

# V&V Reference Report

## L2 ASCDS Version : 10.4.2.1

Observation 16669 - L2 Version 1  
Chandra X-Ray Center

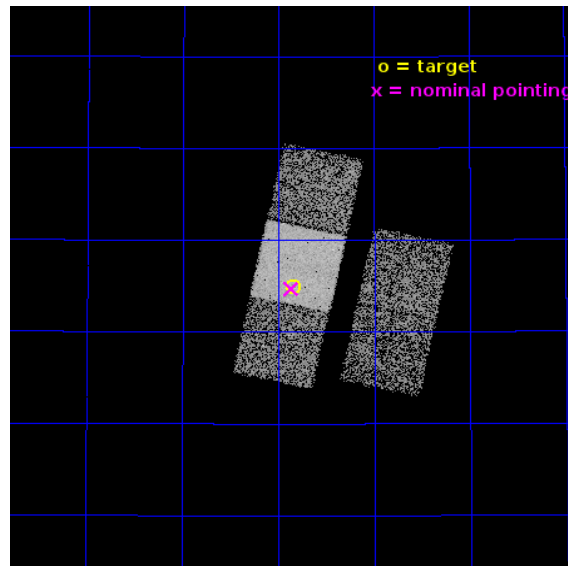
L2 Processing Date : Nov 14 2015

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# 1 Front

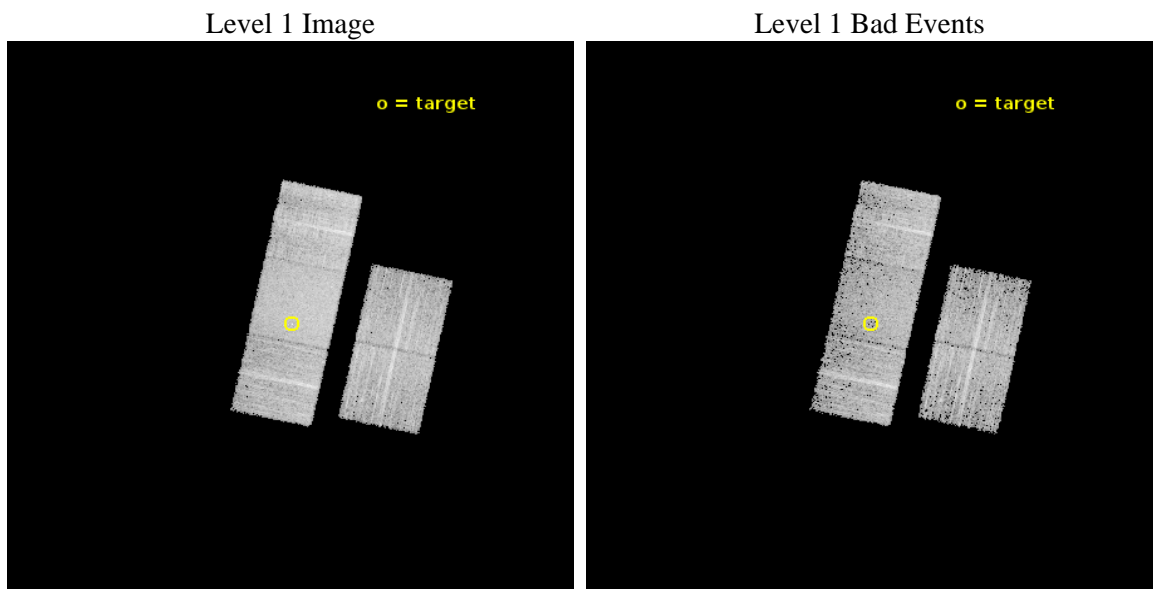
seq_num	200990	Sequence number
obs_id	16669	Observation id
title	Atmospheric heating in an irradiated transiting super-Earth and super-Neptune	Proposal title
observer	Brendan Miller	Principal investigator
object	HAT-P-11	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	297.709912	Observer's specified target RA [deg]
dec_targ	48.081853	Observer's specified target Dec [deg]
ra_nom	297.71620713133	Nominal RA [deg]
dec_nom	48.078463944643	Nominal Dec [deg]
roll_nom	282.15196845064	Nominal Roll [deg]
revision	1	Processing version of data
ontime	8060.000062108	Sum of GTIs [s]
livetime	7954.6902276109	Livetime [s]
ontime2	8060.000062108	Sum of GTIs [s]
ontime3	8060.000062108	Sum of GTIs [s]
ontime6	8060.000062108	Sum of GTIs [s]
ontime7	8060.000062108	Sum of GTIs [s]
ontime8	8060.000062108	Sum of GTIs [s]
l2events	40267	Number of level 2 events



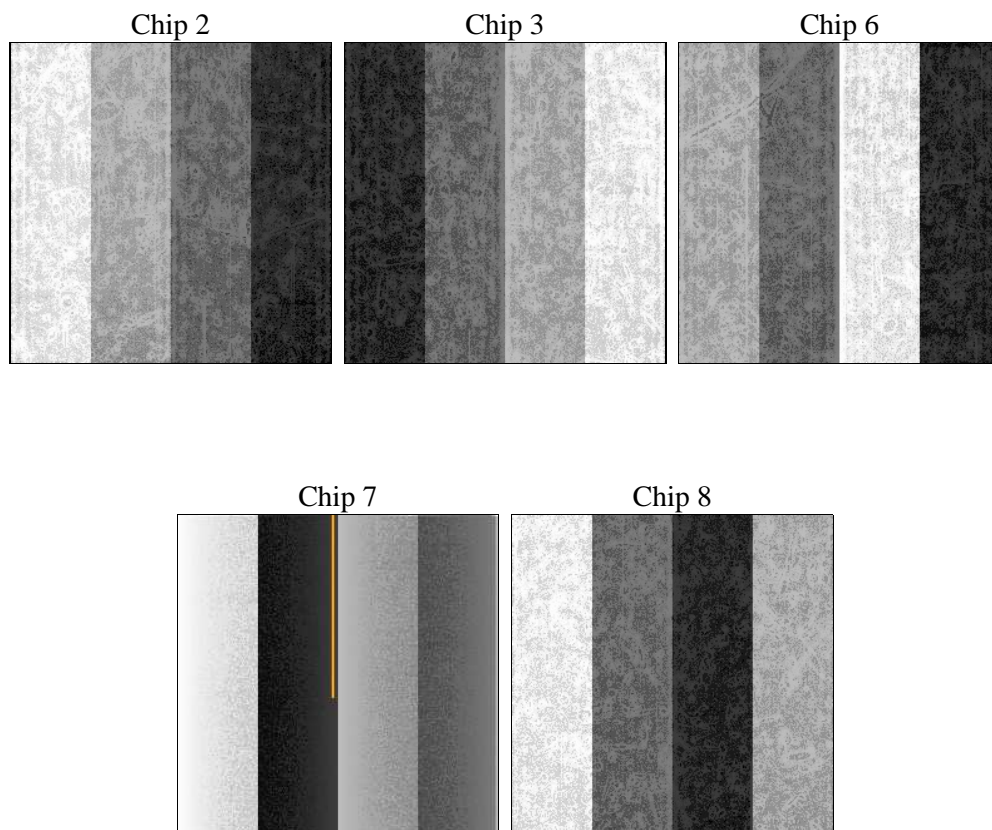
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	2	Obi number	sched_exp_time	8000.000000	[s] Scheduled observation exposure time
ascdsver	10.4.2.1	Processing system revision	ontime	8060.000062108	Sum of GTIs [s]
caldsver	4.6.10a	&#160	ontime2	8060.000062108	Sum of GTIs [s]
date	2015-11-14T14:46:04	Date and time of file creation	ontime3	8060.000062108	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	8060.000062108	Sum of GTIs [s]
			ontime7	8060.000062108	Sum of GTIs [s]
			ontime8	8060.000062108	Sum of GTIs [s]
			l1events	241603	Number of level 1 events

### 2.1.4 Events

	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	41933	41539	43261	57259	57611
rejected events	37677	37148	38116	33058	43444
rejected %	89%	89%	88%	57%	75%

	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	1462	1504	1671	2010	3933
	3%	3%	3%	3%	6%
grade 1 events	18	20	16	76	43
	0%	0%	0%	0%	0%
grade 2 events	977	907	1251	5103	3478
	2%	2%	2%	8%	6%
grade 3 events	466	478	480	1822	1403
	1%	1%	1%	3%	2%
grade 4 events	459	542	464	1787	1341
	1%	1%	1%	3%	2%
grade 5 events	1769	2167	2109	5502	3237
	4%	5%	4%	9%	5%
grade 6 events	893	966	1283	13501	4013
	2%	2%	2%	23%	6%
grade 7 events	35889	34955	35987	27458	40163
	85%	84%	83%	47%	69%

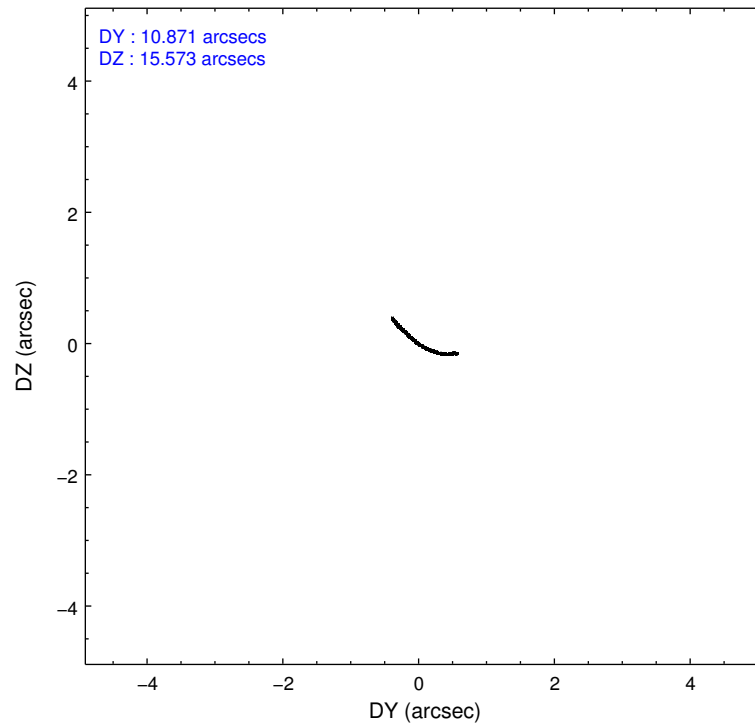
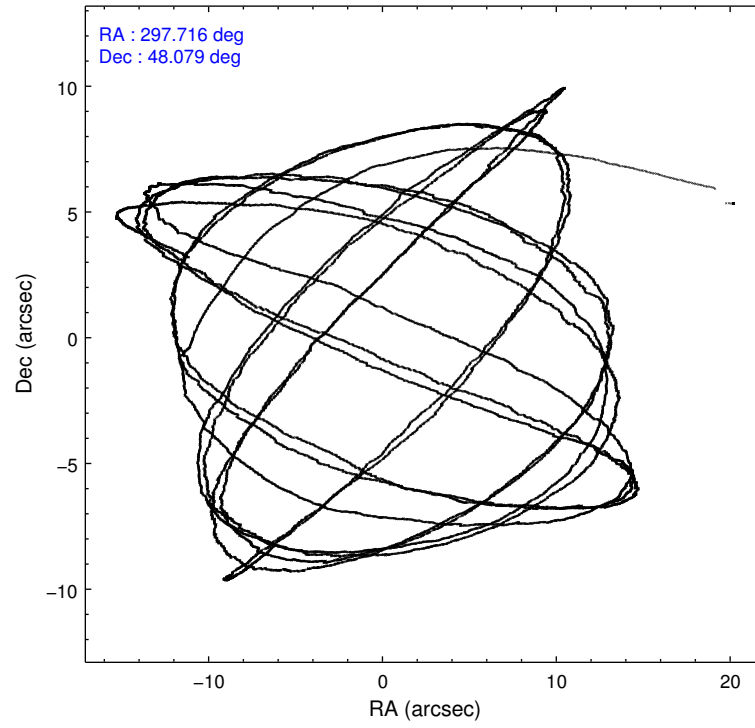


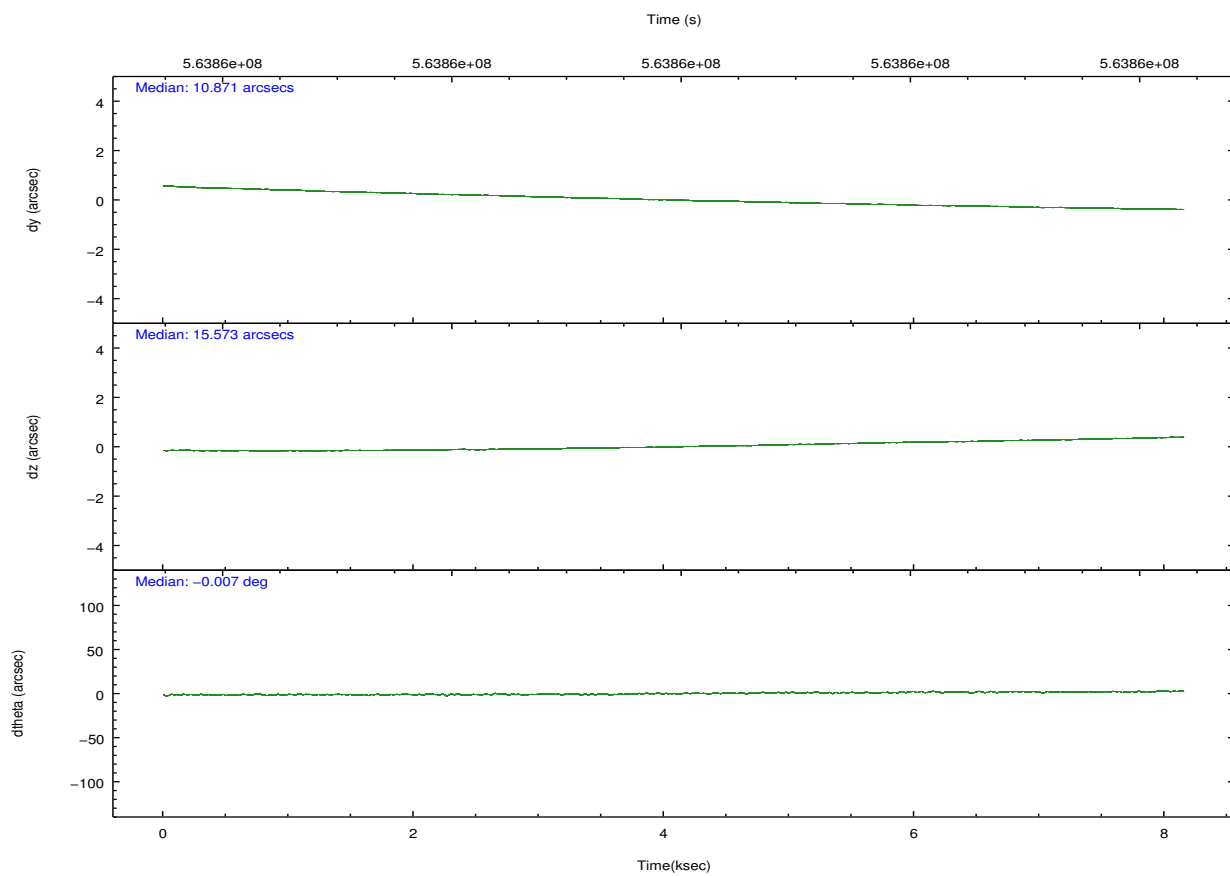
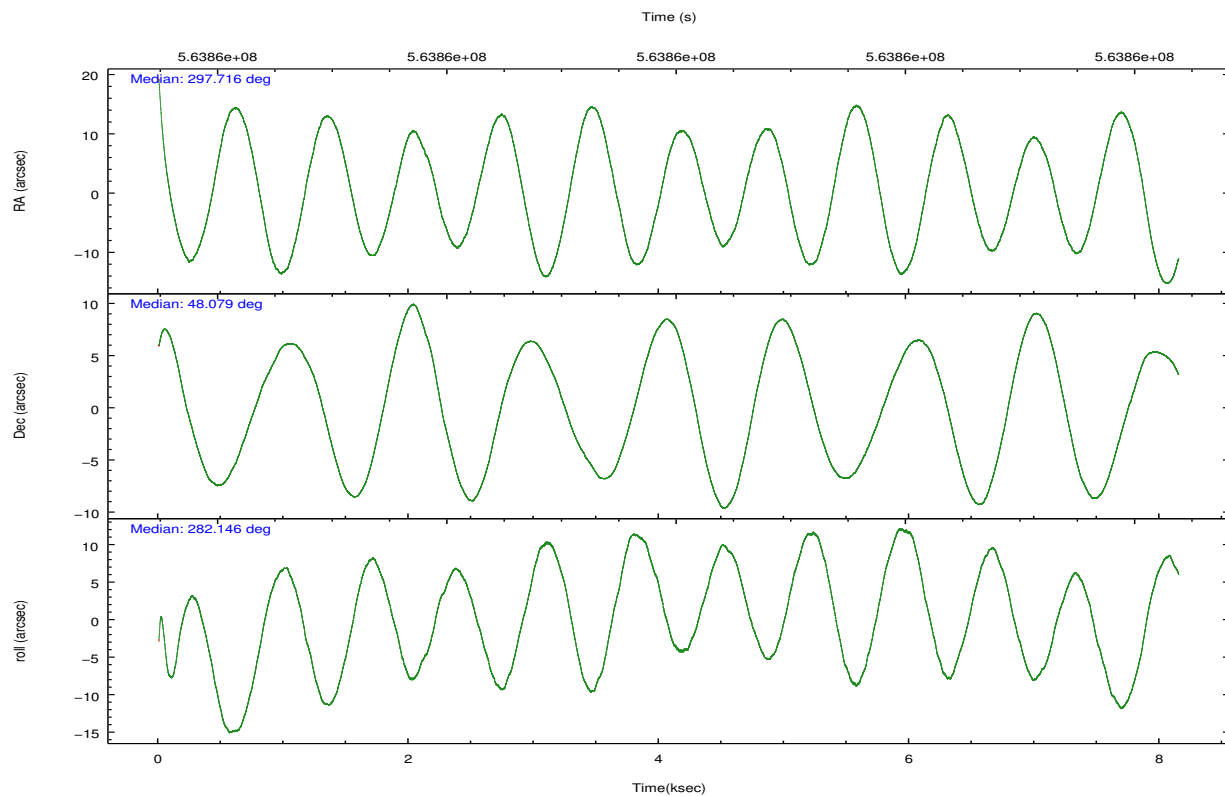
## 2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-23678	ACIS-23678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	297.688269	297.7162071313251
[deg] Pointing Dec	48.098540	48.07846394464255
[deg] Pointing Roll	282.016111	282.1519684506373
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1400660498719
[mm] SIM translation stage offset	0	0.00754346686406393
[s] Observation start time (MET)	563856031.184000	563854754.3677599
Observation start date	2015-11-14T02:39:23	2015-11-14T02:19:14
[s] Observation end time (MET)	563864031.184000	563864719.41833
Observation end date	2015-11-14T04:52:43	2015-11-14T05:05:19
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	O1	Y
CCD I3 on	O2	Y
CCD S0 on	N	N
CCD S1 on	N	N
CCD S2 on	O4	Y
CCD S3 on	Y	Y
CCD S4 on	O3	Y
CCD S5 on	N	N
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



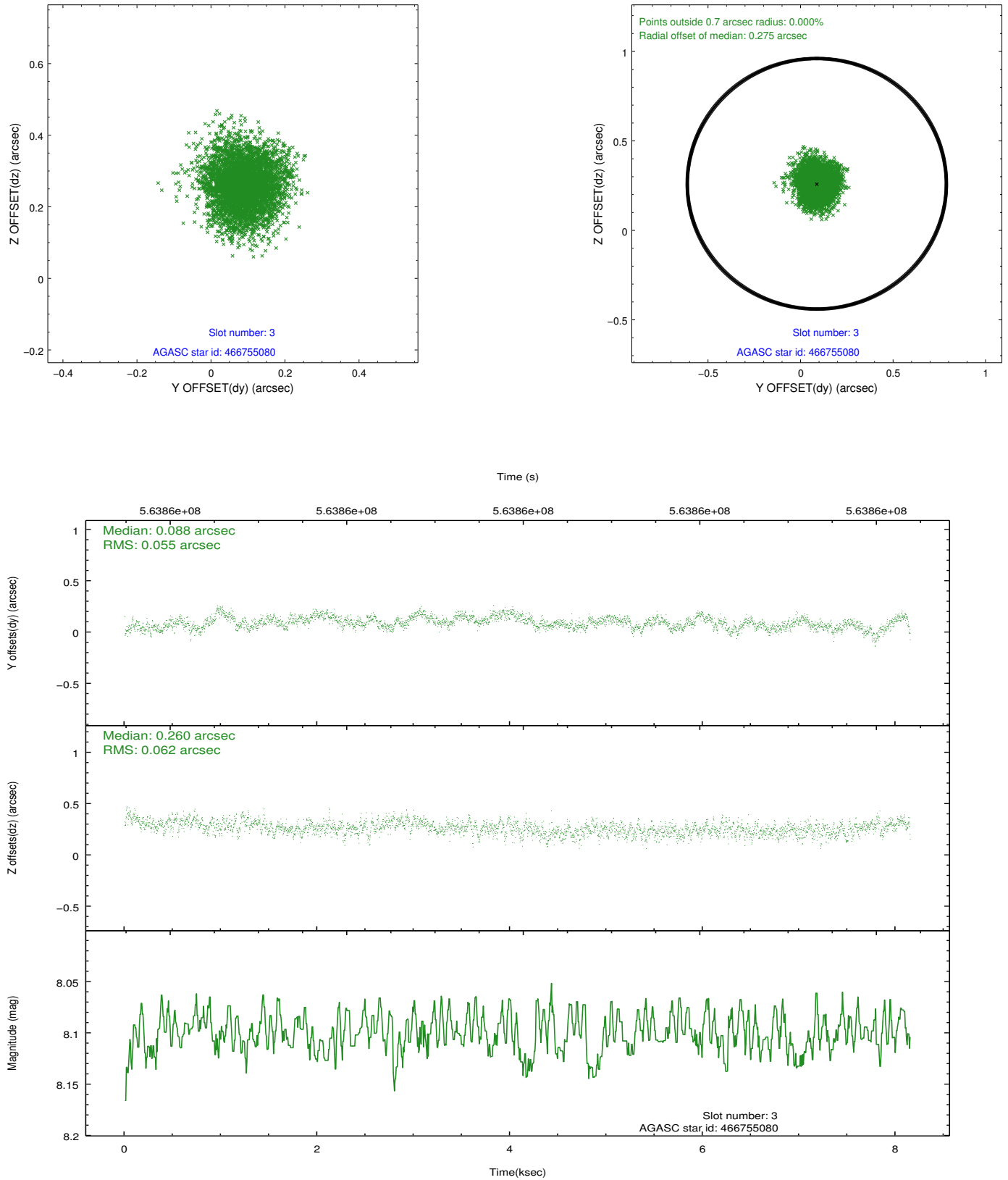


### Slot Statistics

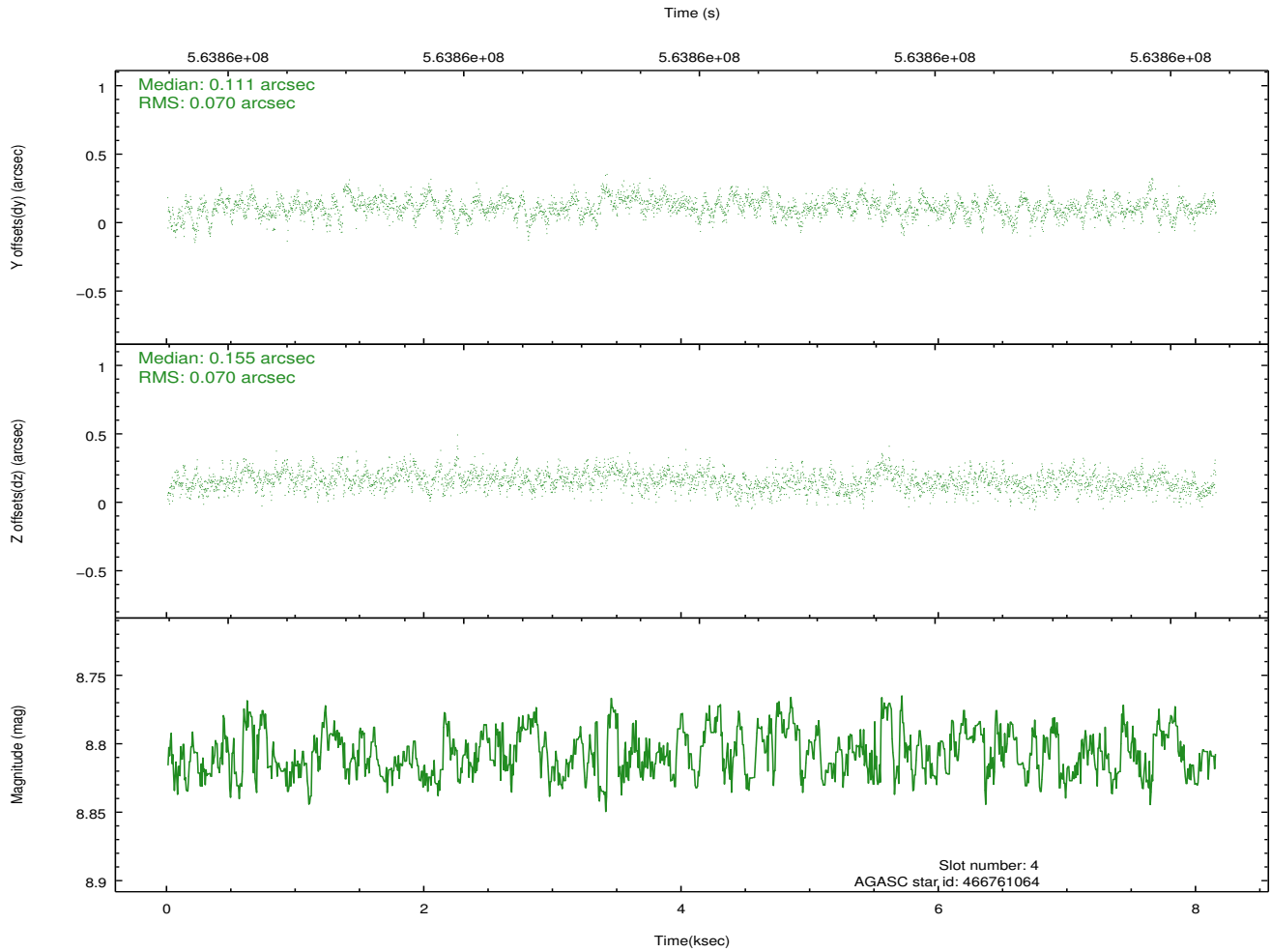
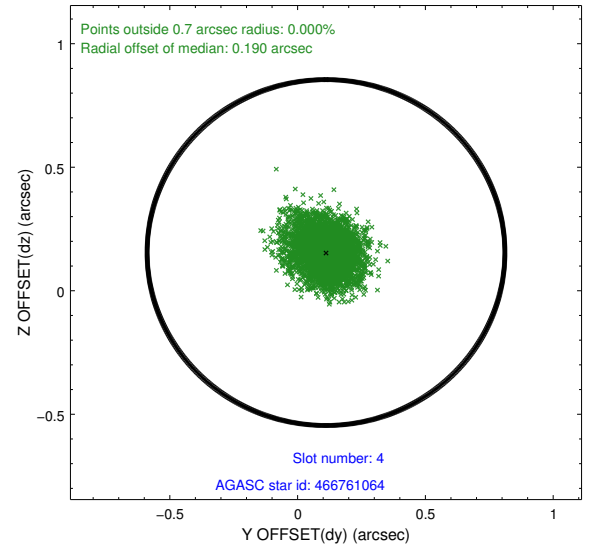
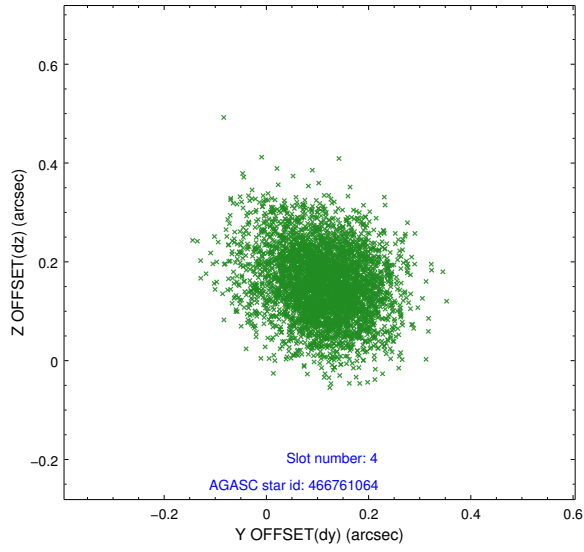
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-4	7.23	1988	0.277	0.002	0.006	0.011	0.000000	0.000000	2149.87	171.74
1	FID		ACIS-S-5	7.26	1988	-0.315	-0.002	0.009	0.016	0.000000	0.000000	-1816.03	165.13
2	FID		ACIS-S-6	7.37	1988	0.009	0.014	0.010	0.015	0.000000	0.000000	397.09	808.97
3	GUIDE	used	466755080	8.10	3975	0.088	0.260	0.090	0.144	296.626318	48.453649	-1794.60	-2209.90
4	GUIDE	used	466761064	8.81	3973	0.111	0.155	0.105	0.173	296.930524	47.552995	1529.27	-2207.83
5	GUIDE	used	466897880	6.80	3976	-0.094	-0.149	0.110	0.170	298.255189	47.807718	1305.29	1123.23
6	GUIDE	used	466887184	8.53	3971	0.034	0.034	0.094	0.153	298.452209	48.290064	-301.63	1935.64
7	GUIDE	used	466890400	6.99	3975	-0.134	-0.305	0.094	0.152	298.622071	47.913794	1106.38	2068.61

## 2.4 Star Slots

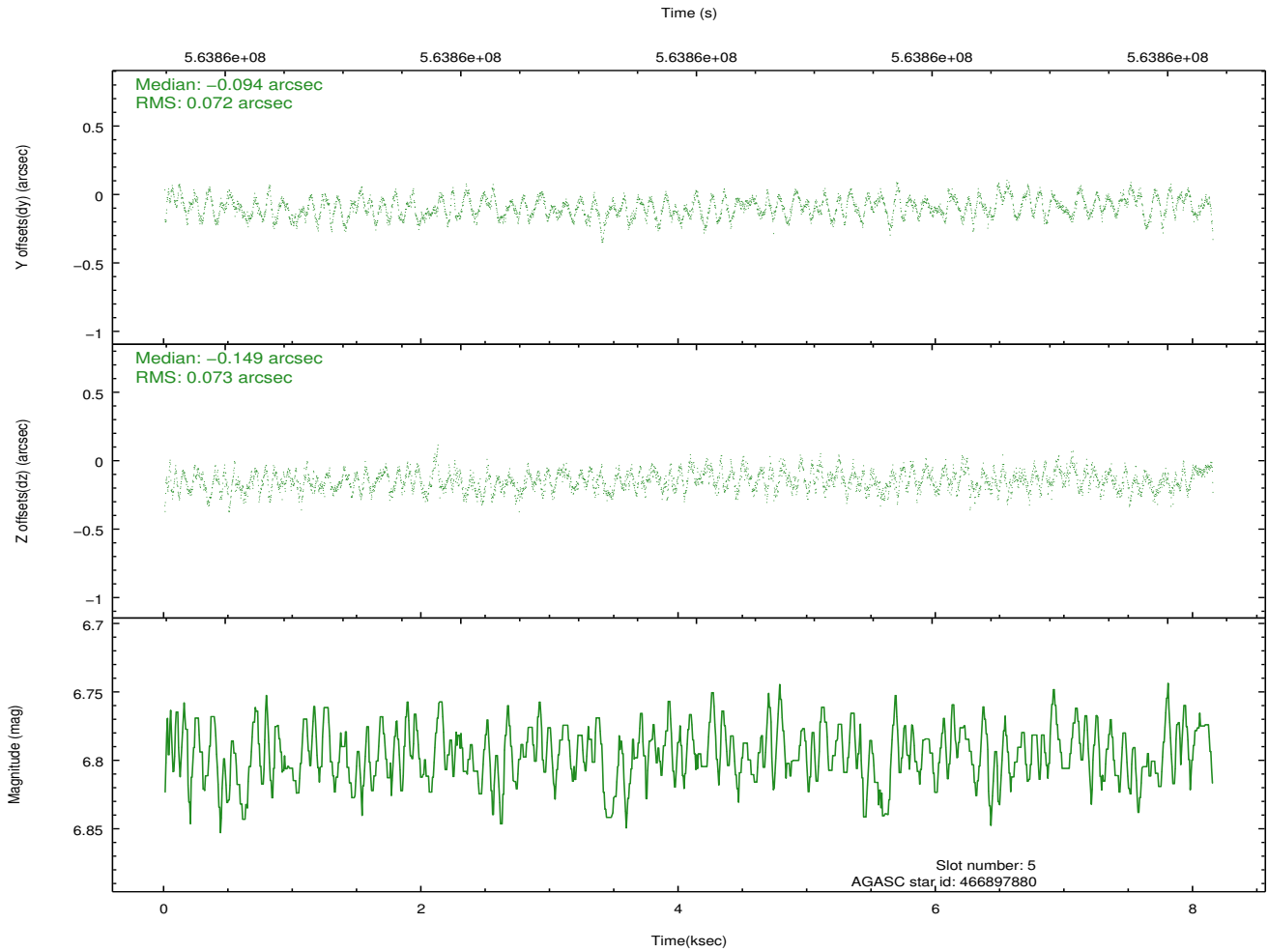
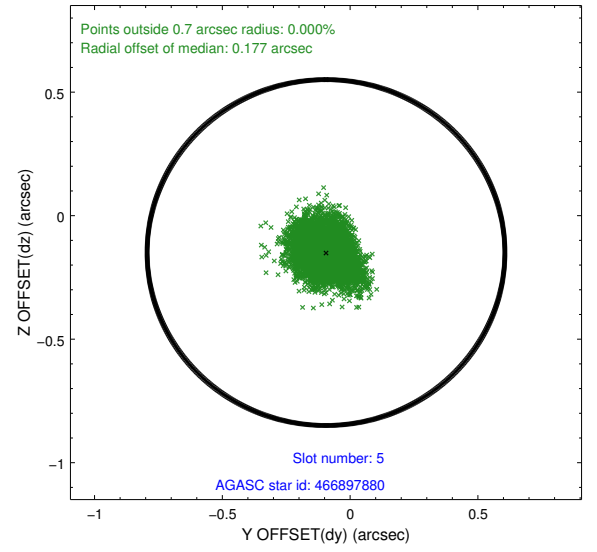
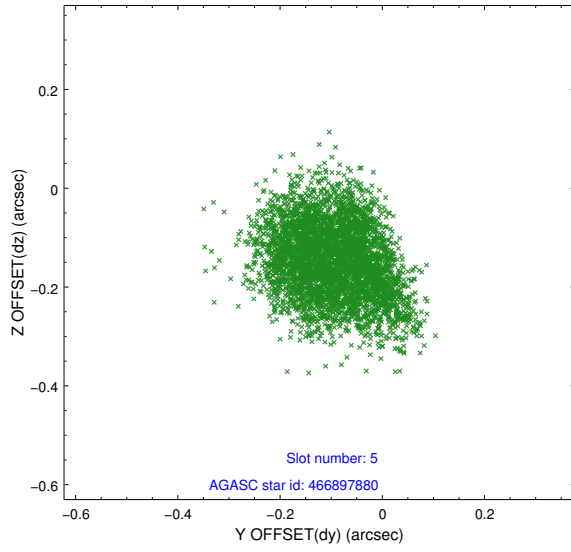
### 2.4.1 Slot 3



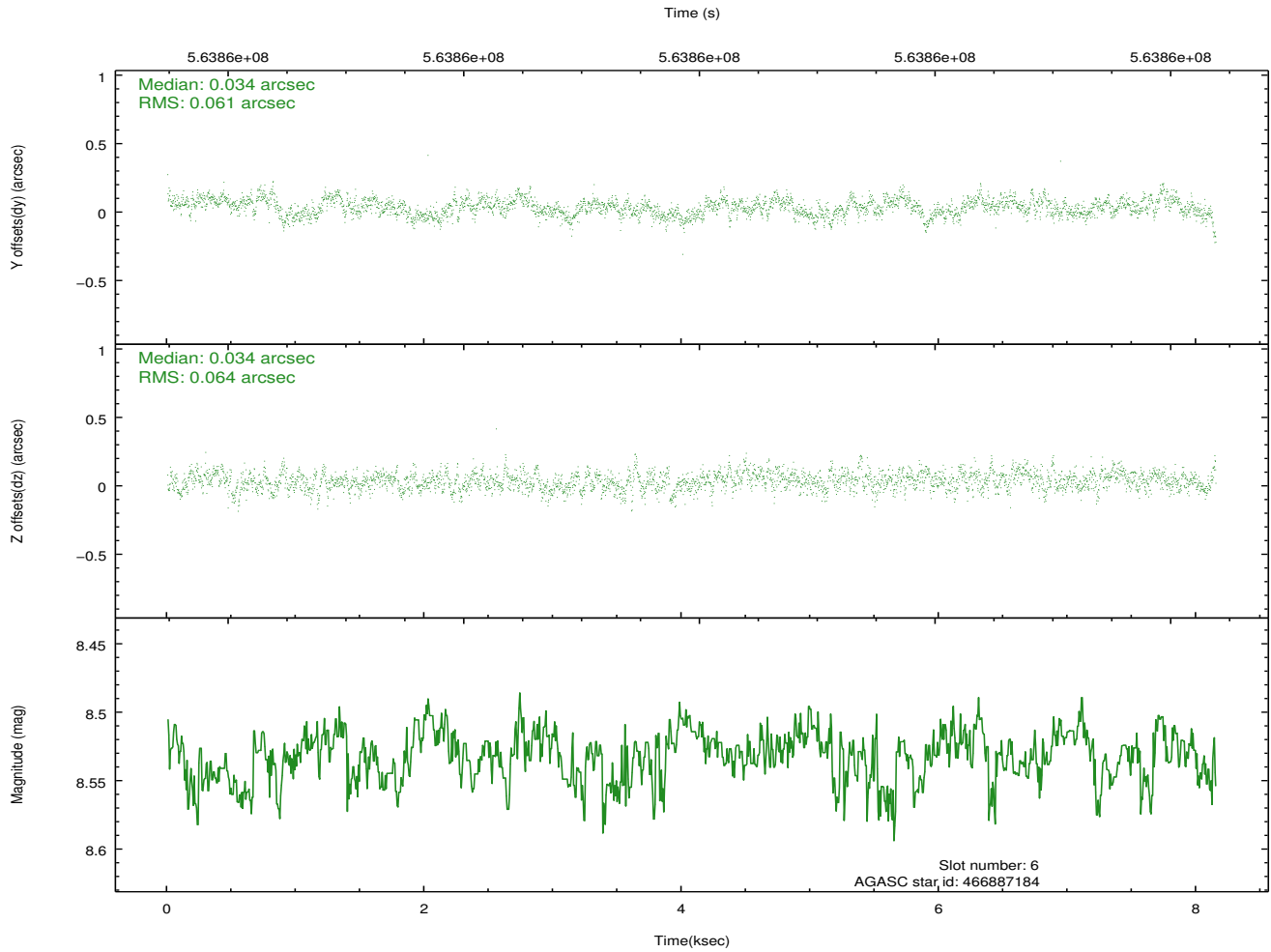
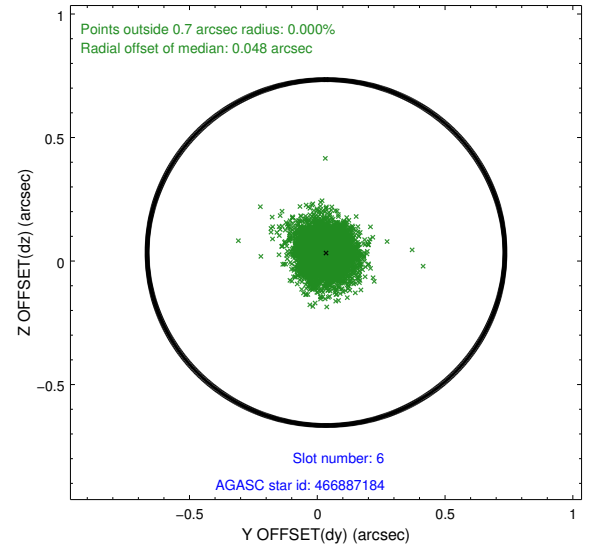
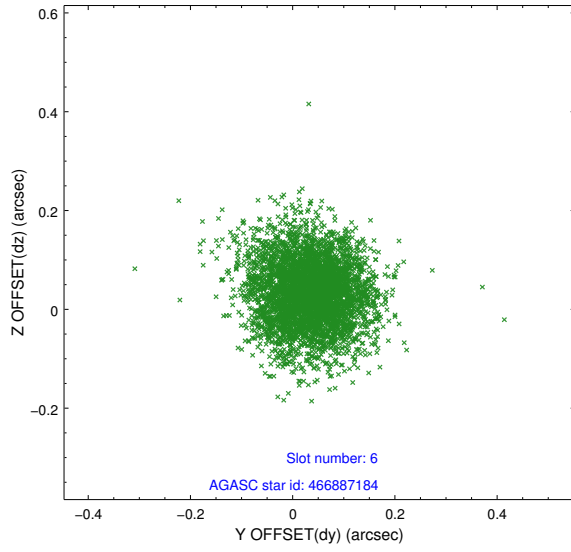
## 2.4.2 Slot 4



### 2.4.3 Slot 5

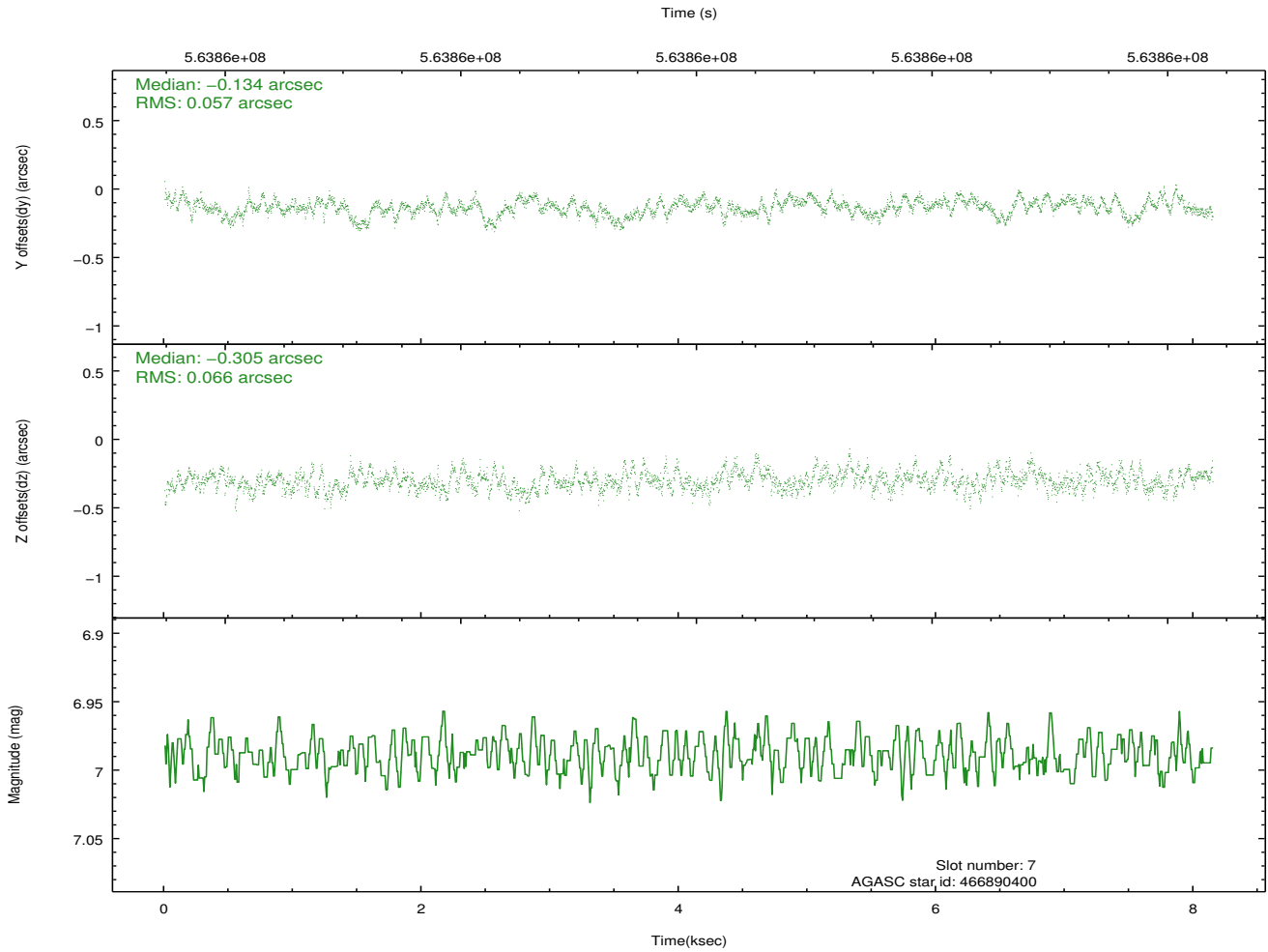
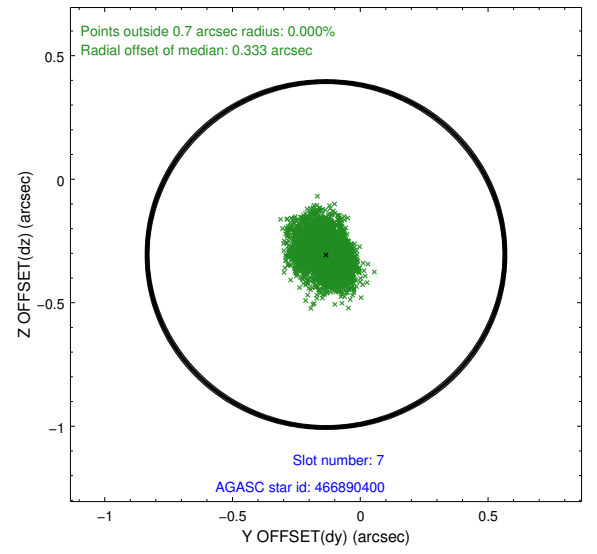
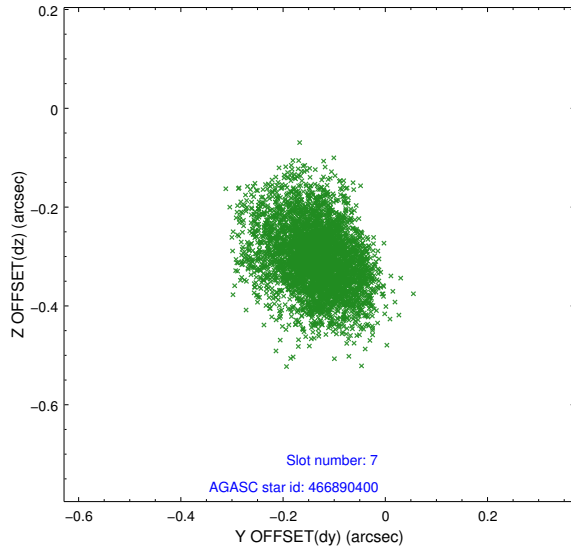


## 2.4.4 Slot 6



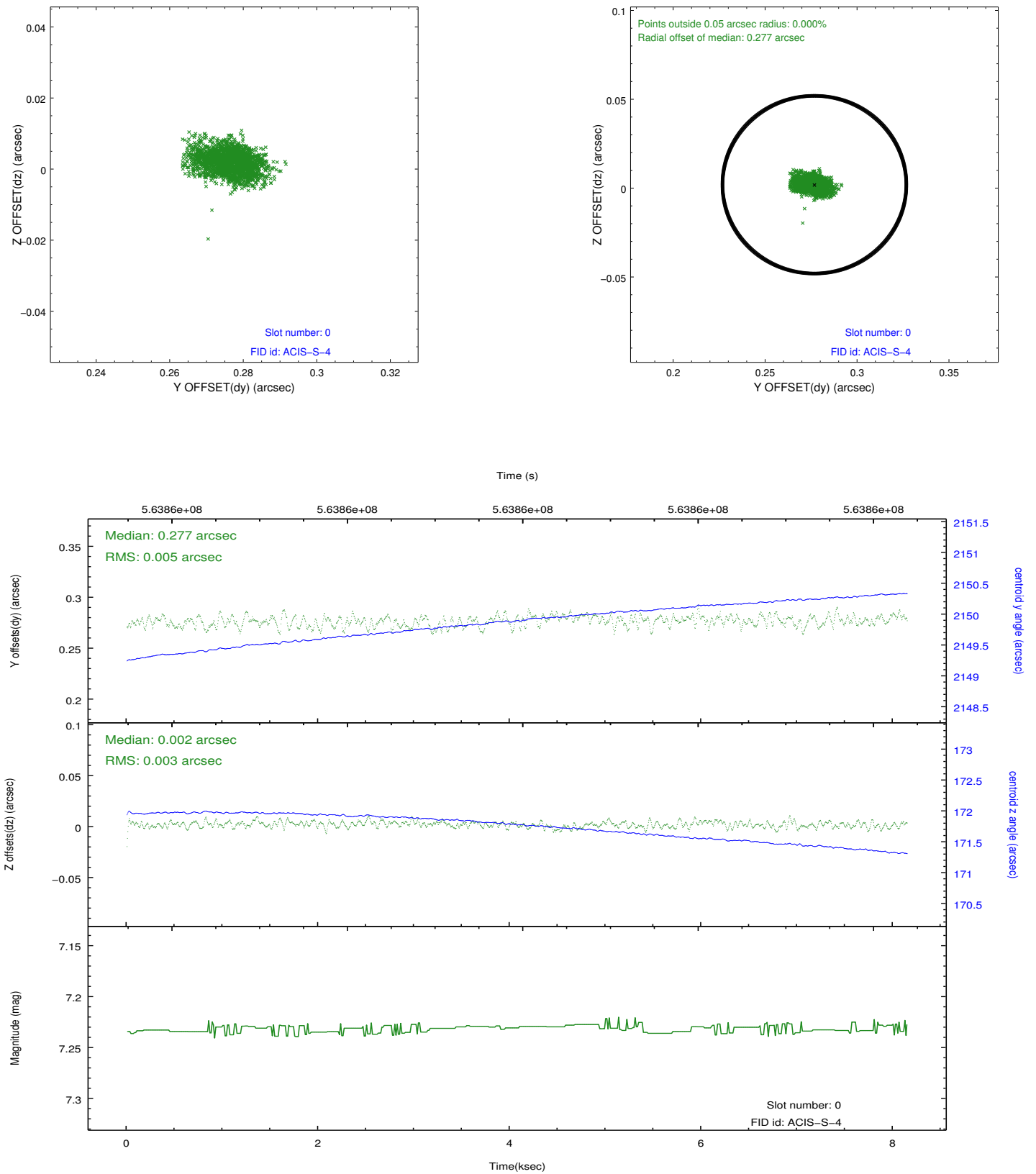


## 2.4.5 Slot 7

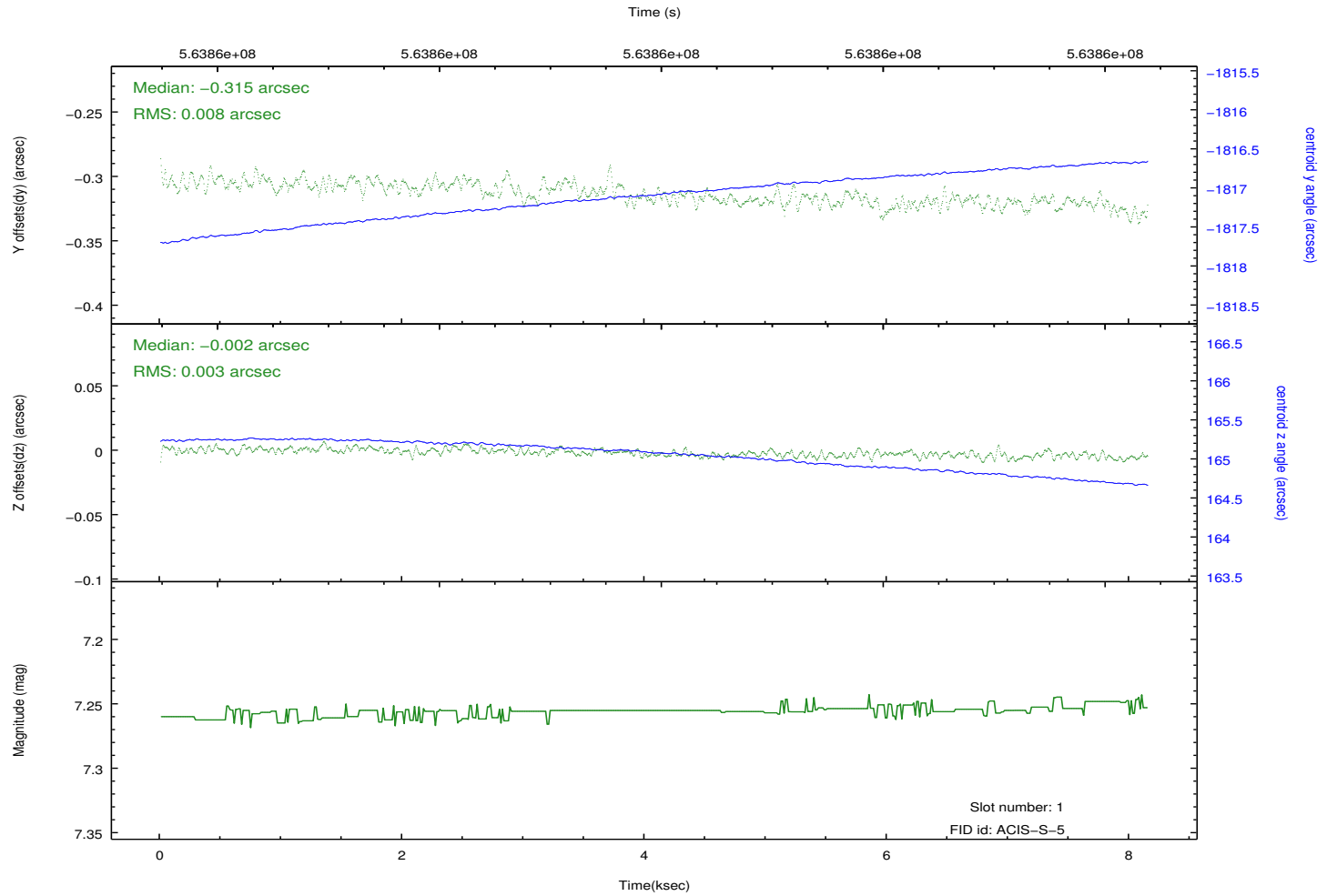
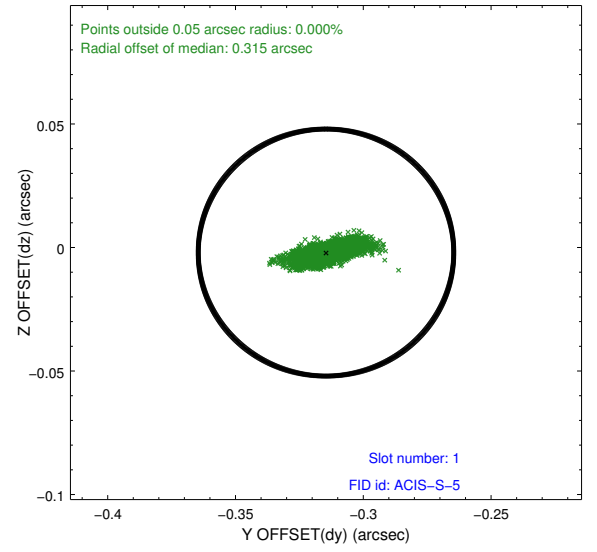
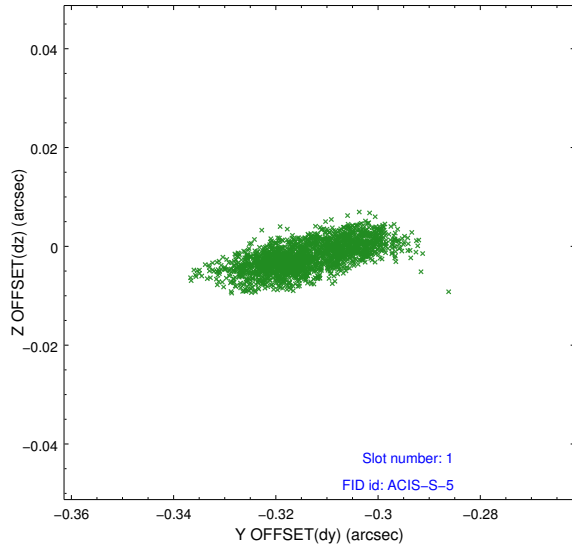


## 2.5 FID Slots

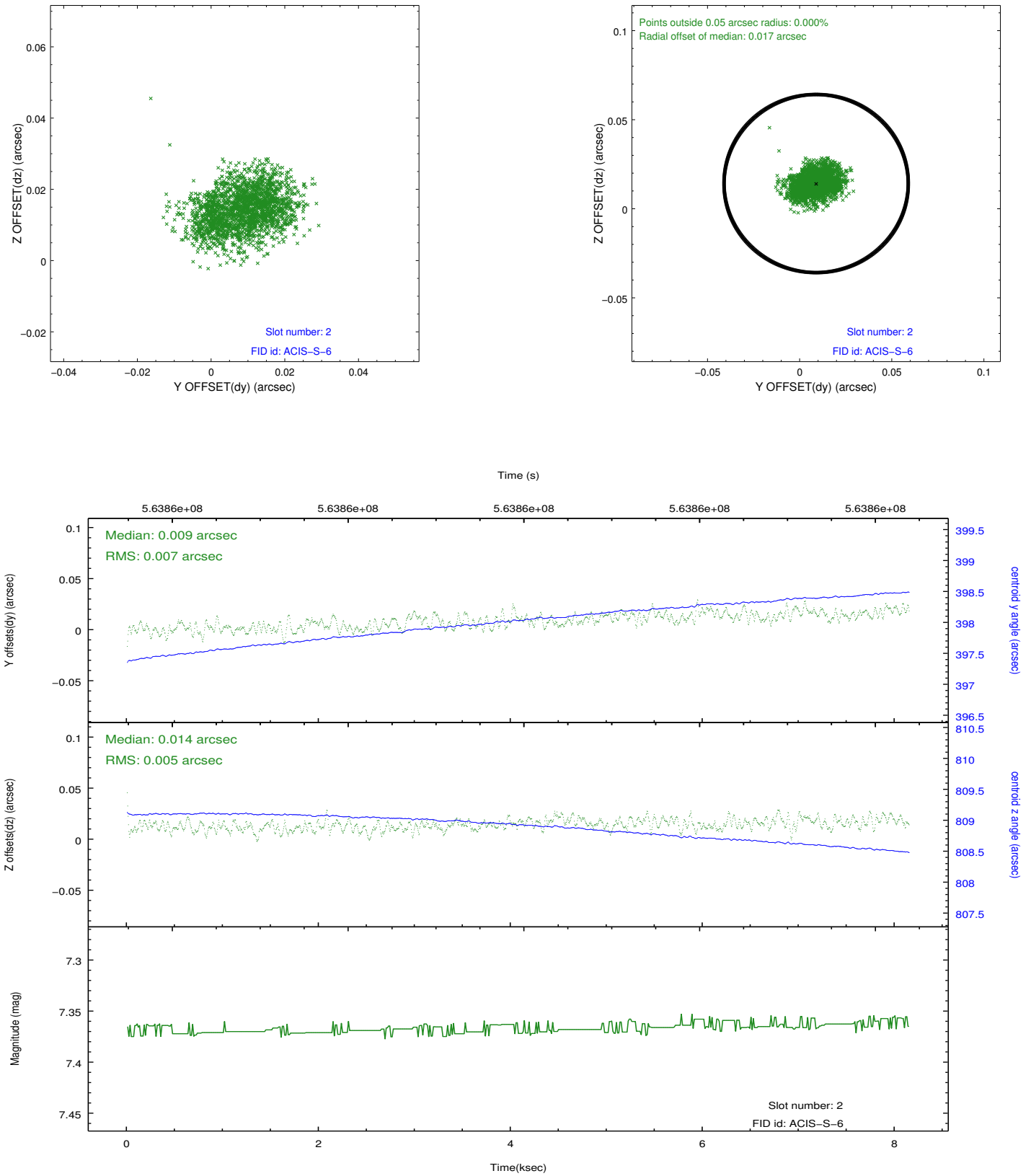
### 2.5.1 Slot 0



## 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)	2015.11.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	8.060000062108

### A.2 Comments