

# V&V Reference Report

## L2 ASCDS Version : 10.5.2

Observation 19393 - L2 Version 1  
Chandra X-Ray Center

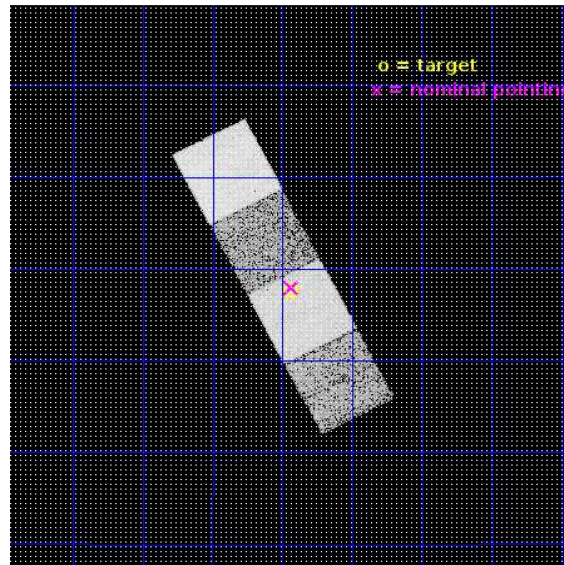
L2 Processing Date : Dec 15 2016

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# 1 Front

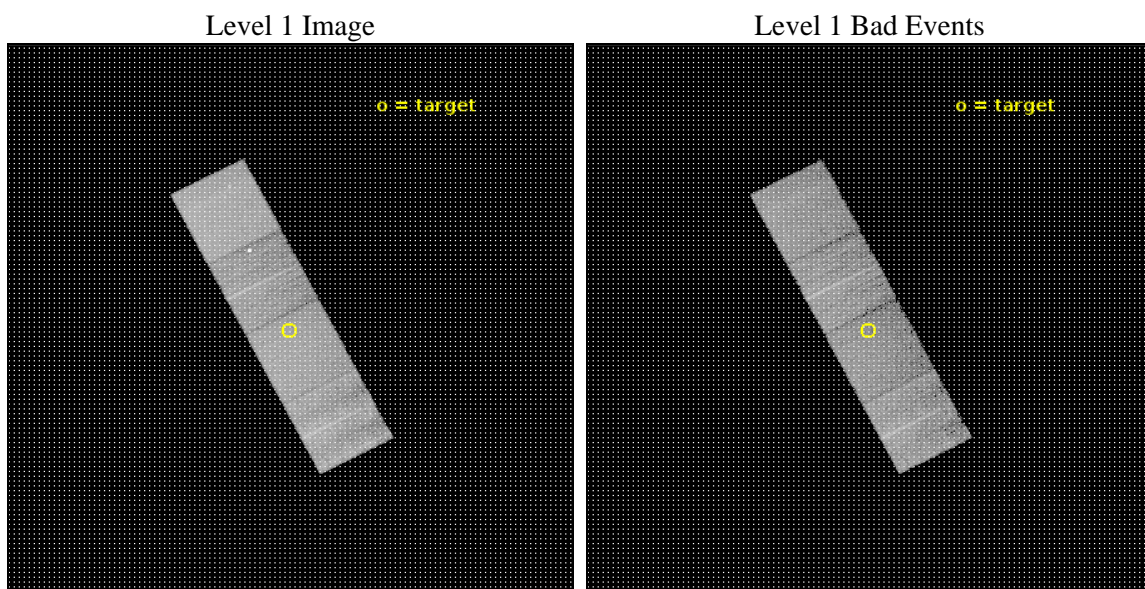
seq_num	601350	Sequence number
obs_id	19393	Observation id
title	Spiral galaxies of the Virgo cluster	Proposal title
observer	Roberto Soria	Principal investigator
object	NGC 4654	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	190.985833	Observer's specified target RA [deg]
dec_targ	13.126694	Observer's specified target Dec [deg]
ra_nom	190.98377749829	Nominal RA [deg]
dec_nom	13.132632647343	Nominal Dec [deg]
roll_nom	62.71675858562	Nominal Roll [deg]
revision	1	Processing version of data
ontime	10062.60007751	Sum of GTIs [s]
livetime	9931.1247995188	Livetime [s]
ontime5	10062.60007751	Sum of GTIs [s]
ontime6	10062.60007751	Sum of GTIs [s]
ontime7	10062.60007751	Sum of GTIs [s]
ontime8	10062.60007751	Sum of GTIs [s]
l2events	105744	Number of level 2 events



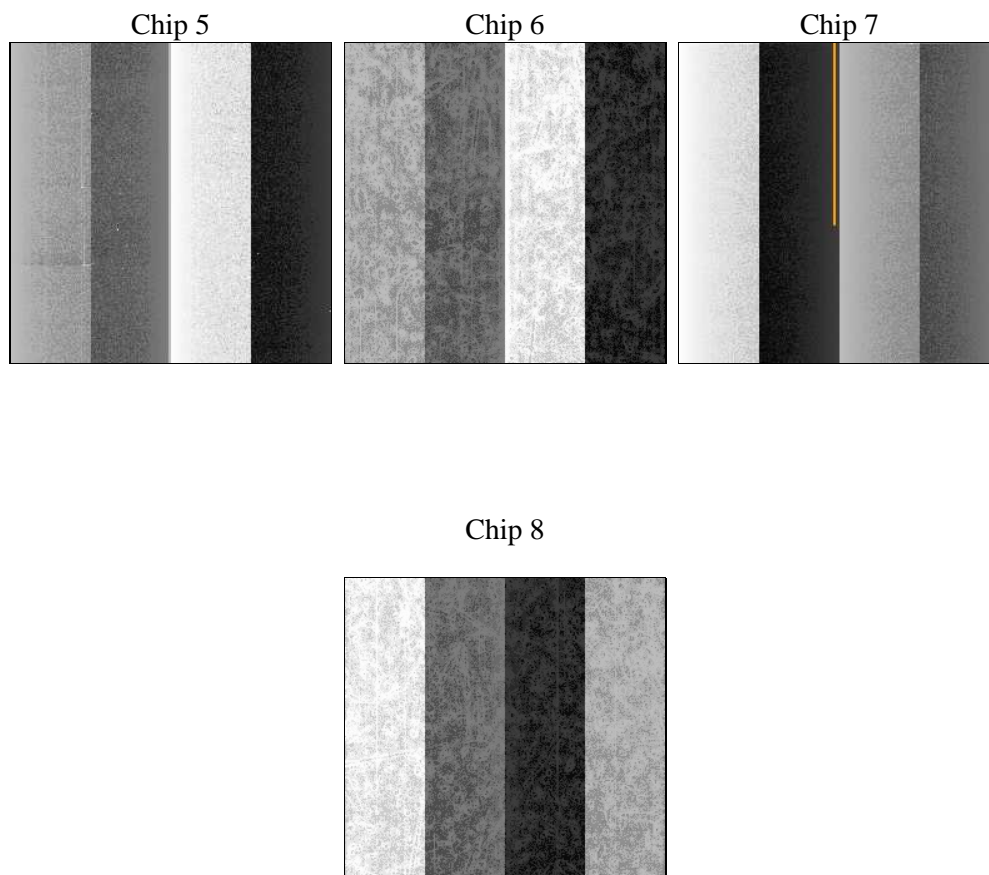
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ascdsver	10.5.2	Processing system revision	ontime	10062.60007751	Sum of GTIs [s]
caldsver	4.7.3	&#160	ontime5	10062.60007751	Sum of GTIs [s]
date	2016-12-15T12:44:41	Date and time of file creation	ontime6	10062.60007751	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	10062.60007751	Sum of GTIs [s]
			ontime8	10062.60007751	Sum of GTIs [s]
			l1events	364389	Number of level 1 events

### 2.1.4 Events

	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	109041	72888	90144	92316
rejected events	56360	61709	50235	66874
rejected %	51%	84%	55%	72%

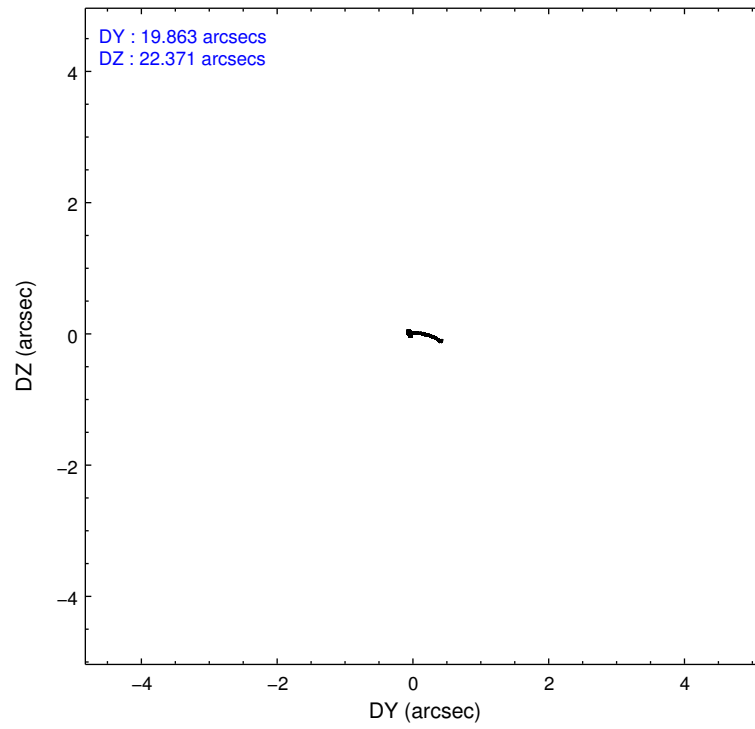
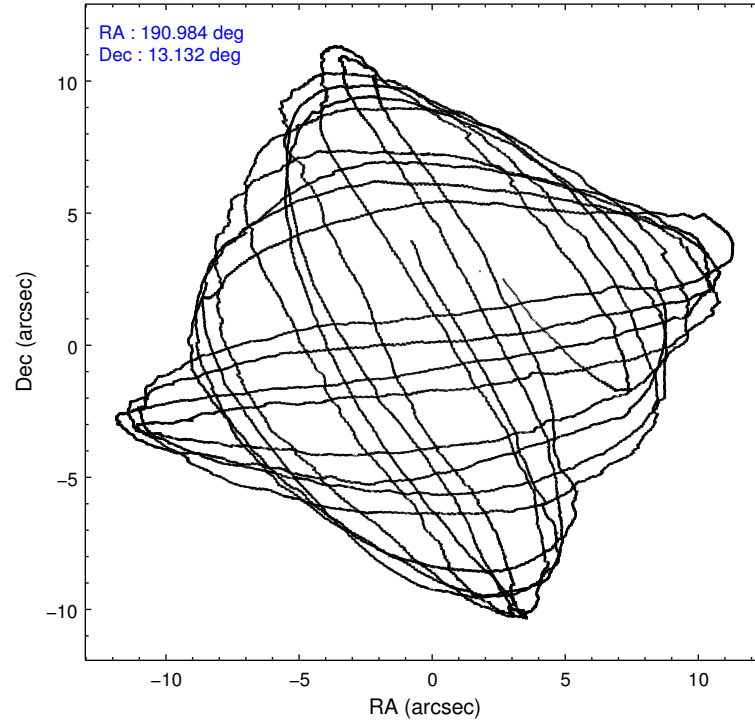
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	3275	2717	3459	7529
	3%	3%	3%	8%
grade 1 events	207	36	121	86
	0%	0%	0%	0%
grade 2 events	16632	4989	8391	5999
	15%	6%	9%	6%
grade 3 events	1800	807	3254	2624
	1%	1%	3%	2%
grade 4 events	1622	777	3232	2530
	1%	1%	3%	2%
grade 5 events	7798	3247	9103	4998
	7%	4%	10%	5%
grade 6 events	29366	1890	21587	6767
	26%	2%	23%	7%
grade 7 events	48341	58425	40997	61783
	44%	80%	45%	66%

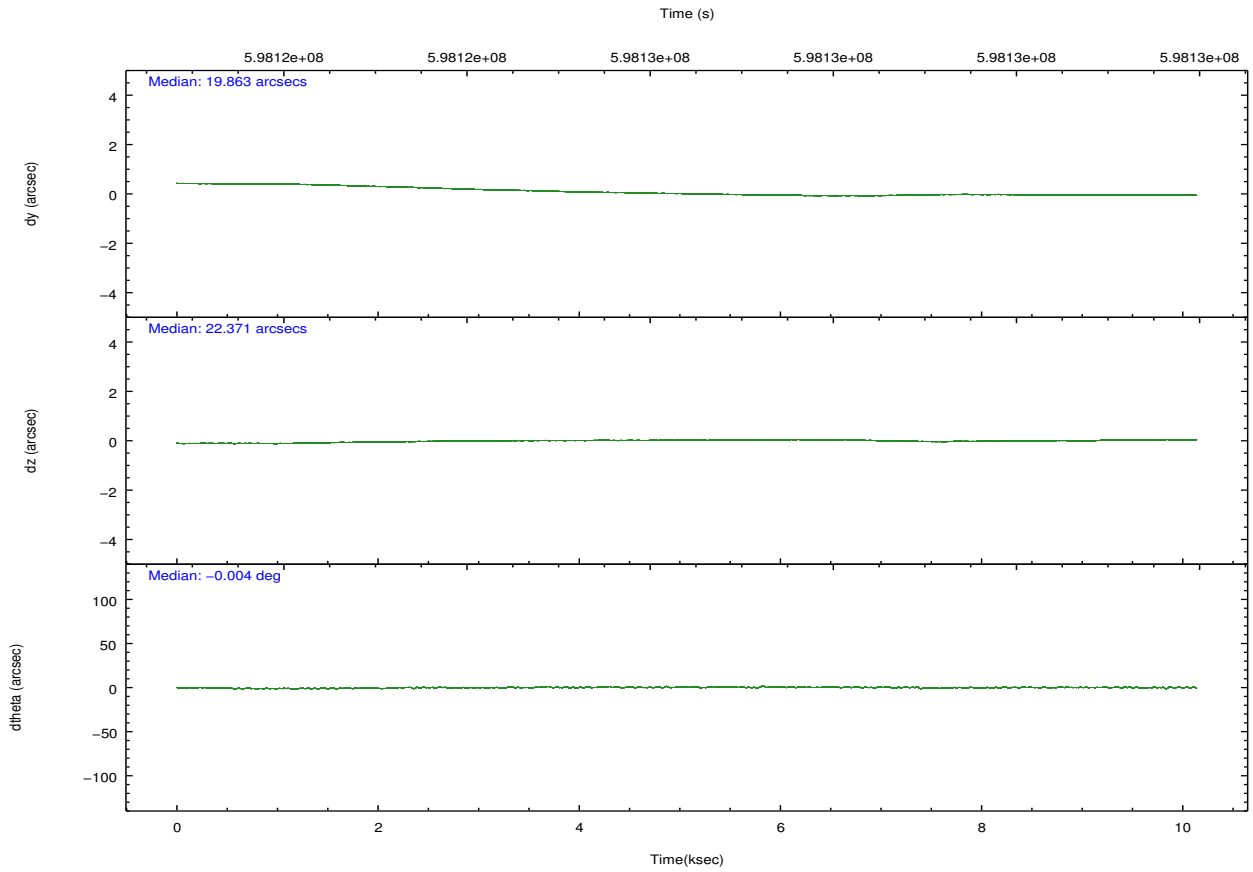
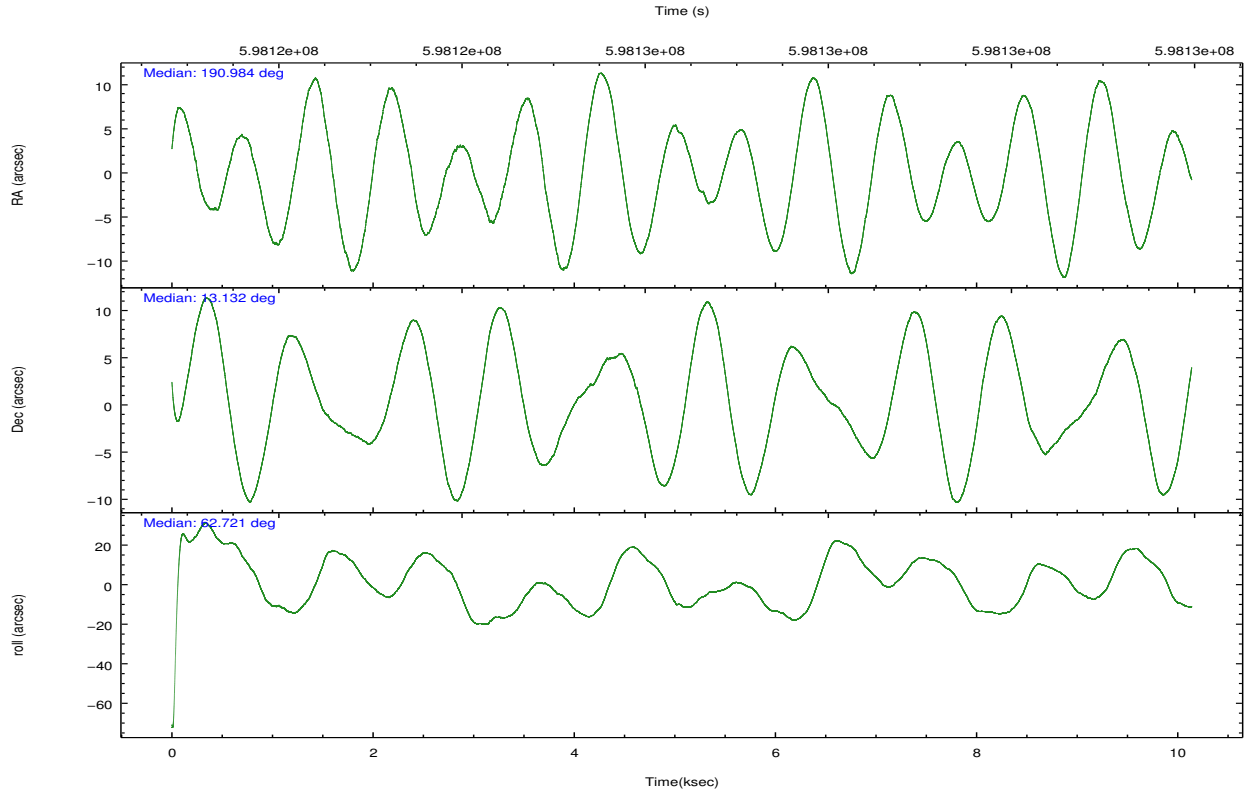


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-5678	ACIS-5678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	190.985460	190.9837774982885	Subarray requested	NONE	NONE
[deg] Pointing Dec	13.105241	13.13263264734315	Alternating exposures requested	N	N
[deg] Pointing Roll	62.559881	62.71675858561958	[s] Primary exposure time	0.000000	3.1
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1425803651734			
[mm] SIM translation stage offset	0	0.01005778216563158			
[s] Observation start time (MET)	598121458.184000	598120535.4769			
Observation start date	2016-12-14T16:49:50	2016-12-14T16:35:35			
[s] Observation end time (MET)	598131458.184000	598131951.92756			
Observation end date	2016-12-14T19:36:30	2016-12-14T19:45:51			
Read mode	TIMED	TIMED			

## 2.3 Aspect



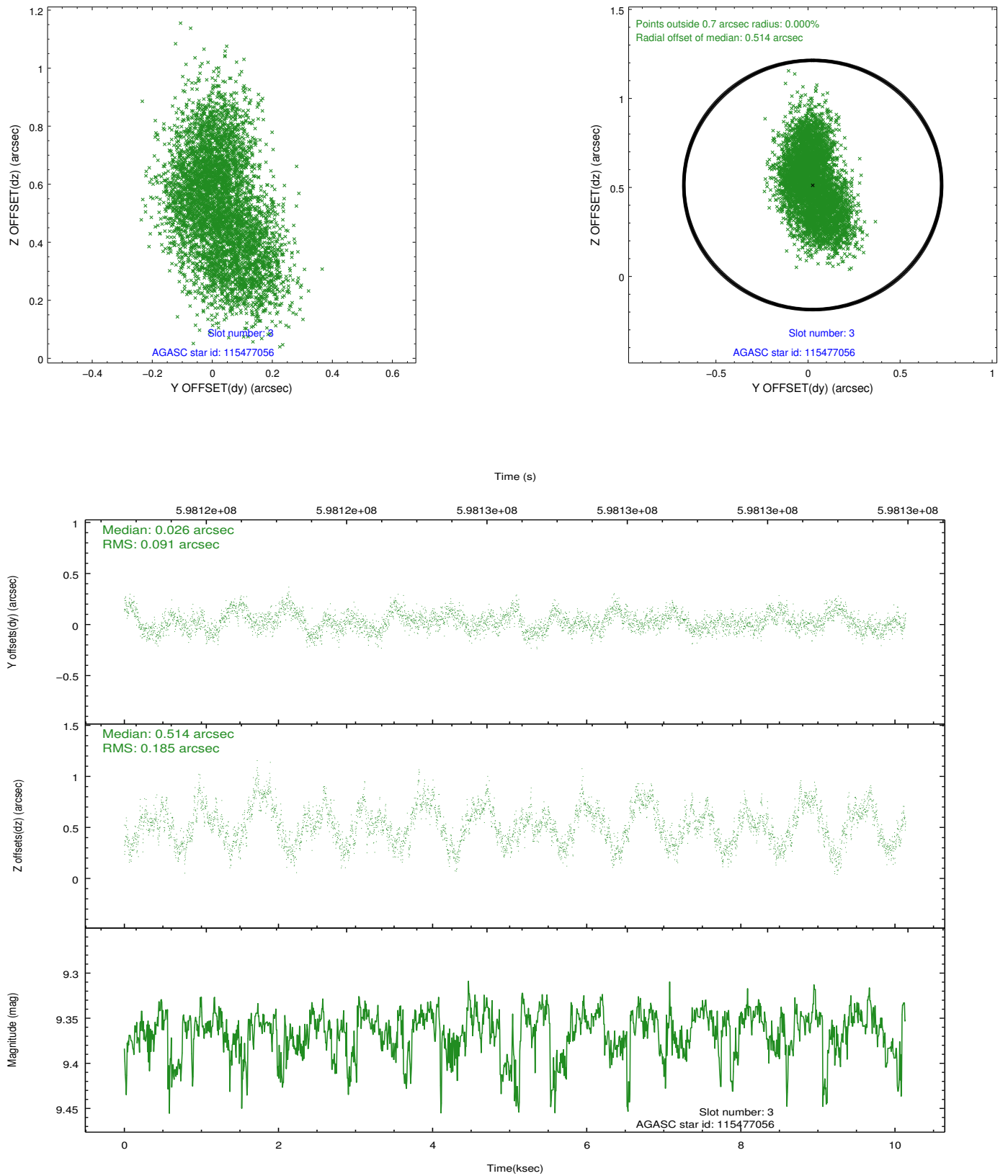


### Slot Statistics

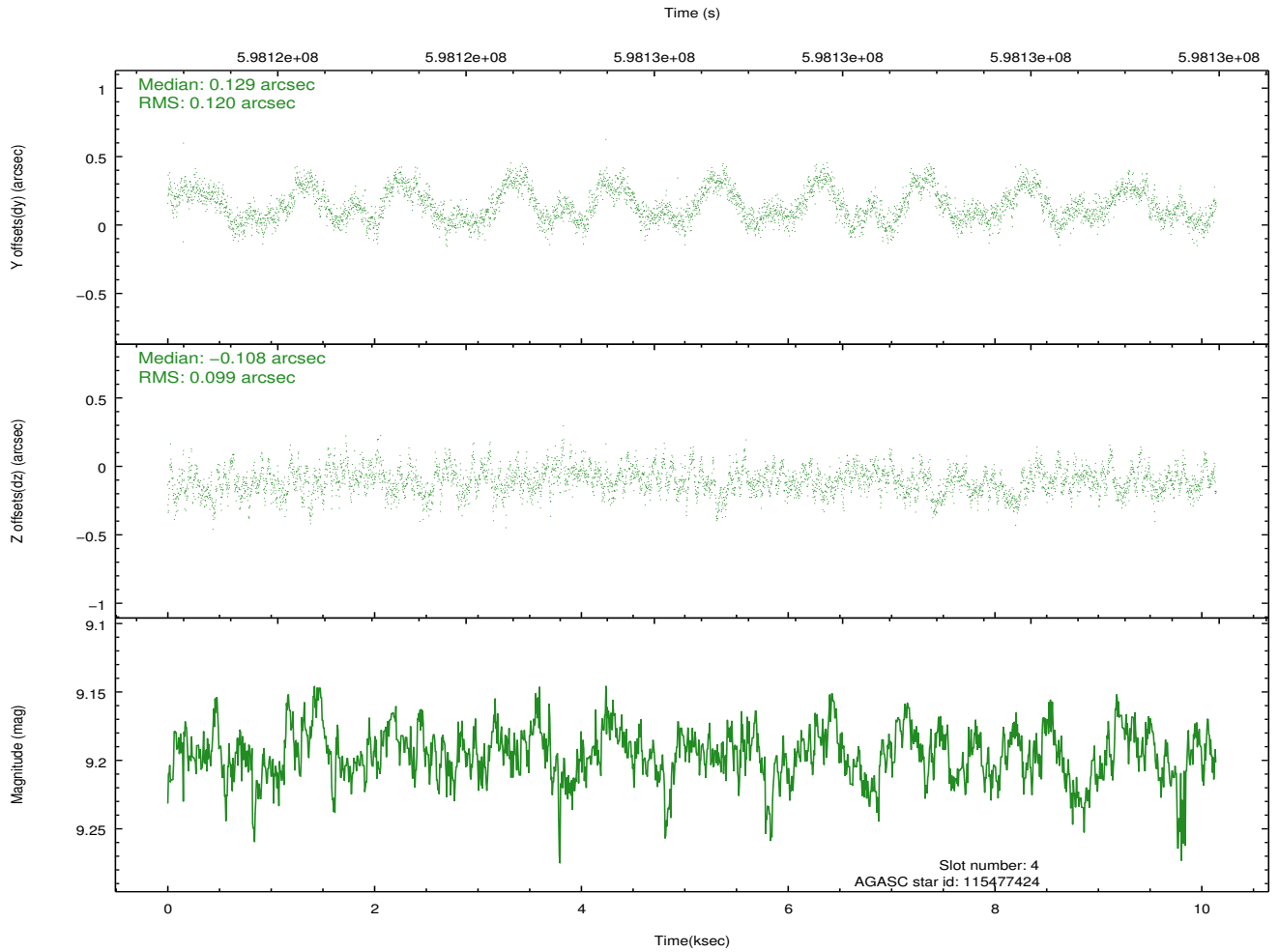
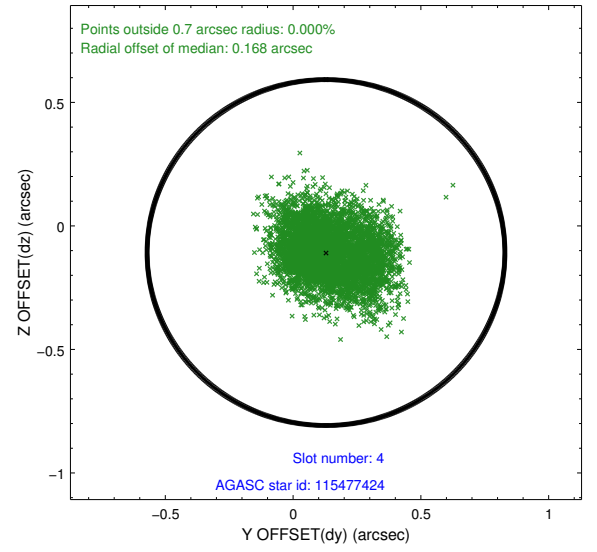
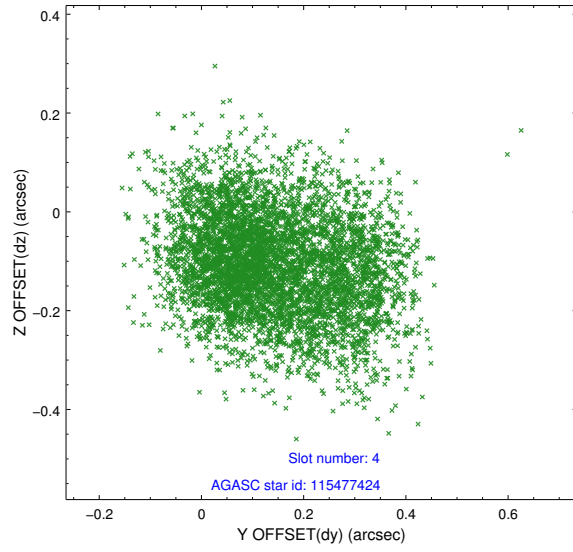
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.07	2473	-0.238	-0.167	0.007	0.012	0.000000	0.000000	-773.31	-1744.04
1	FID		ACIS-S-4	7.19	2473	0.493	0.159	0.006	0.011	0.000000	0.000000	2140.47	164.20
2	FID		ACIS-S-5	7.19	2473	-0.286	0.017	0.007	0.011	0.000000	0.000000	-1825.52	158.35
3	GUIDE	used	115477056	9.36	4941	0.026	0.514	0.220	0.354	191.137929	12.866912	-514.07	-869.36
4	GUIDE	used	115477424	9.20	4941	0.129	-0.108	0.168	0.261	190.783230	12.743104	-1483.65	29.66
5	GUIDE	used	115477912	8.20	4947	-0.423	-0.164	0.146	0.239	191.480423	13.583124	2326.30	-743.13
6	GUIDE	used	115480712	10.33	4926	-0.074	-0.555	0.260	0.422	190.548260	13.151377	-558.54	1438.60
7	GUIDE	used	115477072	10.14	4932	0.324	0.309	0.318	0.519	191.286363	12.902222	-160.65	-1274.25

## 2.4 Star Slots

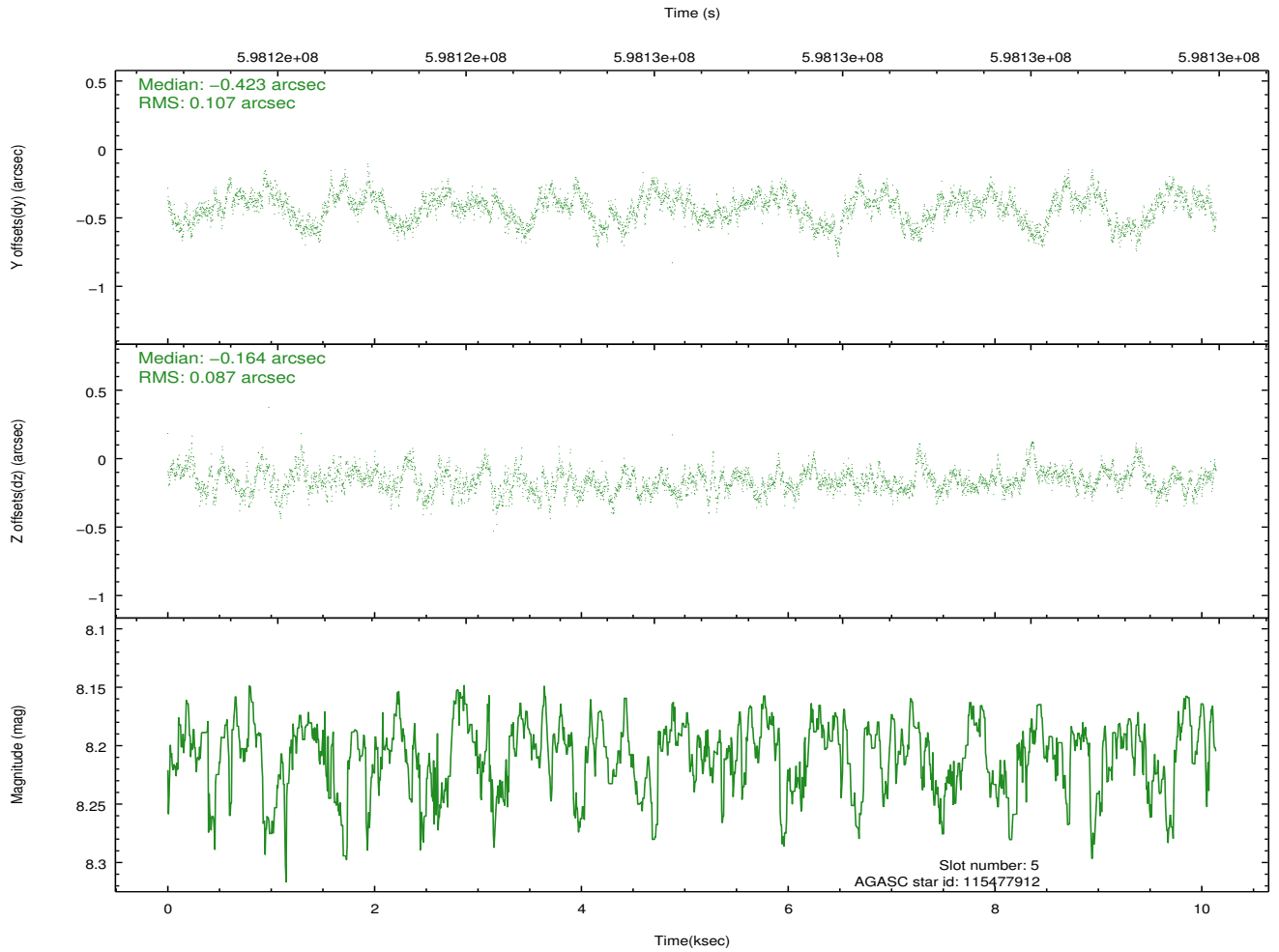
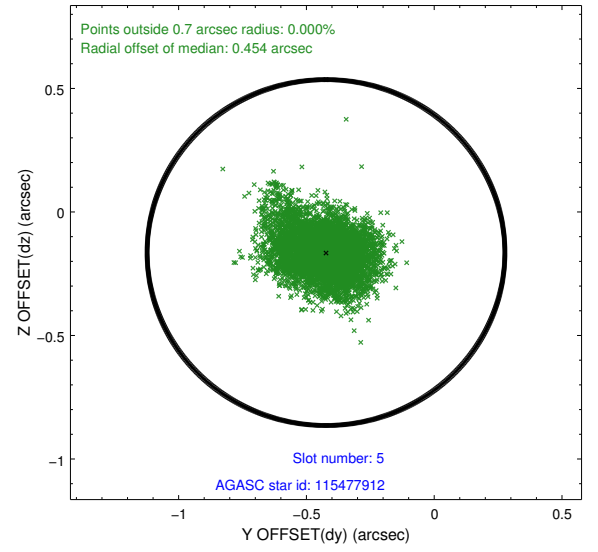
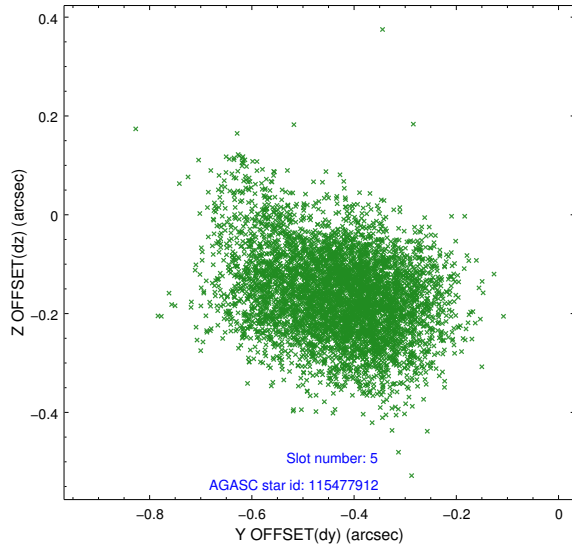
### 2.4.1 Slot 3



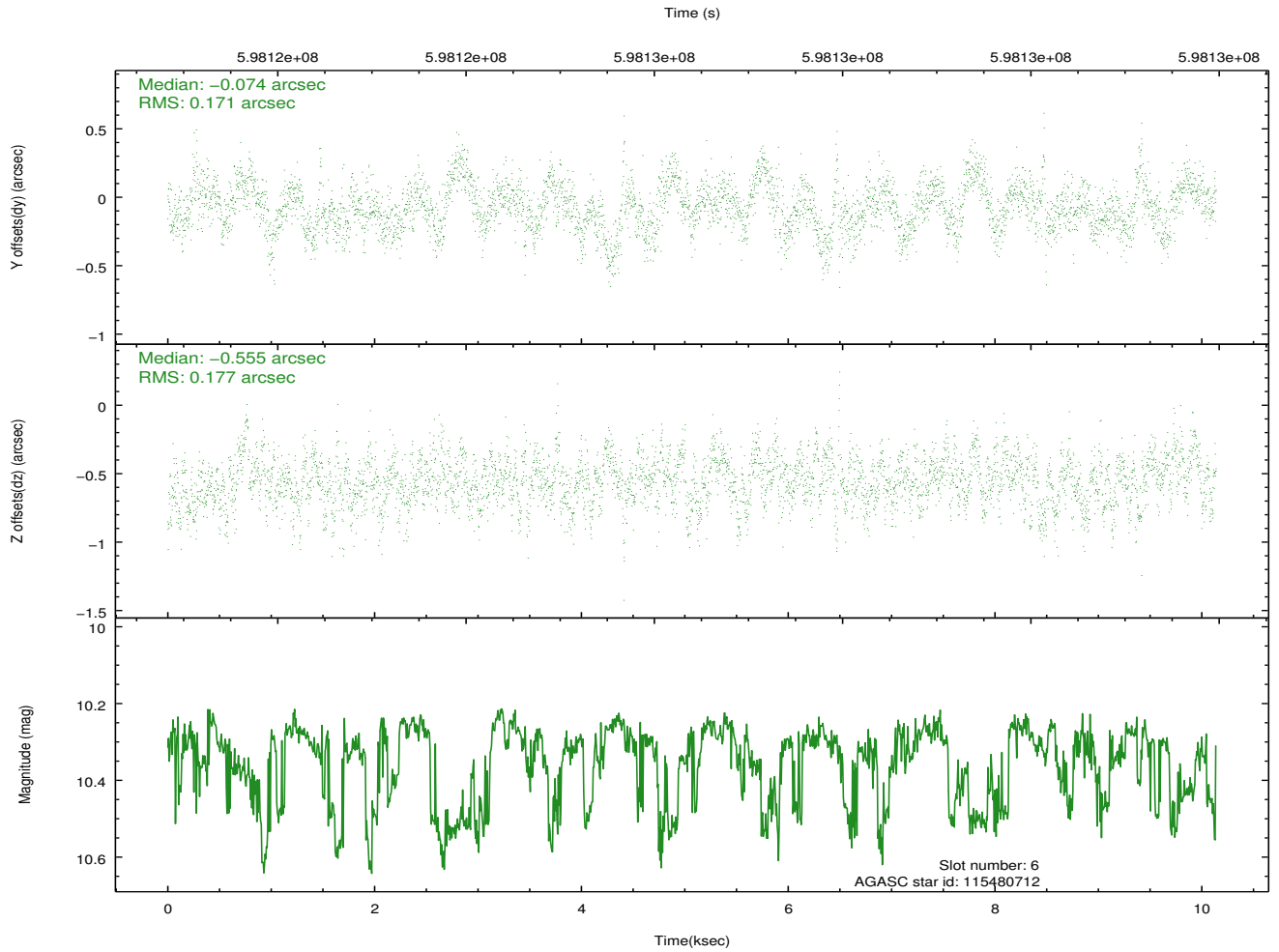
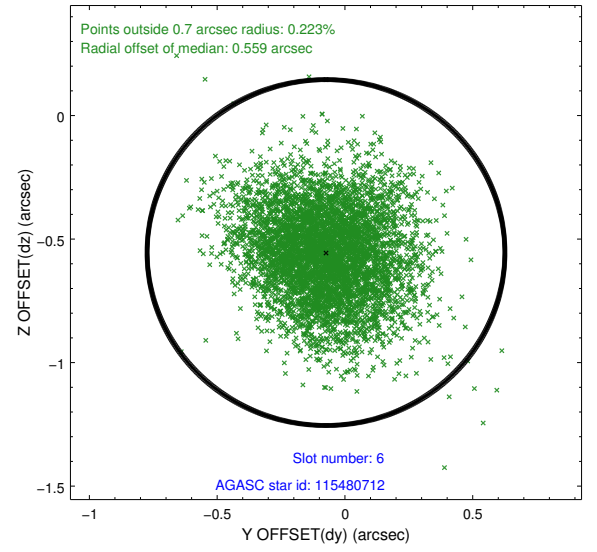
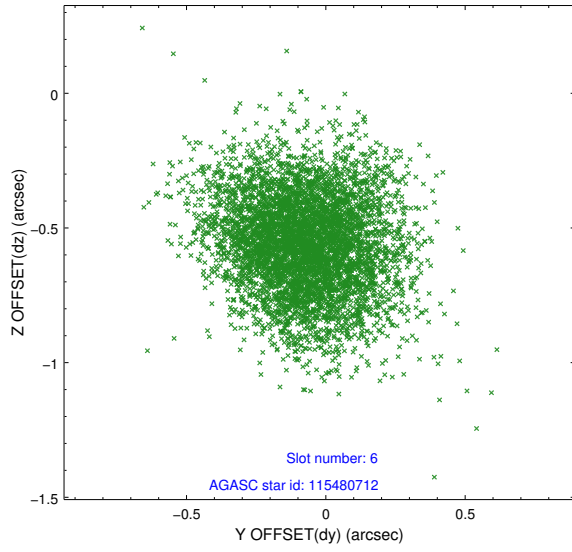
## 2.4.2 Slot 4



### 2.4.3 Slot 5

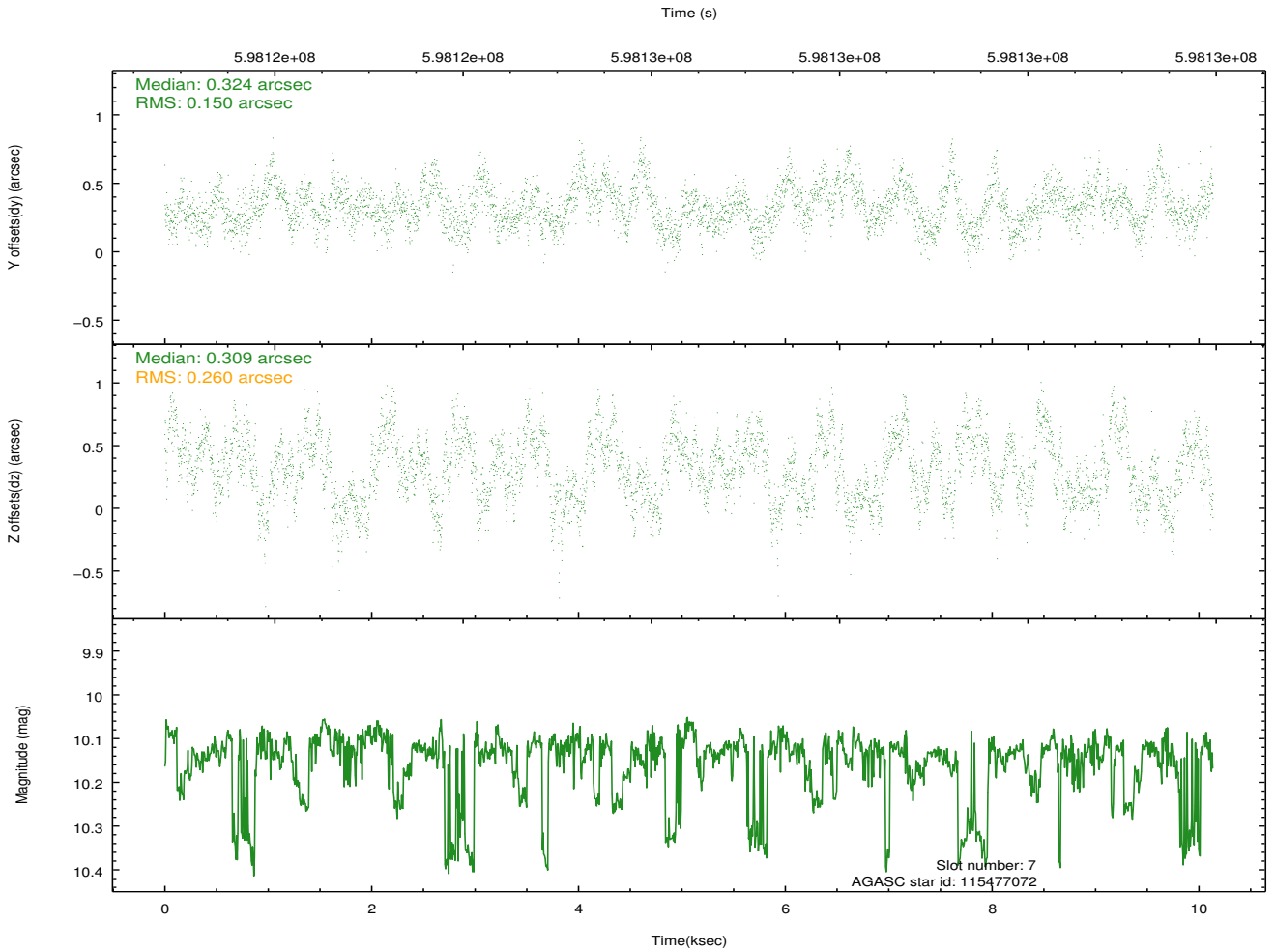
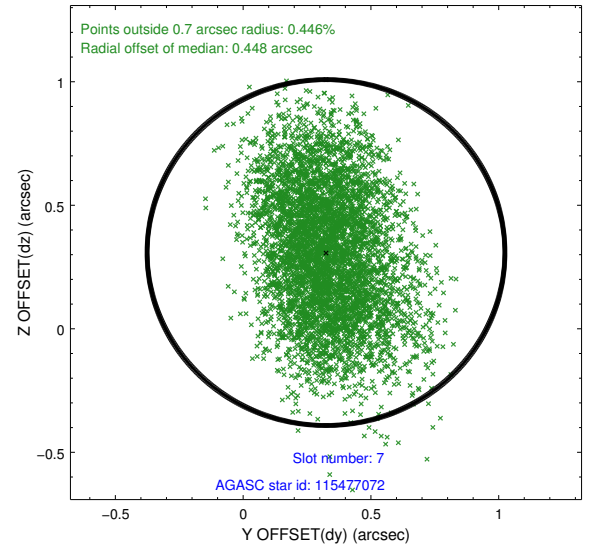
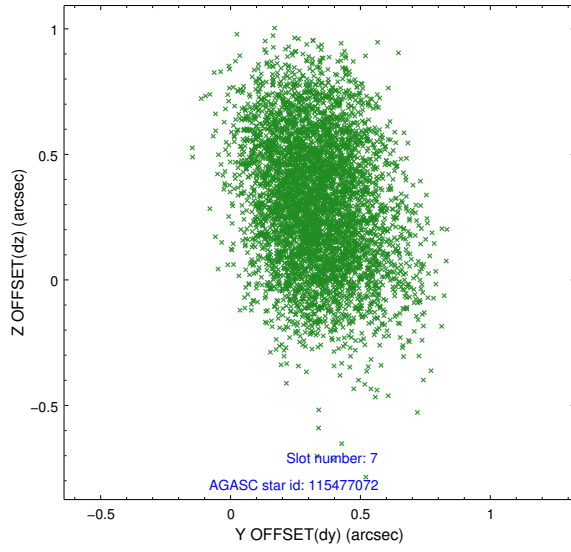


## 2.4.4 Slot 6



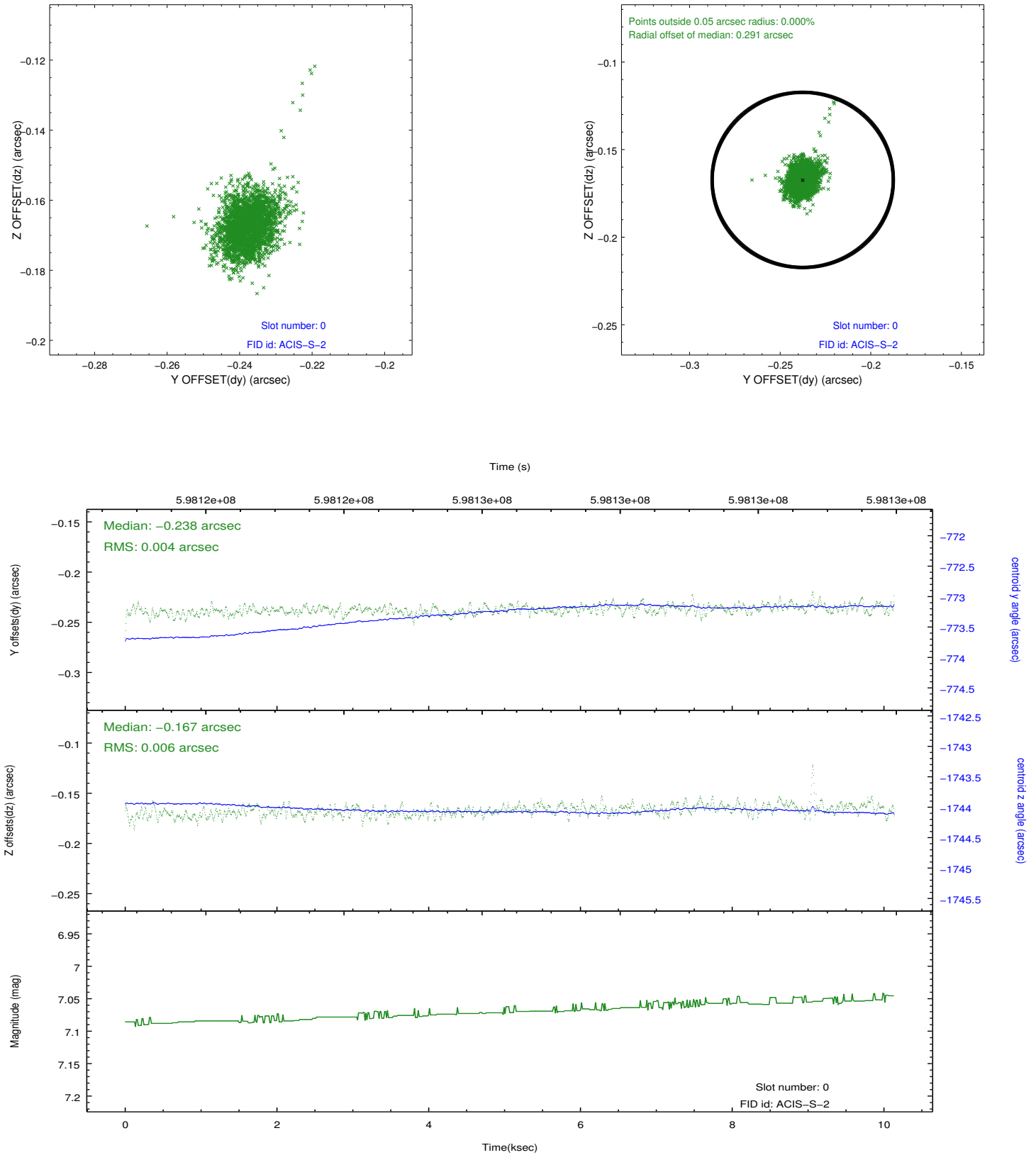


## 2.4.5 Slot 7

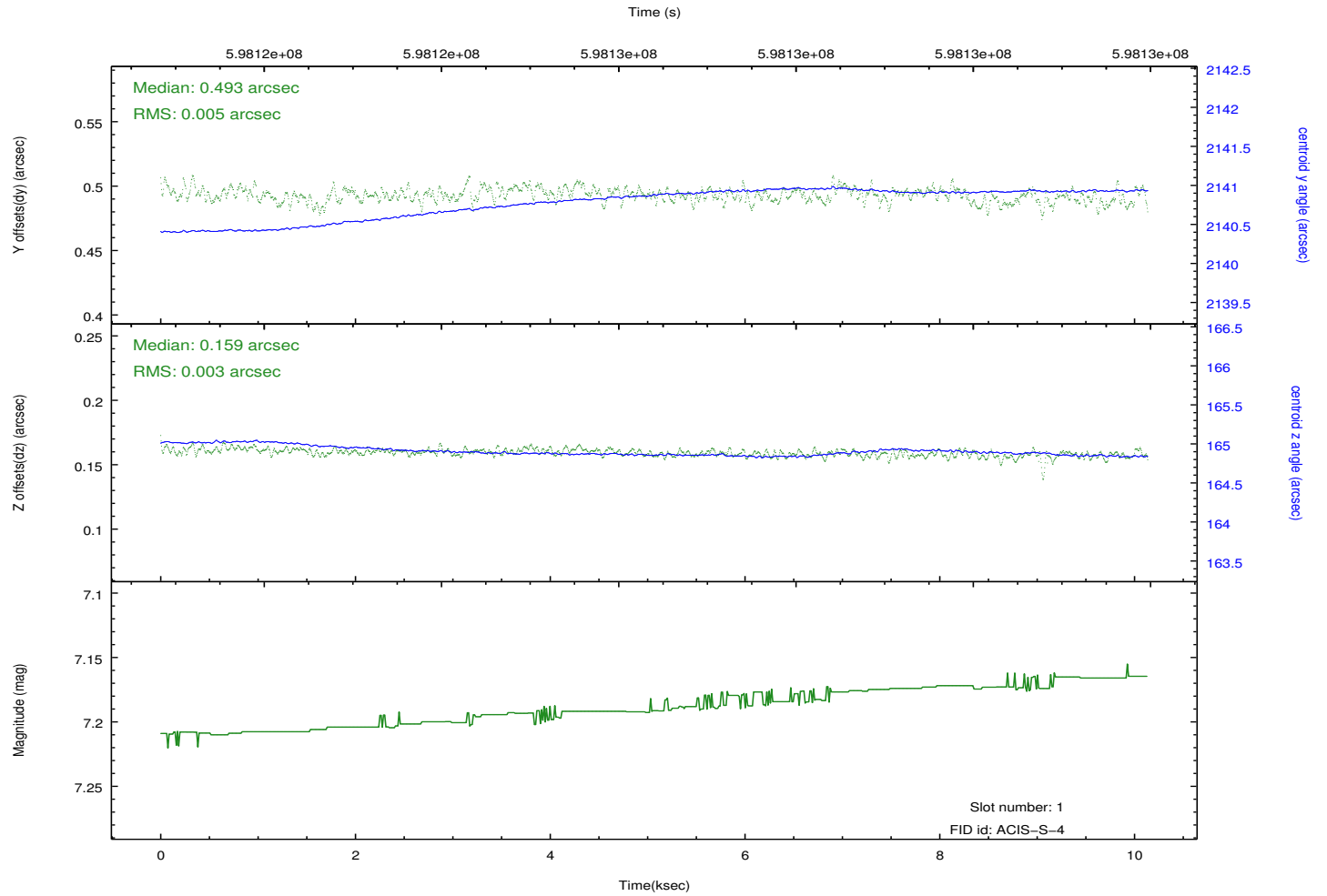
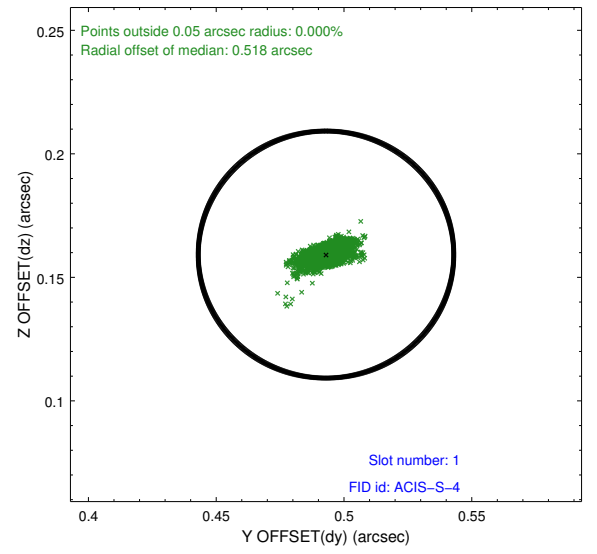
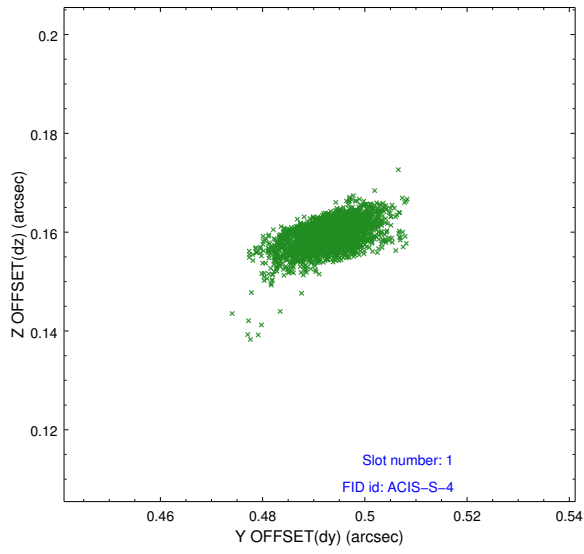


## 2.5 FID Slots

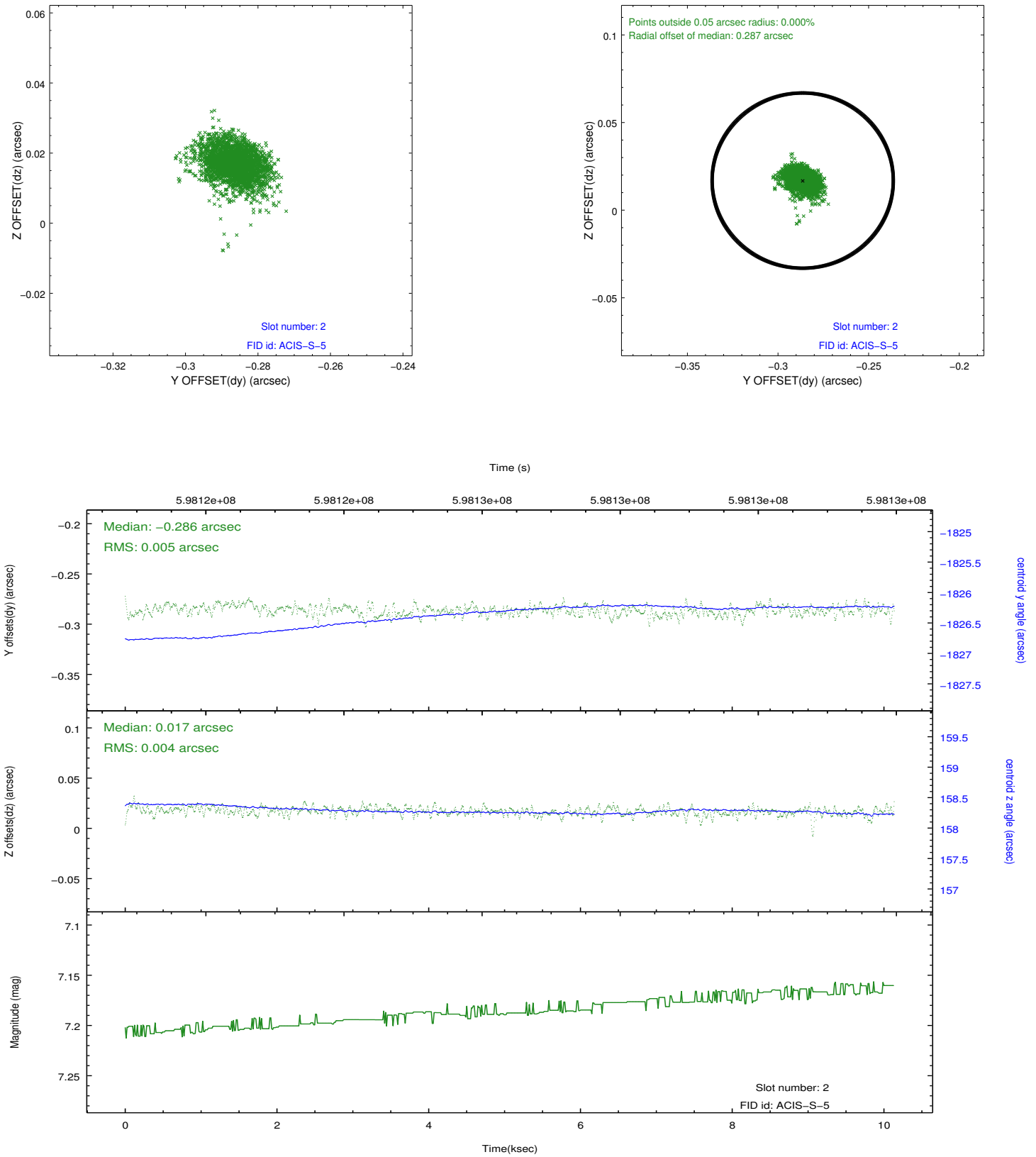
### 2.5.1 Slot 0



## 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)	2016.12.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.06260007751

### **A.2 Comments**