

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 13928 - L2 Version 2  
Chandra X-Ray Center

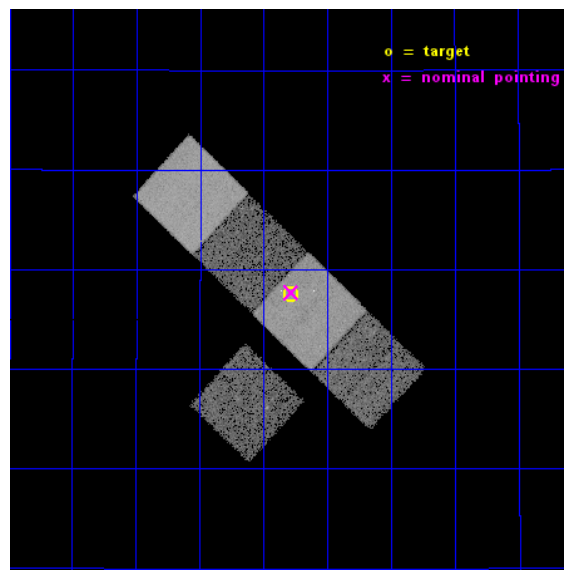
L2 Processing Date : Nov 29 2014

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# 1 Front

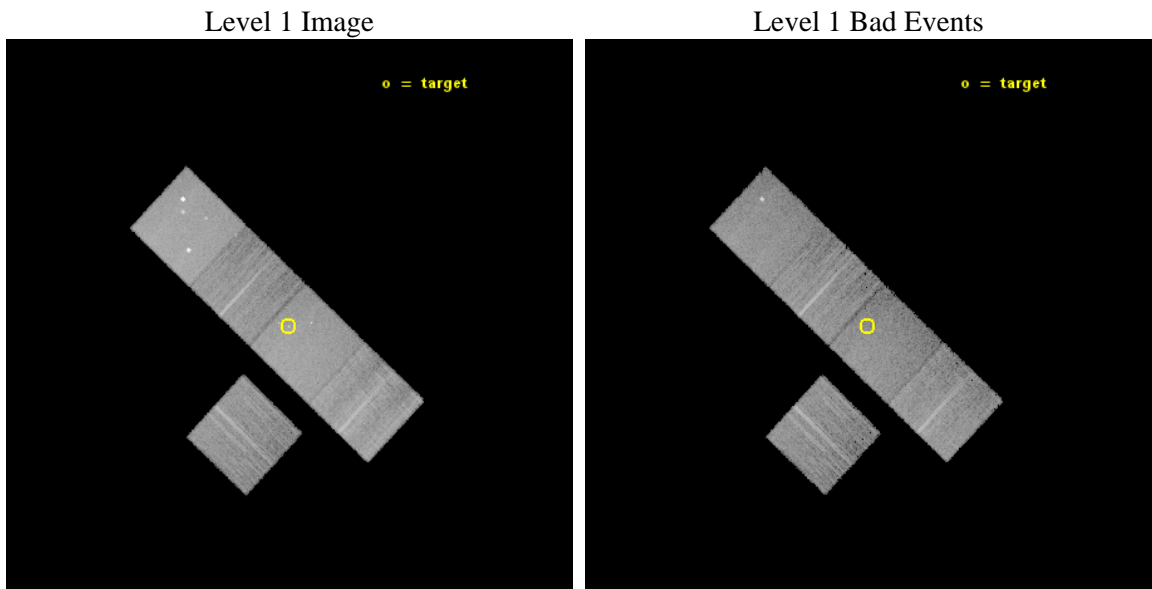
seq_num	702652	Sequence number
obs_id	13928	Observation id
title	Probing the Early Evolution of Galaxies and Massive Black Holes With Nearby Star-Forming Dwarfs	Proposal title
observer	Dr. Amy Reines	Principal investigator
object	Haro 9	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	191.32125	Observer's specified target RA [deg]
dec_targ	27.125556	Observer's specified target Dec [deg]
ra_nom	191.32060186906	Nominal RA [deg]
dec_nom	27.128512347936	Nominal Dec [deg]
roll_nom	43.418515080115	Nominal Roll [deg]
revision	2	Processing version of data
ontime	17068.137840927	Sum of GTIs [s]
livetime	16845.130054655	Livetime [s]
ontime3	17068.014720917	Sum of GTIs [s]
ontime5	17068.096800923	Sum of GTIs [s]
ontime6	17068.05576092	Sum of GTIs [s]
ontime7	17068.137840927	Sum of GTIs [s]
ontime8	17067.973680913	Sum of GTIs [s]
l2events	148990	Number of level 2 events



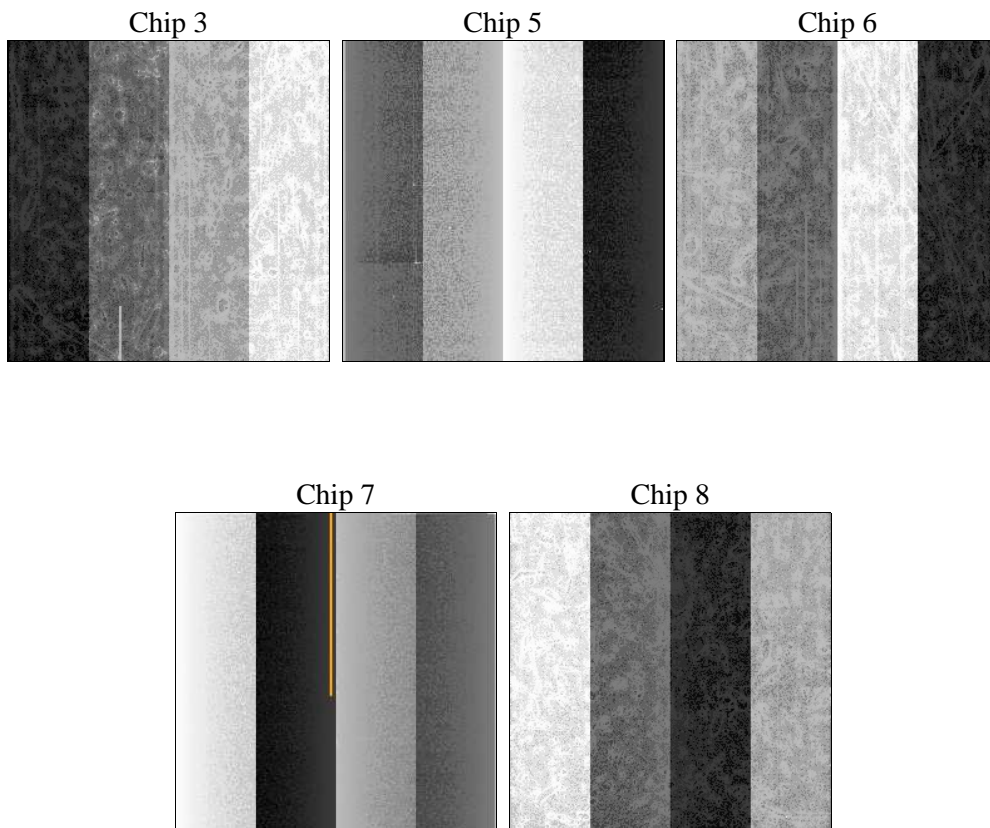
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	17000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	17068.137840927	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime3	17068.014720917	Sum of GTIs [s]
date	2014-11-29T07:21:16	Date and time of file creation	ontime5	17068.096800923	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	17068.05576092	Sum of GTIs [s]
			ontime7	17068.137840927	Sum of GTIs [s]
			ontime8	17067.973680913	Sum of GTIs [s]
			l1events	572885	Number of level 1 events

### 2.1.4 Events

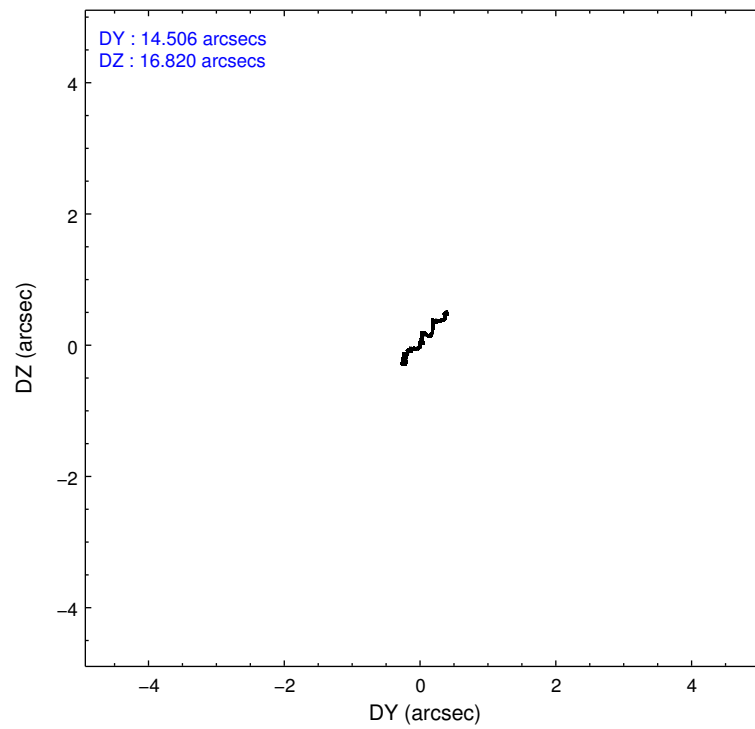
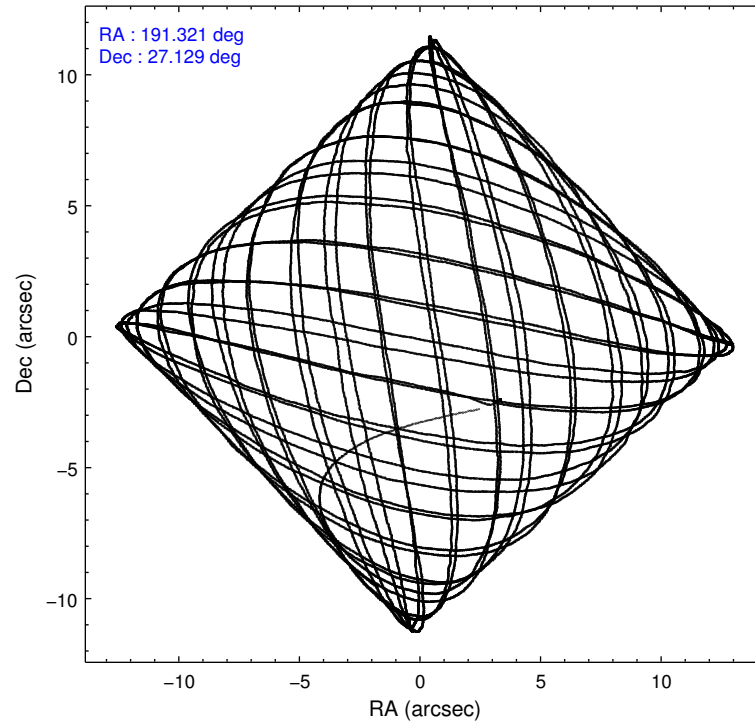
	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	86325	152663	89241	120633	124023
rejected events	76450	76271	78535	66477	86759
rejected %	88%	49%	88%	55%	69%

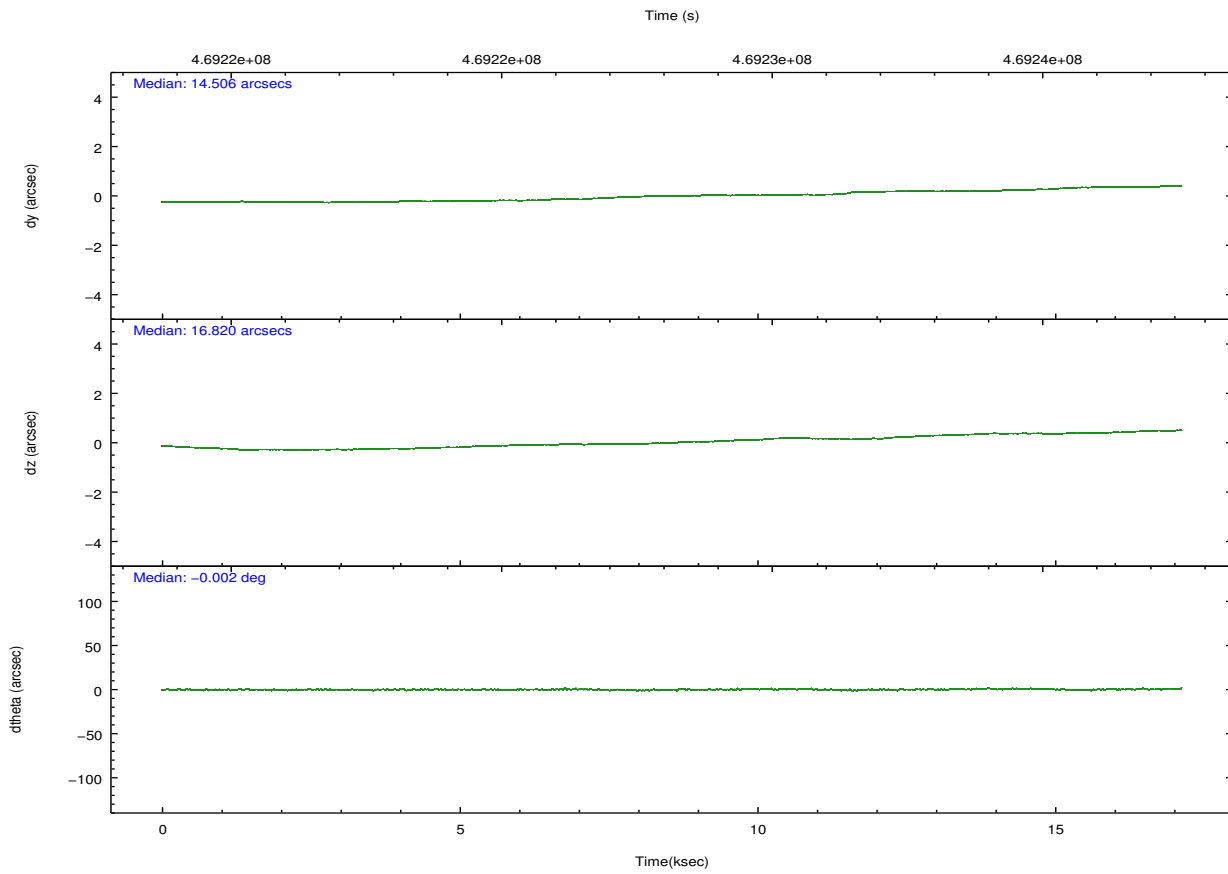
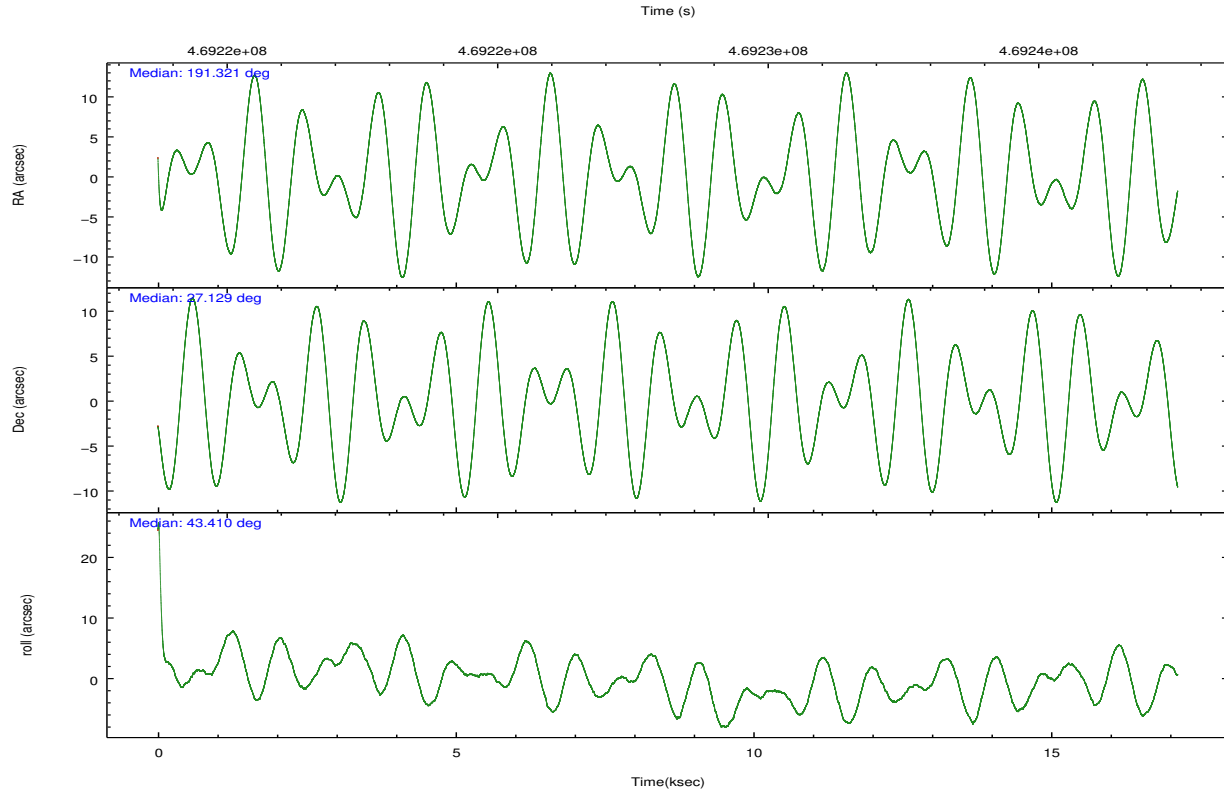
	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	3551	11180	3814	5199	11799
	4%	7%	4%	4%	9%
grade 1 events	55	1233	48	146	110
	0%	0%	0%	0%	0%
grade 2 events	2157	22666	2357	11281	7903
	2%	14%	2%	9%	6%
grade 3 events	1061	2544	1066	4617	4375
	1%	1%	1%	3%	3%
grade 4 events	1051	2469	1090	4722	4101
	1%	1%	1%	3%	3%
grade 5 events	4565	10891	4374	12406	6540
	5%	7%	4%	10%	5%
grade 6 events	2055	37552	2383	28348	9088
	2%	24%	2%	23%	7%
grade 7 events	71830	64128	74109	53914	80107
	83%	42%	83%	44%	64%

## 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	191.312248	191.3206018690623	CCD I2 on	N	N
[deg] Pointing Dec	27.102214	27.12851234793586	CCD I3 on	O1	Y
[deg] Pointing Roll	43.265677	43.41851508011536	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	-190.145094680475	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01257209746719923	CCD S4 on	O2	Y
[s] Observation start time (MET)	469219699.184000	469218417.15448	CCD S5 on	N	N
Observation start date	2012-11-13T18:47:12	2012-11-13T18:26:57	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	469236699.184000	469237016.29298	On-chip summing requested	N	N
Observation end date	2012-11-13T23:30:32	2012-11-13T23:36:56	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





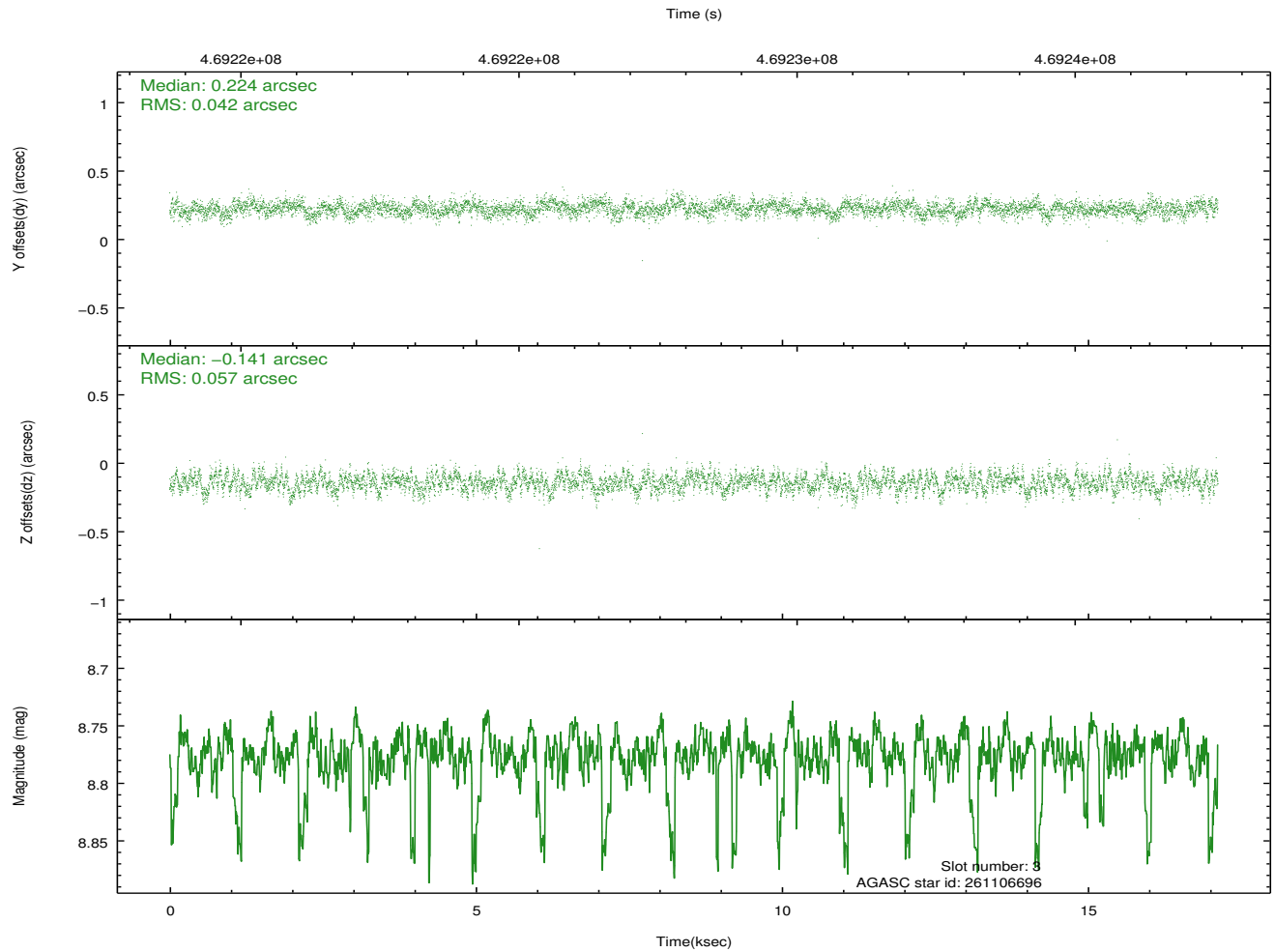
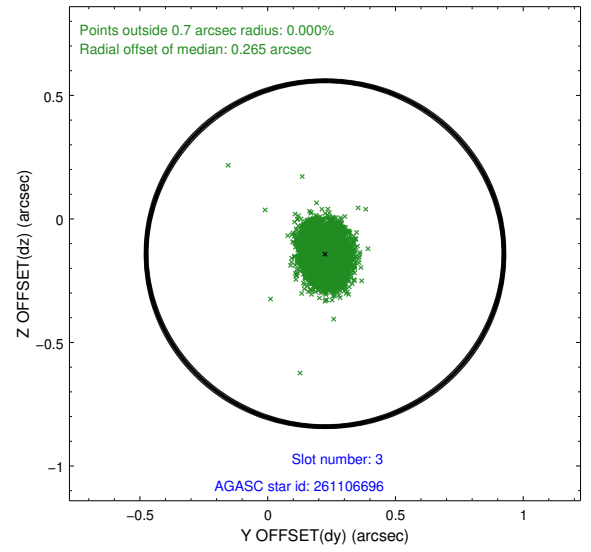
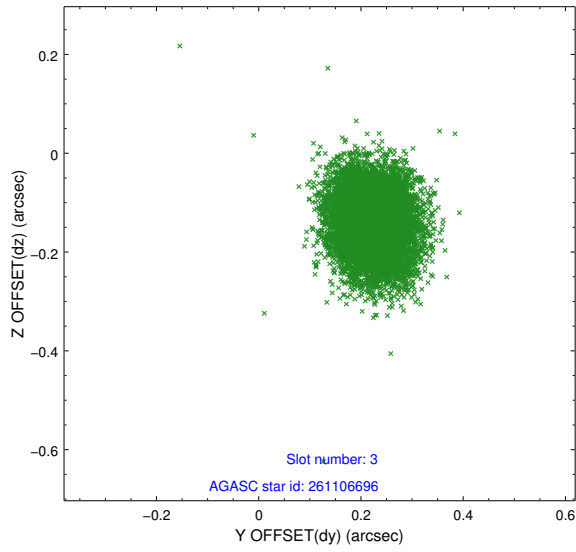
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.93	4178	-0.094	-0.048	0.007	0.013	0.000000	0.000000	-767.63	-1738.21
1	FID		ACIS-S-4	7.01	4178	0.127	0.047	0.007	0.011	0.000000	0.000000	2145.84	169.99
2	FID		ACIS-S-6	7.14	4178	-0.060	0.007	0.007	0.012	0.000000	0.000000	394.81	807.70
3	GUIDE	used	261106696	8.78	8315	0.224	-0.141	0.075	0.122	190.997378	27.324905	-183.24	1273.91
4	GUIDE	used	261107688	8.92	8330	-0.040	-0.220	0.092	0.143	191.270109	27.747269	1493.80	1784.49
5	GUIDE	used	261108520	7.79	8354	-0.029	0.214	0.045	0.074	191.404109	27.128951	280.85	-131.12
6	GUIDE	used	261110000	7.99	8355	-0.026	0.289	0.068	0.107	192.012480	27.105810	1647.47	-1524.25
7	GUIDE	used	261110400	7.28	8354	-0.131	-0.138	0.057	0.096	191.263867	27.393389	605.81	868.87

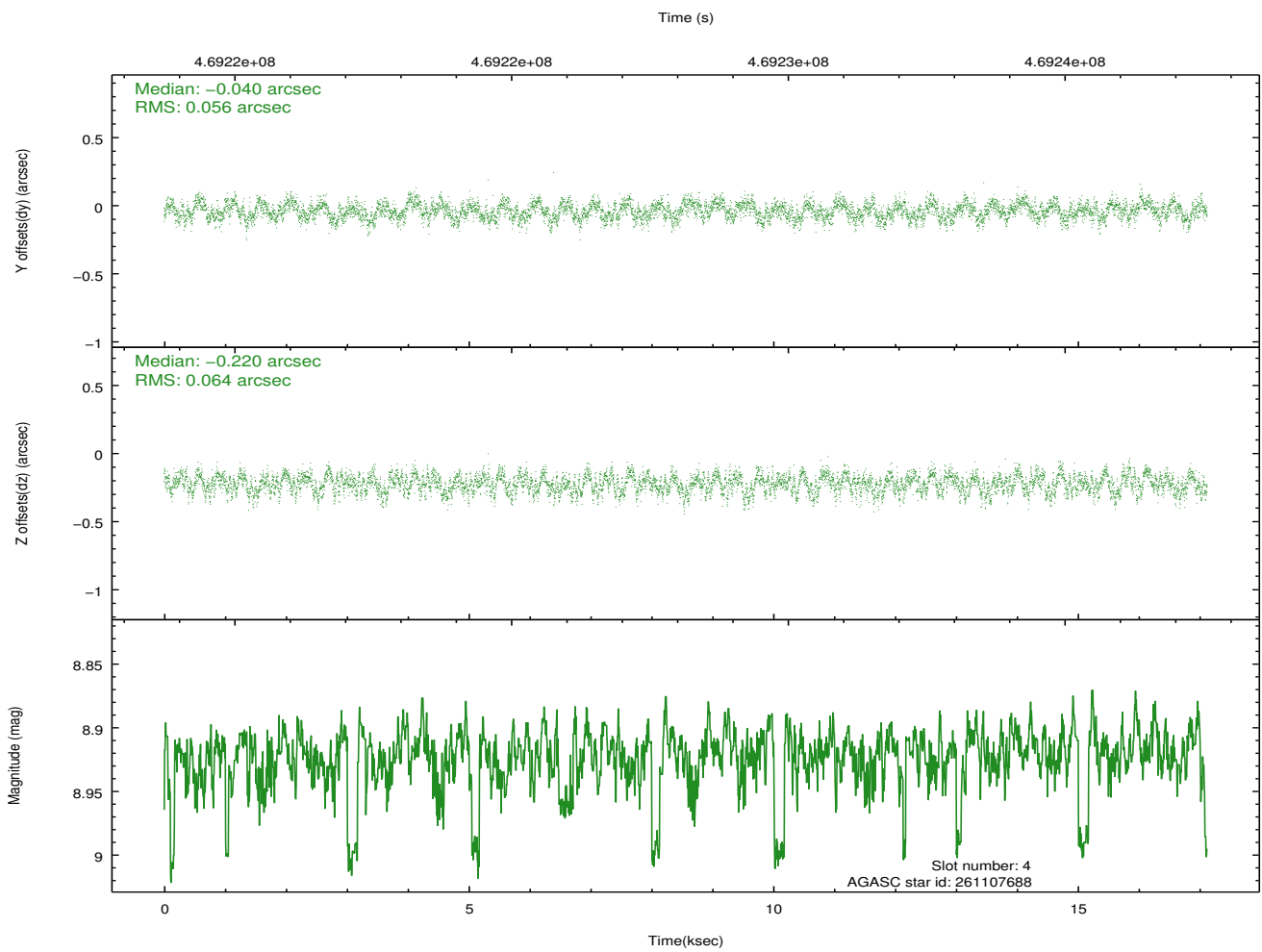
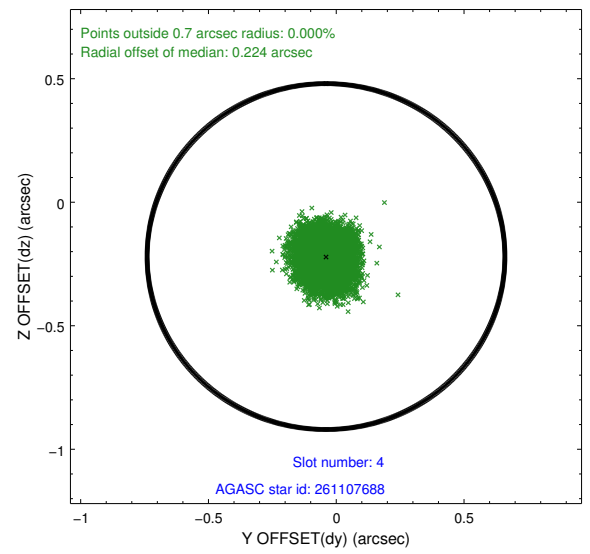
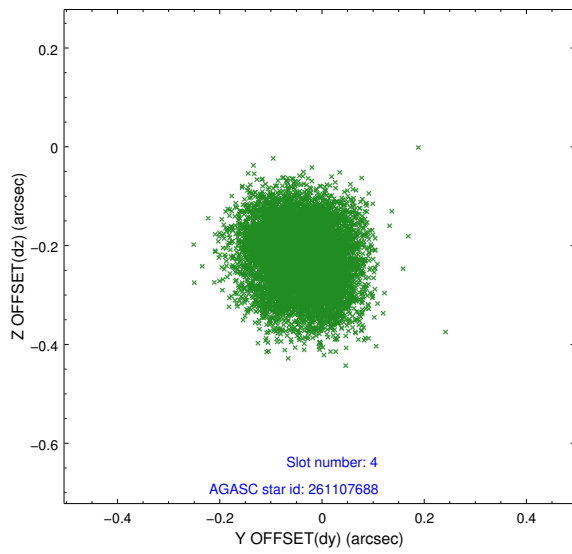
∞

## 2.4 Star Slots

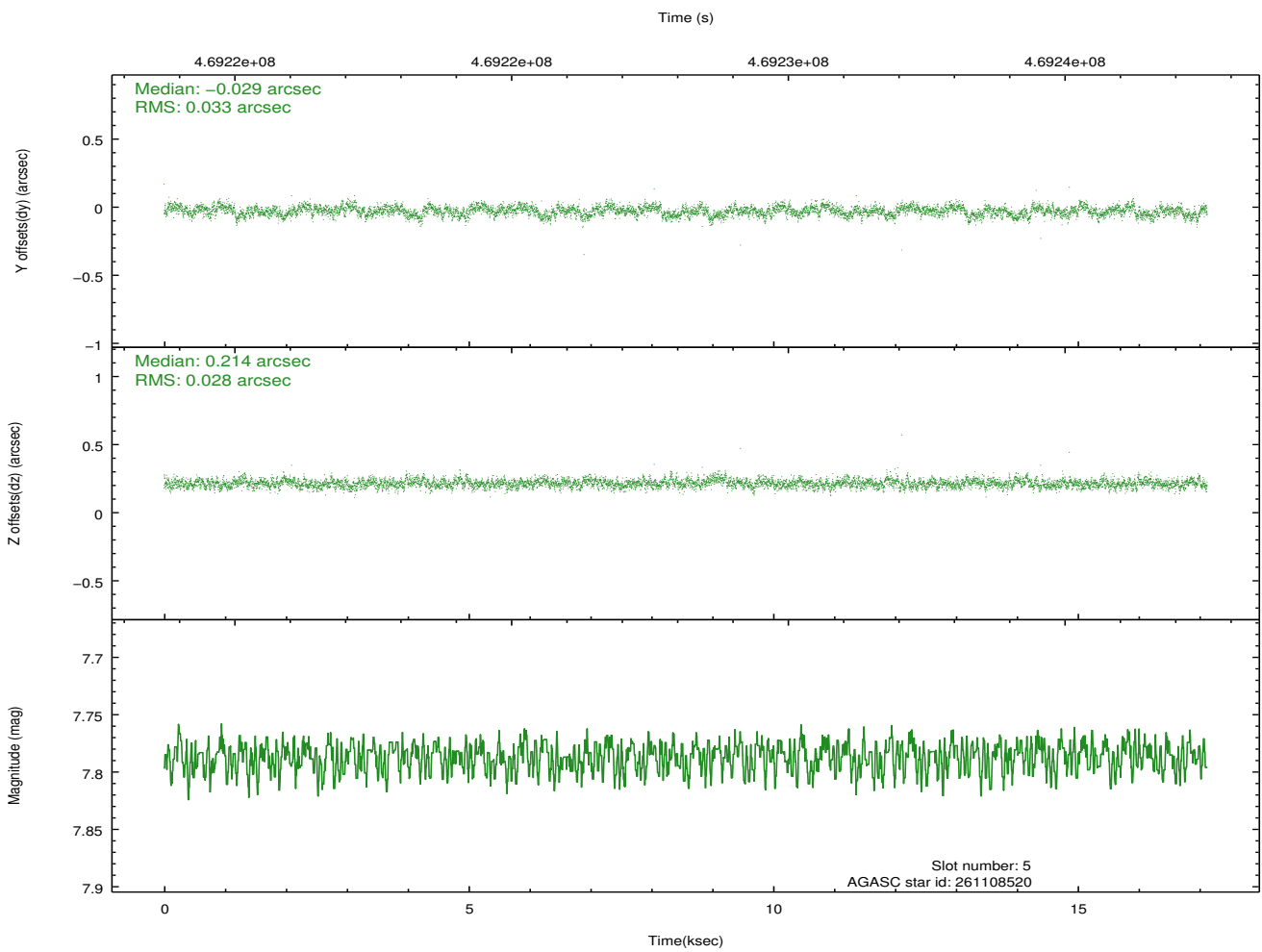
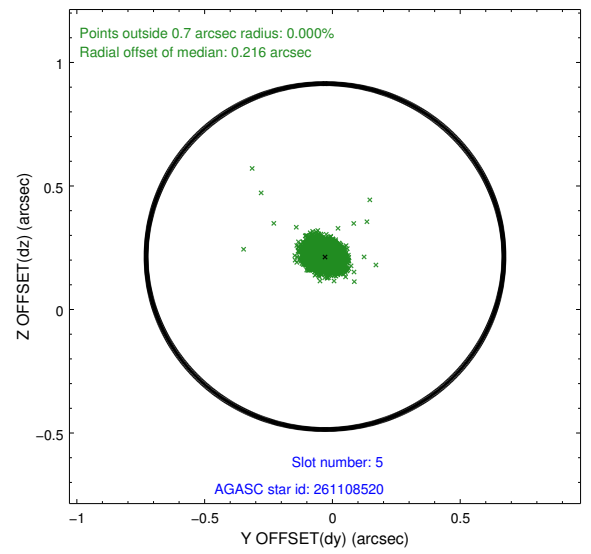
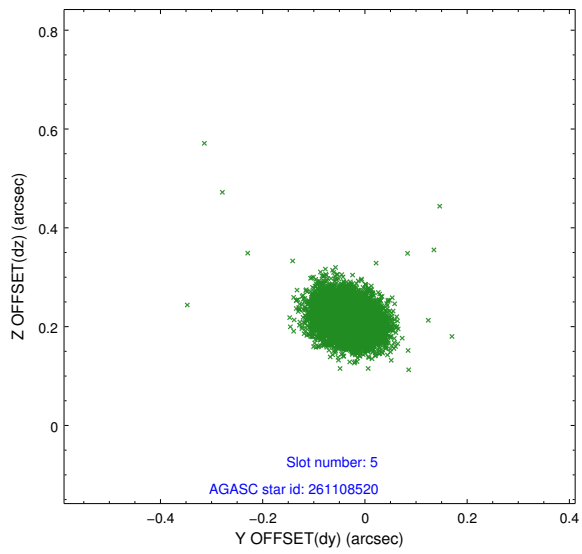
### 2.4.1 Slot 3



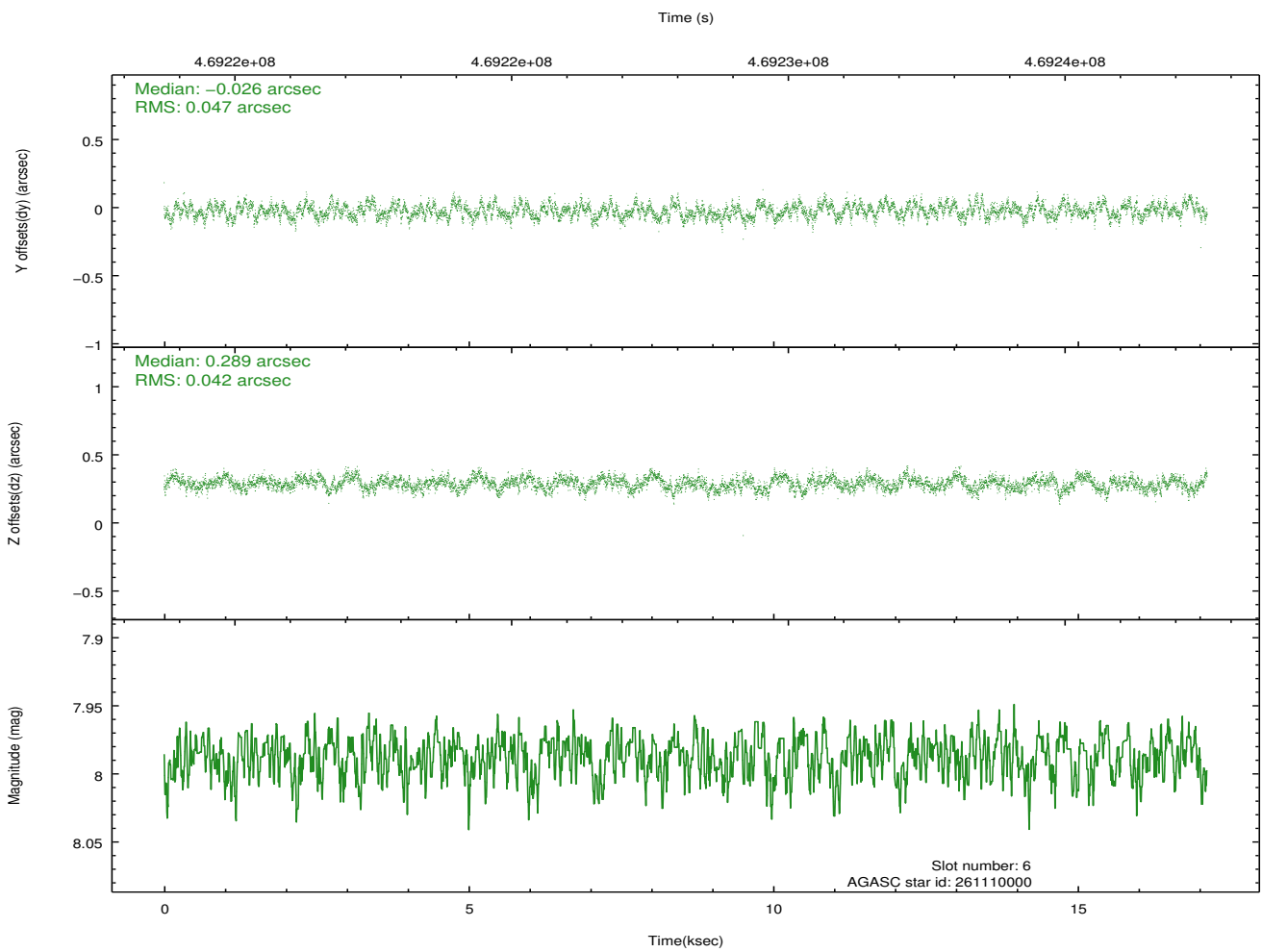
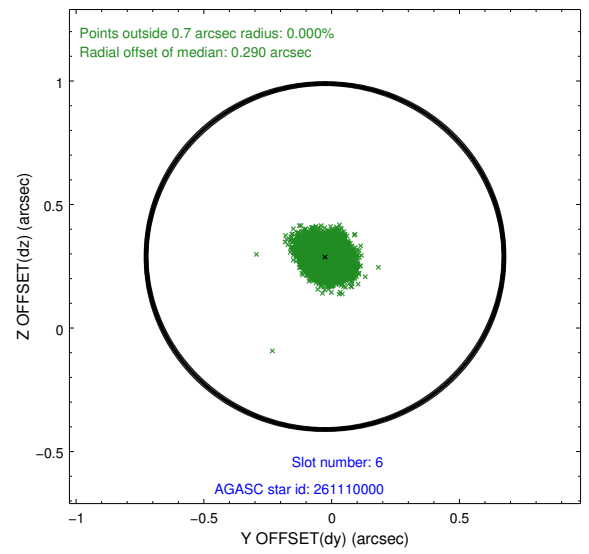
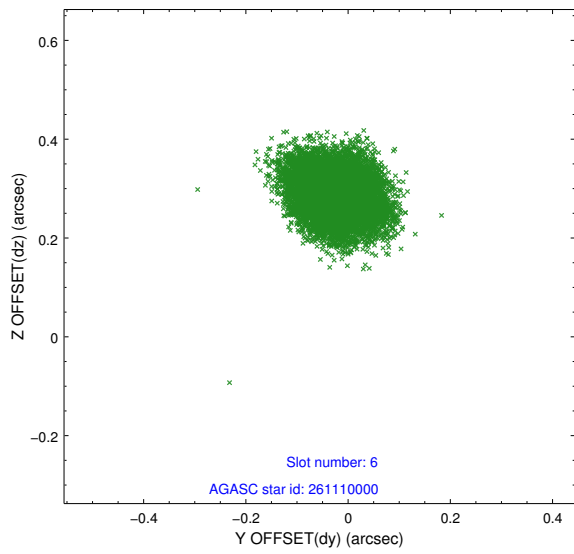
## 2.4.2 Slot 4



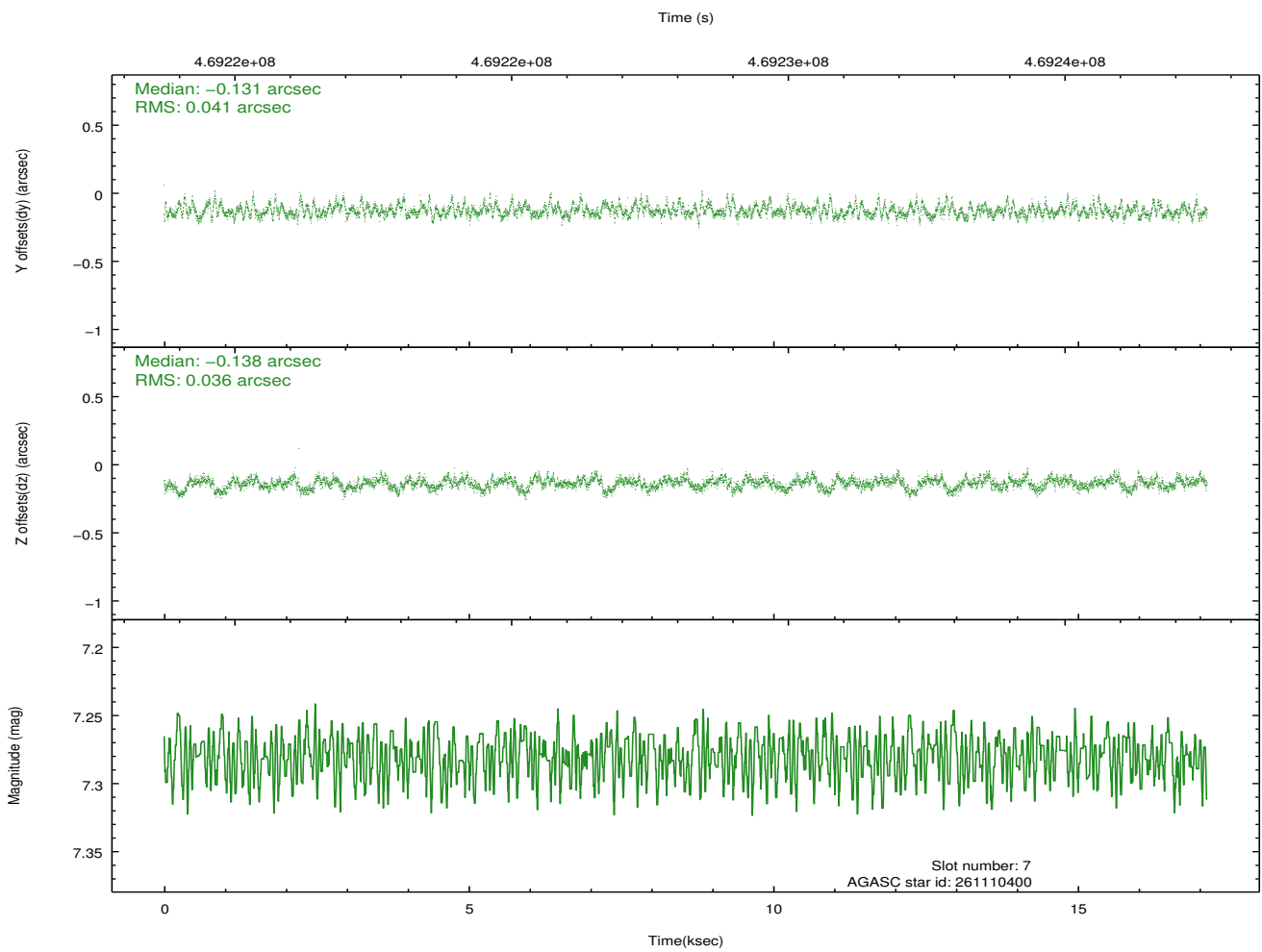
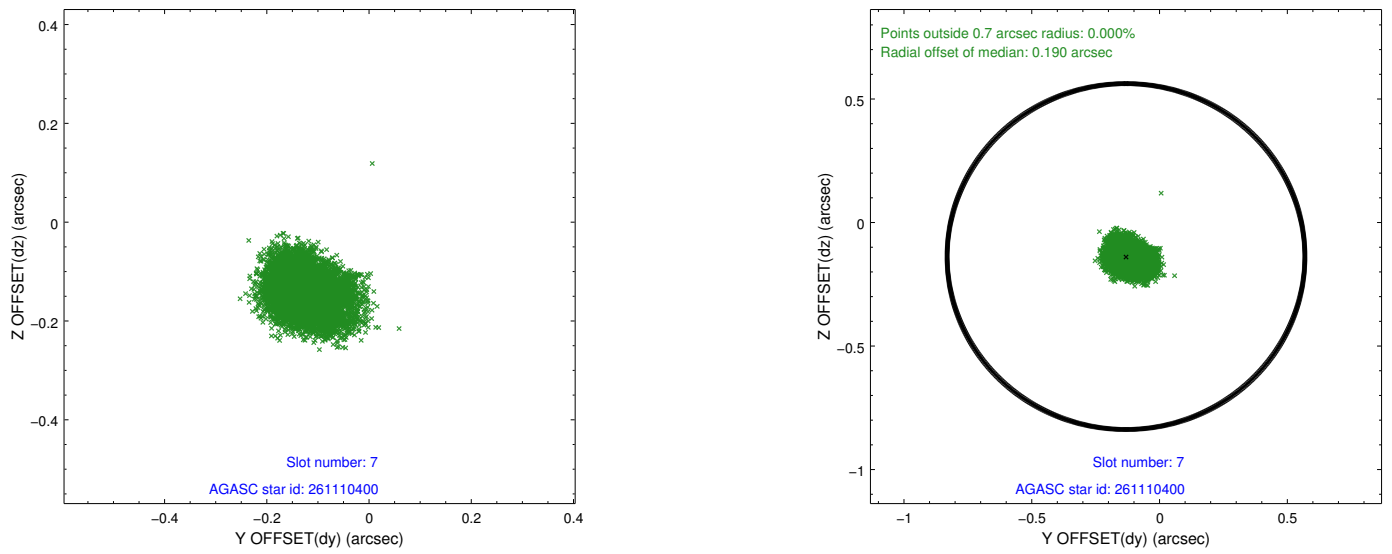
### 2.4.3 Slot 5



## 2.4.4 Slot 6

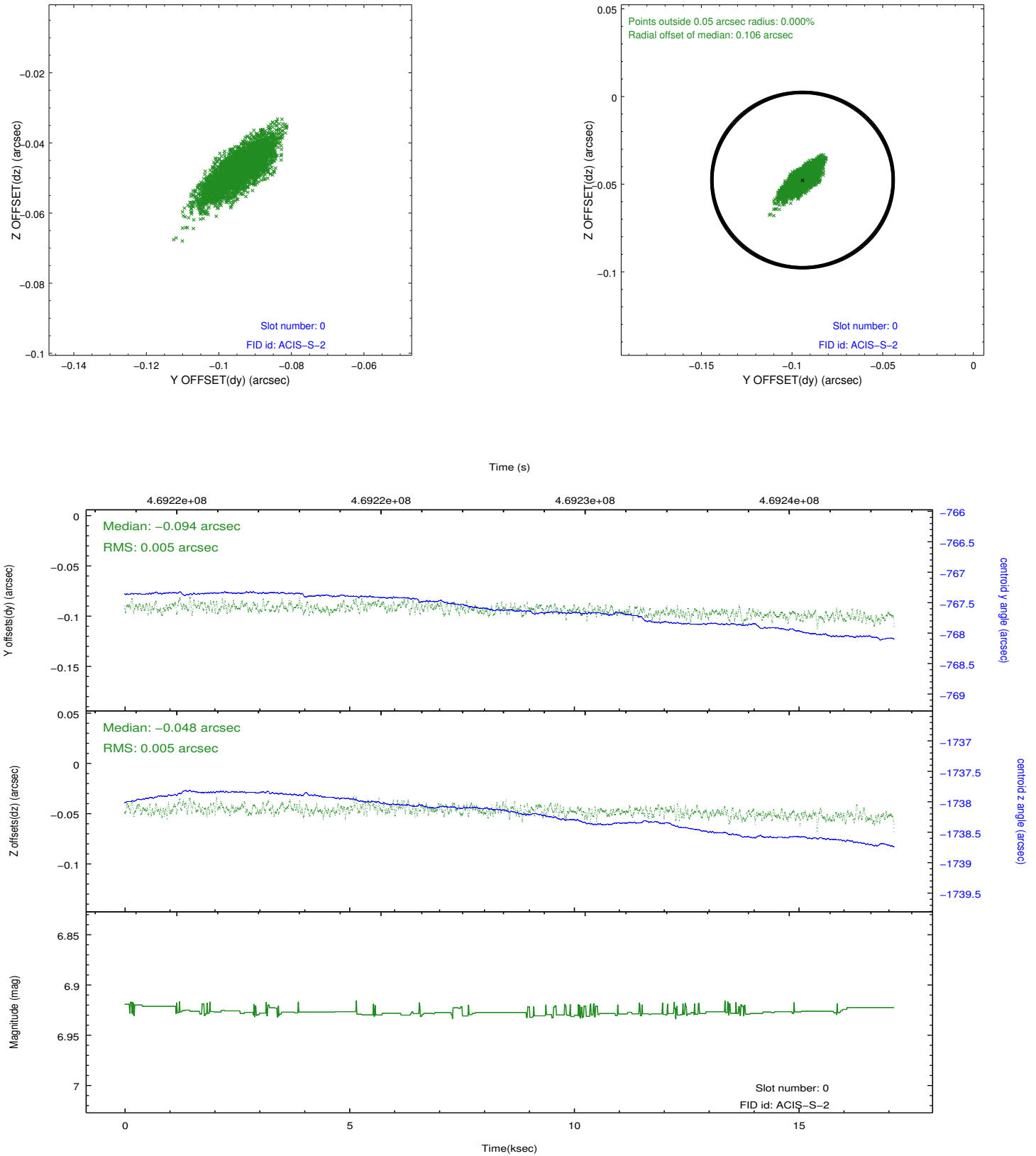


## 2.4.5 Slot 7

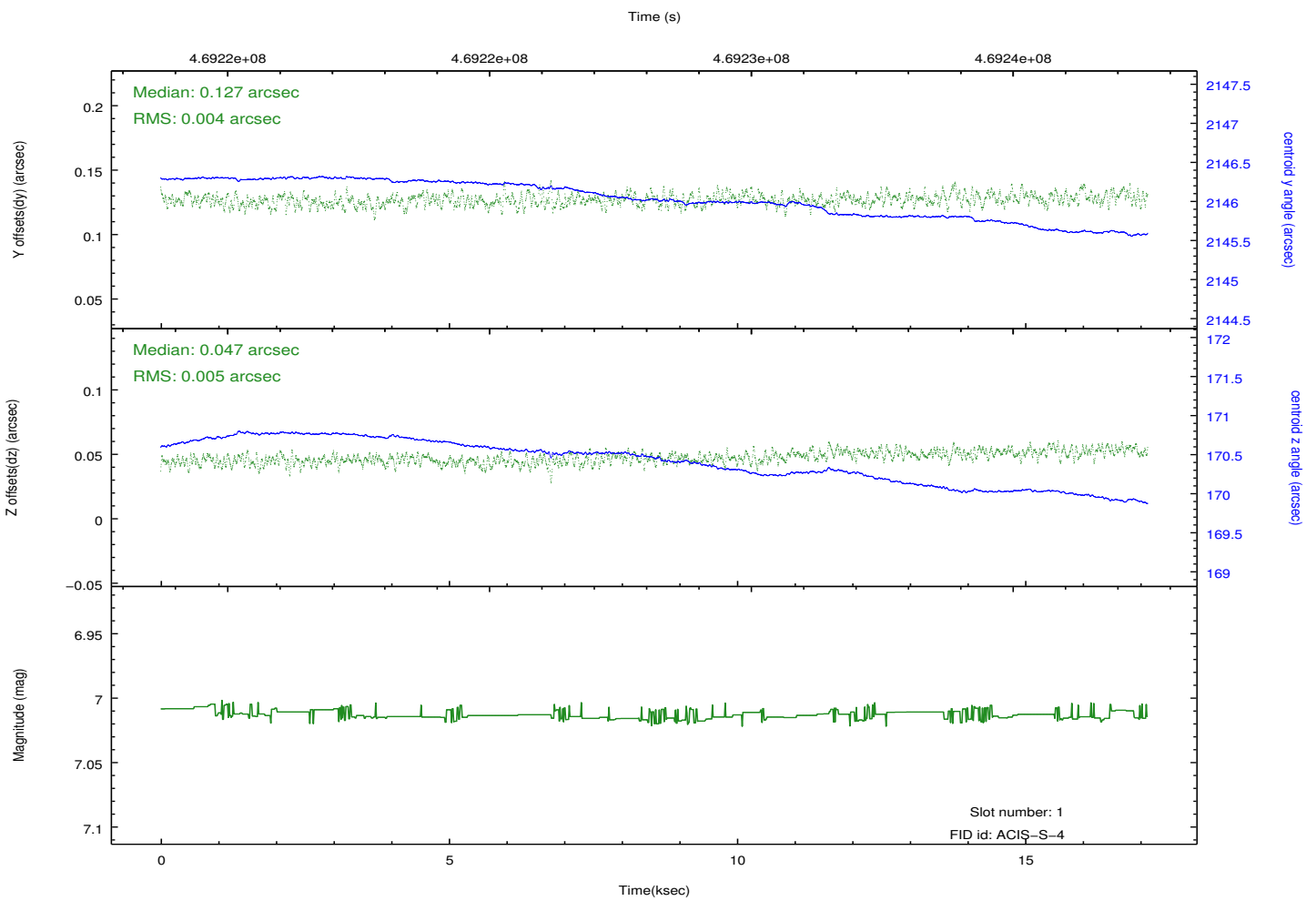
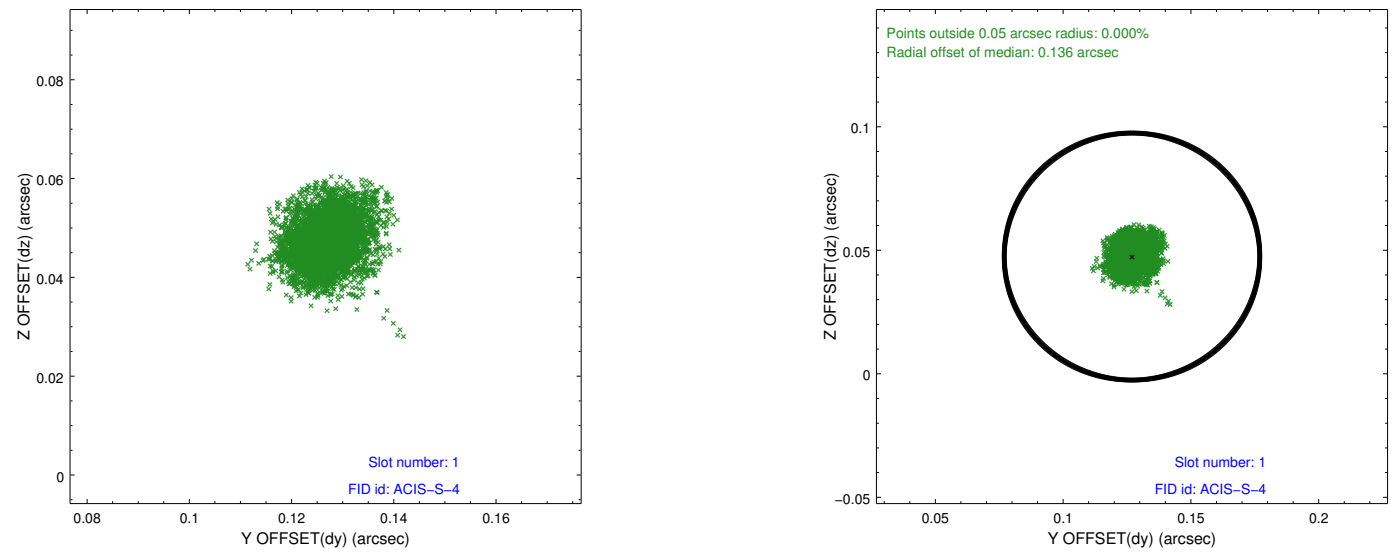


## 2.5 FID Slots

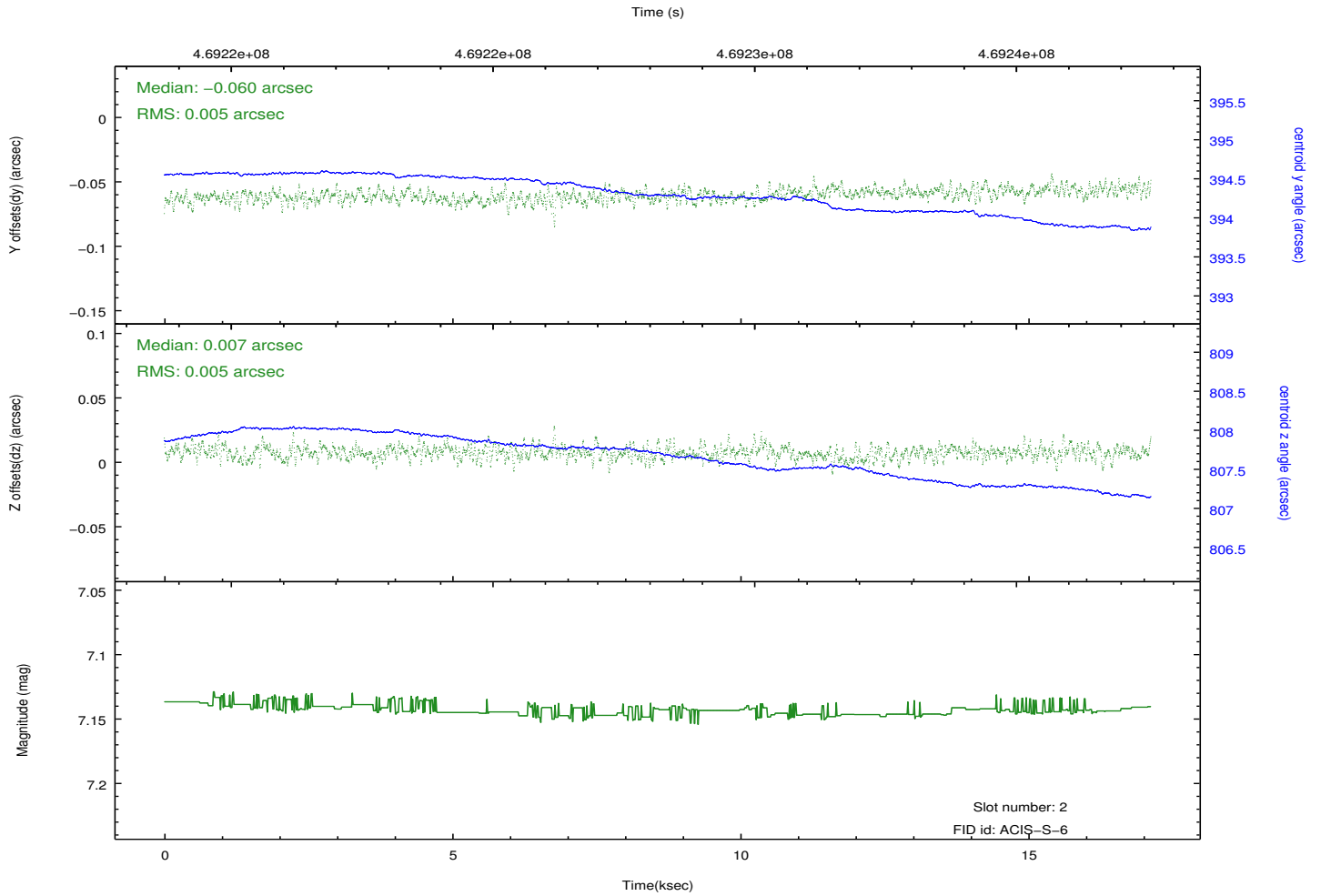
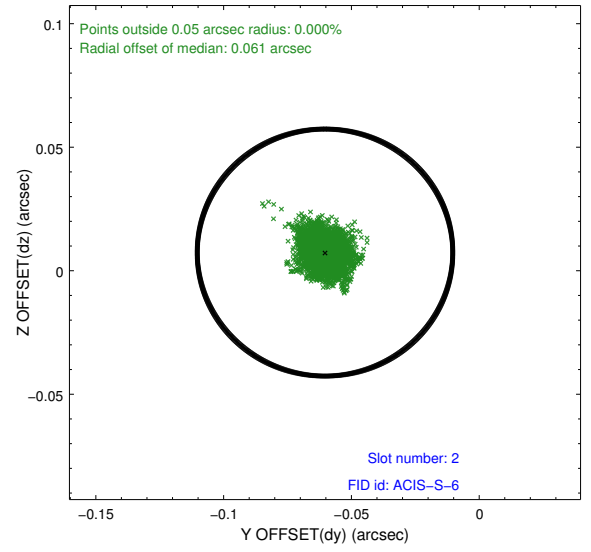
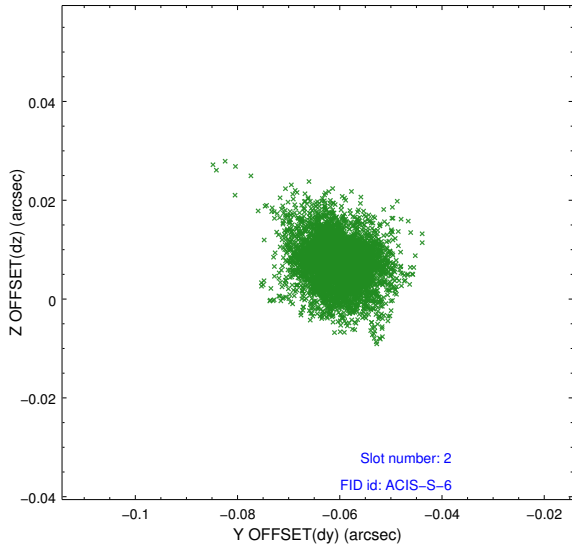
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2014.12.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	17.068137840927

## A.2 Comments

Joint proposal with NRAO.

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.