

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 15614 - L2 Version 2  
Chandra X-Ray Center

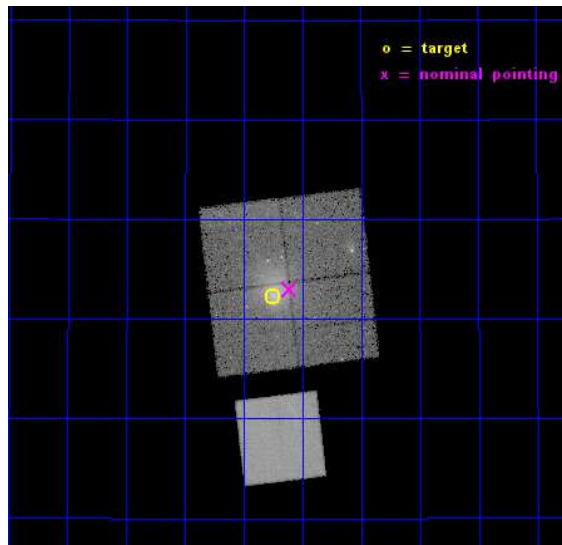
L2 Processing Date : Dec 1 2014

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# 1 Front

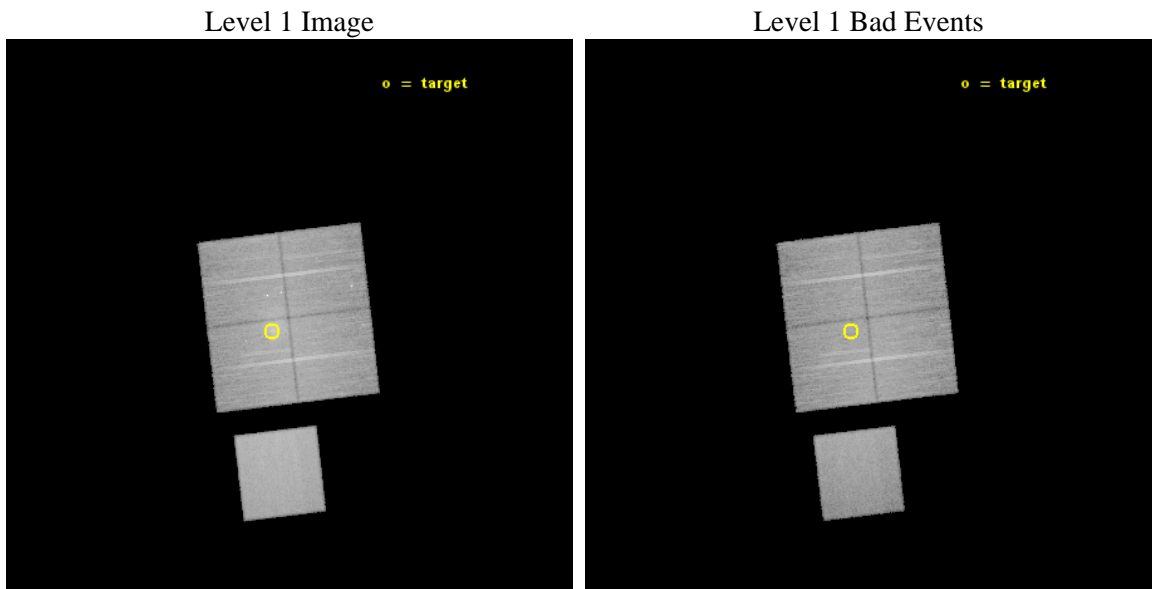
seq_num	801216	Sequence number
obs_id	15614	Observation id
title	The front in Abell 1033, a cluster with a speeding BCG	Proposal ti
observer	Dr Fabio Gastaldello	Principal investigator
object	Abell 1033	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	157.939167	Observer's specified target RA [deg]
dec_targ	35.037694	Observer's specified target Dec [deg]
ra_nom	157.90277865978	Nominal RA [deg]
dec_nom	35.049814193257	Nominal Dec [deg]
roll_nom	173.22957670434	Nominal Roll [deg]
revision	2	Processing version of data
ontime	34070.651801646	Sum of GTIs [s]
livetime	33625.493653408	Livetime [s]
ontime0	34070.528681636	Sum of GTIs [s]
ontime1	34067.428671241	Sum of GTIs [s]
ontime2	34070.610761642	Sum of GTIs [s]
ontime3	34070.651801646	Sum of GTIs [s]
ontime7	34070.692841649	Sum of GTIs [s]
l2events	212159	Number of level 2 events



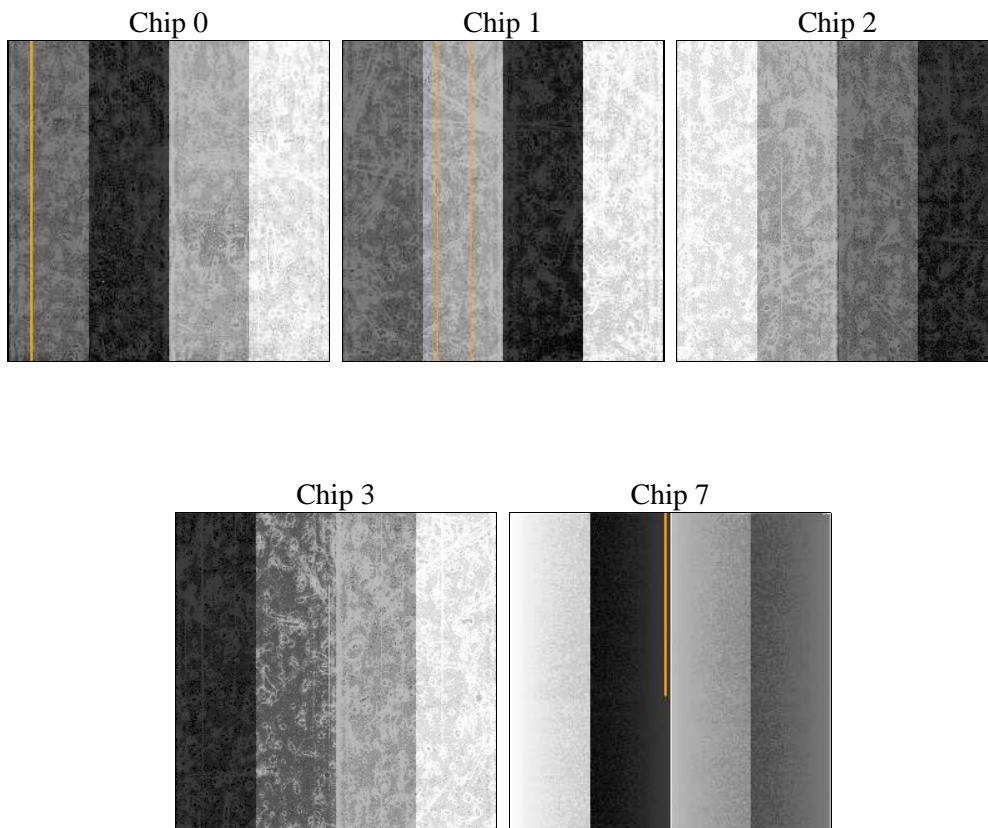
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	34000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	34070.651801646	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime0	34070.528681636	Sum of GTIs [s]
date	2014-12-01T14:04:04	Date and time of file creation	ontime1	34067.428671241	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	34070.610761642	Sum of GTIs [s]
			ontime3	34070.651801646	Sum of GTIs [s]
			ontime7	34070.692841649	Sum of GTIs [s]
			l1events	999373	Number of level 1 events

### 2.1.4 Events

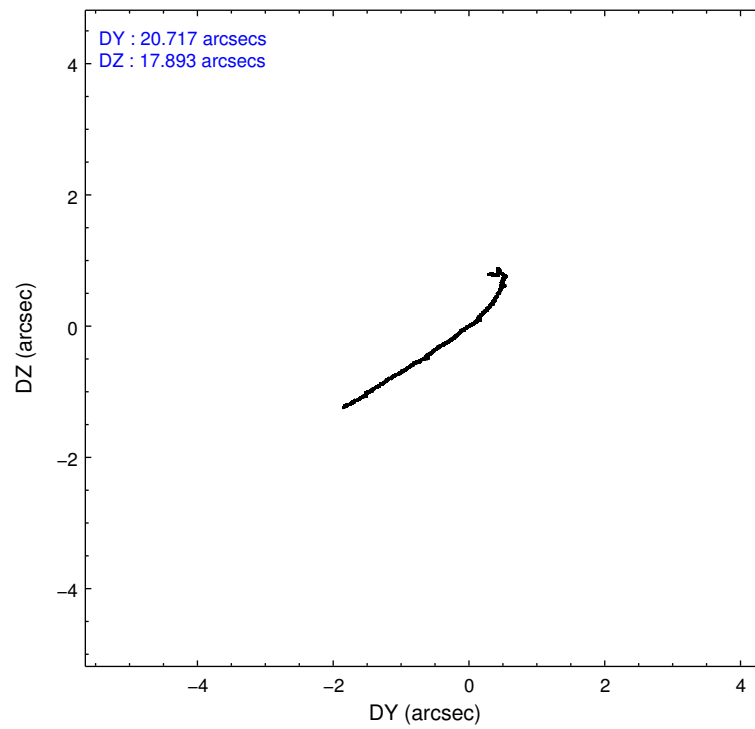
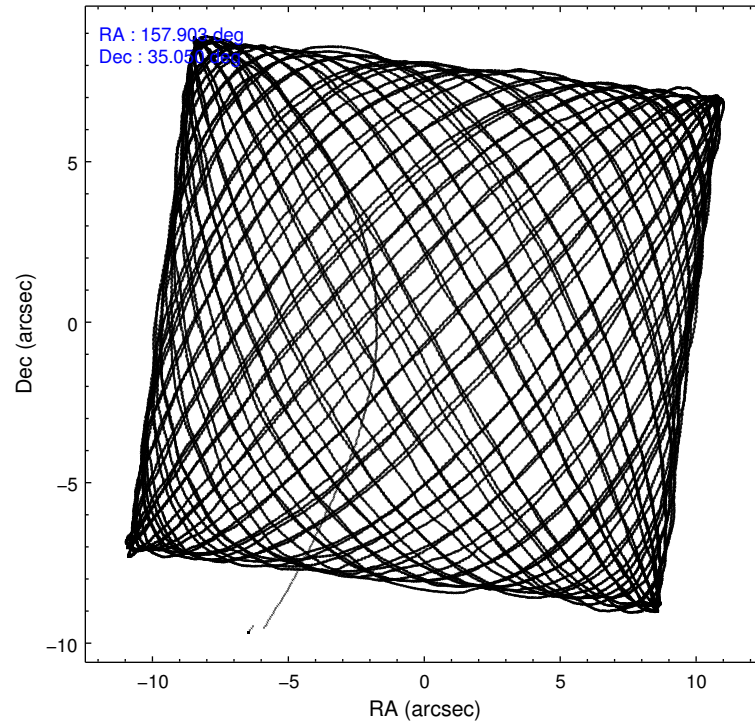
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 7
level 1 events	174165	181450	189428	200839	253491
rejected events	149357	148258	165247	162655	143289
rejected %	85%	81%	87%	80%	56%

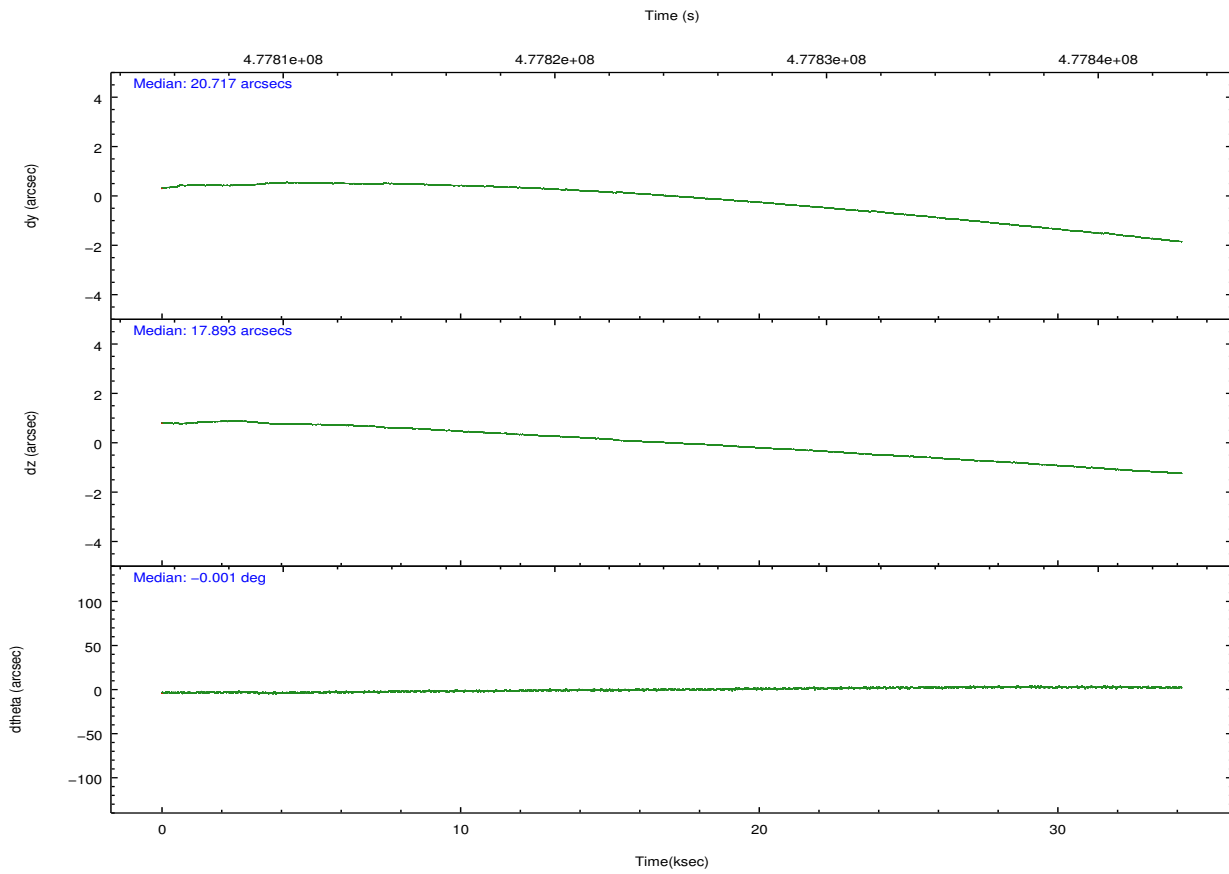
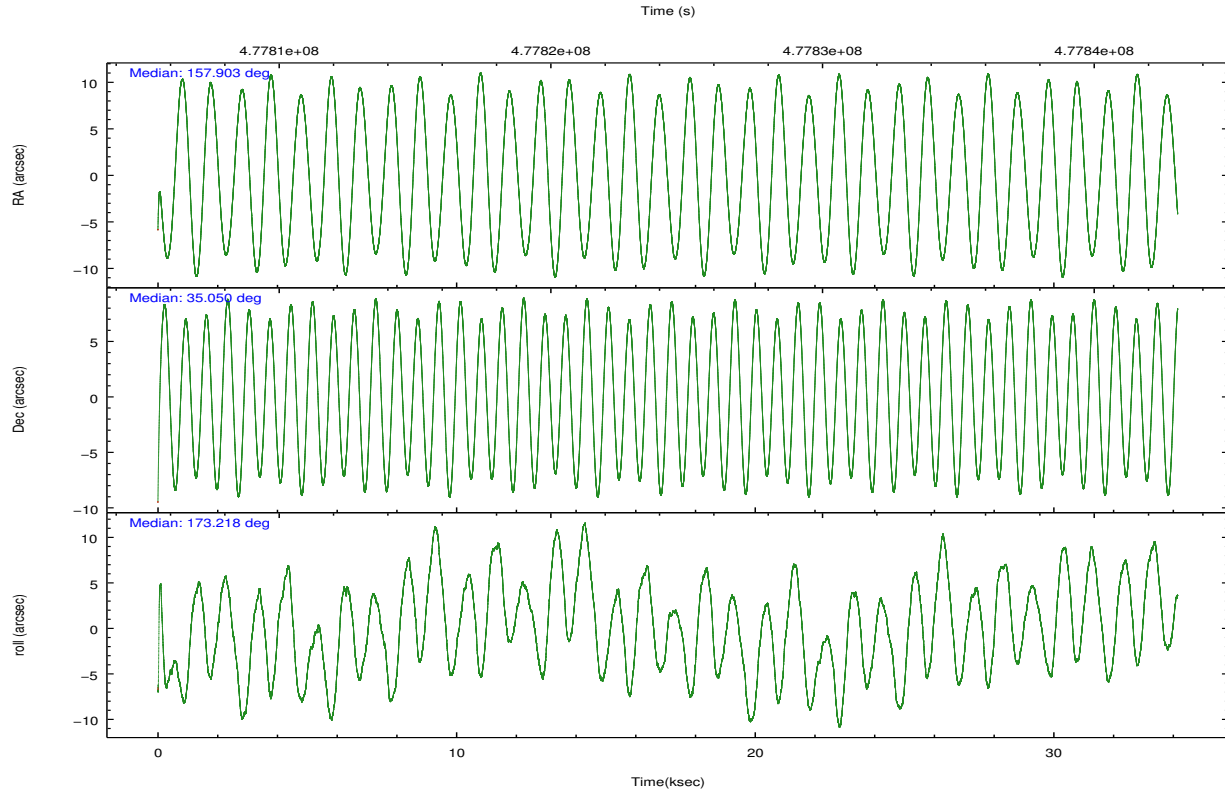
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 7
grade 0 events	9945	15833	9964	21462	9476
	5%	8%	5%	10%	3%
grade 1 events	115	148	111	174	298
	0%	0%	0%	0%	0%
grade 2 events	5580	6645	5500	6487	22515
	3%	3%	2%	3%	8%
grade 3 events	2398	2681	2228	2687	9537
	1%	1%	1%	1%	3%
grade 4 events	2224	2641	2252	2721	9339
	1%	1%	1%	1%	3%
grade 5 events	8482	9296	8227	9902	26143
	4%	5%	4%	4%	10%
grade 6 events	4662	5394	4242	4831	59346
	2%	2%	2%	2%	23%
grade 7 events	140759	138812	156904	152575	116837
	80%	76%	82%	75%	46%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-01237	ACIS-01237	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	157.933602	157.9027786597842	CCD I2 on	Y	Y
[deg] Pointing Dec	35.060759	35.04981419325654	CCD I3 on	Y	Y
[deg] Pointing Roll	173.003194	173.2295767043372	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	N
[mm] SIM translation stage pos	-233.592463	-233.5874344608287	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	477807379.184000	477806210.99232	CCD S5 on	N	N
Observation start date	2013-02-21T04:15:12	2013-02-21T03:56:50	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	477841379.184000	477842368.89427	On-chip summing requested	N	N
Observation end date	2013-02-21T13:41:52	2013-02-21T13:59:28	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



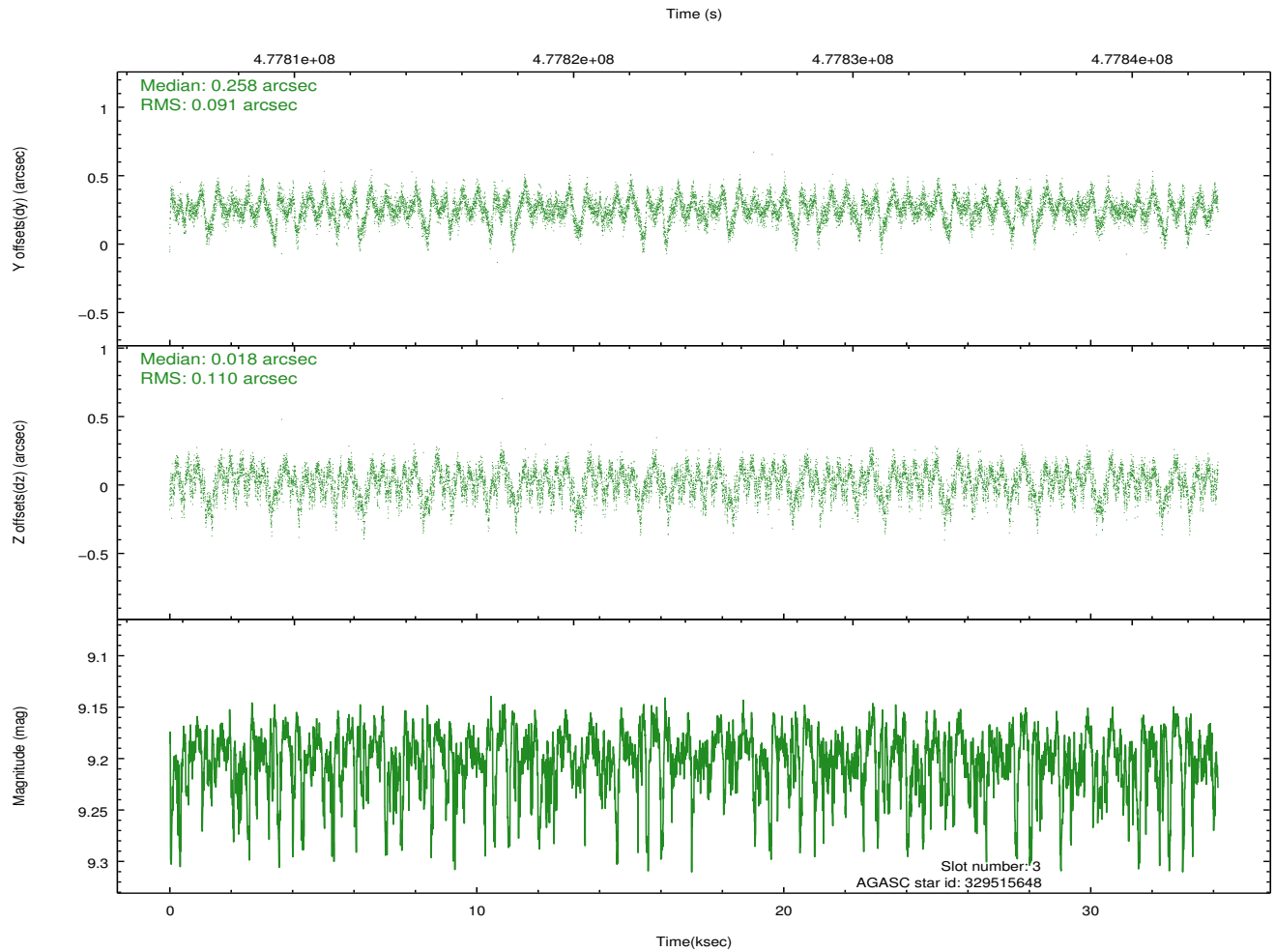
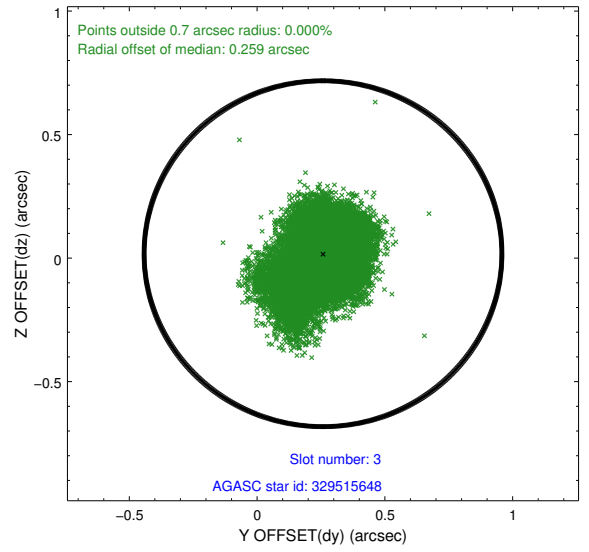
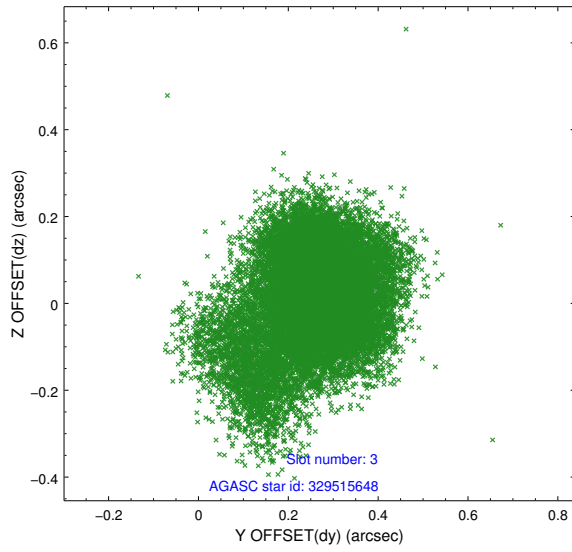


### Slot Statistics

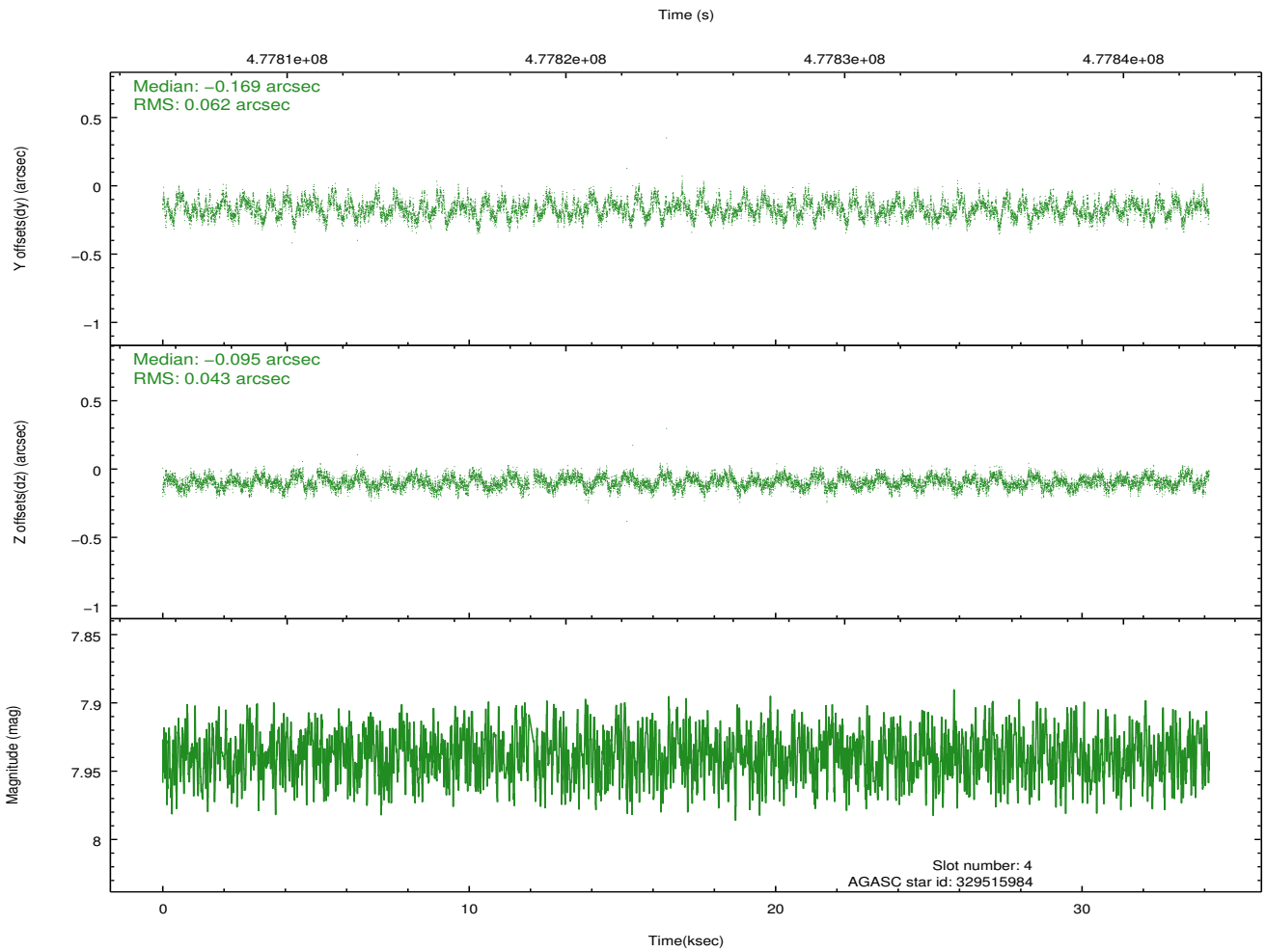
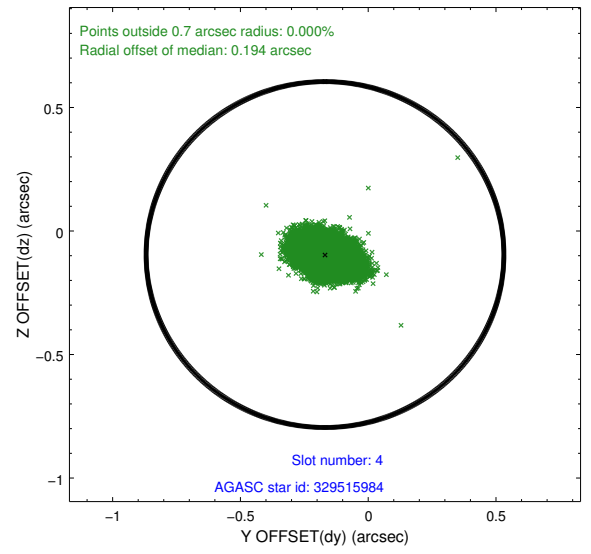
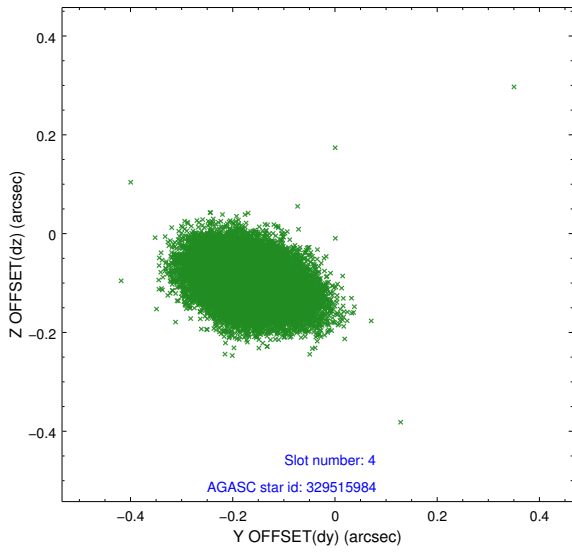
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-2	6.99	8327	0.015	-0.082	0.015	0.026	0.000000	0.000000	-775.33	-847.95
1	FID		ACIS-I-5	7.09	8330	-0.242	0.071	0.009	0.015	0.000000	0.000000	-1829.68	1056.03
2	FID		ACIS-I-6	7.10	8330	0.134	0.077	0.011	0.021	0.000000	0.000000	384.48	1700.58
3	GUIDE	used	329515648	9.20	16518	0.258	0.018	0.148	0.258	158.047758	34.982334	-368.59	239.51
4	GUIDE	used	329515984	7.94	16583	-0.169	-0.095	0.080	0.130	157.214123	34.885674	2034.28	878.09
5	GUIDE	used	329519744	7.86	16655	-0.133	-0.038	0.081	0.138	157.439044	34.827497	1348.84	1008.13
6	GUIDE	used	329916968	9.35	16571	-0.050	0.037	0.178	0.299	157.833853	35.436726	455.87	-1307.81
7	GUIDE	used	329524256	9.24	16647	0.069	0.082	0.121	0.189	157.051602	34.556062	2376.14	2111.37

## 2.4 Star Slots

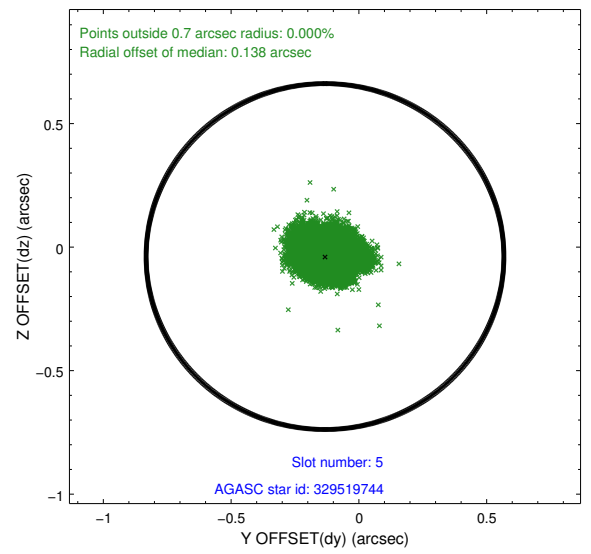
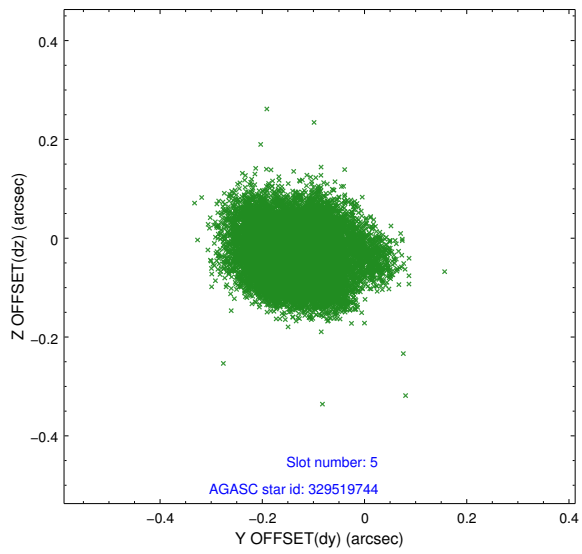
### 2.4.1 Slot 3



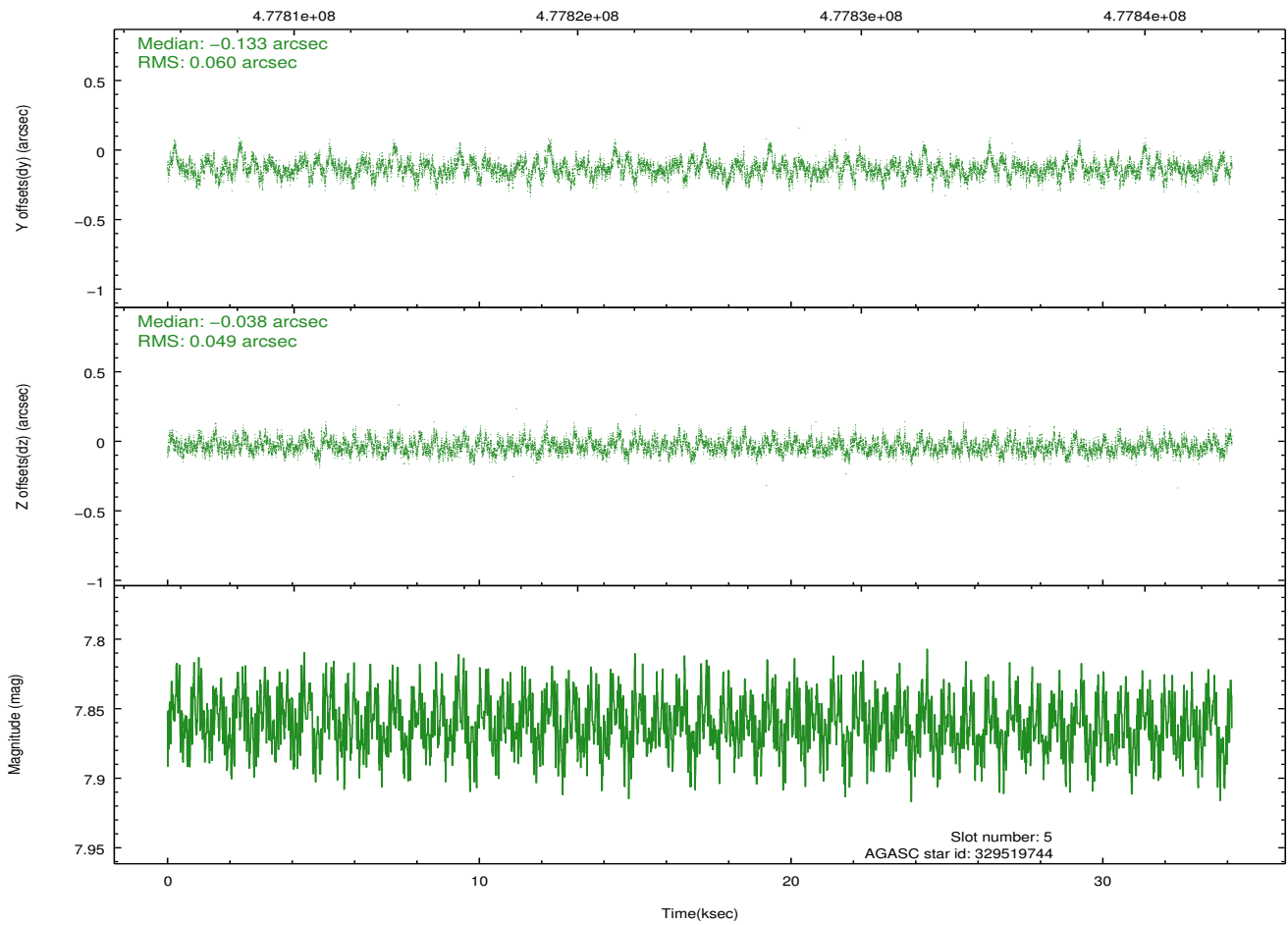
### 2.4.2 Slot 4



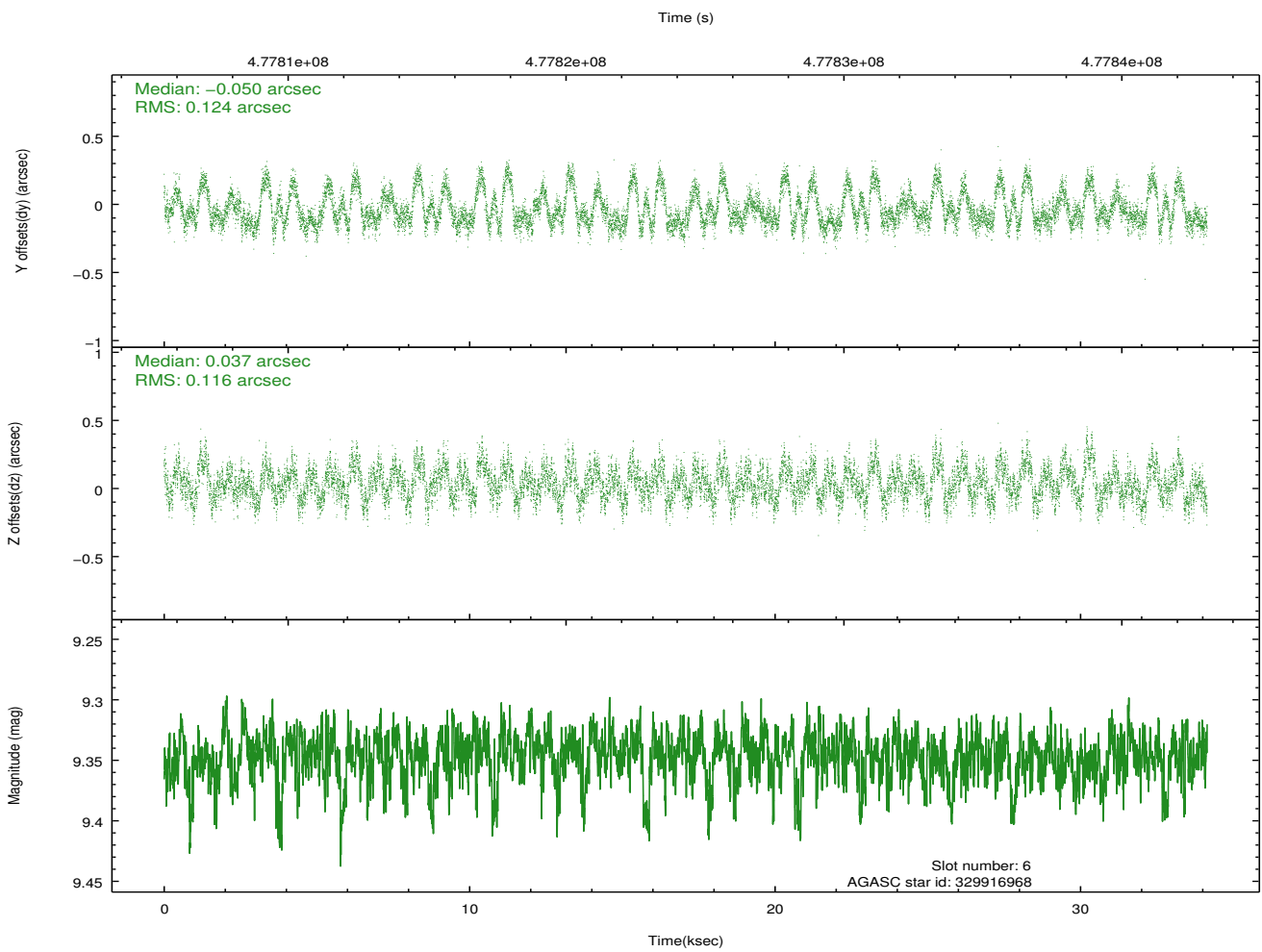
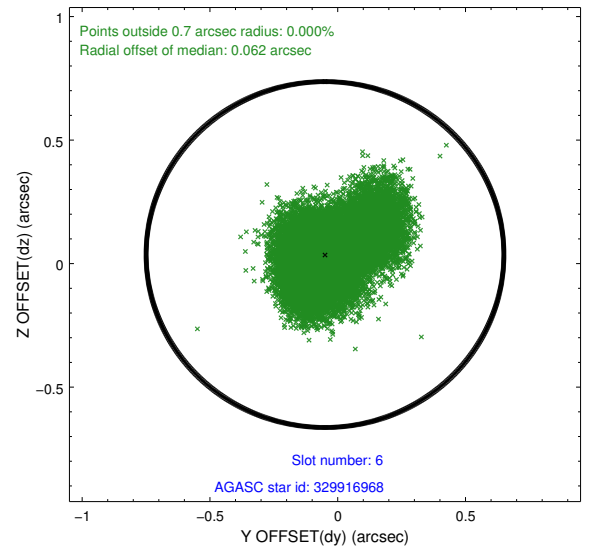
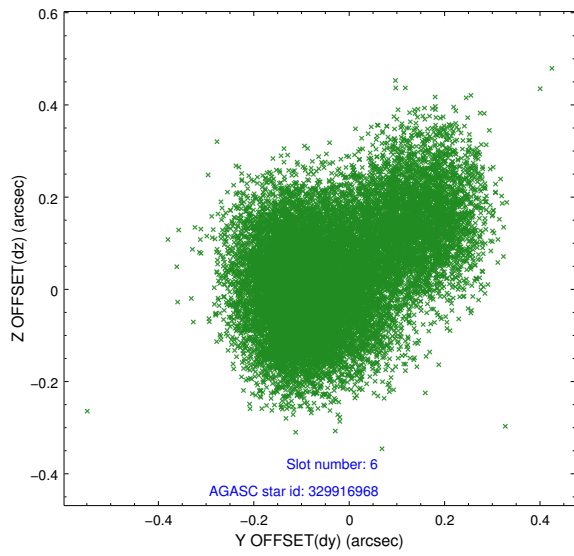
### 2.4.3 Slot 5



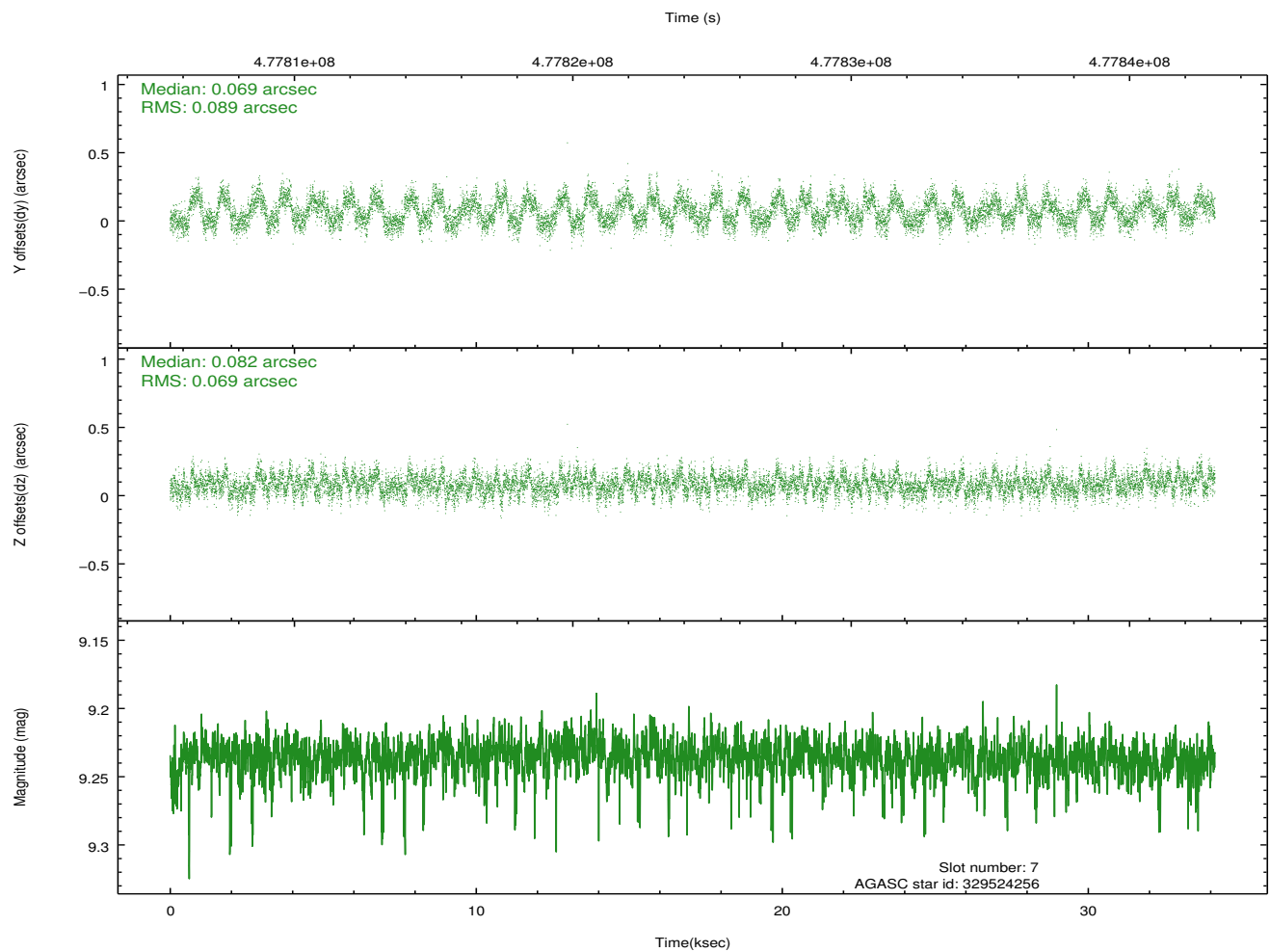
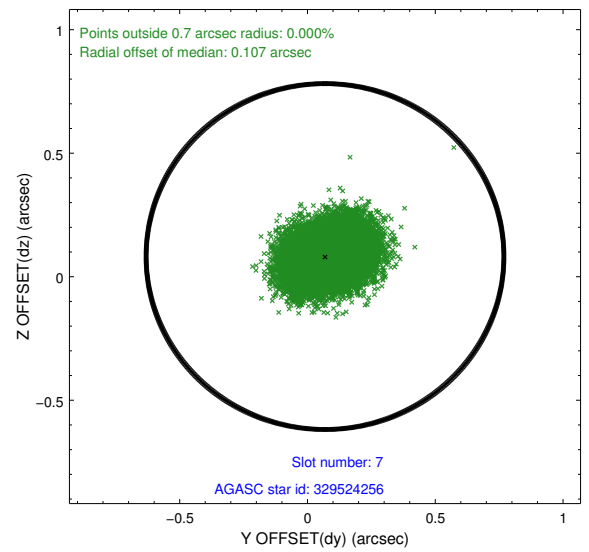
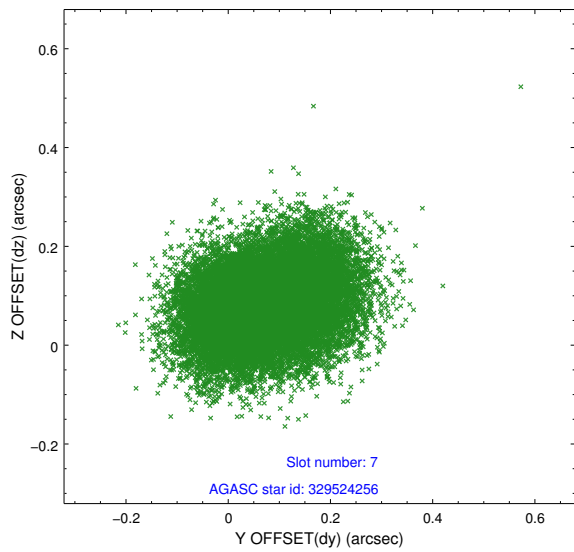
Time (s)



## 2.4.4 Slot 6

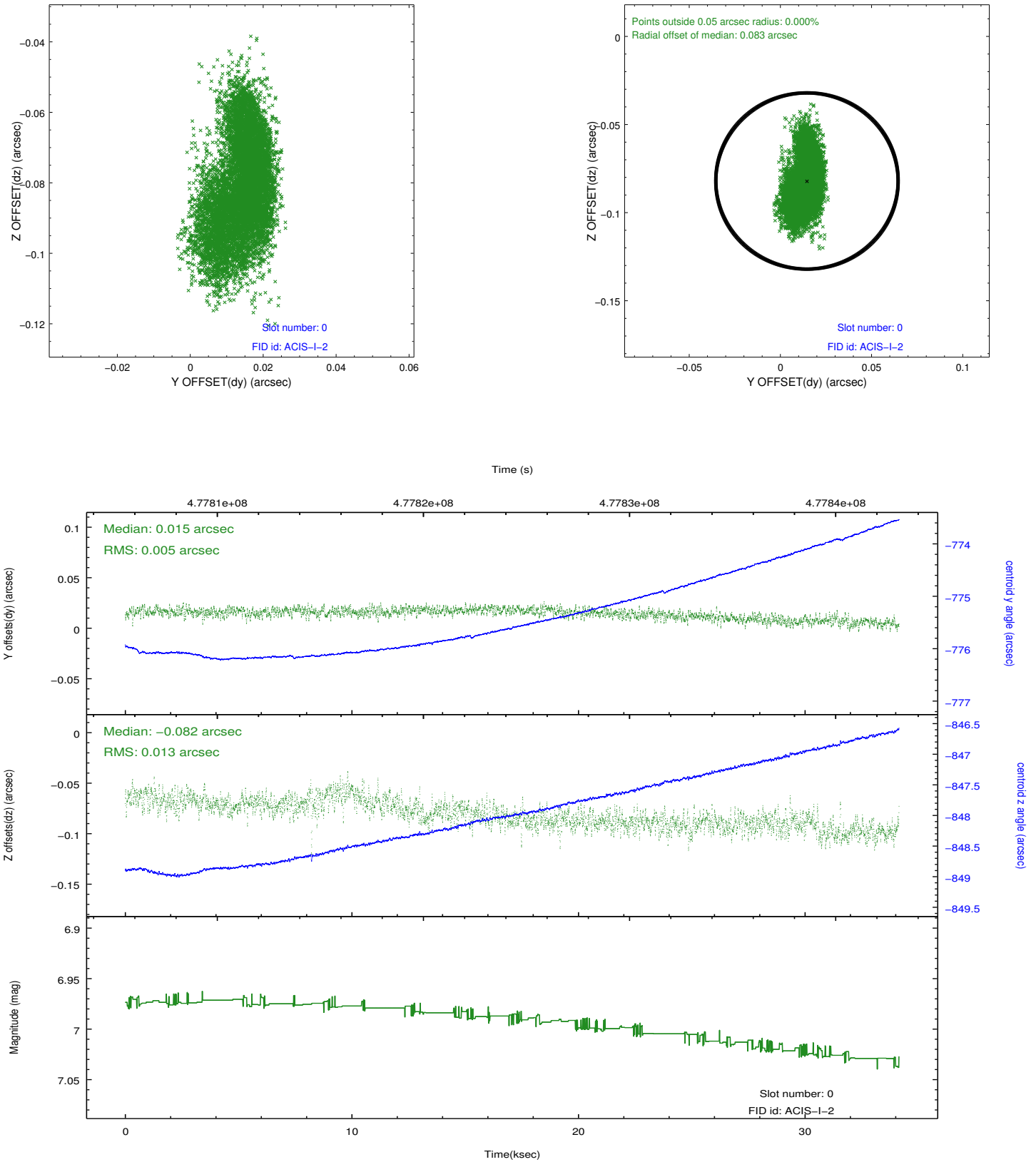


## 2.4.5 Slot 7

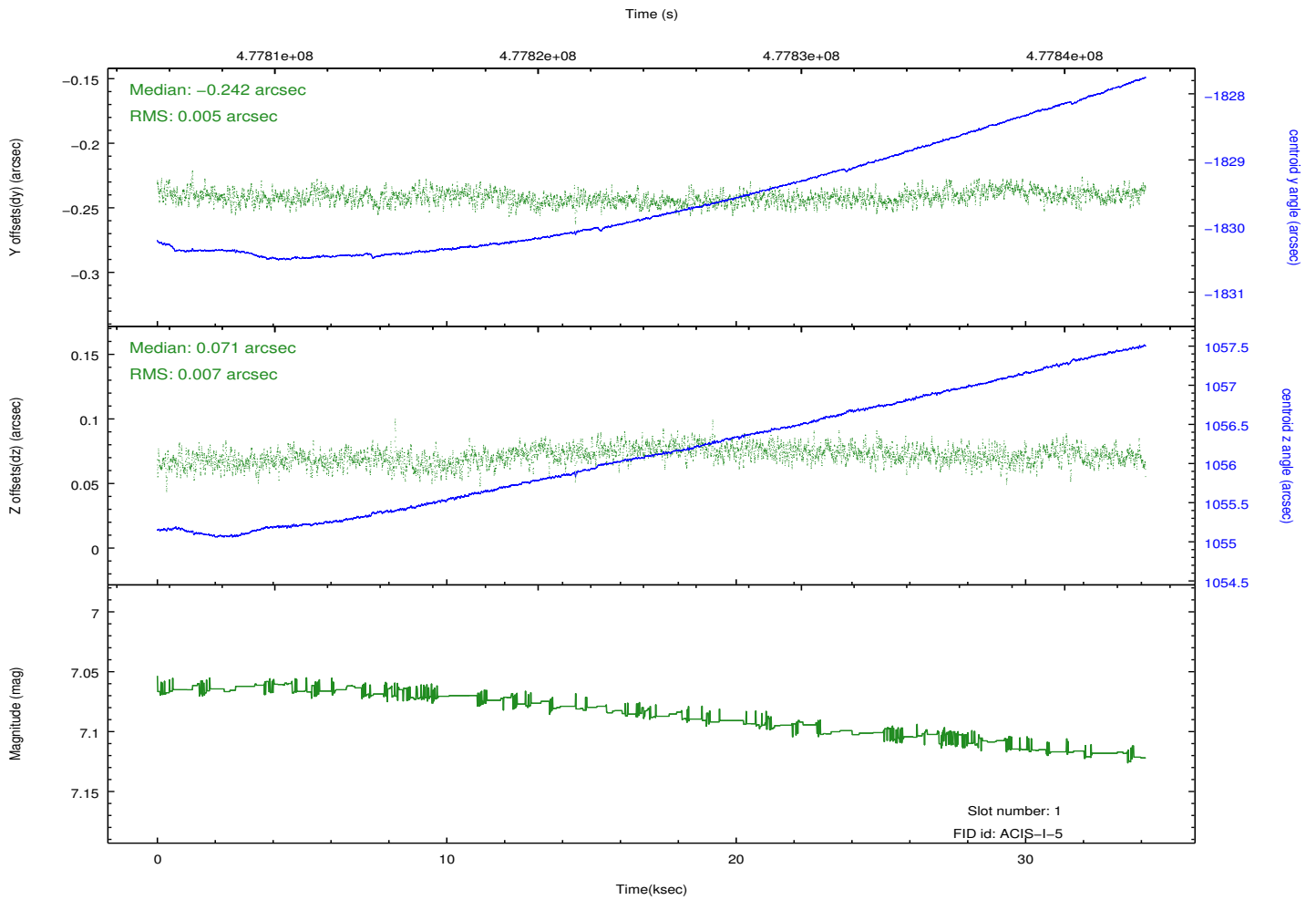
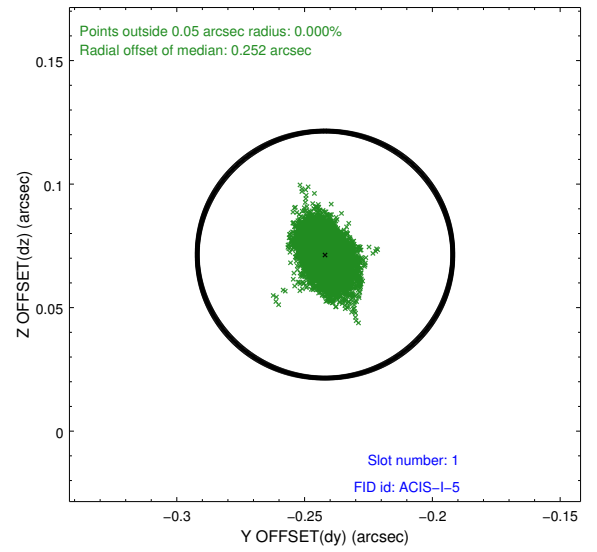
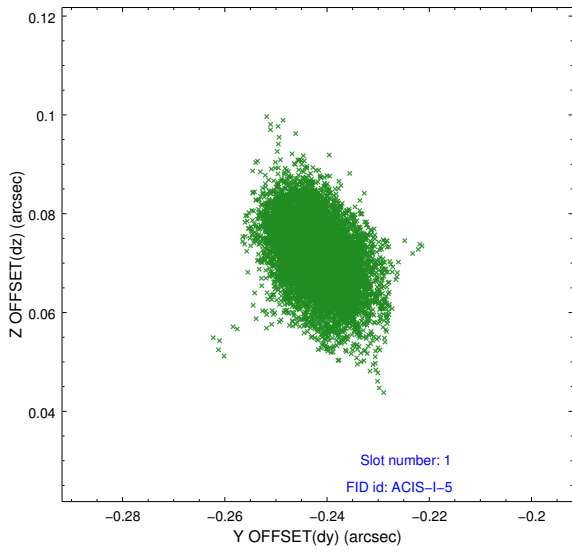


## 2.5 FID Slots

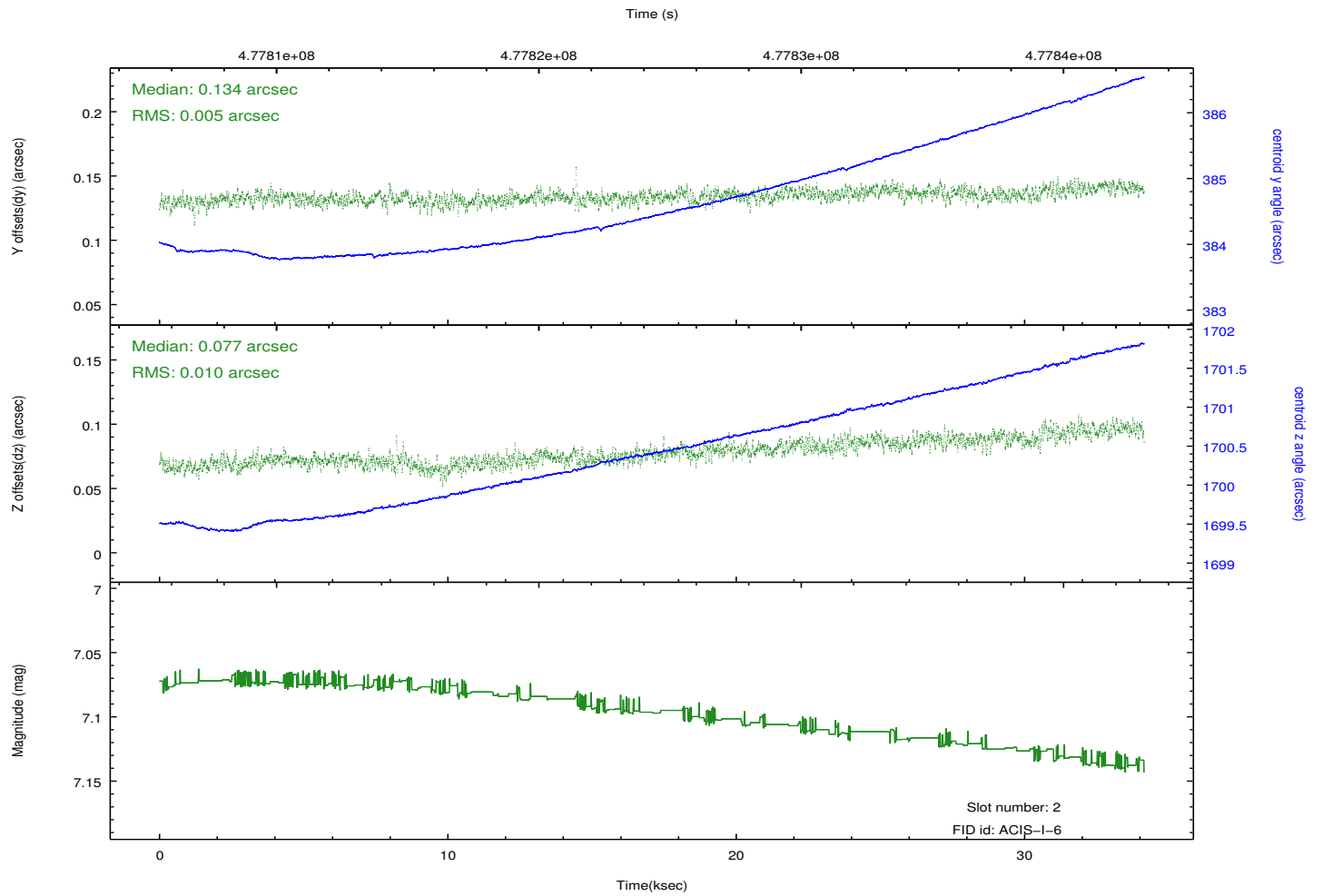
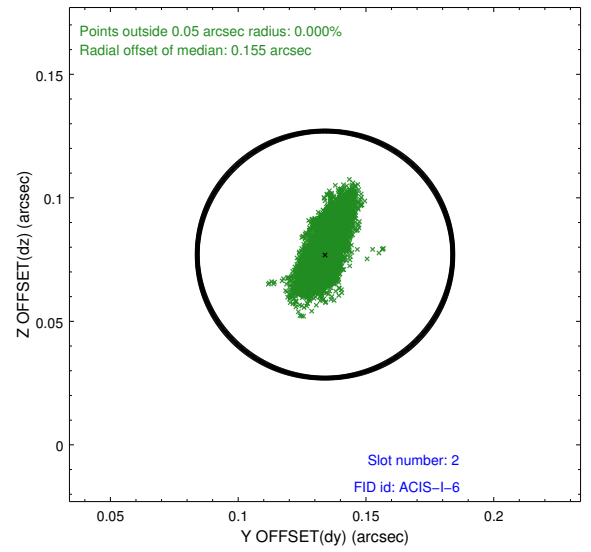
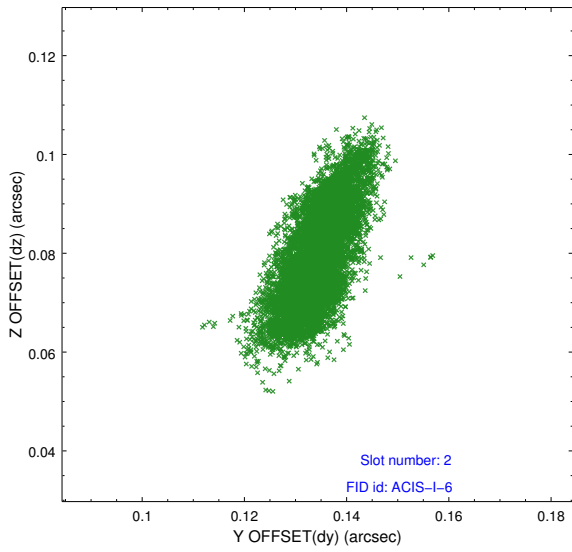
### 2.5.1 Slot 0



## 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)	2014.12.09
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	34.070651801646

## 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.