

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 13927 - L2 Version 2  
Chandra X-Ray Center

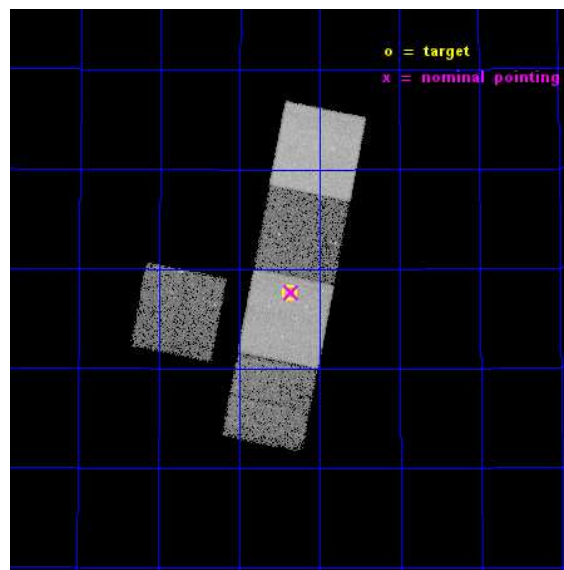
L2 Processing Date : Nov 30 2014

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# 1 Front

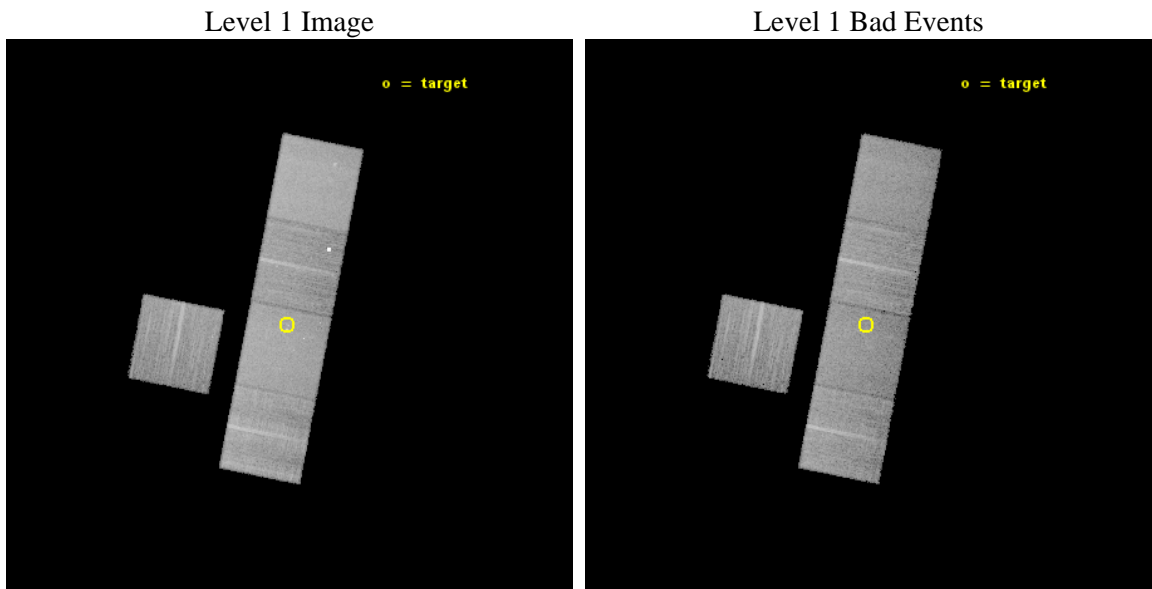
seq_num	702651	Sequence number
obs_id	13927	Observation id
title	Probing the Early Evolution of Galaxies and Massive Black Holes With Nearby Star-Forming Dwarfs	Proposal title
observer	Dr. Amy Reines	Principal investigator
object	Haro 3	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	161.343333	Observer's specified target RA [deg]
dec_targ	55.960278	Observer's specified target Dec [deg]
ra_nom	161.3382324348	Nominal RA [deg]
dec_nom	55.961383093485	Nominal Dec [deg]
roll_nom	101.23072663854	Nominal Roll [deg]
revision	2	Processing version of data
ontime	18066.389442325	Sum of GTIs [s]
livetime	17830.338763978	Livetime [s]
ontime3	18066.266322315	Sum of GTIs [s]
ontime5	18066.348402321	Sum of GTIs [s]
ontime6	18063.16634196	Sum of GTIs [s]
ontime7	18066.389442325	Sum of GTIs [s]
ontime8	18066.225282311	Sum of GTIs [s]
l2events	161456	Number of level 2 events



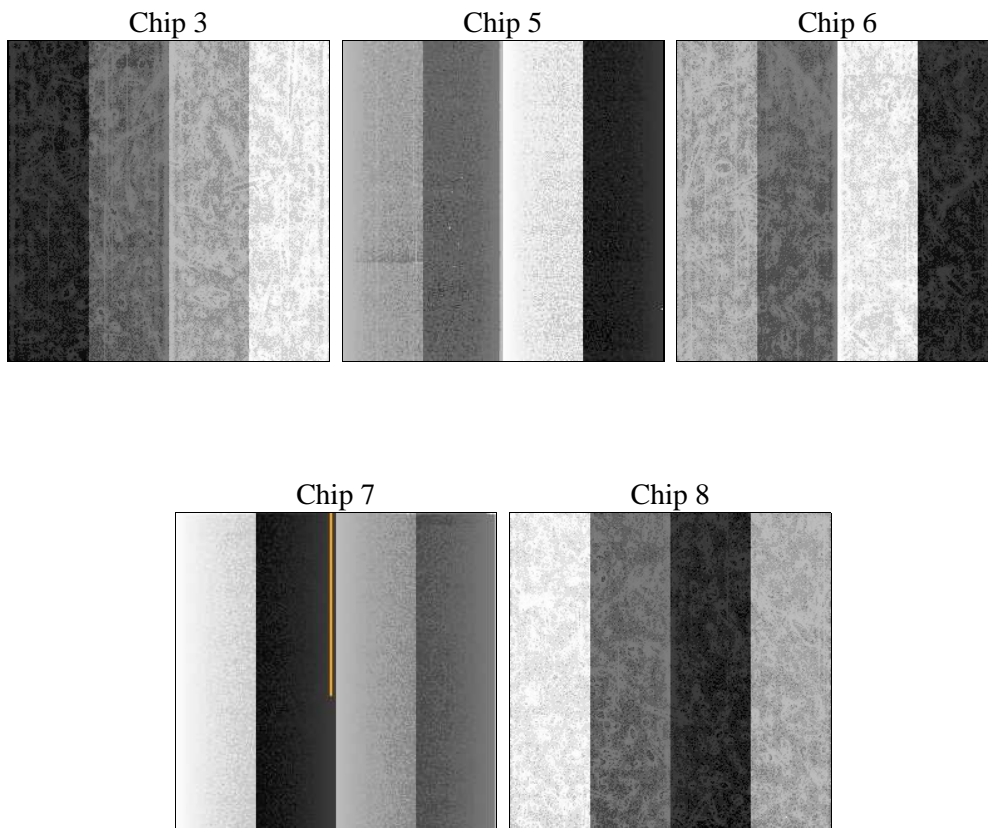
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	18000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	18066.389442325	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime3	18066.266322315	Sum of GTIs [s]
date	2014-11-30T19:48:58	Date and time of file creation	ontime5	18066.348402321	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	18063.16634196	Sum of GTIs [s]
			ontime7	18066.389442325	Sum of GTIs [s]
			ontime8	18066.225282311	Sum of GTIs [s]
			l1events	613445	Number of level 1 events

### 2.1.4 Events

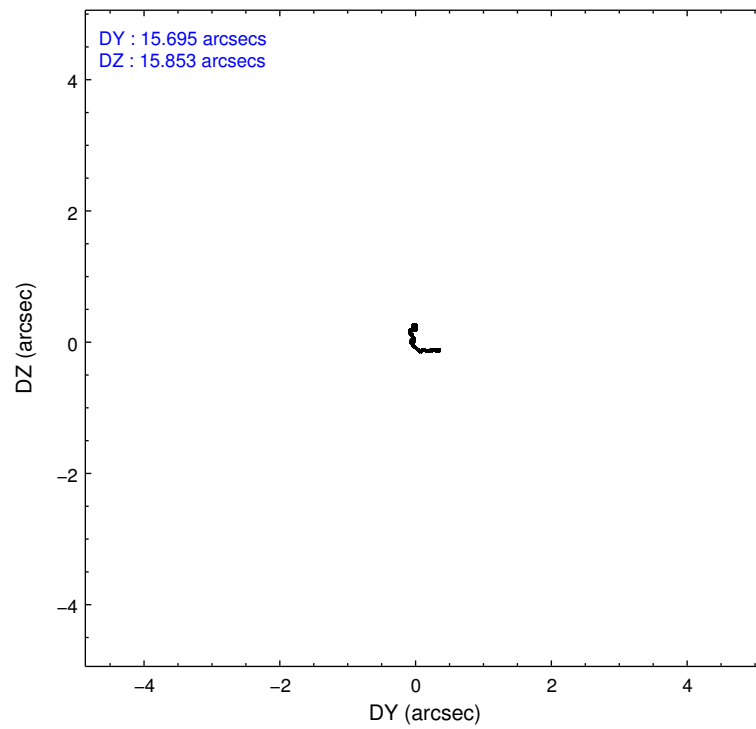
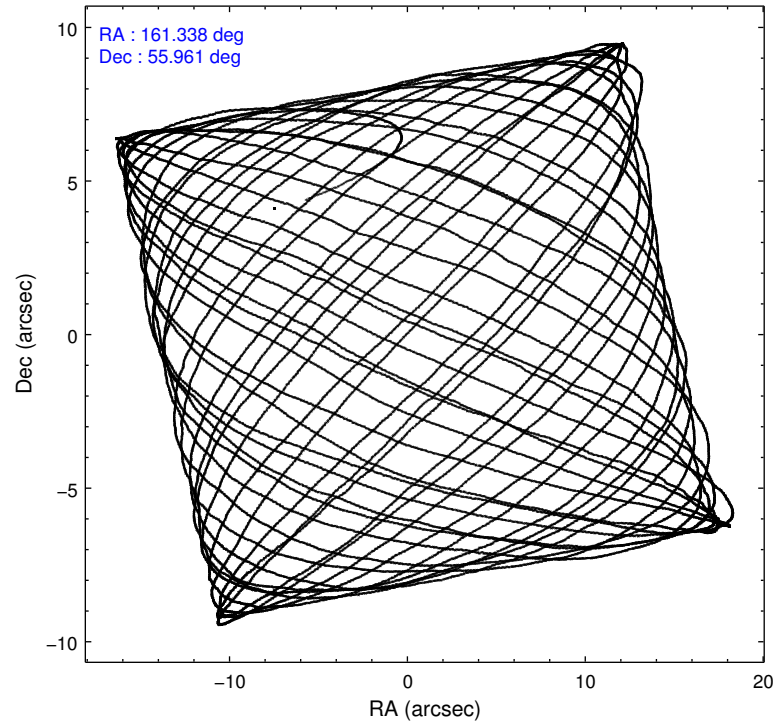
	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	93019	156310	106713	131837	125566
rejected events	82328	82042	89349	73593	91289
rejected %	88%	52%	83%	55%	72%

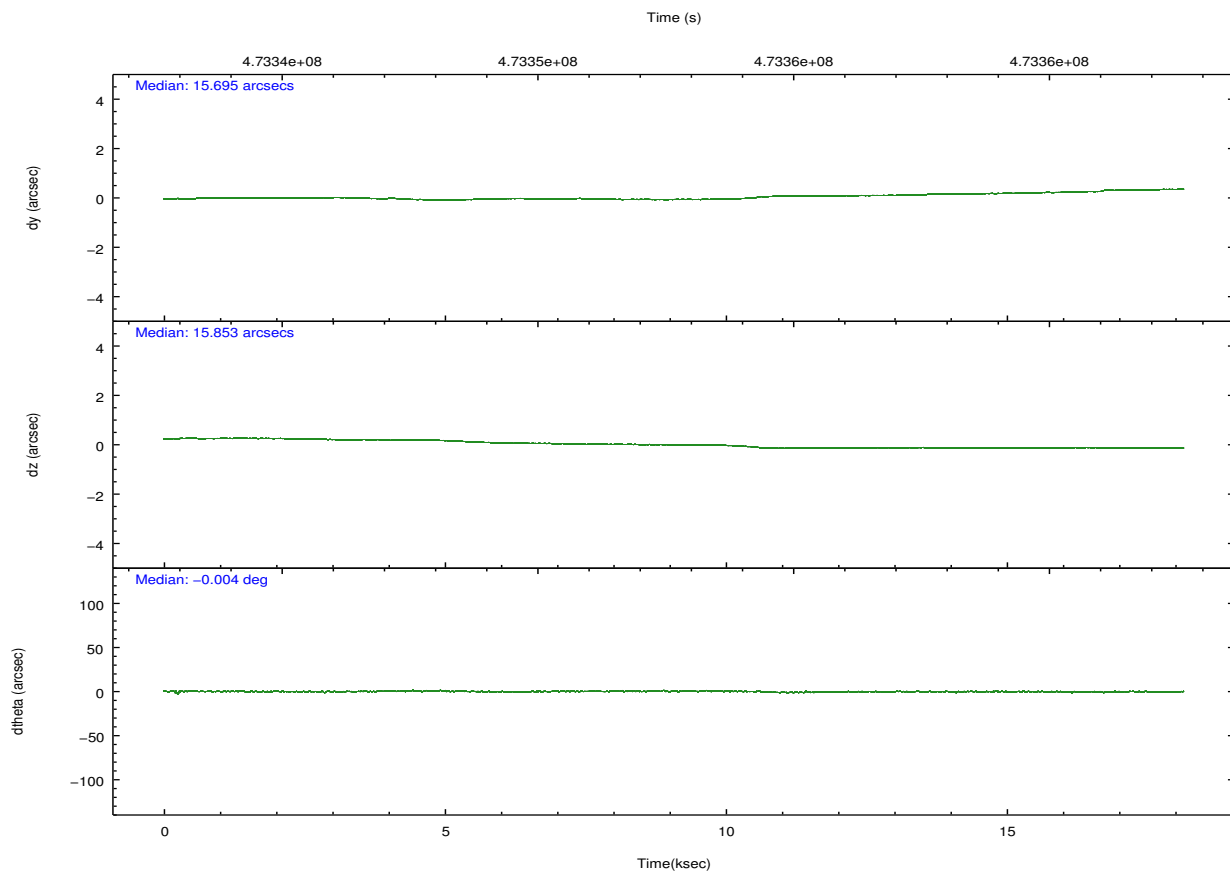
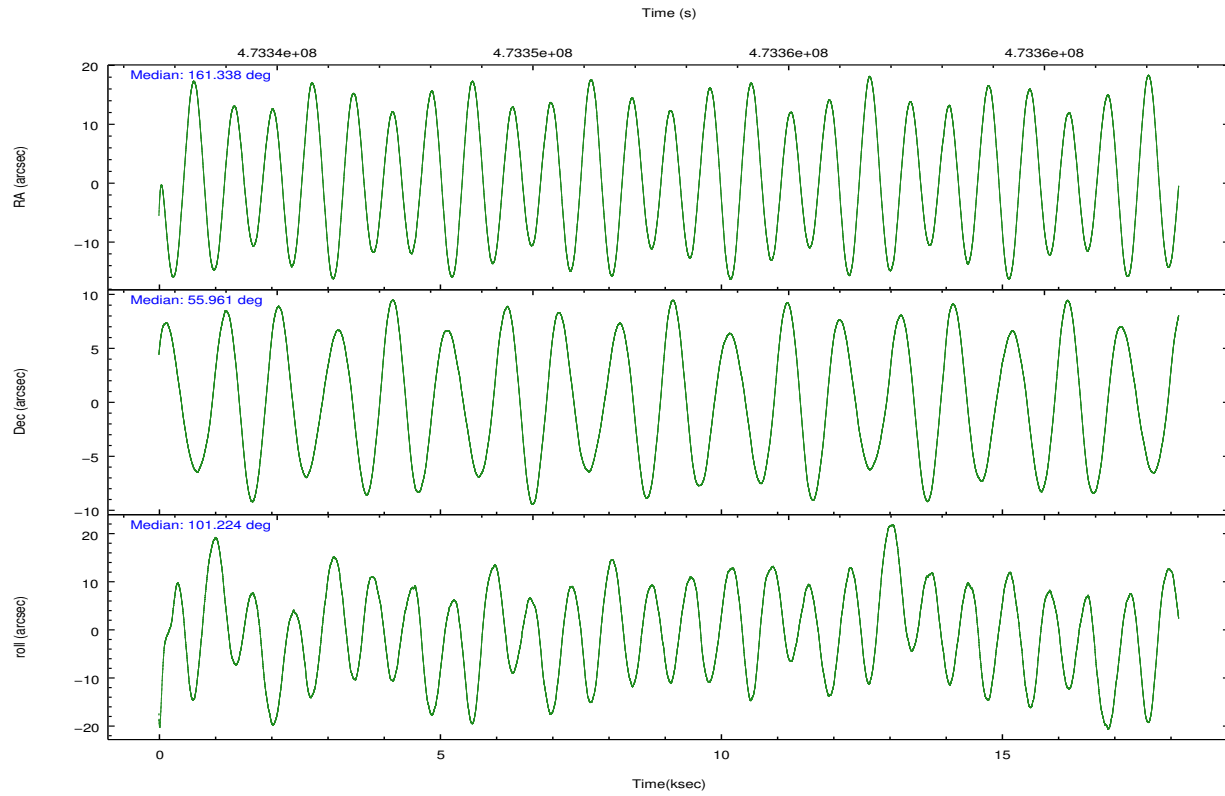
	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	3755	4599	9737	5327	9849
	4%	2%	9%	4%	7%
grade 1 events	61	269	80	160	98
	0%	0%	0%	0%	0%
grade 2 events	2453	23077	2673	11928	8012
	2%	14%	2%	9%	6%
grade 3 events	1084	2688	1156	5046	3823
	1%	1%	1%	3%	3%
grade 4 events	1194	2726	1206	5036	3496
	1%	1%	1%	3%	2%
grade 5 events	5026	11799	5159	13731	7077
	5%	7%	4%	10%	5%
grade 6 events	2205	41200	2596	30912	9099
	2%	26%	2%	23%	7%
grade 7 events	77241	69952	84106	59697	84112
	83%	44%	78%	45%	66%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-35678	ACIS-35678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	161.370971	161.3382324347964	CCD I2 on	N	N
[deg] Pointing Dec	55.941048	55.96138309348485	CCD I3 on	O1	Y
[deg] Pointing Roll	101.046994	101.2307266385422	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O4	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	O3	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	O2	Y
[s] Observation start time (MET)	473343720.184000	473342656.06387	CCD S5 on	N	N
Observation start date	2012-12-31T12:20:53	2012-12-31T12:04:16	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	473361720.184000	473362205.37742	On-chip summing requested	N	N
Observation end date	2012-12-31T17:20:53	2012-12-31T17:30:05	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





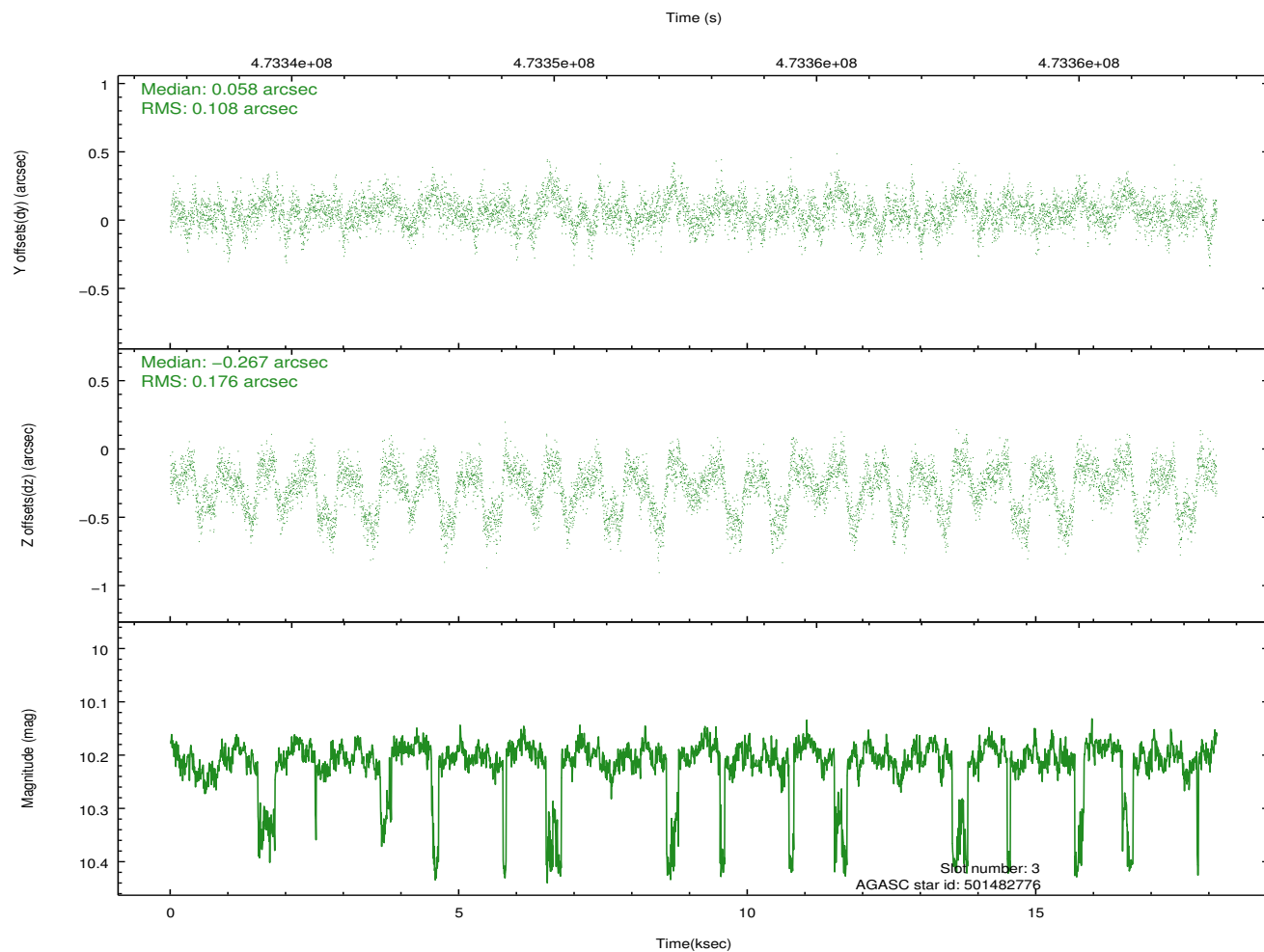
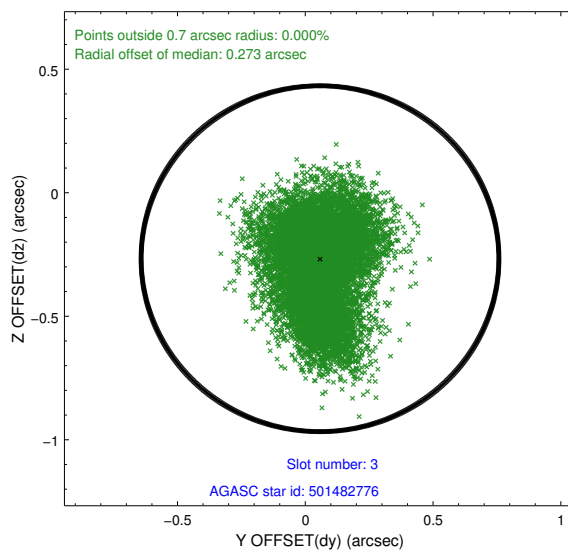
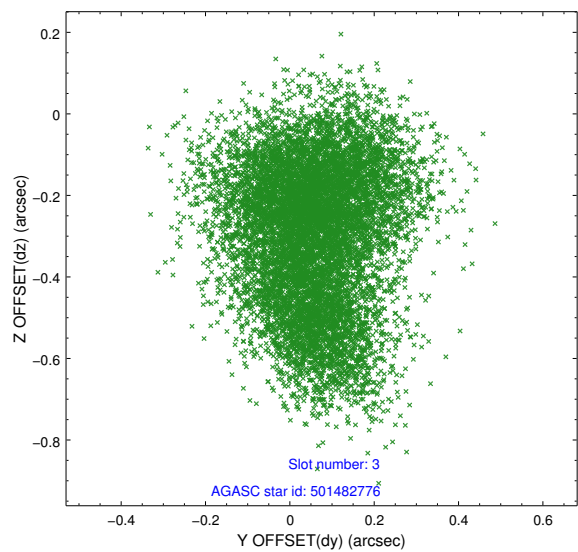
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.02	4426	-0.127	-0.022	0.007	0.012	0.000000	0.000000	-768.86	-1737.30
1	FID		ACIS-S-4	7.11	4426	0.254	0.067	0.006	0.010	0.000000	0.000000	2144.69	171.05
2	FID		ACIS-S-5	7.14	4426	-0.159	-0.037	0.007	0.012	0.000000	0.000000	-1821.46	164.86
3	GUIDE	used	501482776	10.21	8759	0.058	-0.267	0.221	0.359	160.643915	55.327759	-1873.87	1882.75
4	GUIDE	used	501483096	10.20	8786	0.054	0.368	0.285	0.416	162.689835	55.459686	-2191.15	-2314.38
5	GUIDE	used	501483824	9.58	8824	0.193	0.330	0.175	0.268	162.483506	56.044031	-46.61	-2269.75
6	GUIDE	used	501486960	9.93	8826	-0.123	-0.022	0.257	0.385	161.936854	56.436432	1539.41	-1447.91
7	GUIDE	used	501483800	9.68	8726	-0.199	-0.383	0.211	0.318	160.095520	56.140674	1218.65	2368.48

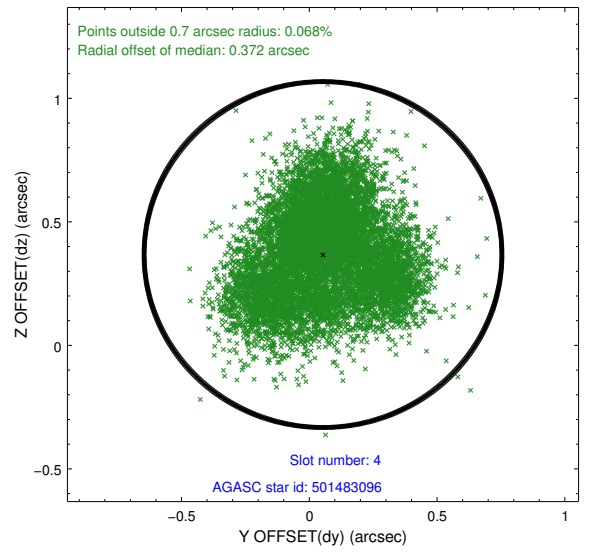
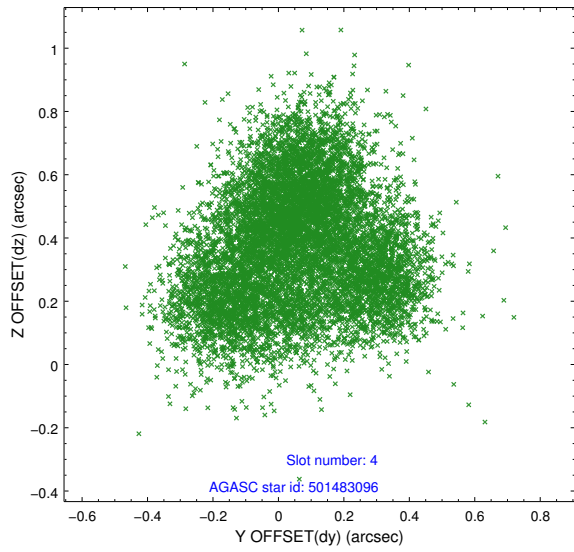
∞

## 2.4 Star Slots

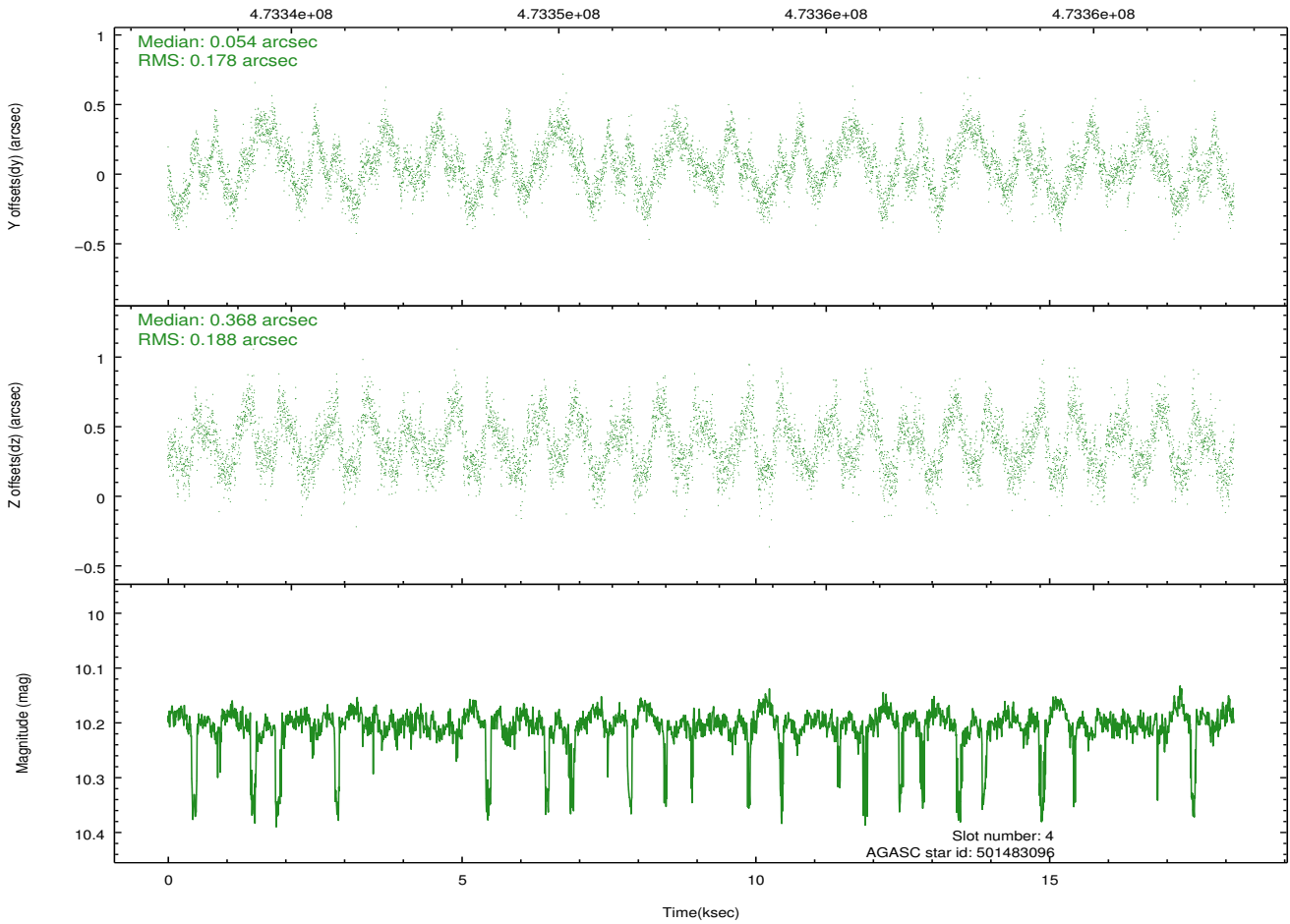
### 2.4.1 Slot 3



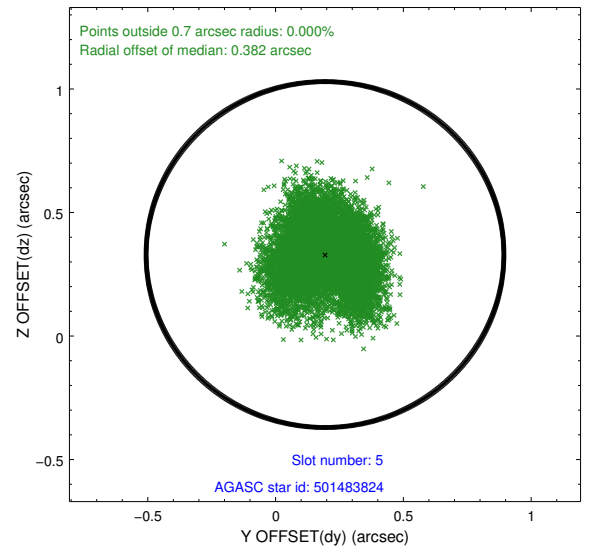
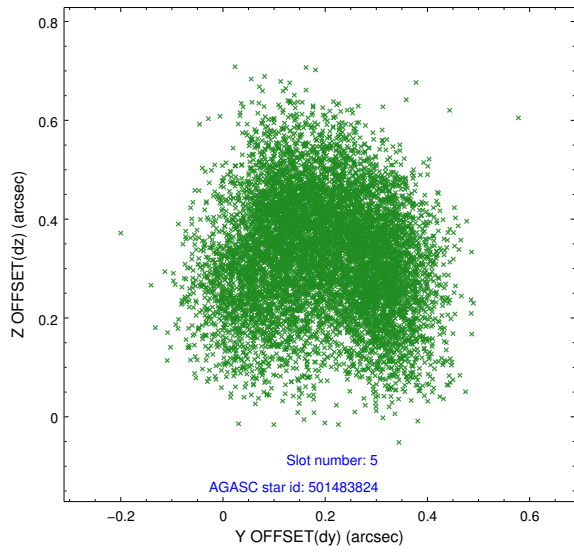
## 2.4.2 Slot 4



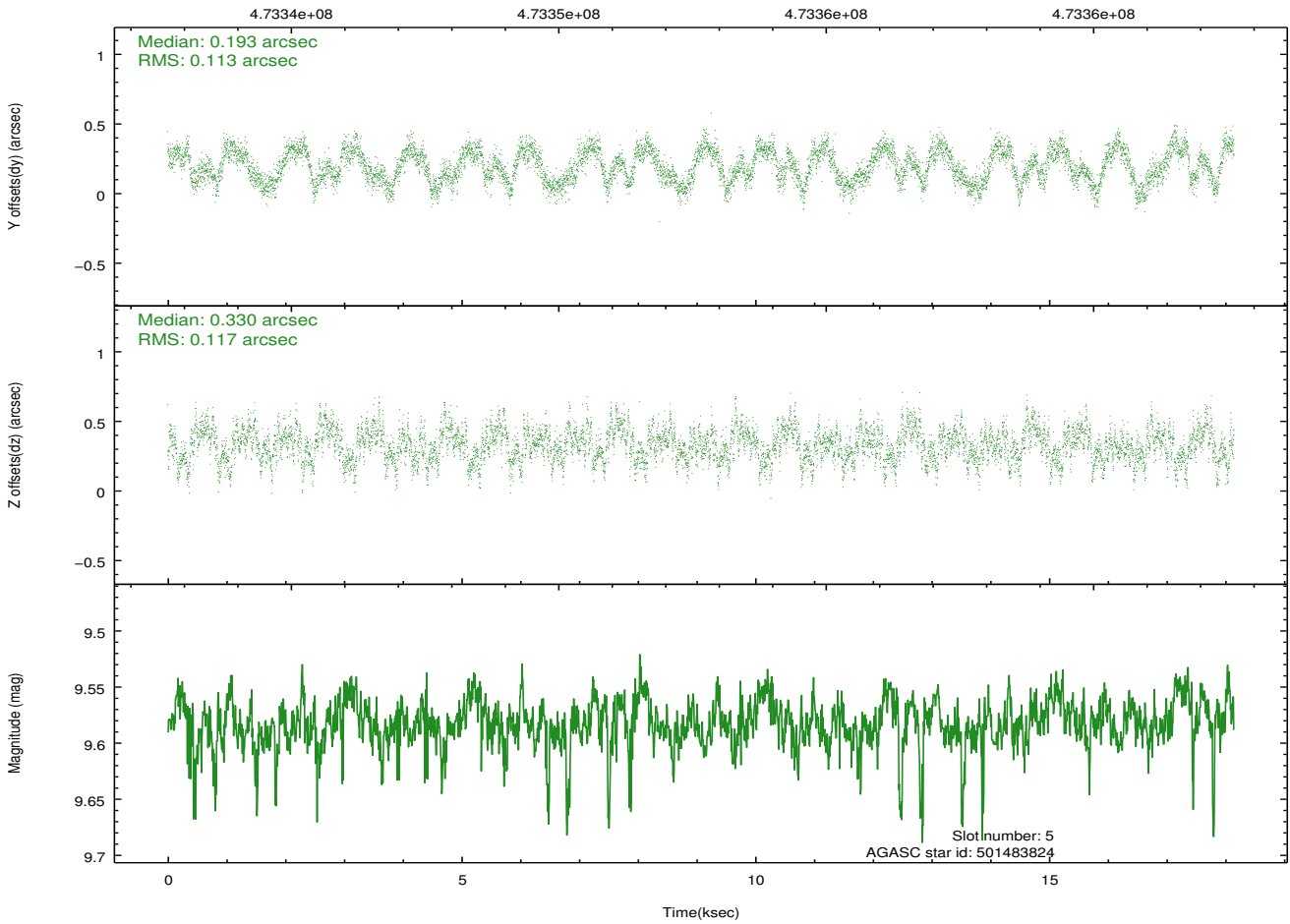
Time (s)



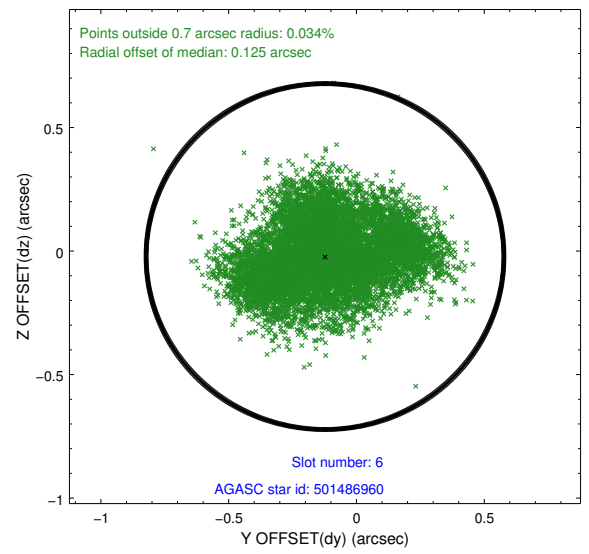
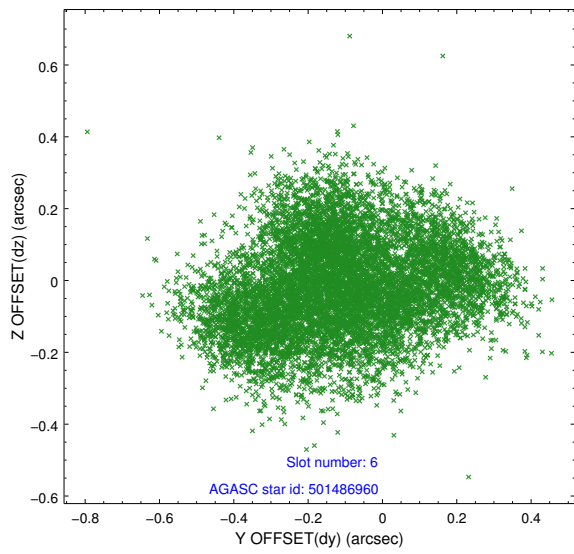
### 2.4.3 Slot 5



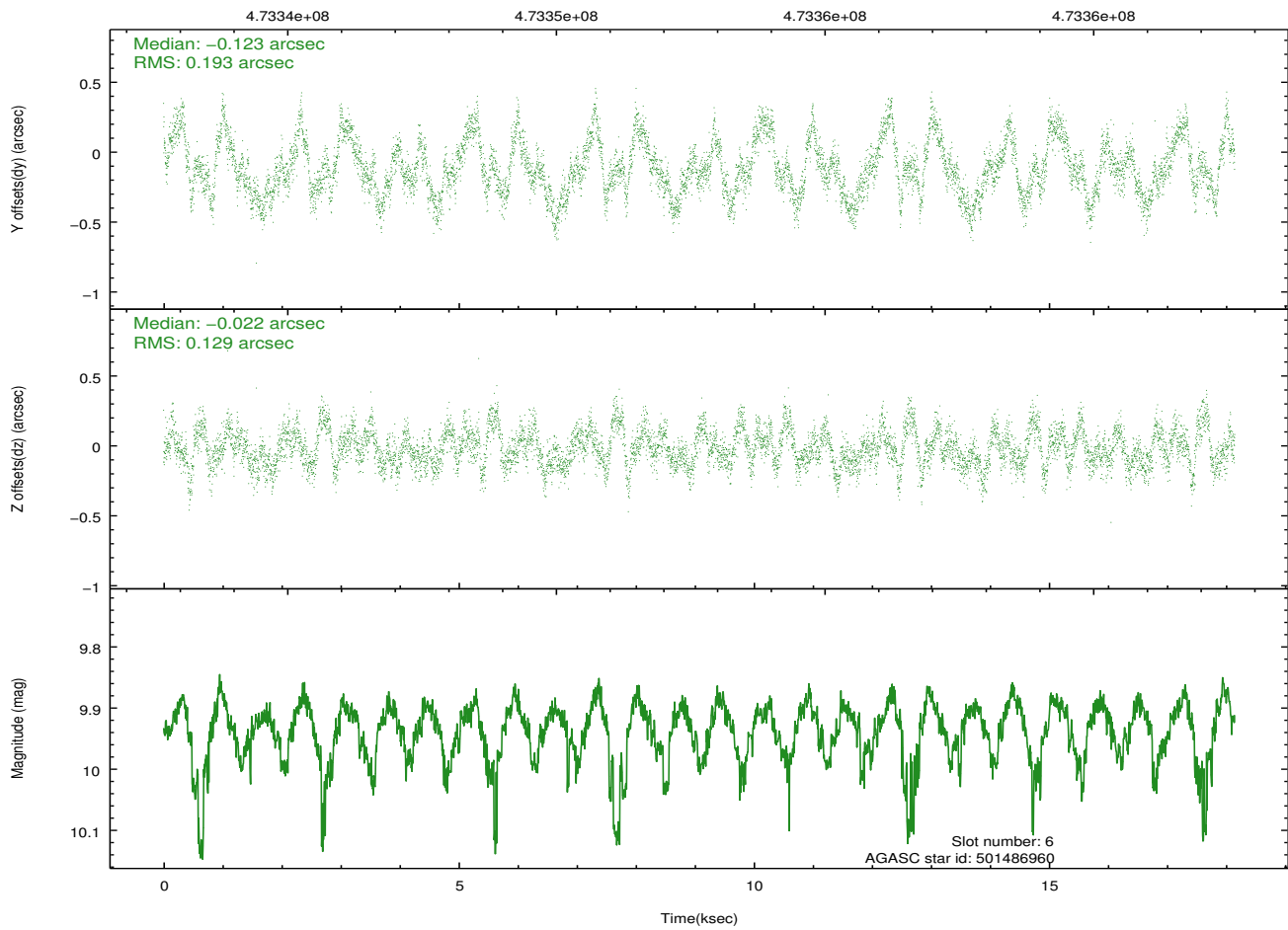
Time (s)



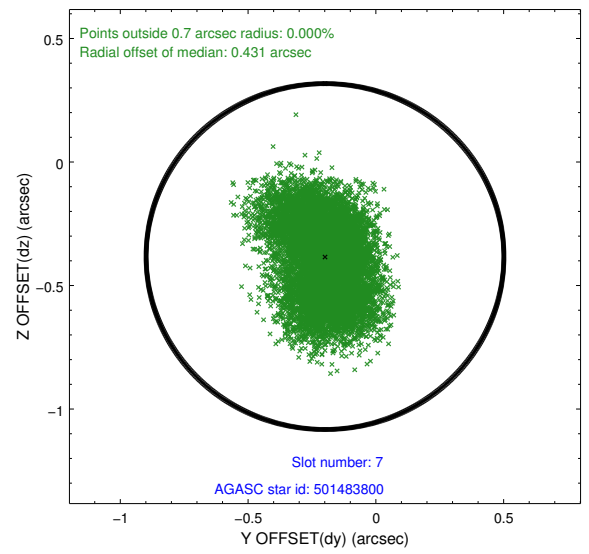
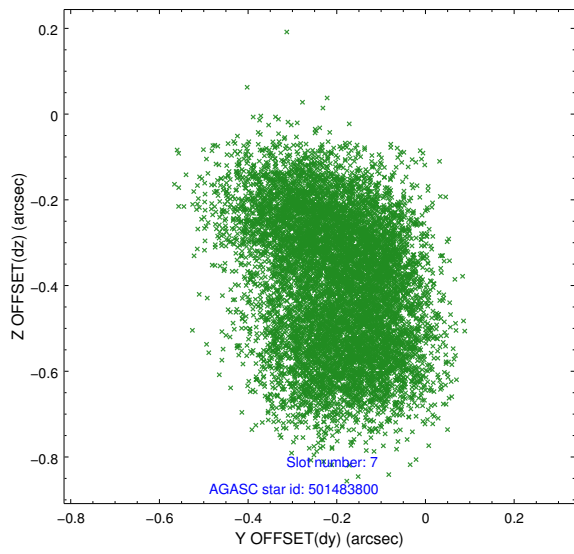
## 2.4.4 Slot 6



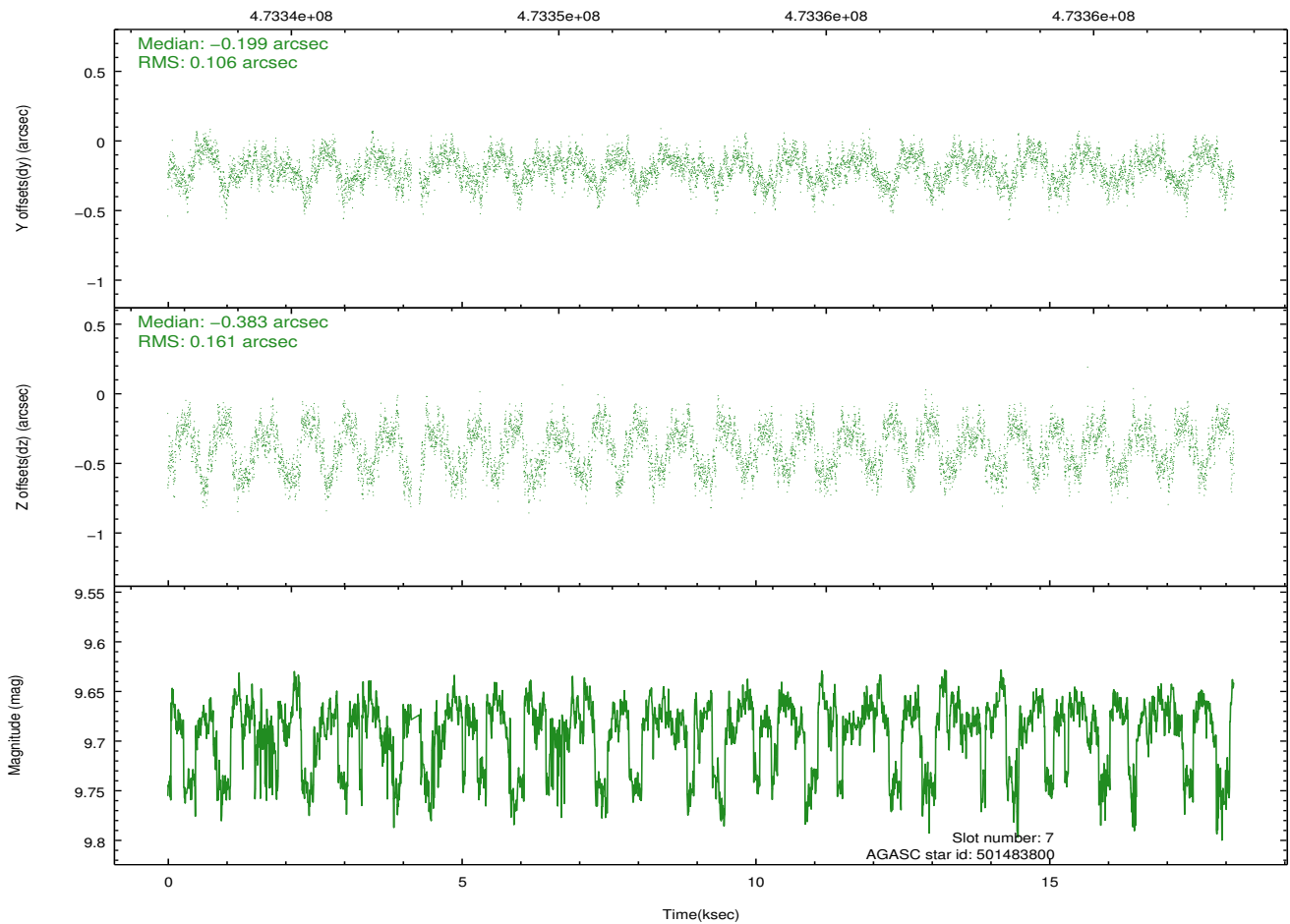
Time (s)



## 2.4.5 Slot 7

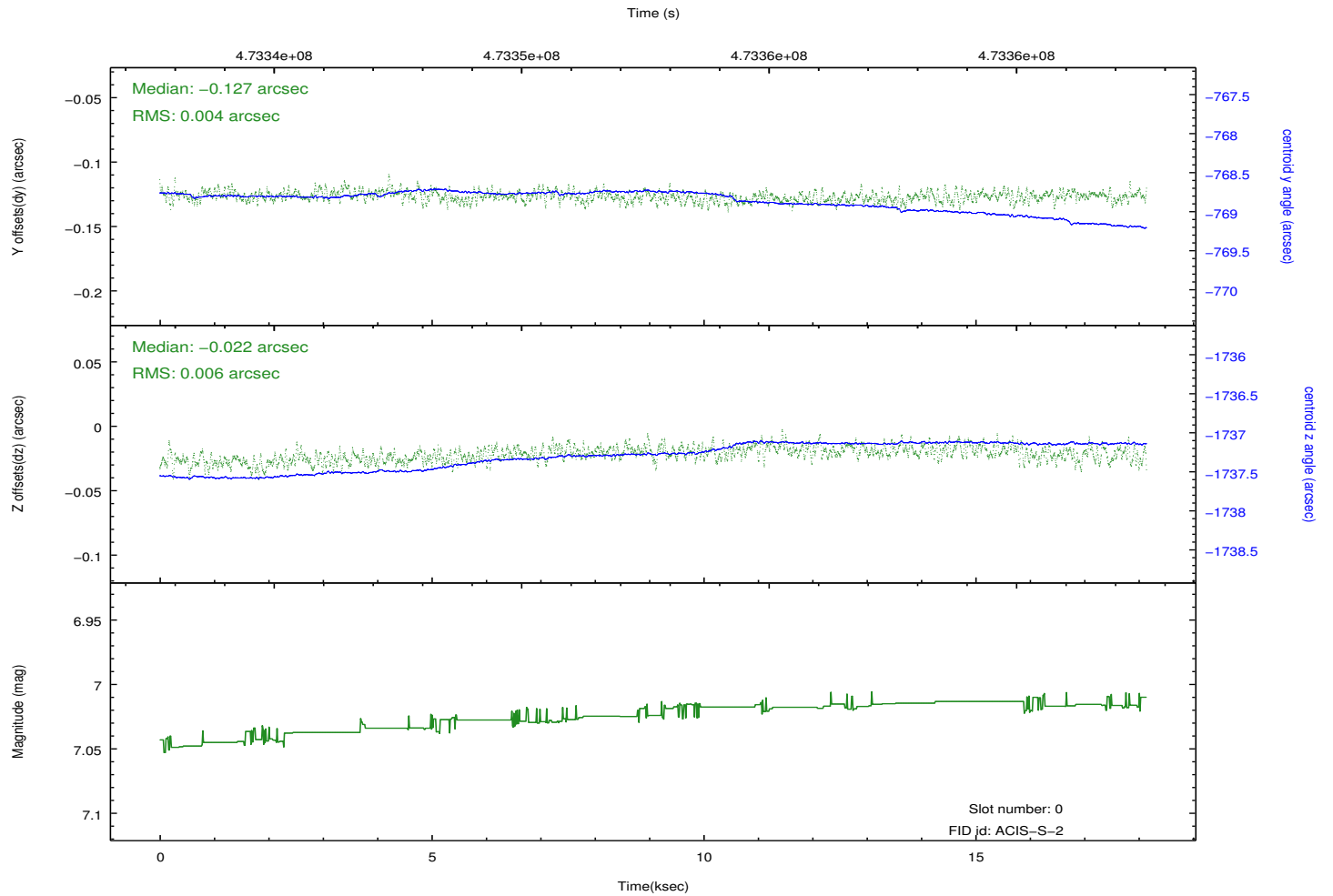
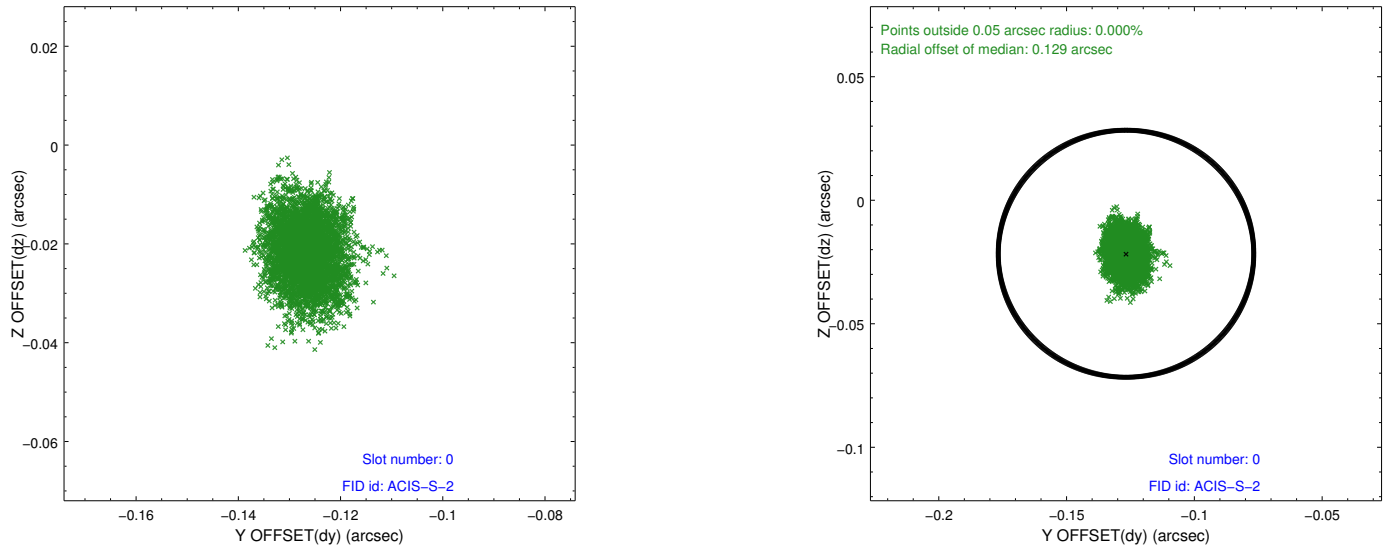


Time (s)

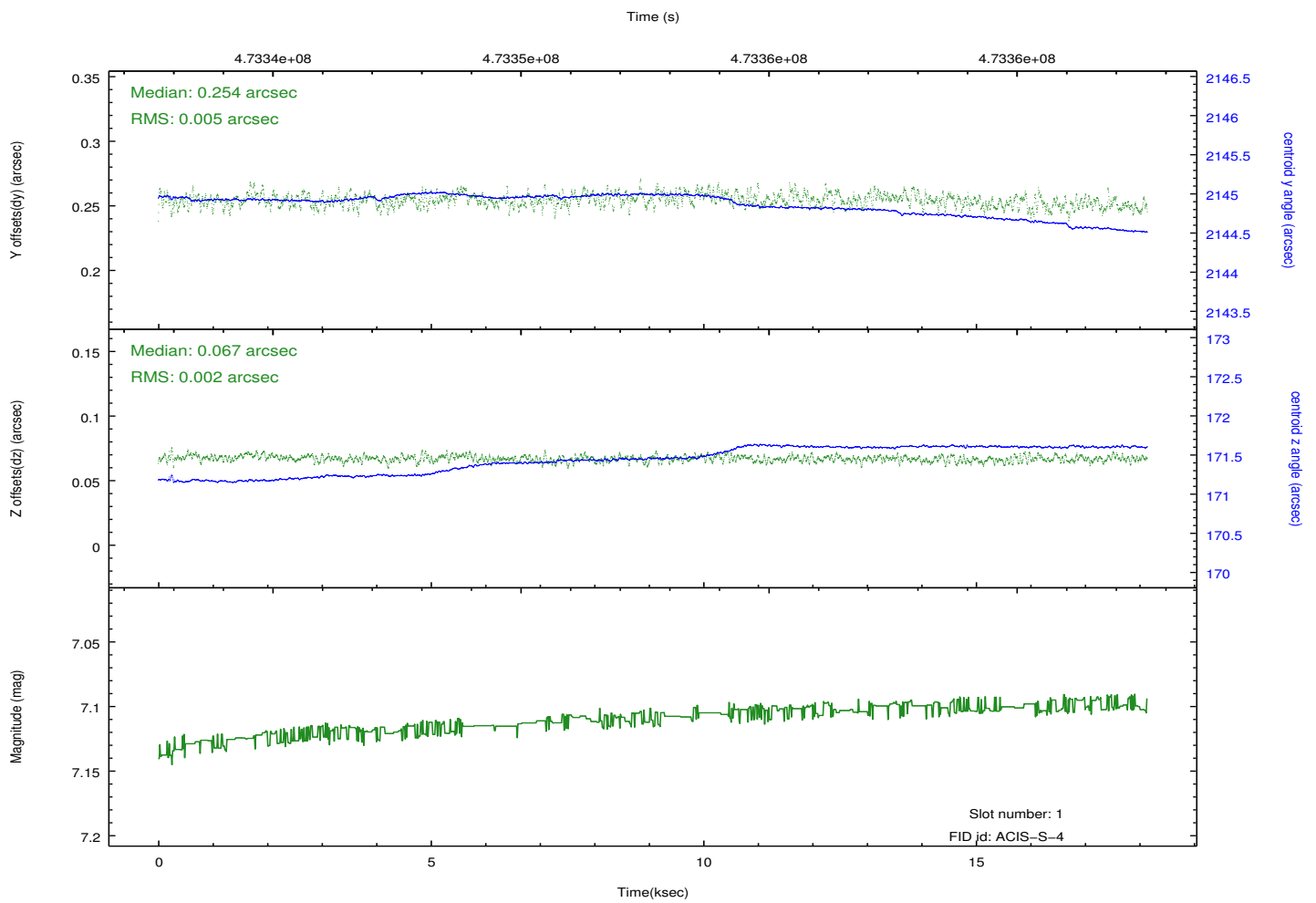
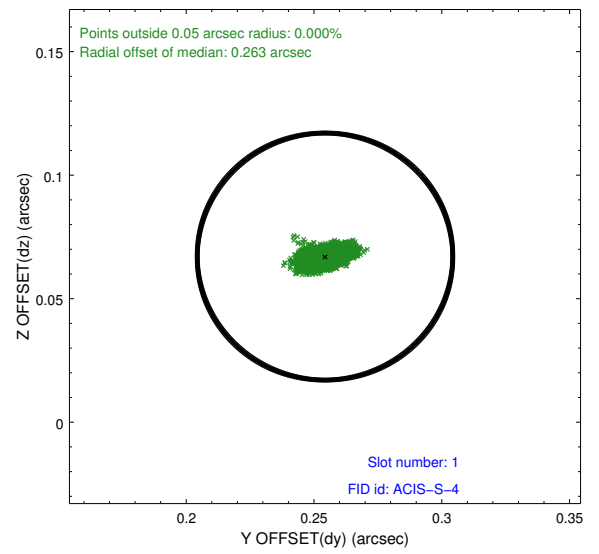
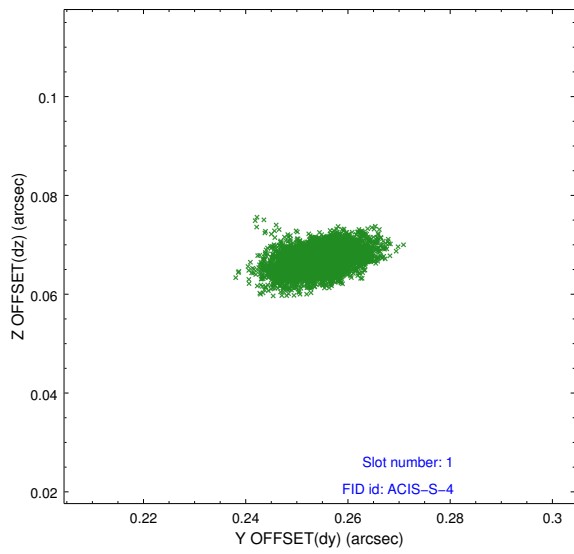


## 2.5 FID Slots

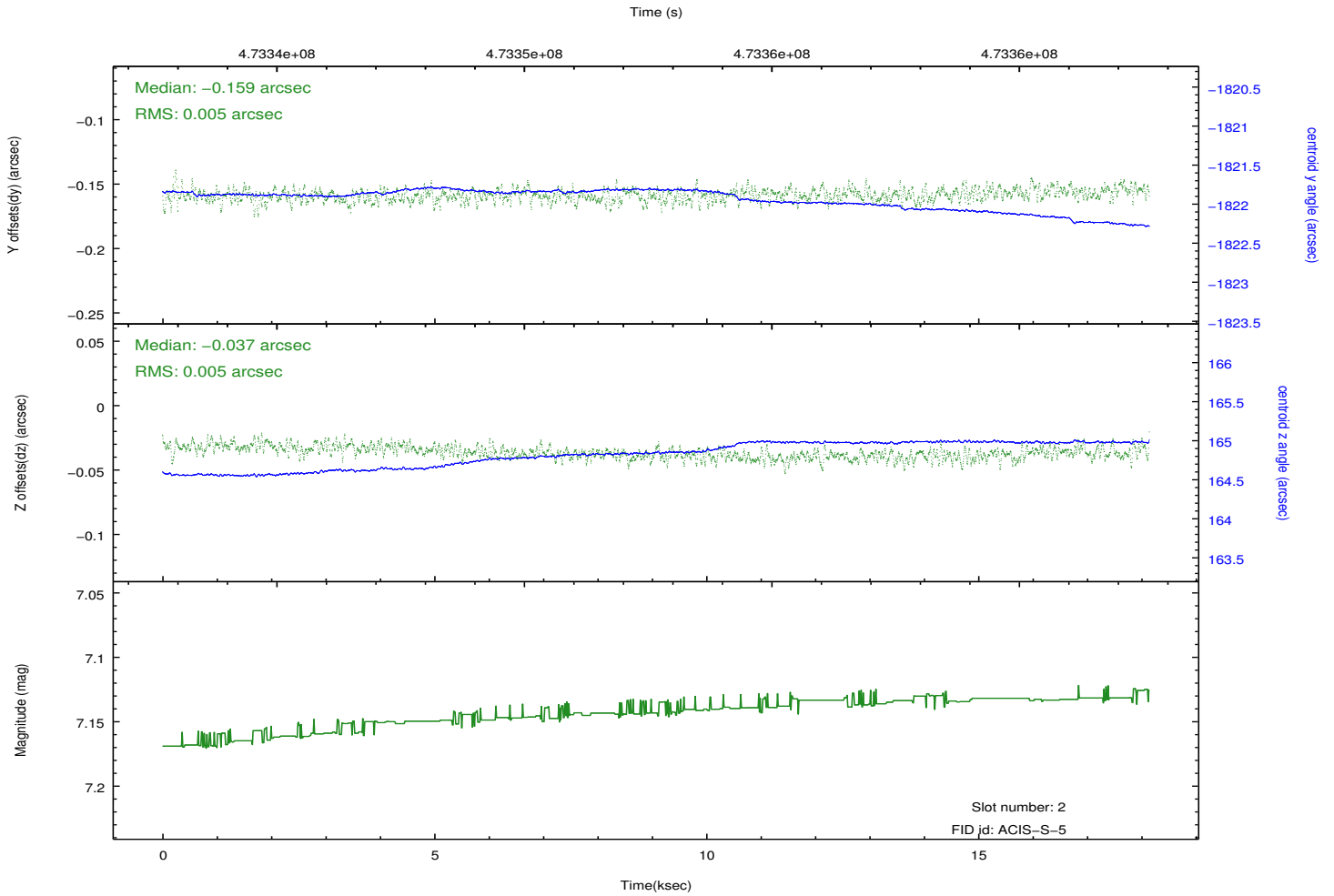
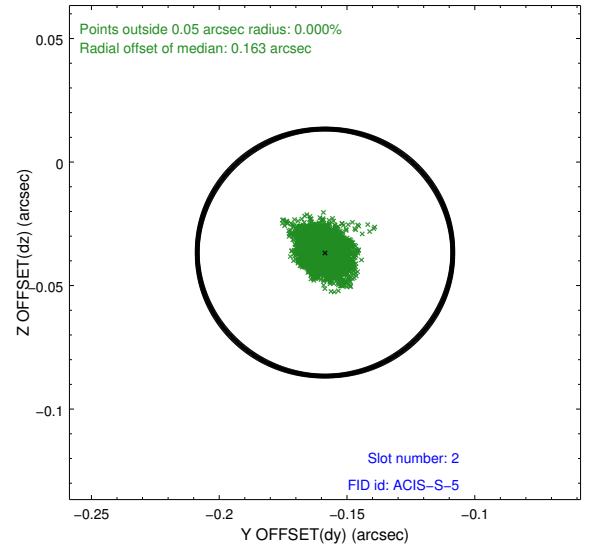
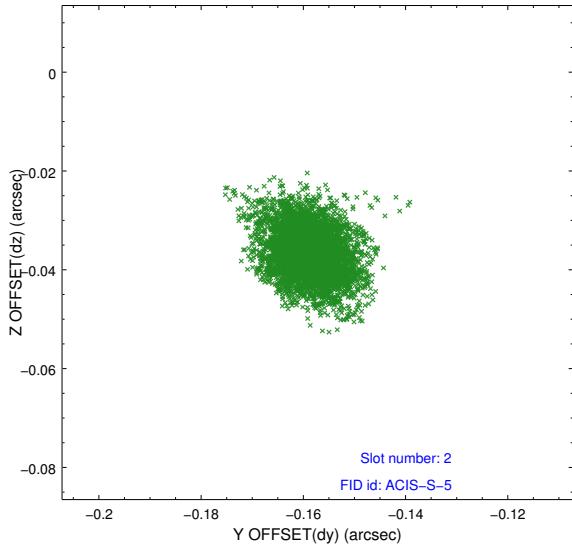
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2014.12.04
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	18.066389442325

## 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.