

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 14970 - L2 Version 3  
Chandra X-Ray Center

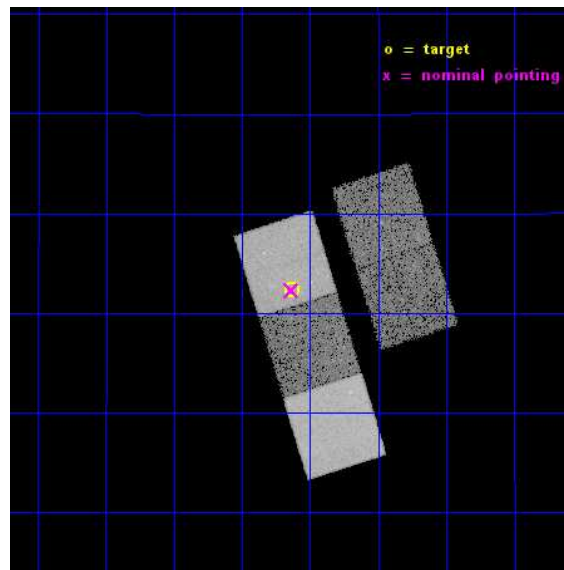
L2 Processing Date : Dec 3 2014

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# 1 Front

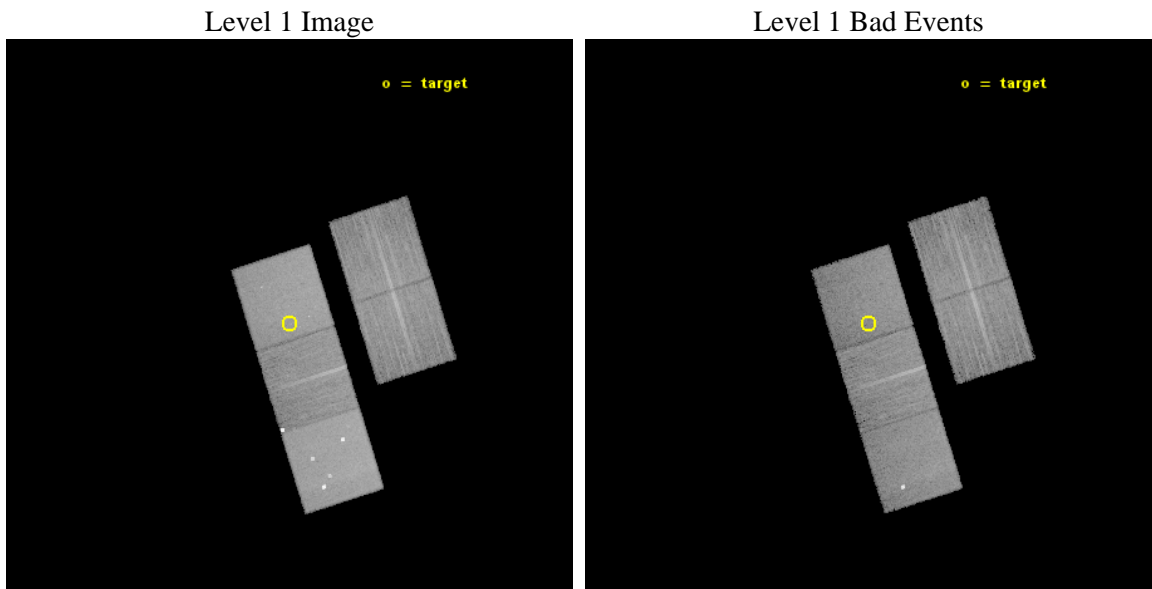
seq_num	702779	Sequence number
obs_id	14970	Observation id
title	The Hierarchical Assembly of Massive Black Holes: Identifying Kpc-Scale Triple AGNs with Chandra, HST, and EVLA	Proposal title
observer	Dr. Xin Liu	Principal investigator
object	SDSSJ0858+1822	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	134.657083	Observer's specified target RA [deg]
dec_targ	18.373167	Observer's specified target Dec [deg]
ra_nom	134.65938078187	Nominal RA [deg]
dec_nom	18.371654178246	Nominal Dec [deg]
roll_nom	252.4105797805	Nominal Roll [deg]
revision	3	Processing version of data
ontime	20066.300154328	Sum of GTIs [s]
livetime	19804.119170217	Livetime [s]
ontime2	20066.300154328	Sum of GTIs [s]
ontime3	20066.300154328	Sum of GTIs [s]
ontime5	20066.300154328	Sum of GTIs [s]
ontime6	20066.300154328	Sum of GTIs [s]
ontime7	20066.300154328	Sum of GTIs [s]
l2events	182086	Number of level 2 events



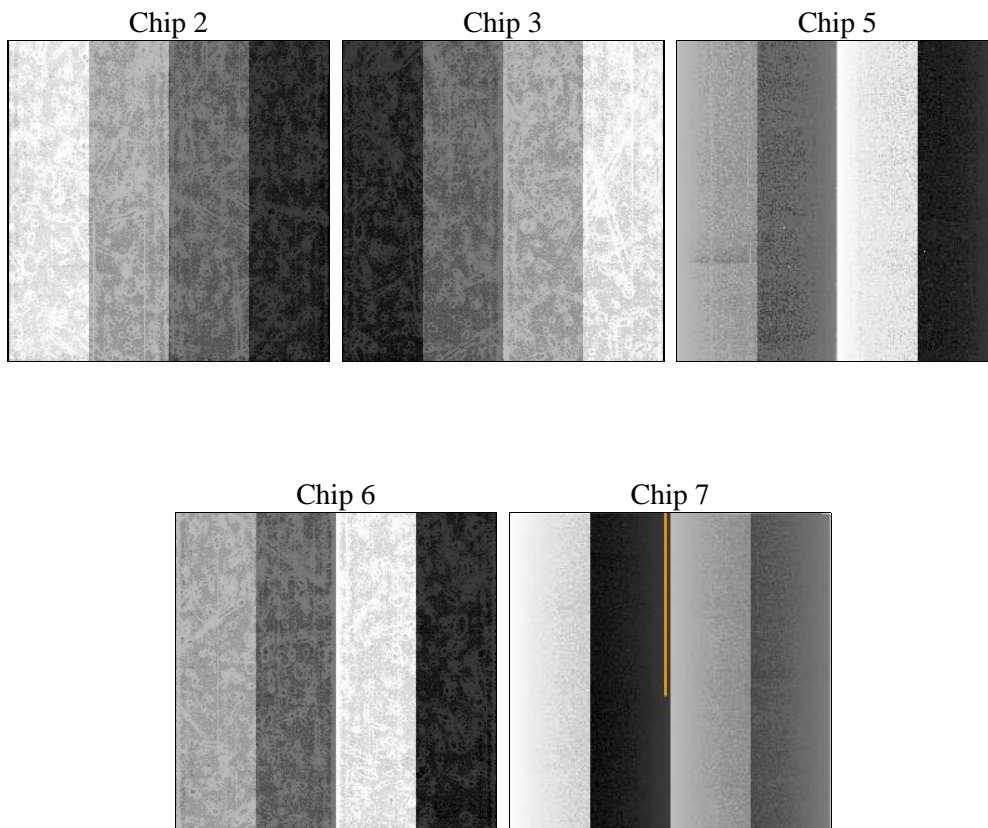
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	20066.300154328	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime2	20066.300154328	Sum of GTIs [s]
date	2014-12-03T23:30:26	Date and time of file creation	ontime3	20066.300154328	Sum of GTIs [s]
revision	3	Processing version of data	ontime5	20066.300154328	Sum of GTIs [s]
			ontime6	20066.300154328	Sum of GTIs [s]
			ontime7	20066.300154328	Sum of GTIs [s]
			l1events	684339	Number of level 1 events

### 2.1.4 Events

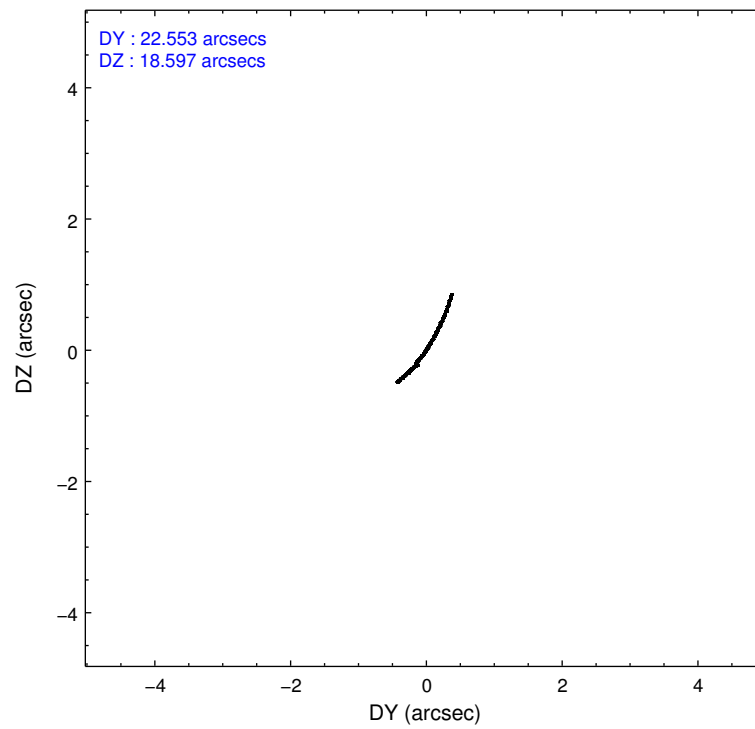
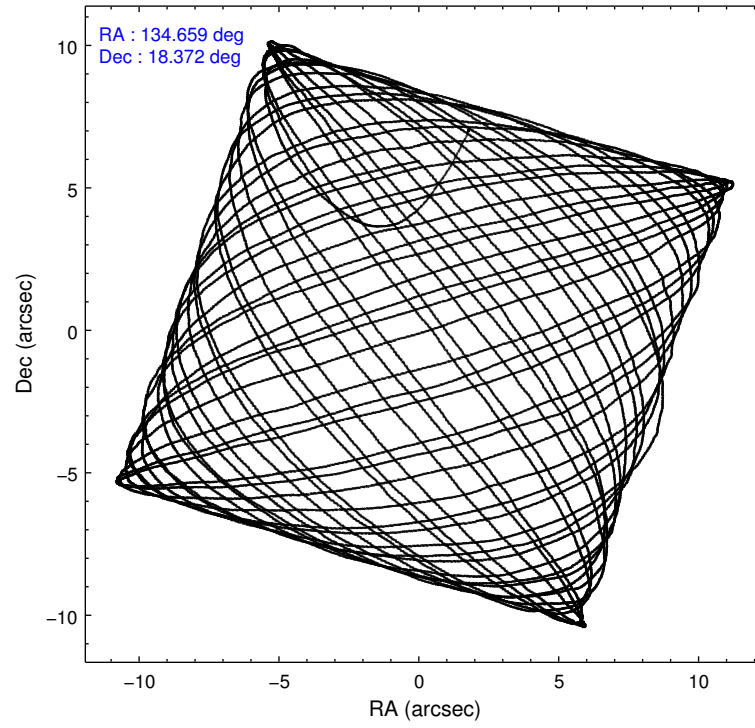
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7
level 1 events	111446	108052	195045	116957	152839
rejected events	99197	95925	98438	97266	85909
rejected %	89%	88%	50%	83%	56%

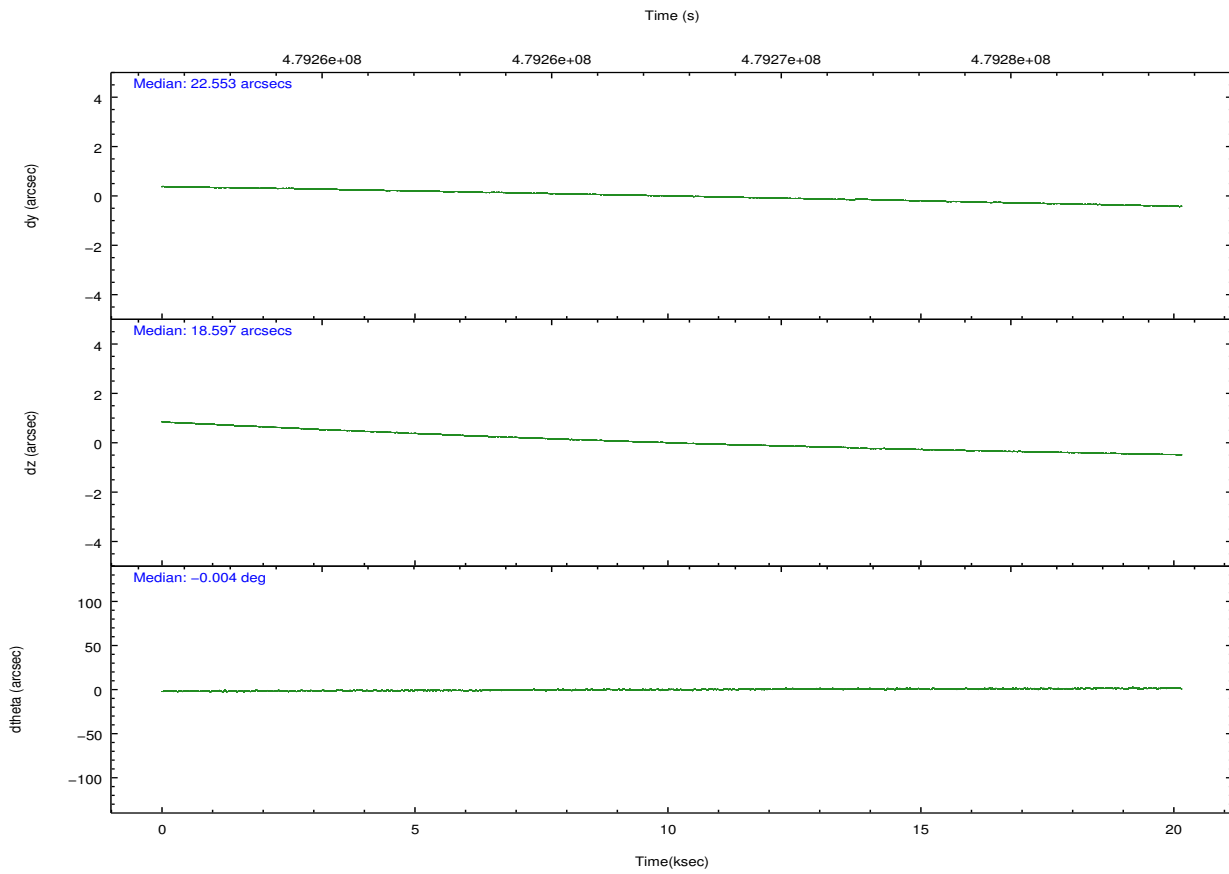
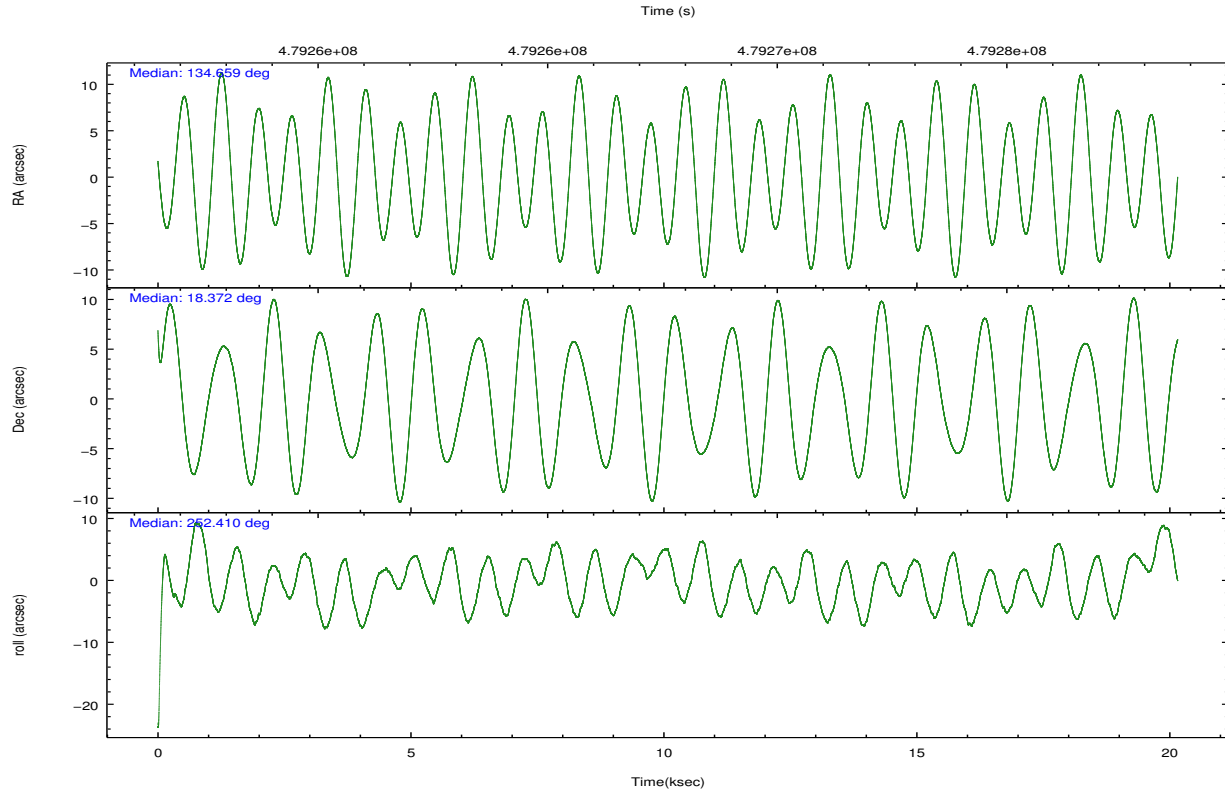
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7
grade 0 events	4385	4116	14239	10782	6094
	3%	3%	7%	9%	3%
grade 1 events	49	51	414	76	168
	0%	0%	0%	0%	0%
grade 2 events	2893	2729	28482	3009	13764
	2%	2%	14%	2%	9%
grade 3 events	1269	1368	3206	1370	5804
	1%	1%	1%	1%	3%
grade 4 events	1320	1348	3026	1404	5798
	1%	1%	1%	1%	3%
grade 5 events	4581	5602	14551	5876	15908
	4%	5%	7%	5%	10%
grade 6 events	2382	2568	47670	3127	35478
	2%	2%	24%	2%	23%
grade 7 events	94567	90270	83457	91313	69825
	84%	83%	42%	78%	45%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-23567	ACIS-23567	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	134.652822	134.6593807818666	CCD I2 on	Y	Y
[deg] Pointing Dec	18.398258	18.37165417824606	CCD I3 on	Y	Y
[deg] Pointing Roll	252.256034	252.4105797805016	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O1	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	N	N
[s] Observation start time (MET)	479257691.184000	479256093.04576	CCD S5 on	N	N
Observation start date	2013-03-09T23:07:04	2013-03-09T22:41:33	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	479277691.184000	479278183.84696	On-chip summing requested	N	N
Observation end date	2013-03-10T04:40:24	2013-03-10T04:49:43	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





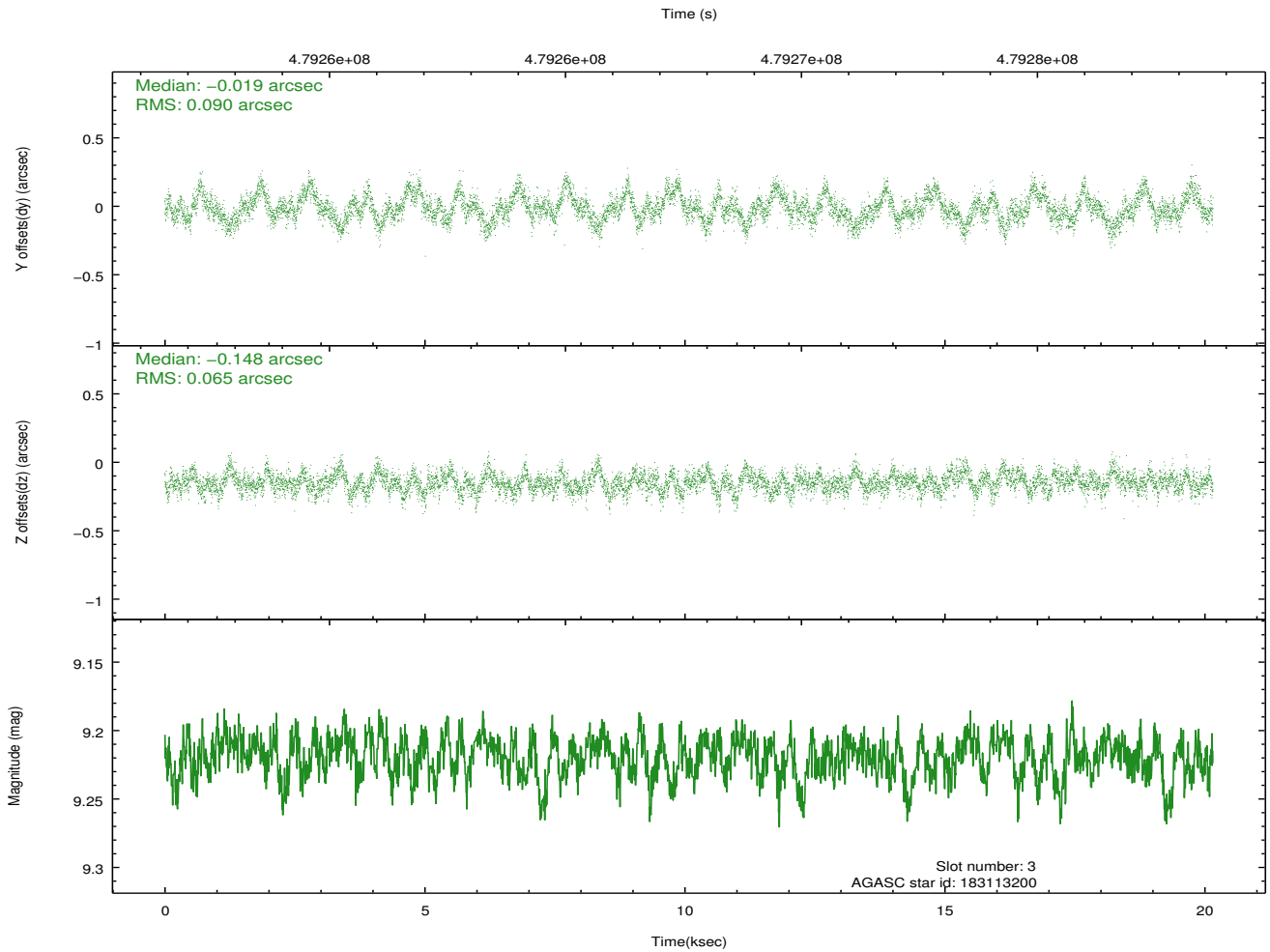
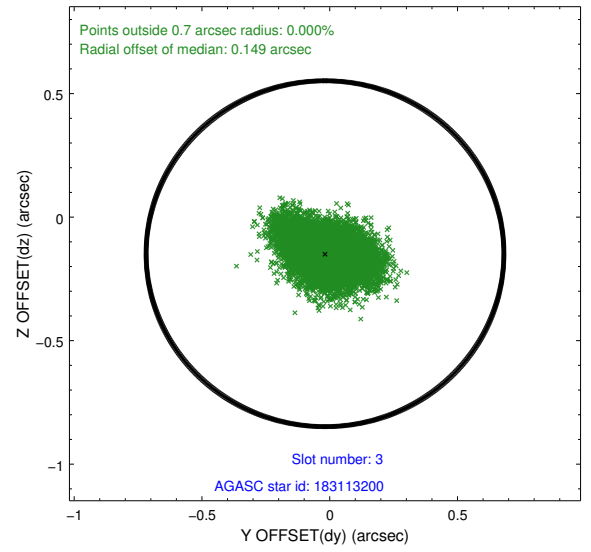
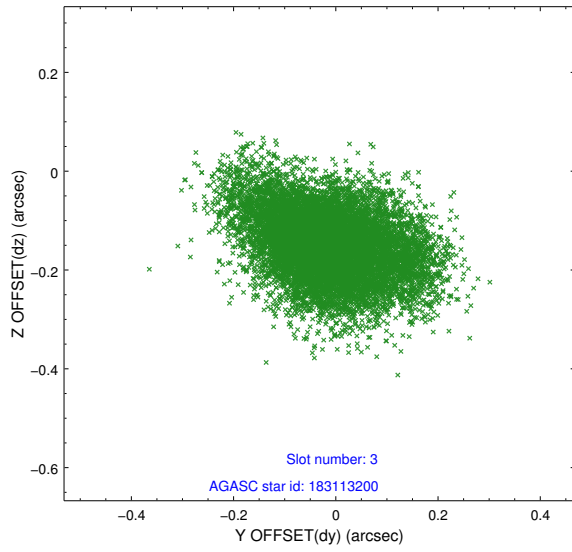
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.98	4917	-0.104	-0.059	0.016	0.028	0.000000	0.000000	-775.84	-1740.14
1	FID		ACIS-S-4	7.06	4917	0.277	0.067	0.016	0.027	0.000000	0.000000	2137.75	168.26
2	FID		ACIS-S-5	7.09	4917	-0.205	0.001	0.016	0.025	0.000000	0.000000	-1828.53	162.10
3	GUIDE	used	183113200	9.22	9817	-0.019	-0.148	0.117	0.201	135.070649	18.931179	-2262.14	770.20
4	GUIDE	used	183116488	8.66	9830	-0.053	-0.122	0.118	0.176	134.794699	18.060218	1011.03	834.05
5	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
6	GUIDE	used	183122920	7.06	9833	-0.019	0.098	0.118	0.188	134.576208	18.308277	389.08	-150.32
7	GUIDE	used	183116576	9.58	9771	0.084	0.175	0.144	0.234	134.562725	19.098962	-2308.72	-1060.24

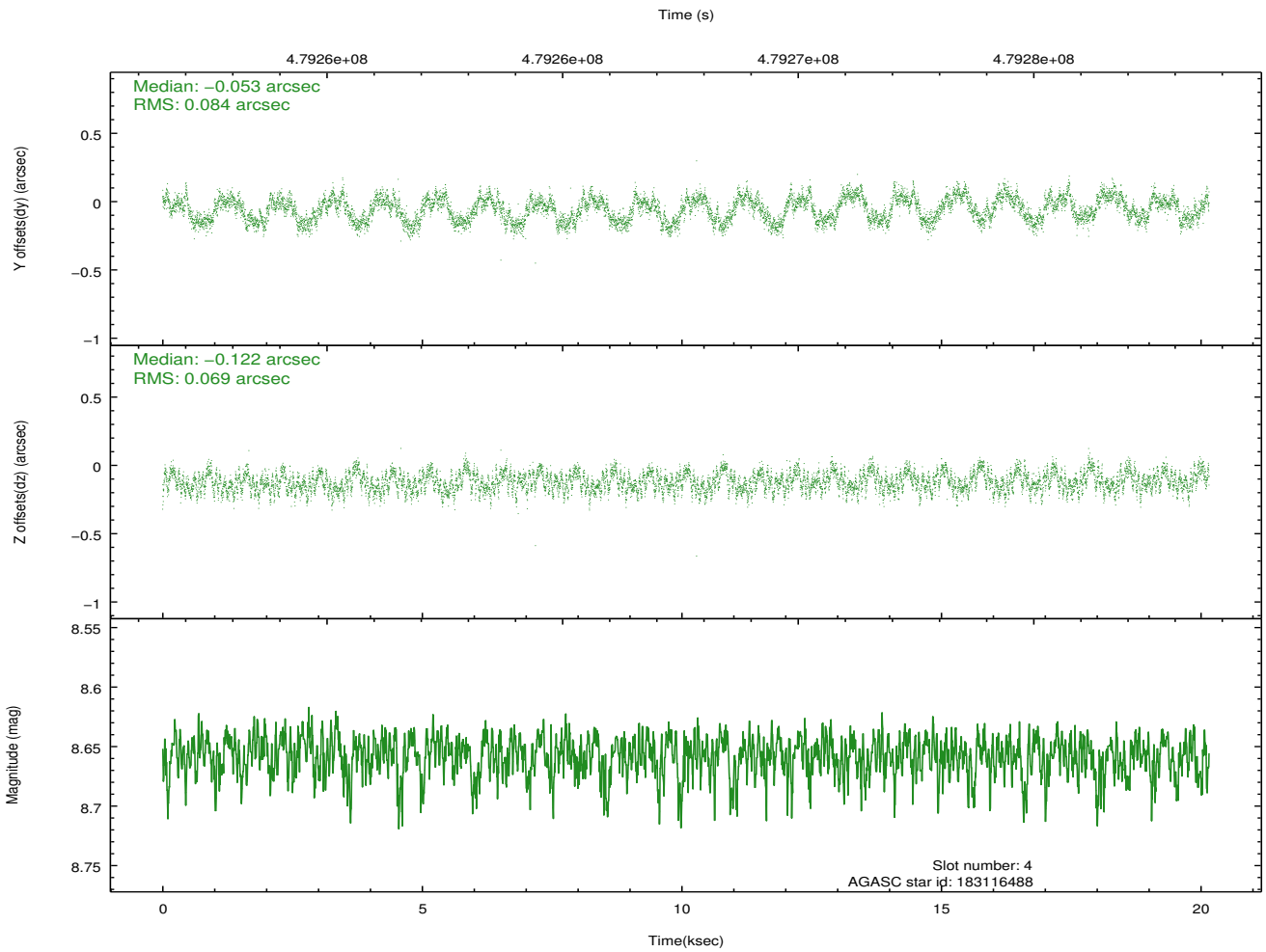
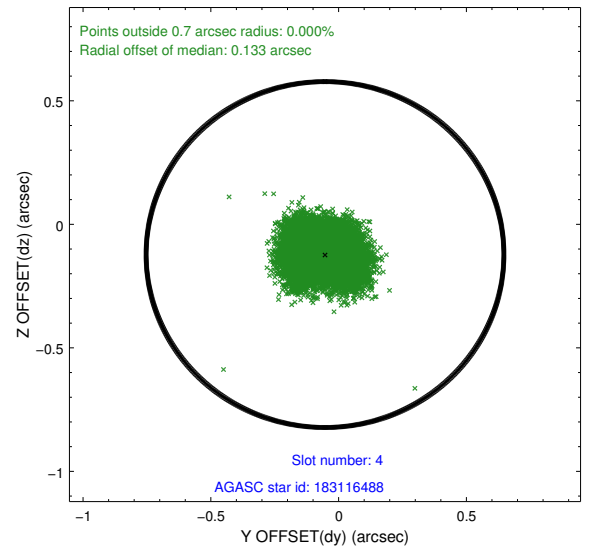
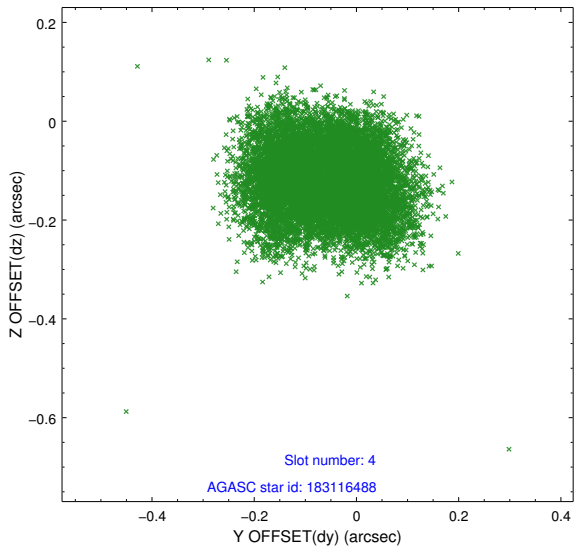
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## 2.4 Star Slots

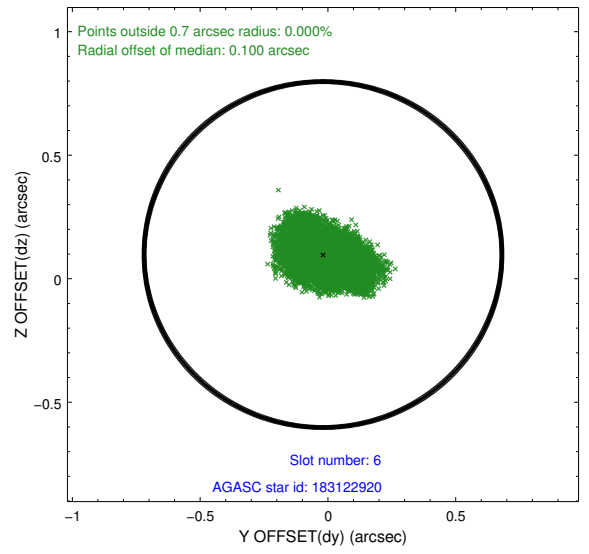
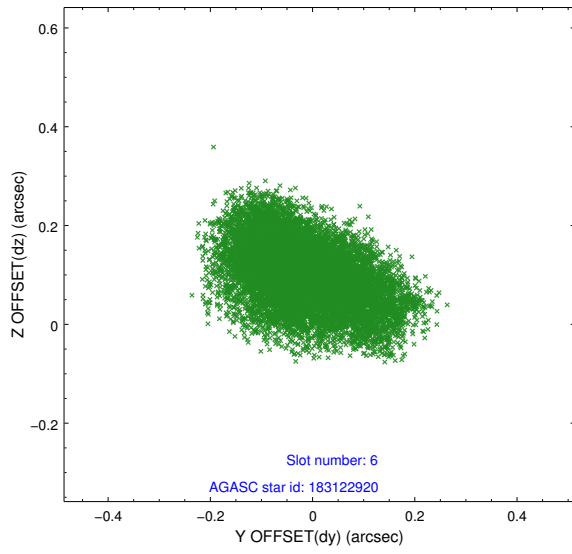
### 2.4.1 Slot 3



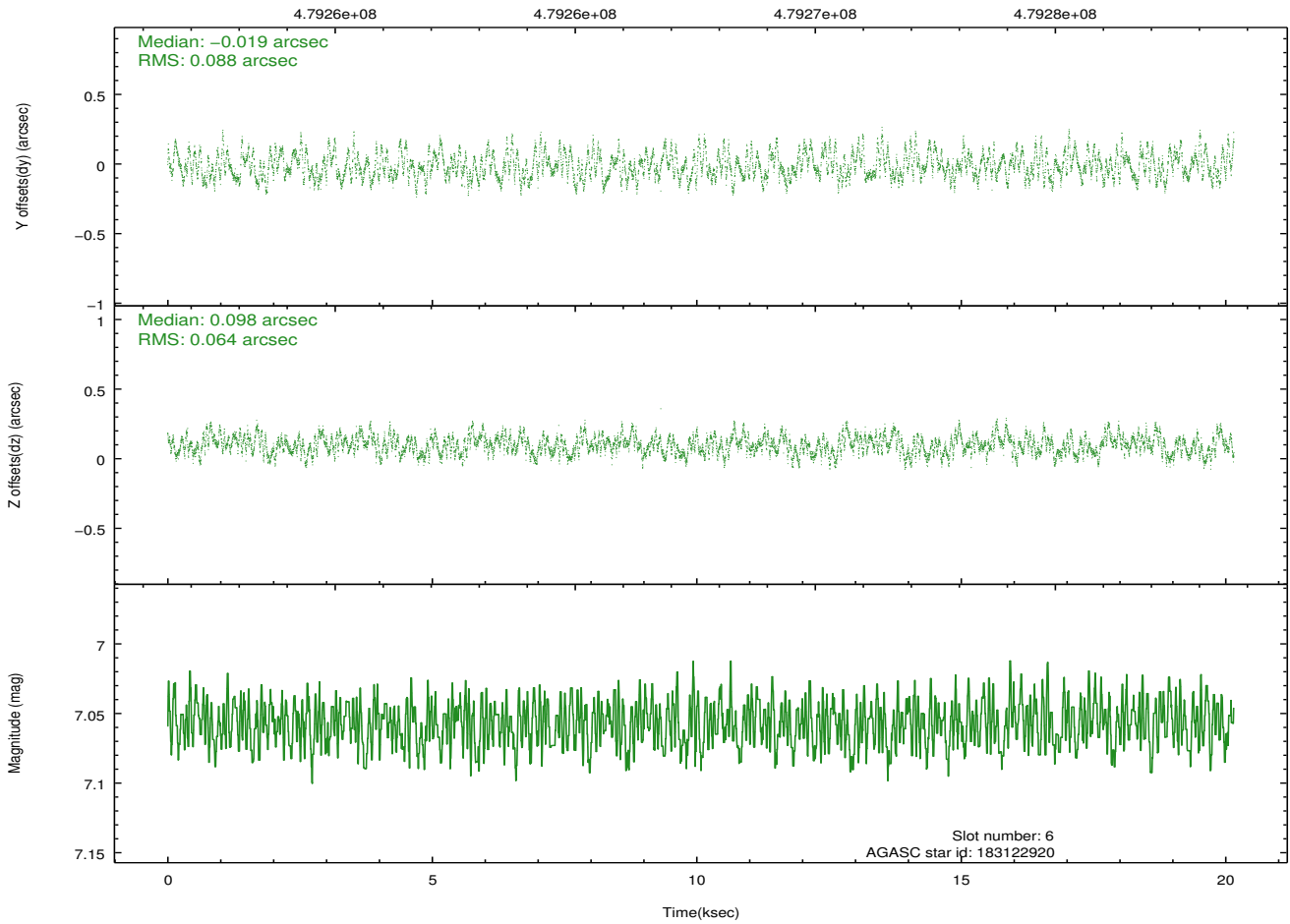
## 2.4.2 Slot 4



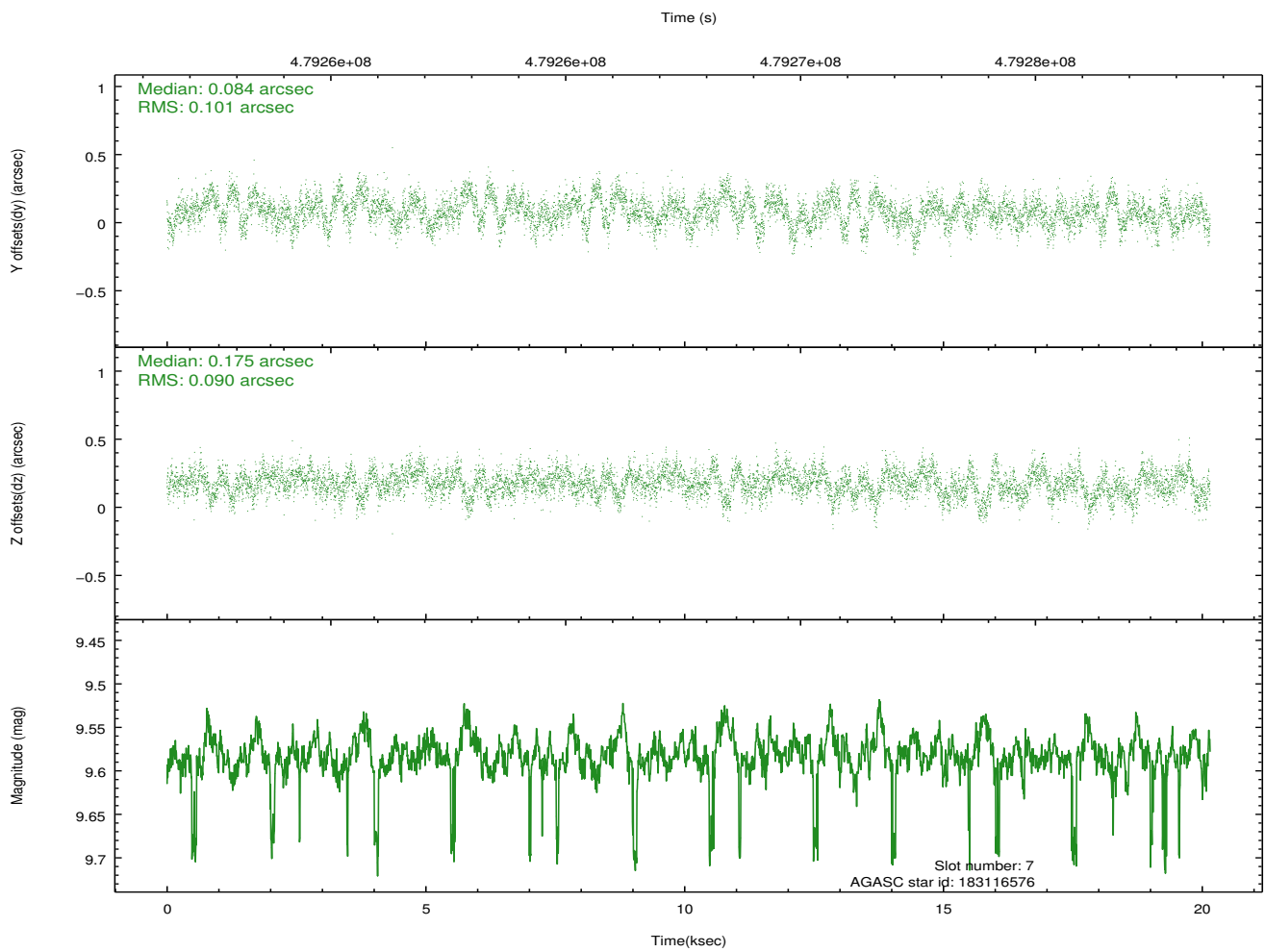
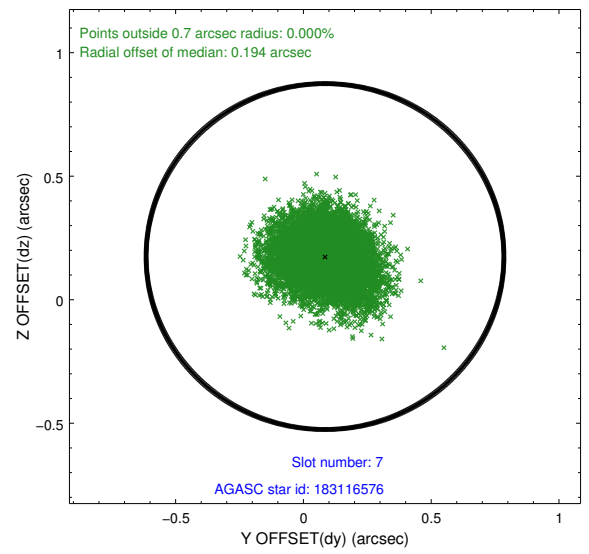
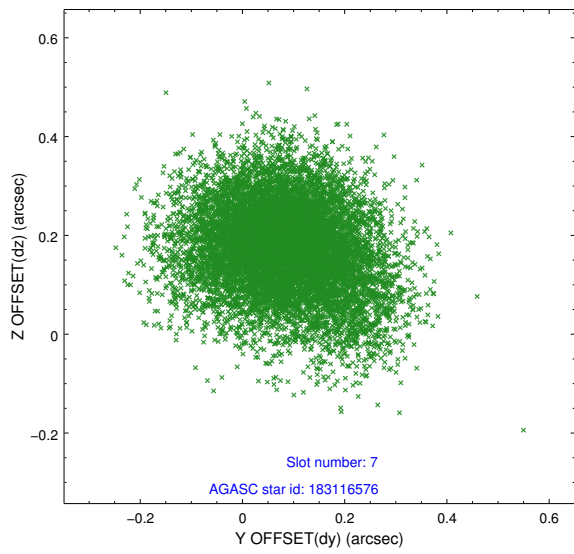
### 2.4.3 Slot 6



Time (s)

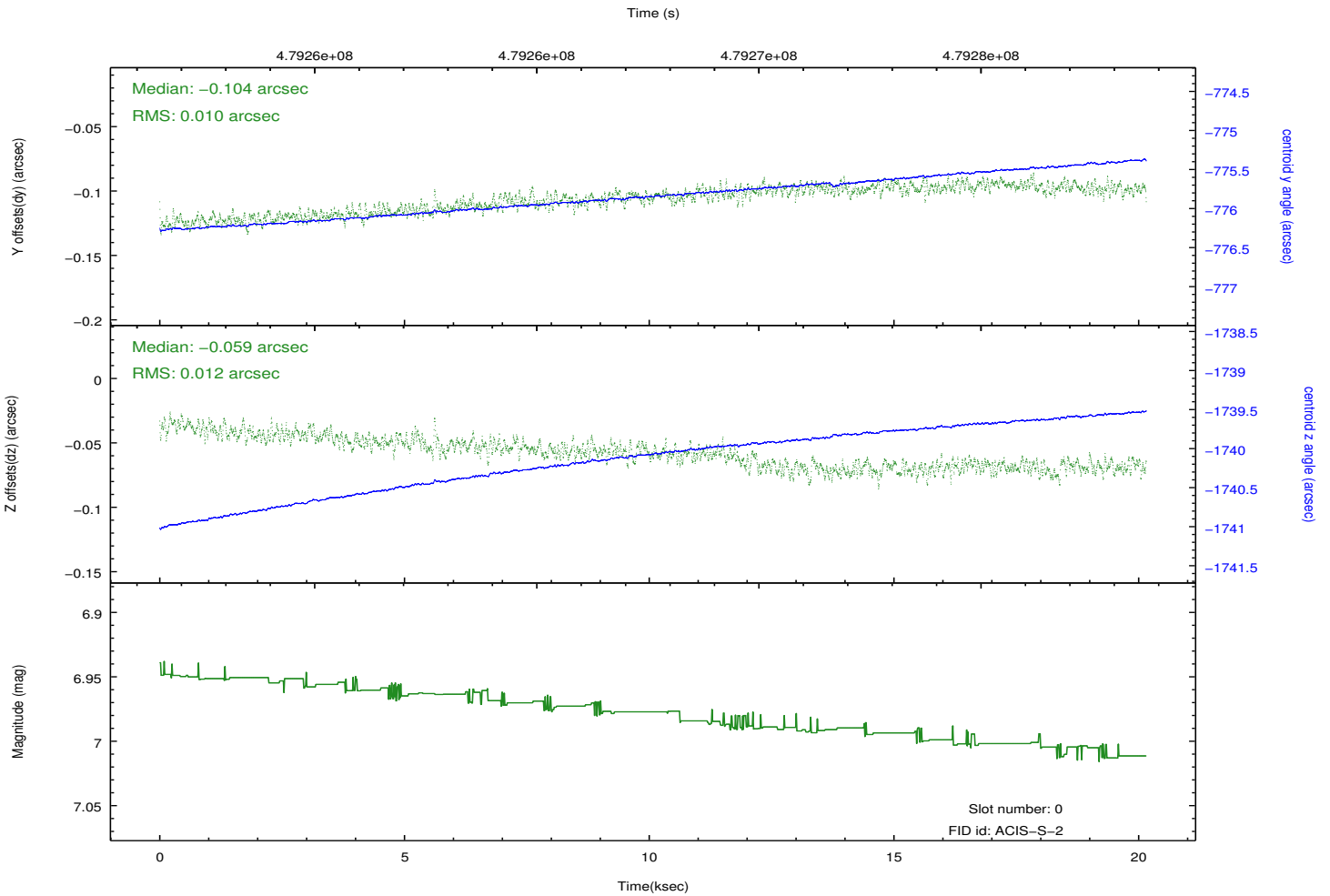
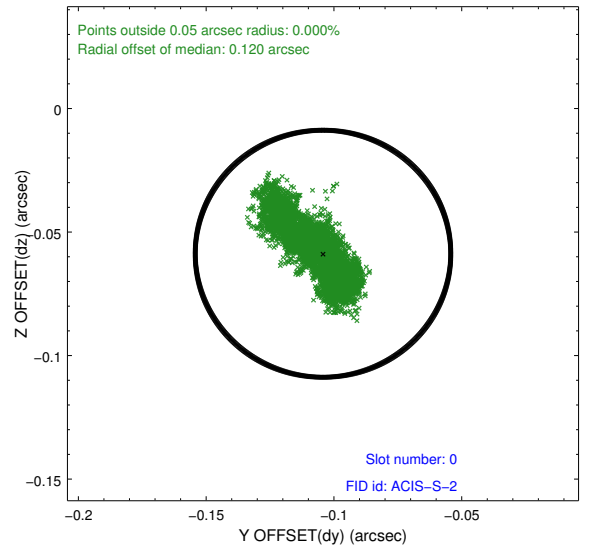
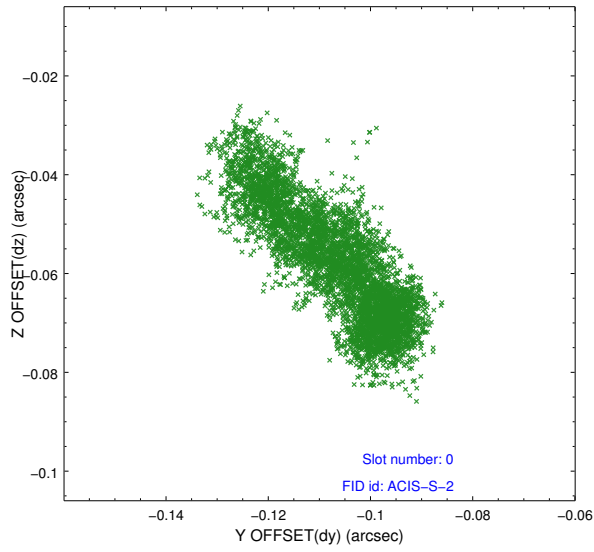


## 2.4.4 Slot 7

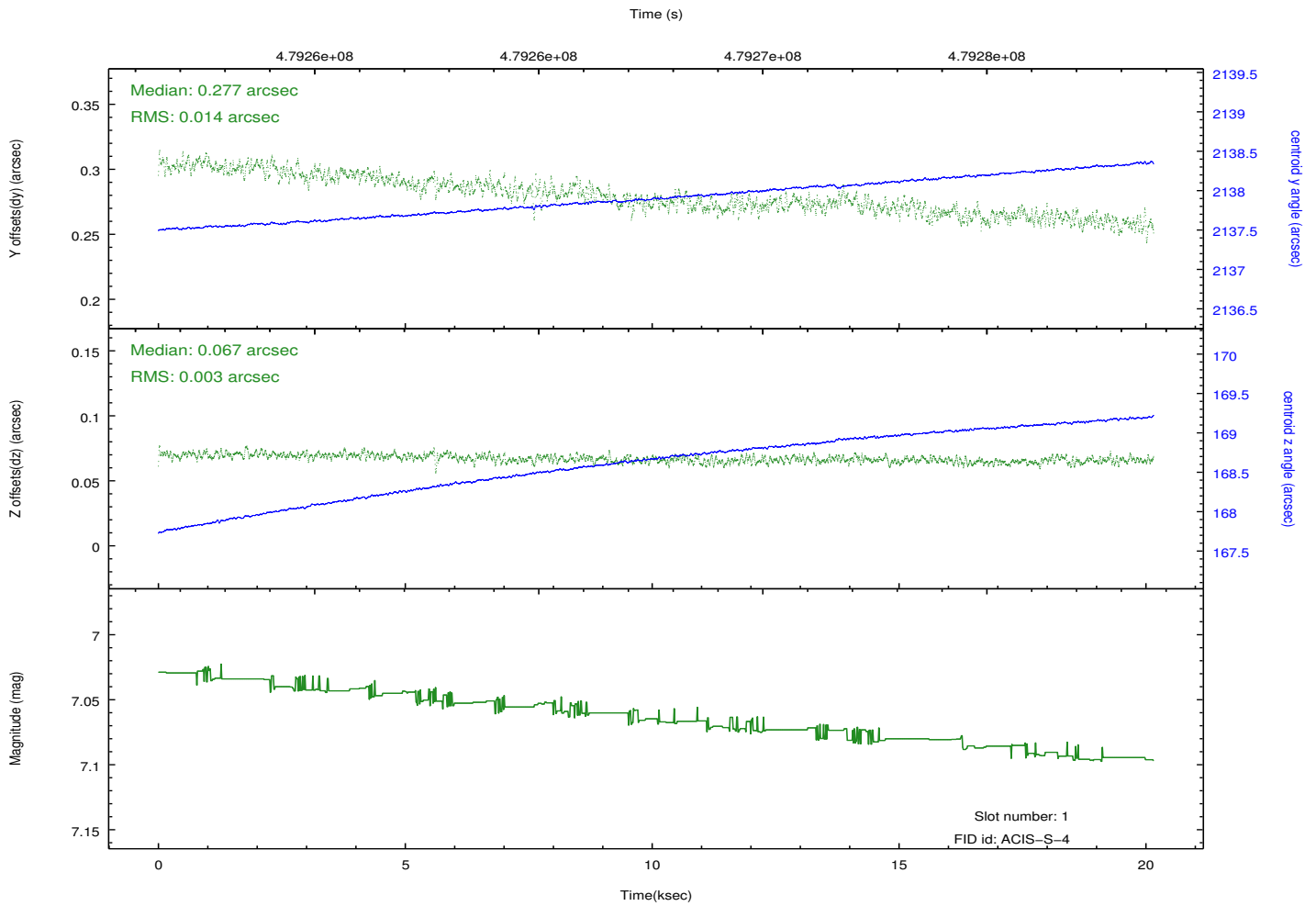
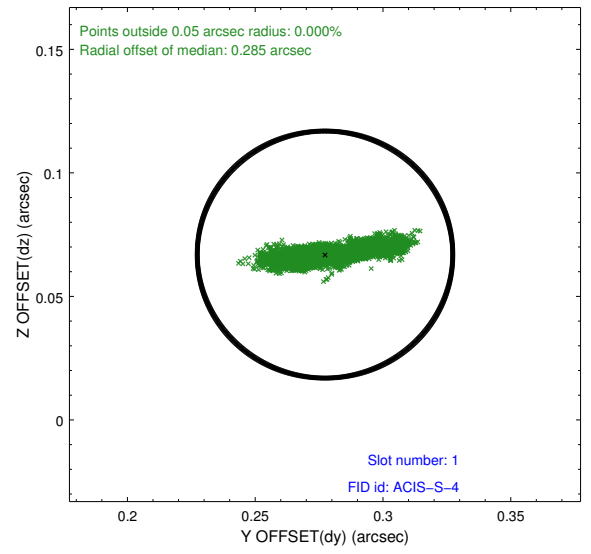
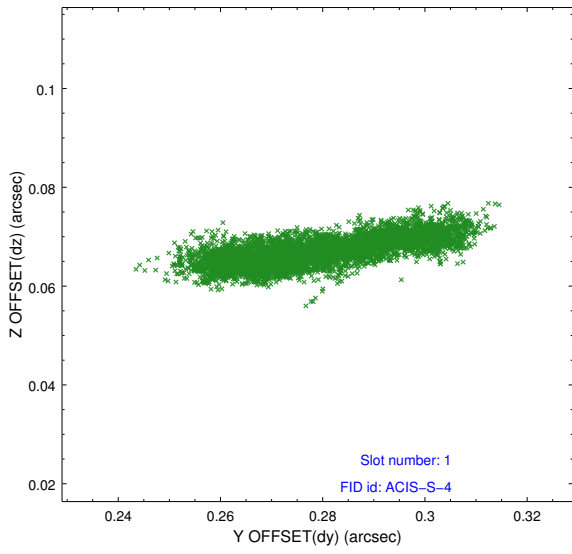


## 2.5 FID Slots

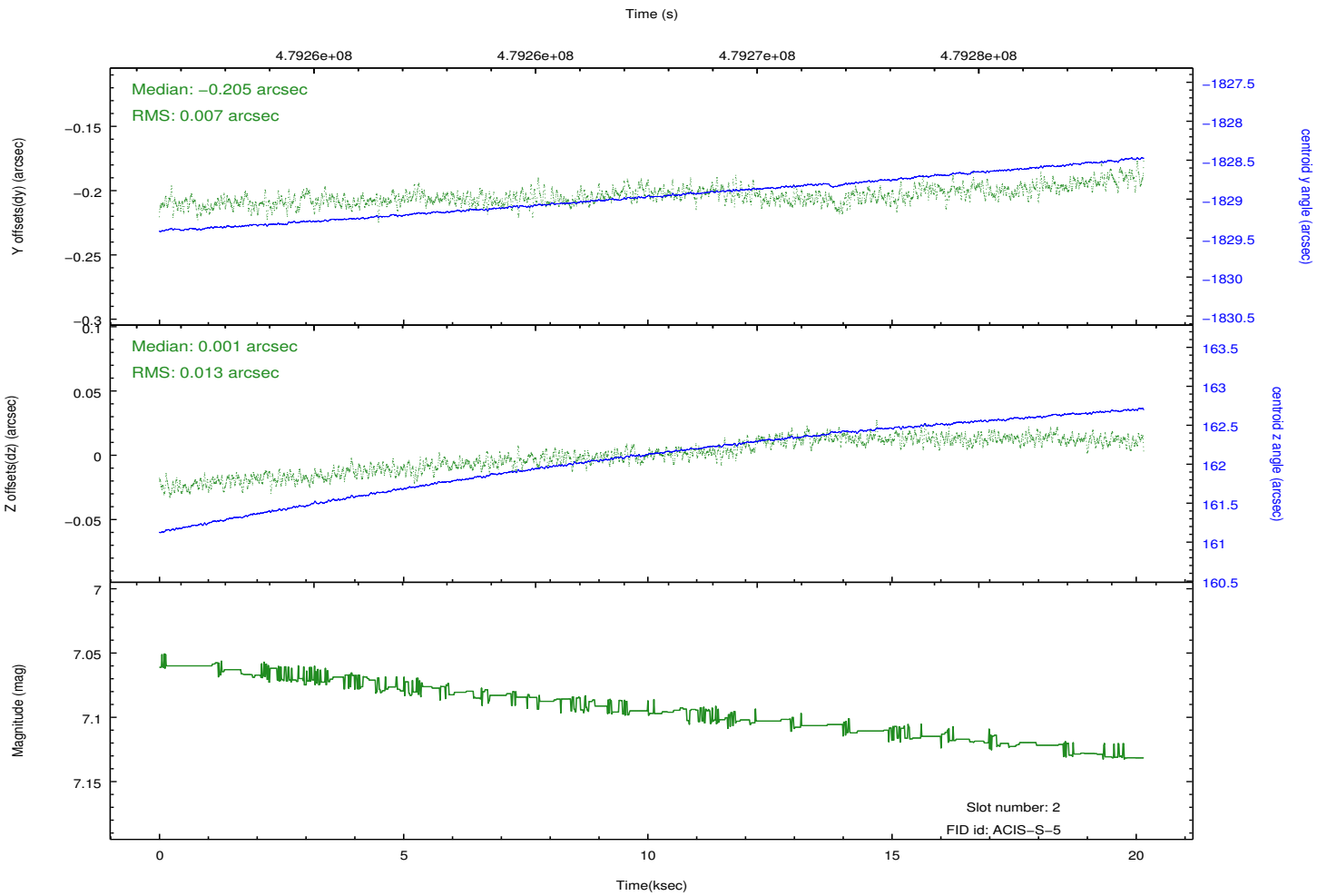
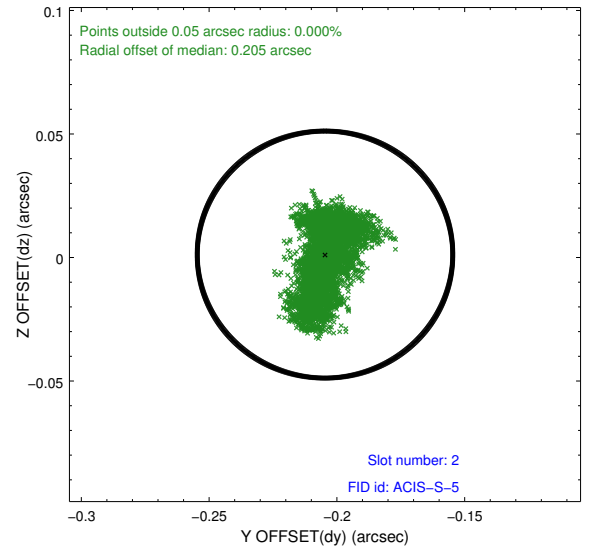
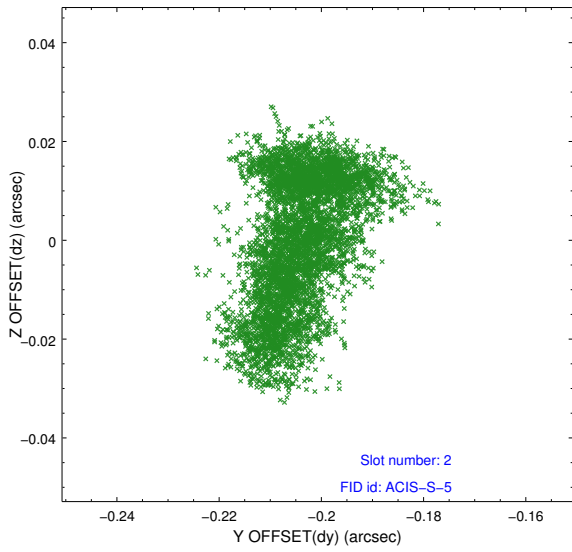
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2014.12.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.066300154328

## A.2 Comments

Joint proposal with HST and NRAO.

The guide star in slot 5 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.

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.