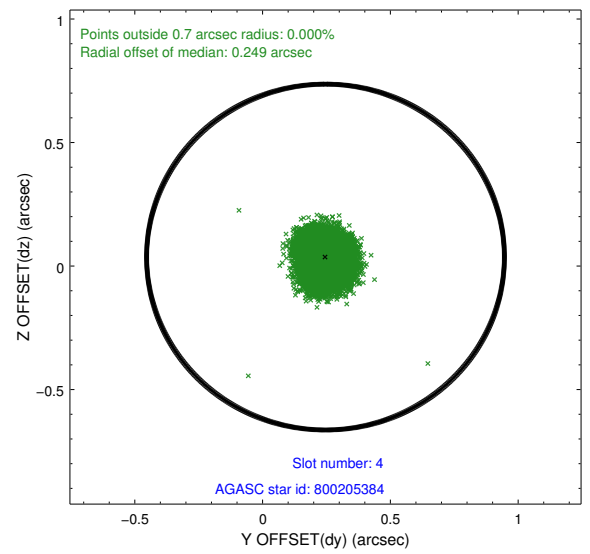
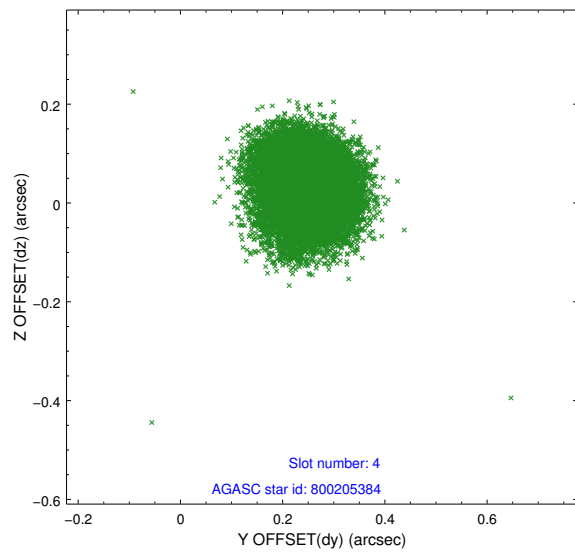
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.12	7357	-0.051	-0.003	0.013	0.019	0.000000	0.000000	-754.69	-1727.65
1	FID	ACIS-S-4	7.21	7357	0.005	0.025	0.019	0.027	0.000000	0.000000	2158.58	180.84
2	FID	ACIS-S-5	7.24	7358	0.012	-0.014	0.013	0.019	0.000000	0.000000	-1807.41	174.49
3	GUIDE	800198800	9.31	14711	0.032	-0.176	0.081	0.130	186.138211	-18.243677	1585.30	1249.12
4	GUIDE	800205384	8.87	14708	0.246	0.036	0.081	0.126	186.219439	-19.549541	-1918.95	-1896.39
5	GUIDE	800205488	7.30	14714	0.113	0.082	0.056	0.088	185.969542	-19.225597	-1536.42	-505.97
6	GUIDE	800195416	9.03	14710	-0.215	-0.117	0.078	0.125	186.408187	-18.164014	2384.47	705.20
7	GUIDE	800326944	7.26	14713	-0.176	0.180	0.072	0.117	186.986954	-18.609747	2354.42	-1840.80

## 2.4 Star Slots

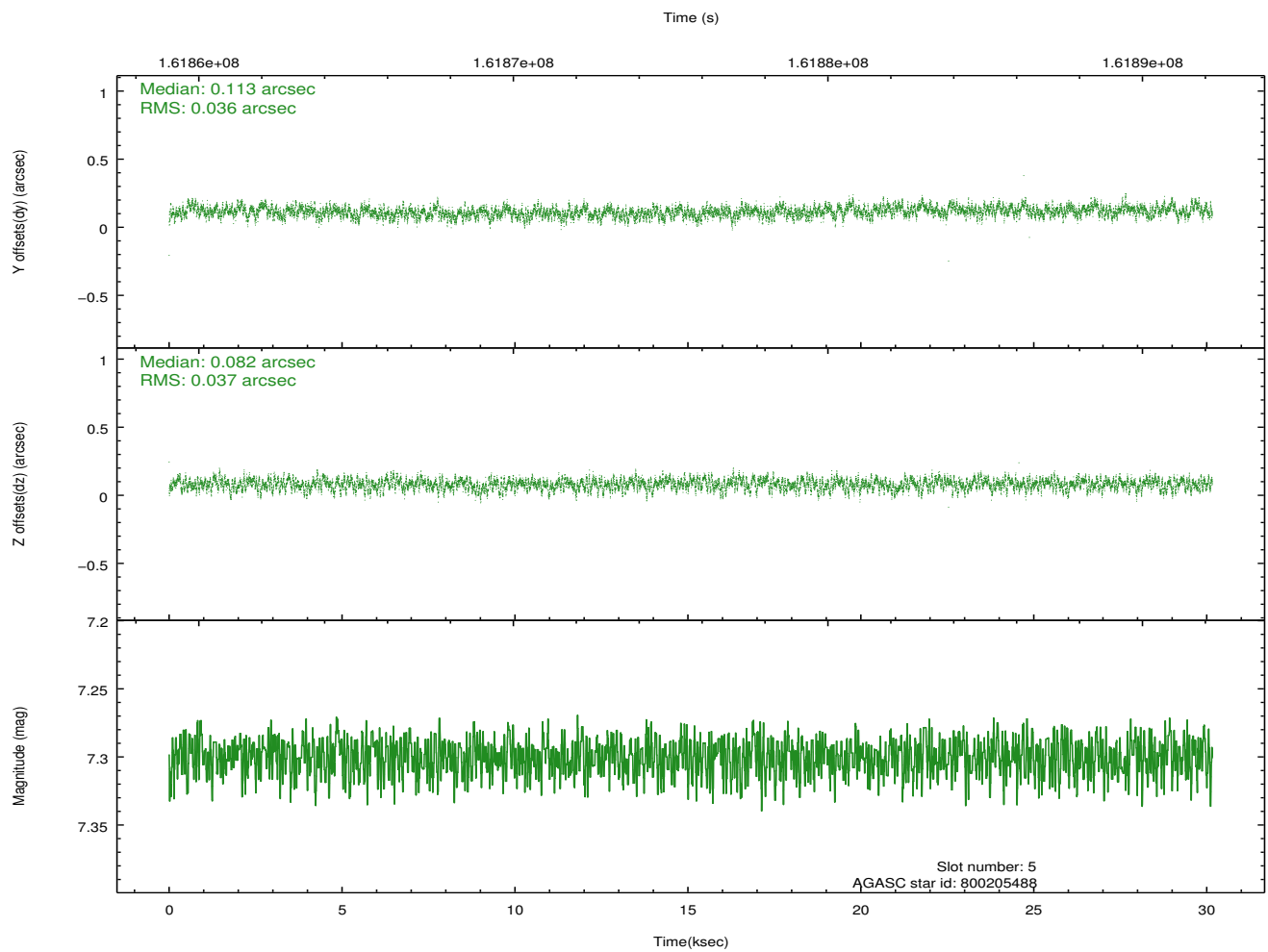
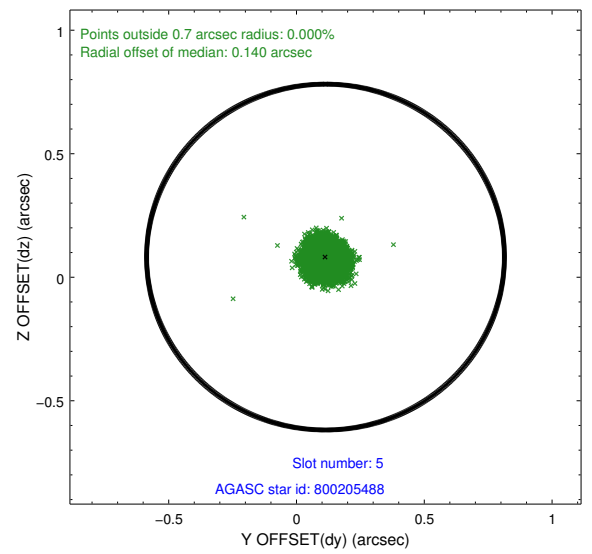
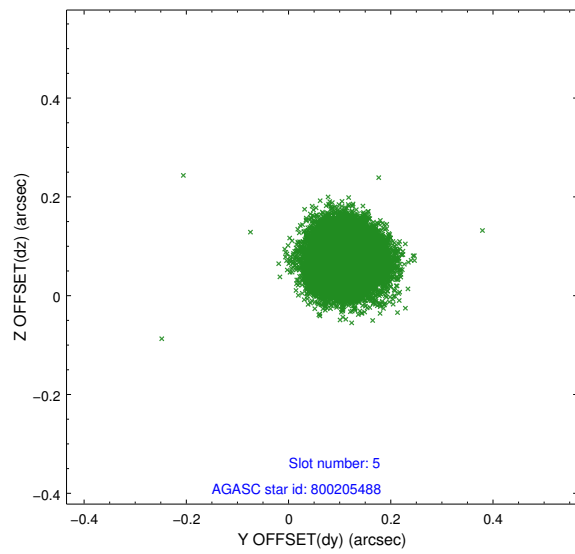
### 2.4.1 Slot 3



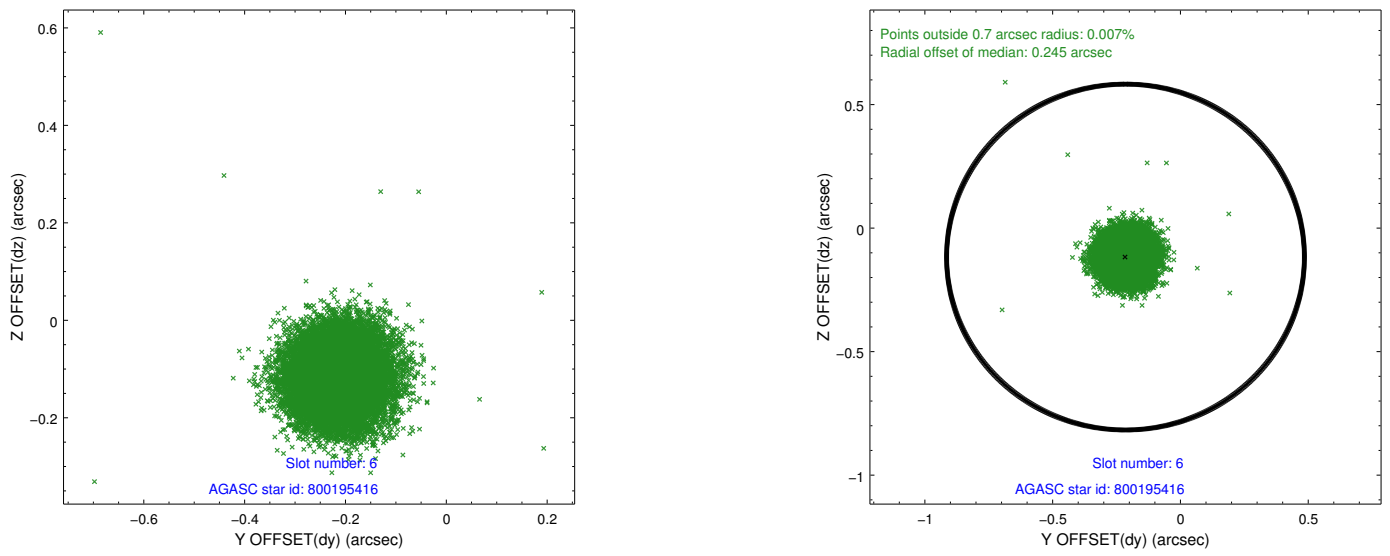
## 2.4.2 Slot 4



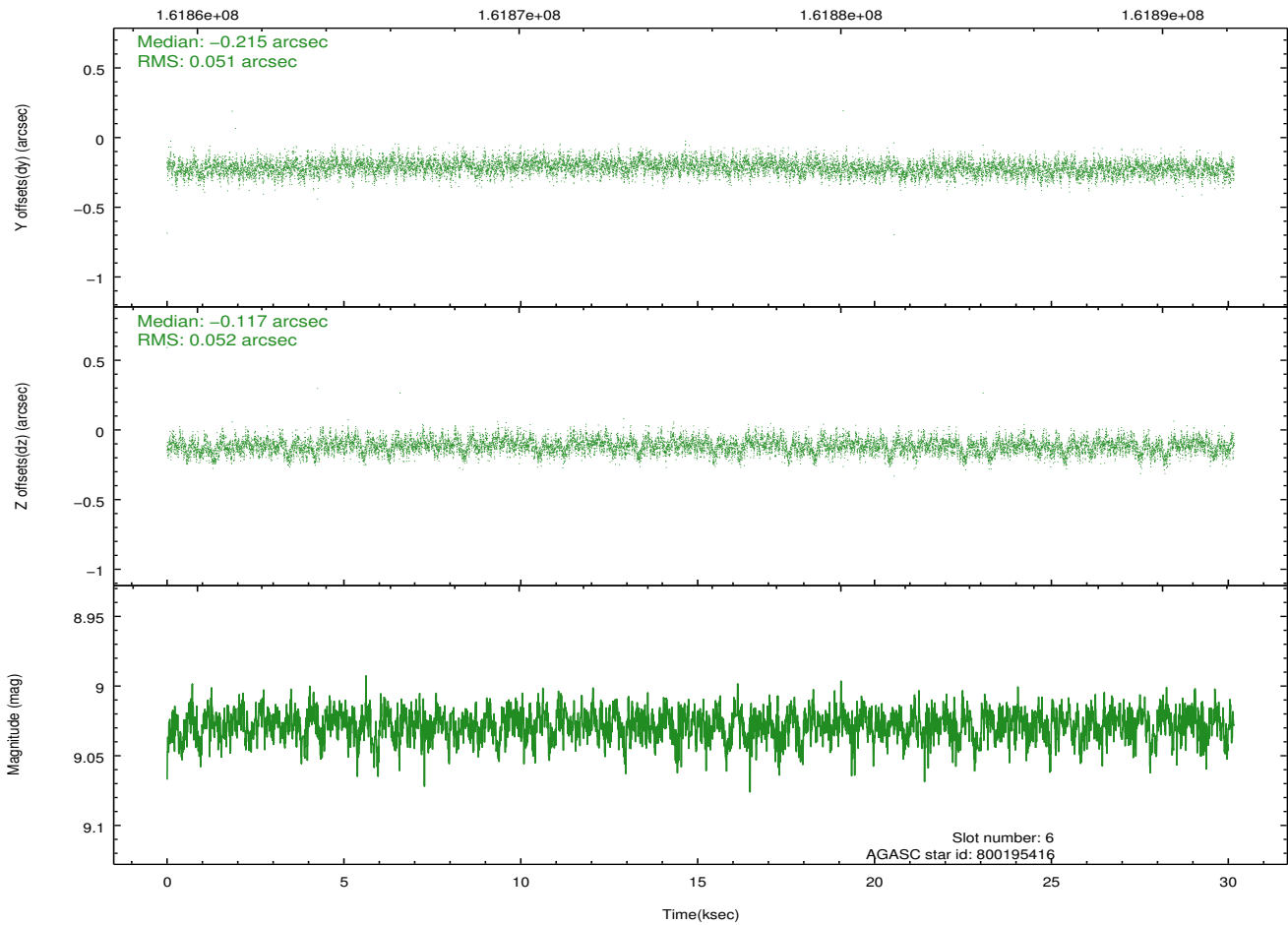
### 2.4.3 Slot 5



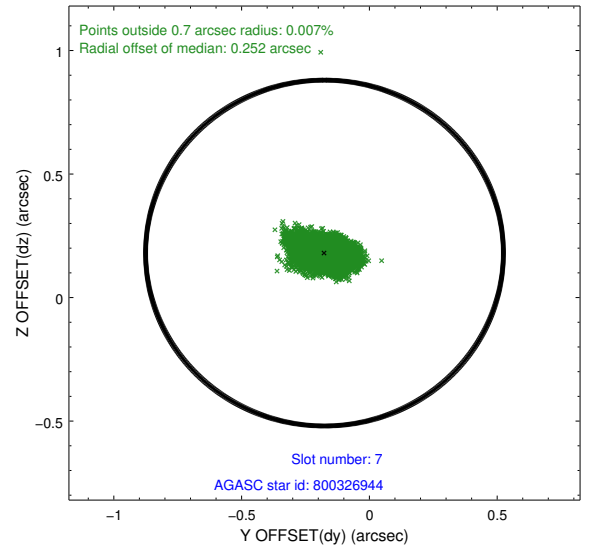
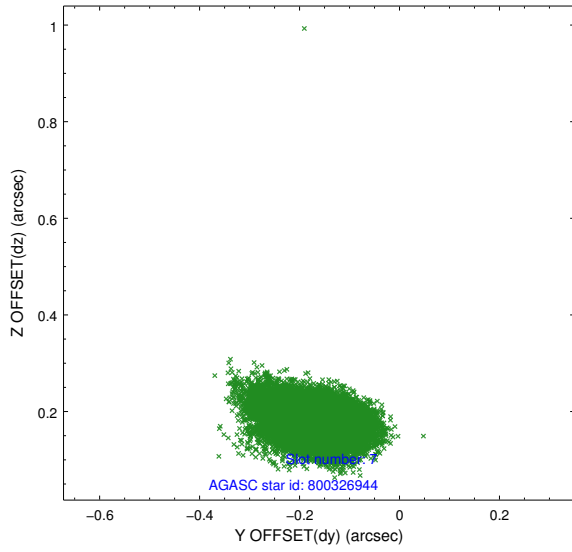
## 2.4.4 Slot 6



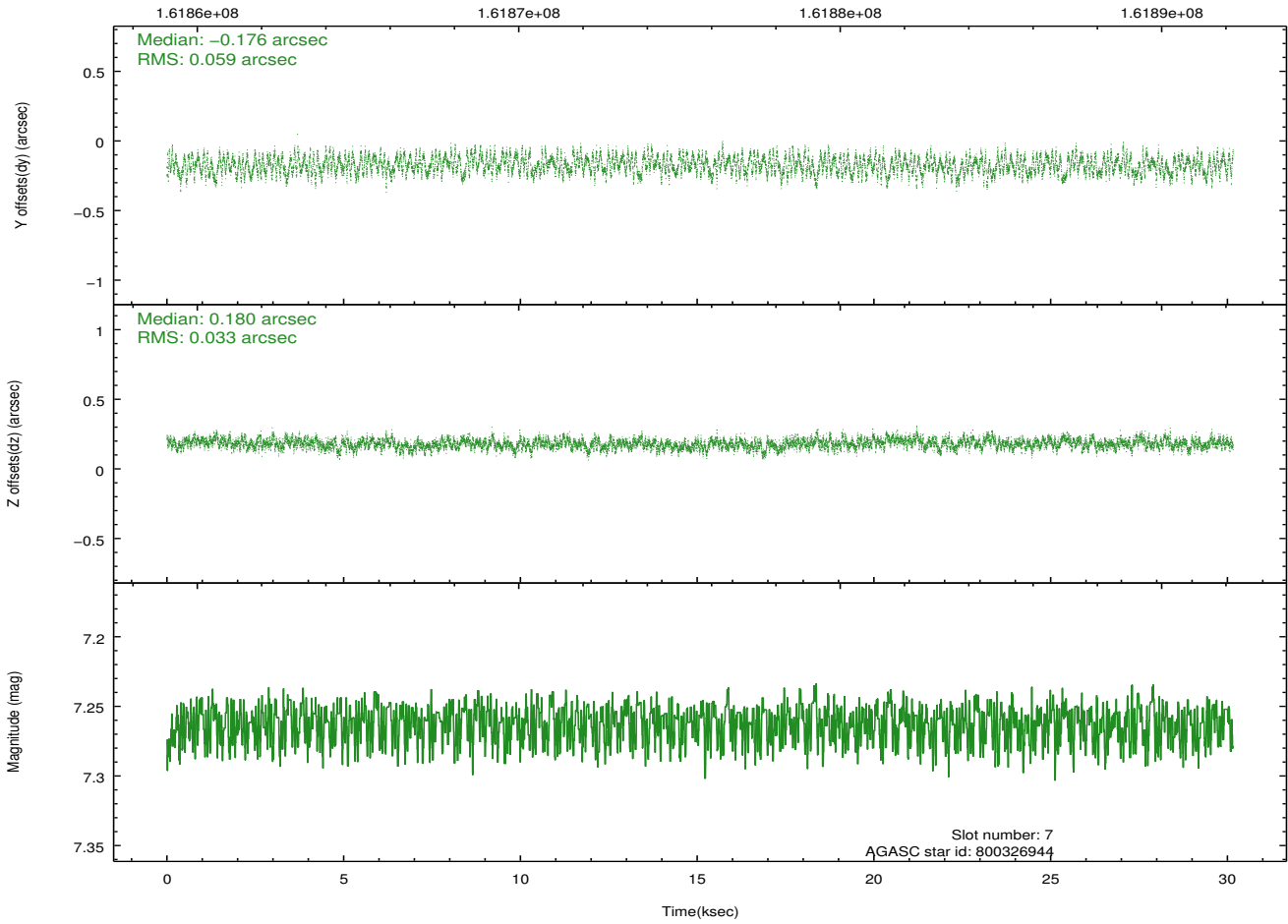
Time (s)



### 2.4.5 Slot 7

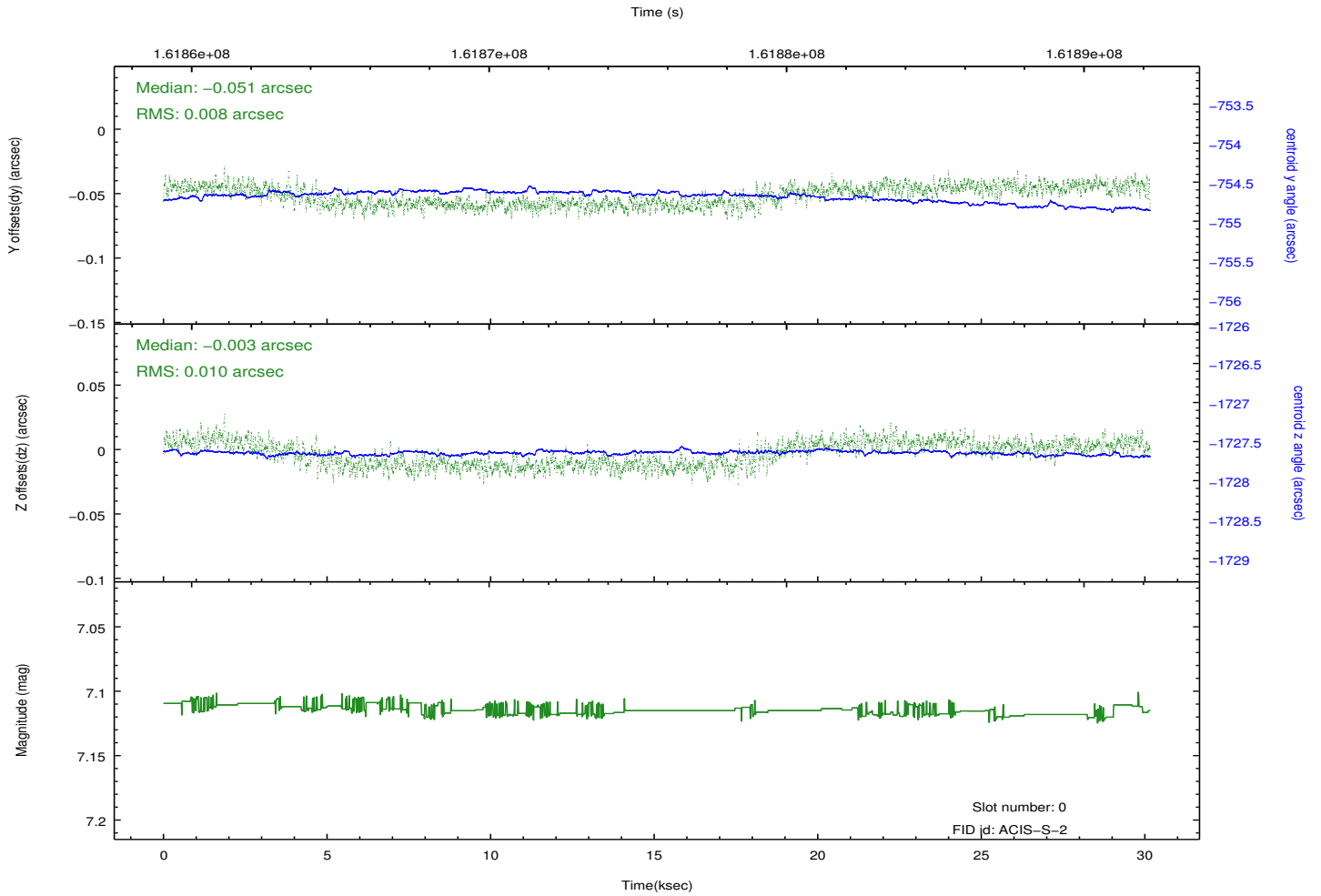
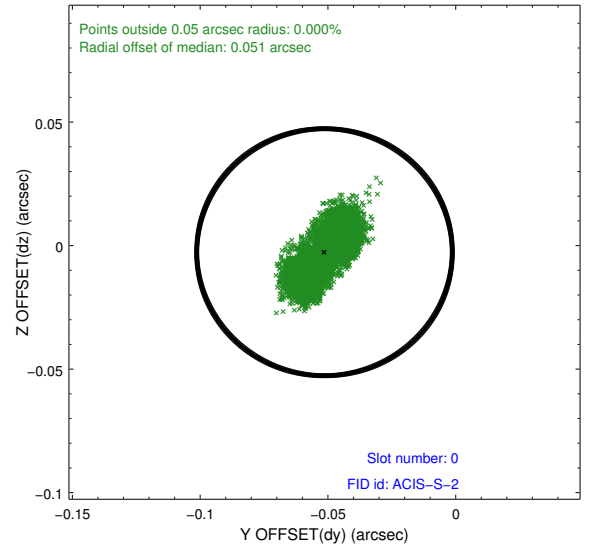
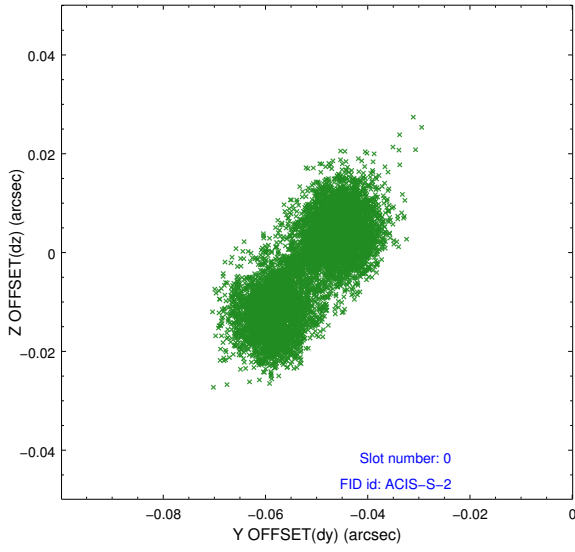


Time (s)

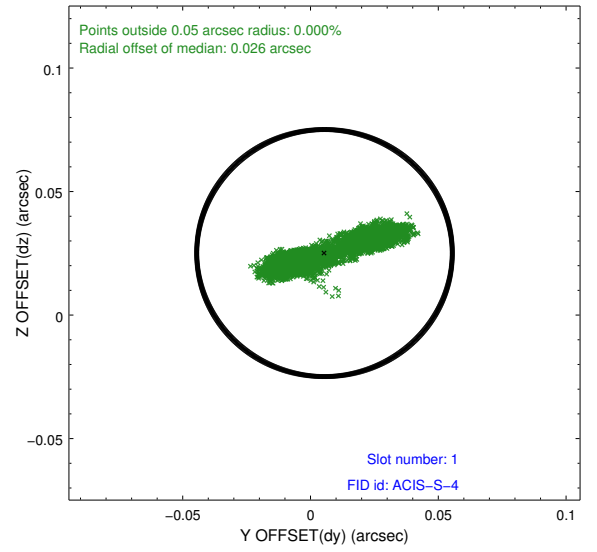
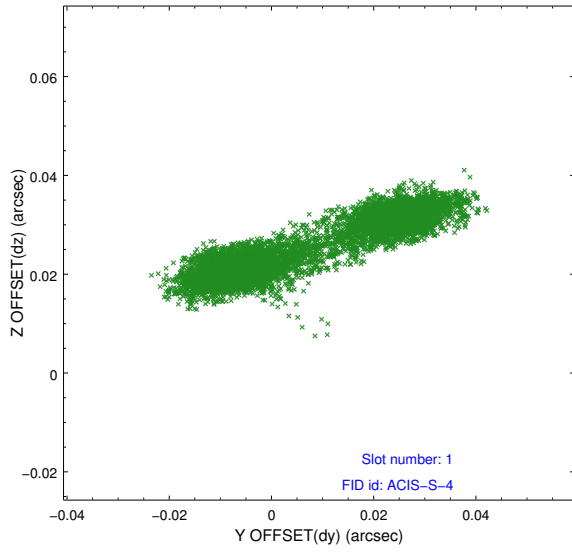


## 2.5 FID Slots

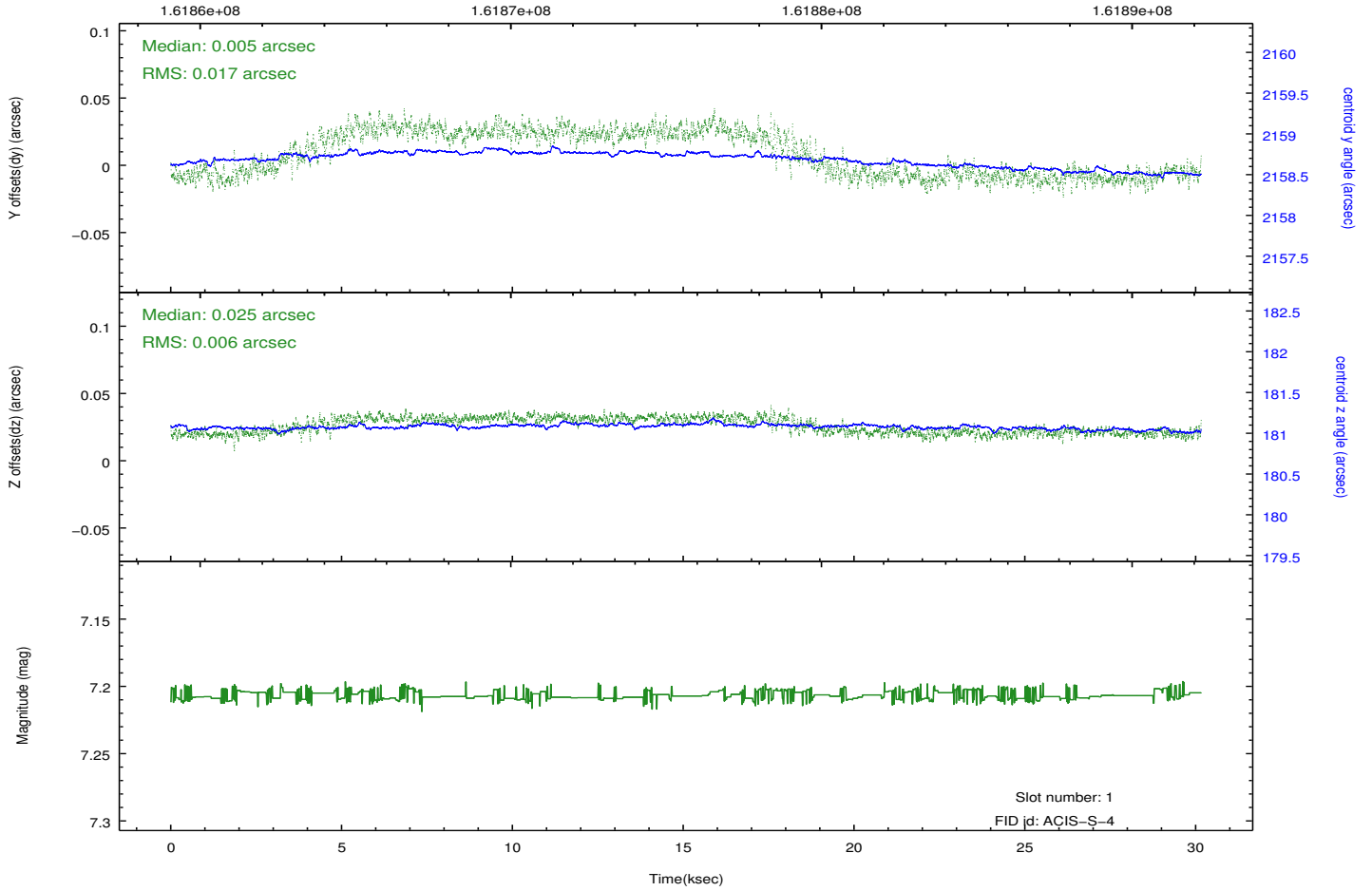
### 2.5.1 Slot 0



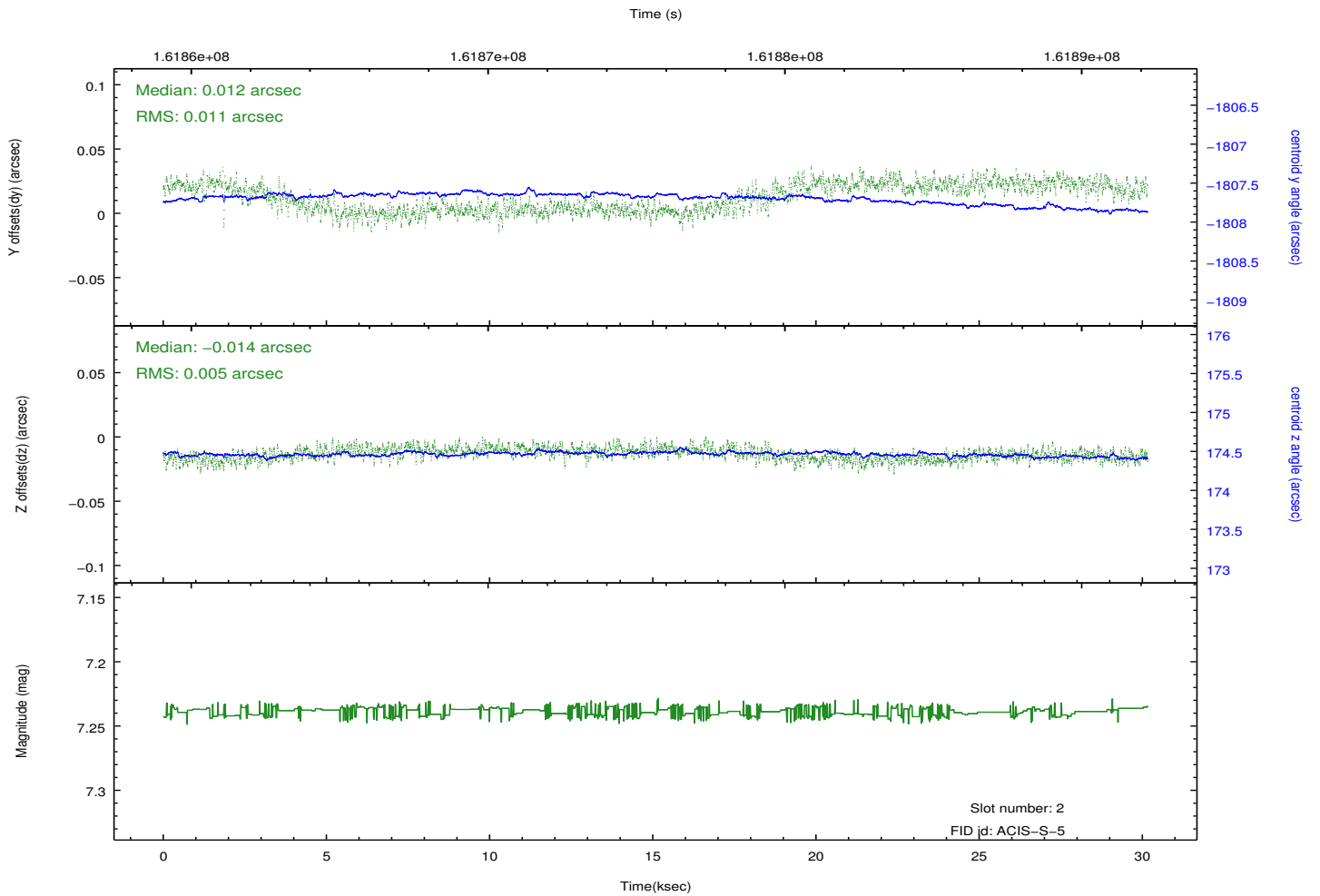
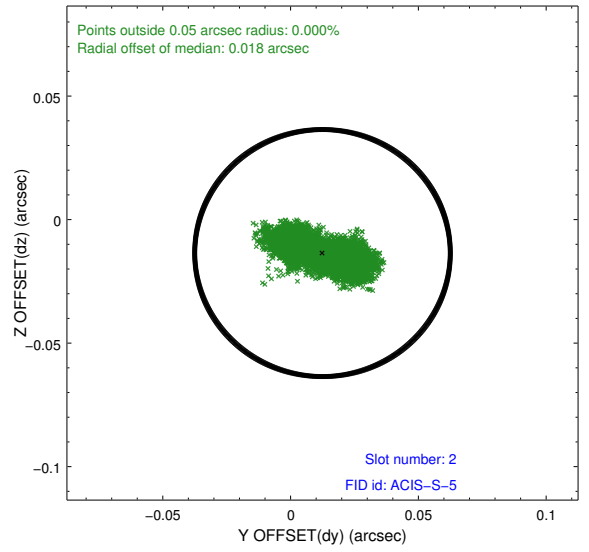
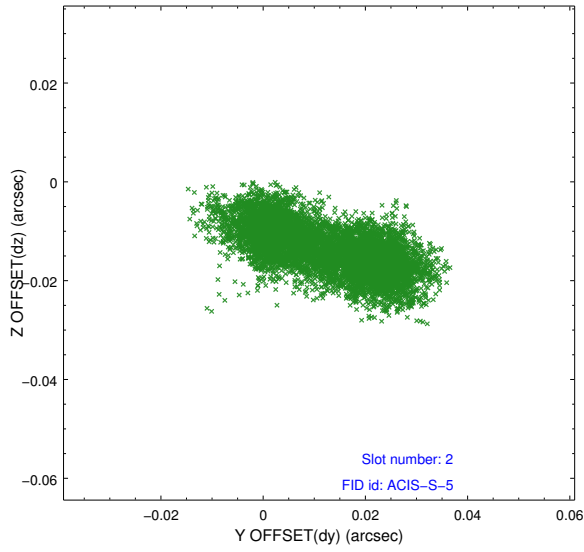
## 2.5.2 Slot 1



Time (s)



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.11.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	29.759

## A.2 Comments