

# V&V Reference Report

## L2 ASCDS Version : 10.5.1.1

Observation 18127 - L2 Version 2  
Chandra X-Ray Center

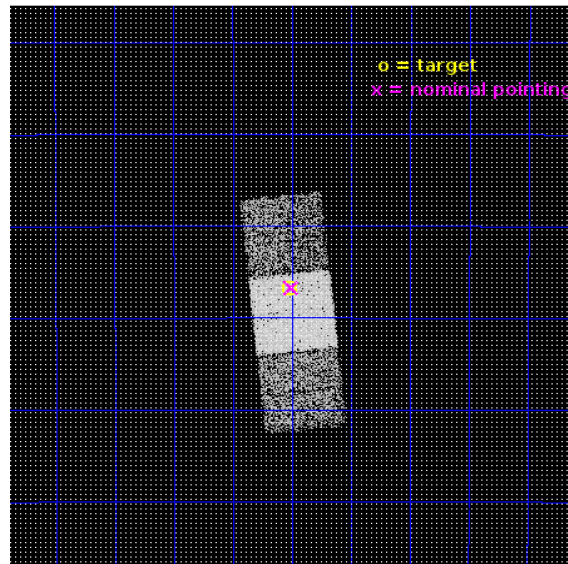
L2 Processing Date : Sep 7 2016

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# 1 Front

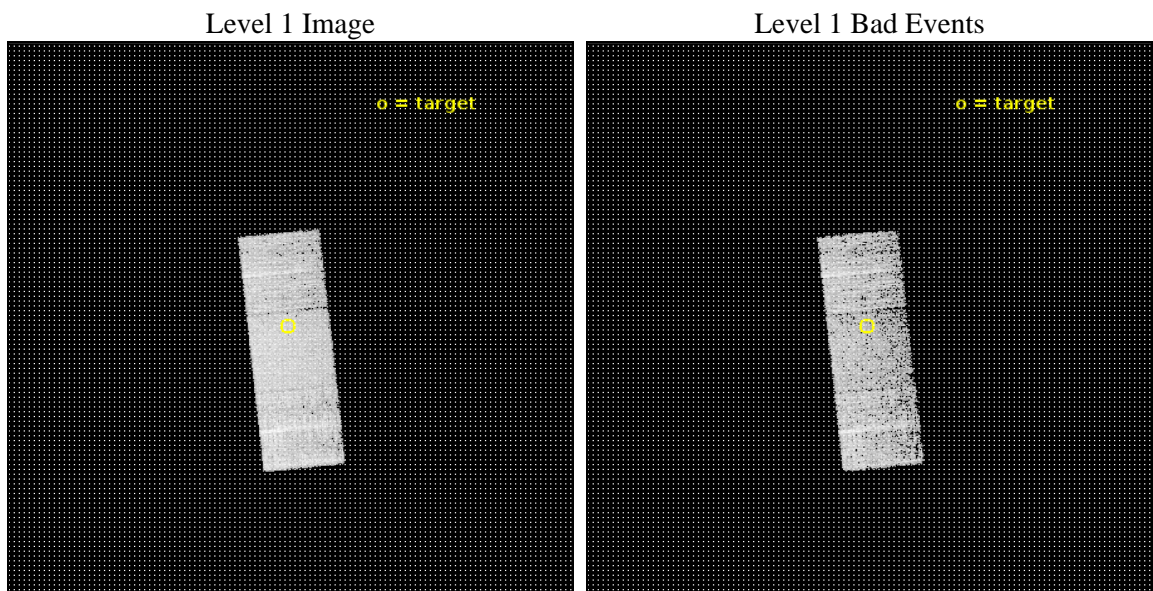
seq_num	703193	Sequence number
obs_id	18127	Observation id
title	X-RAYING FORNAX	Proposal title
observer	Elena Gallo	Principal investigator
object	fcc153	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	53.879167	Observer's specified target RA [deg]
dec_targ	-34.447056	Observer's specified target Dec [deg]
ra_nom	53.875972837149	Nominal RA [deg]
dec_nom	-34.445454817327	Nominal Dec [deg]
roll_nom	83.907345335953	Nominal Roll [deg]
revision	2	Processing version of data
ontime	4913.5000379086	Sum of GTIs [s]
livetime	4849.3015426472	Livetime [s]
ontime6	4913.5000379086	Sum of GTIs [s]
ontime7	4913.5000379086	Sum of GTIs [s]
ontime8	4913.5000379086	Sum of GTIs [s]
l2events	23645	Number of level 2 events



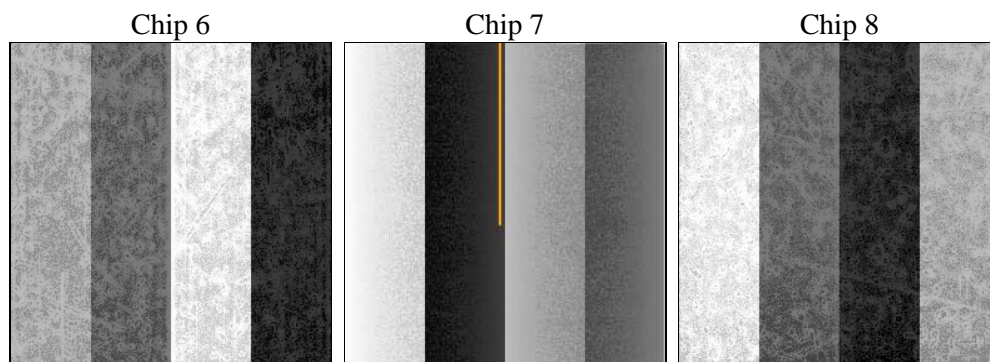
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	4800.613000	[s] Scheduled observation exposure time
ascdsver	10.5.1.1	Processing system revision	ontime	4913.5000379086	Sum of GTIs [s]
caldsver	4.7.2	&#160	ontime6	4913.5000379086	Sum of GTIs [s]
date	2016-09-07T14:13:22	Date and time of file creation	ontime7	4913.5000379086	Sum of GTIs [s]
revision	2	Processing version of data	ontime8	4913.5000379086	Sum of GTIs [s]
			l1events	113301	Number of level 1 events

### 2.1.4 Events

	<b>ccd 6</b>	<b>ccd 7</b>	<b>ccd 8</b>
level 1 events	31538	39851	41912
rejected events	28015	22561	30856
rejected %	88%	56%	73%

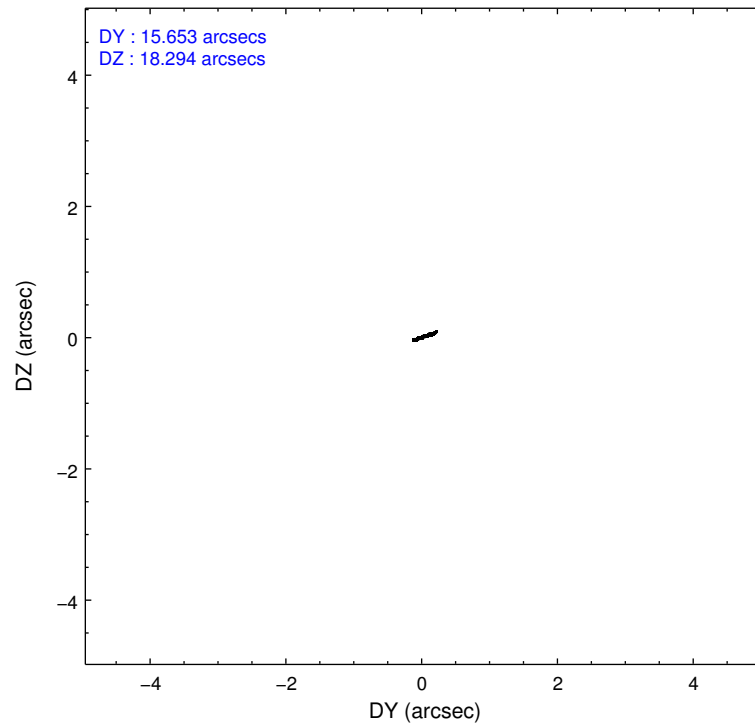
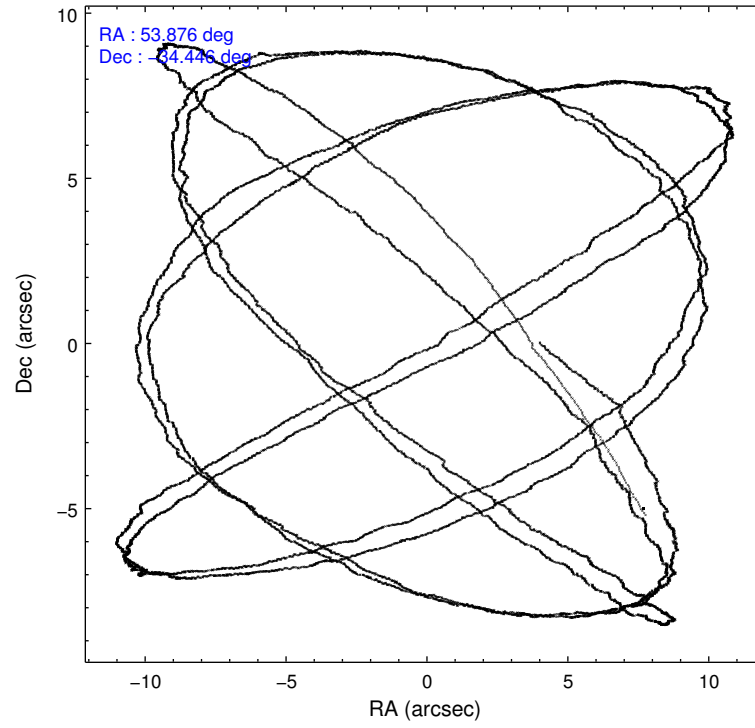
	<b>ccd 6</b>	<b>ccd 7</b>	<b>ccd 8</b>
grade 0 events	1143	1428	3274
	3%	3%	7%
grade 1 events	6	47	38
	0%	0%	0%
grade 2 events	806	3648	2658
	2%	9%	6%
grade 3 events	367	1383	1144
	1%	3%	2%
grade 4 events	342	1353	1040
	1%	3%	2%
grade 5 events	1465	3811	2199
	4%	9%	5%
grade 6 events	871	9496	2964
	2%	23%	7%
grade 7 events	26538	18685	28595
	84%	46%	68%

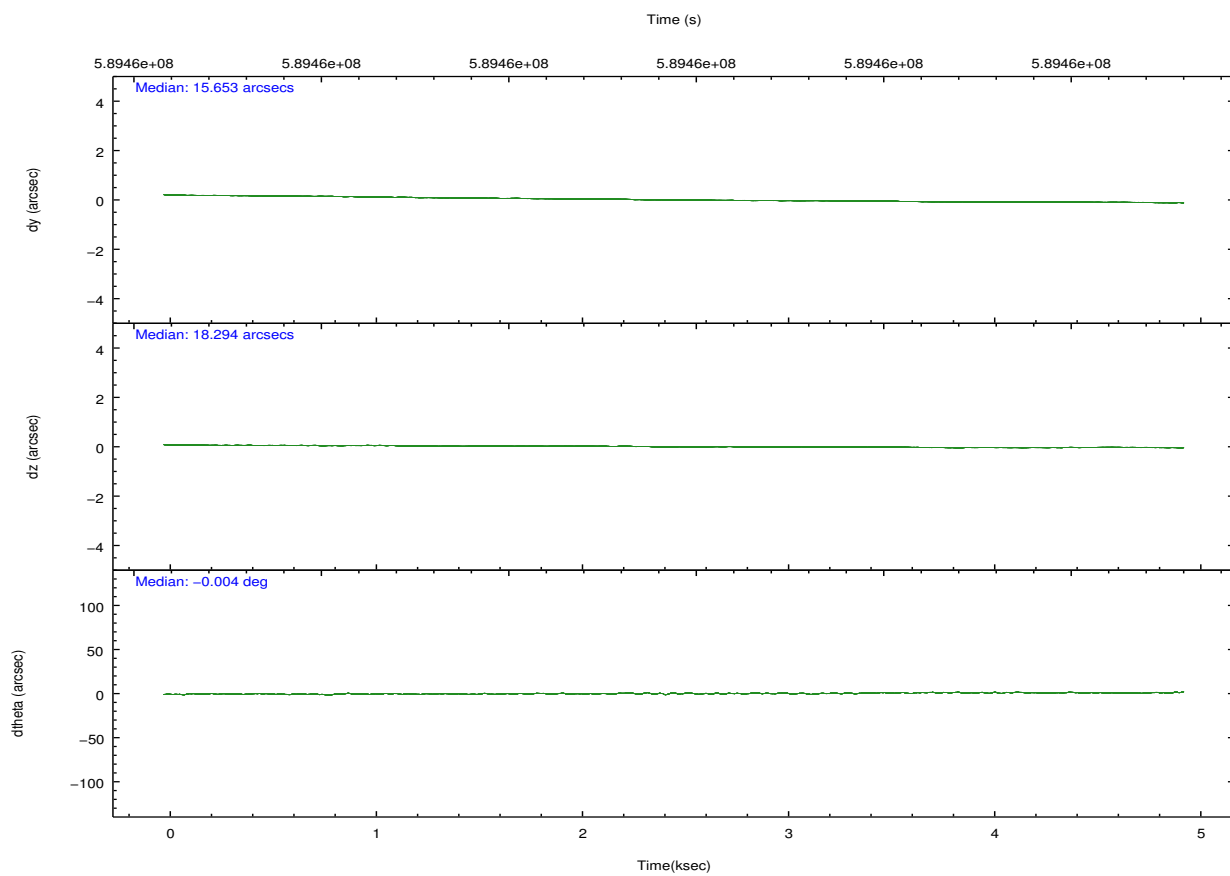
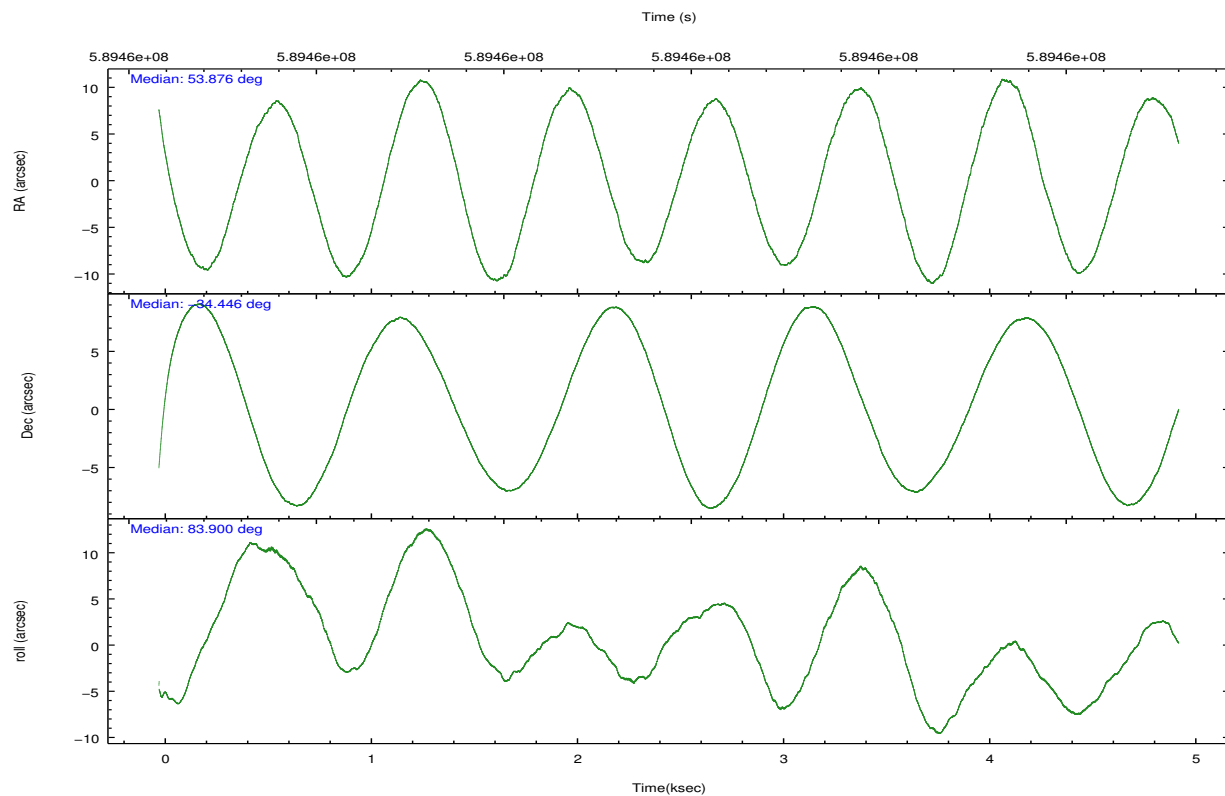
## 2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-678	ACIS-678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	53.889890	53.87597283714914
[deg] Pointing Dec	-34.470378	-34.44545481732738
[deg] Pointing Roll	83.758601	83.90734533595324
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1425803651734
[mm] SIM translation stage offset	0	0.01005778216563158
[s] Observation start time (MET)	589460533.184000	589459313.6774499
Observation start date	2016-09-05T11:01:05	2016-09-05T10:41:53
[s] Observation end time (MET)	589465334.184000	589465556.95281
Observation end date	2016-09-05T12:21:06	2016-09-05T12:25:56
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	N	N
CCD I3 on	N	N
CCD S0 on	N	N
CCD S1 on	N	N
CCD S2 on	O2	Y
CCD S3 on	Y	Y
CCD S4 on	O1	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



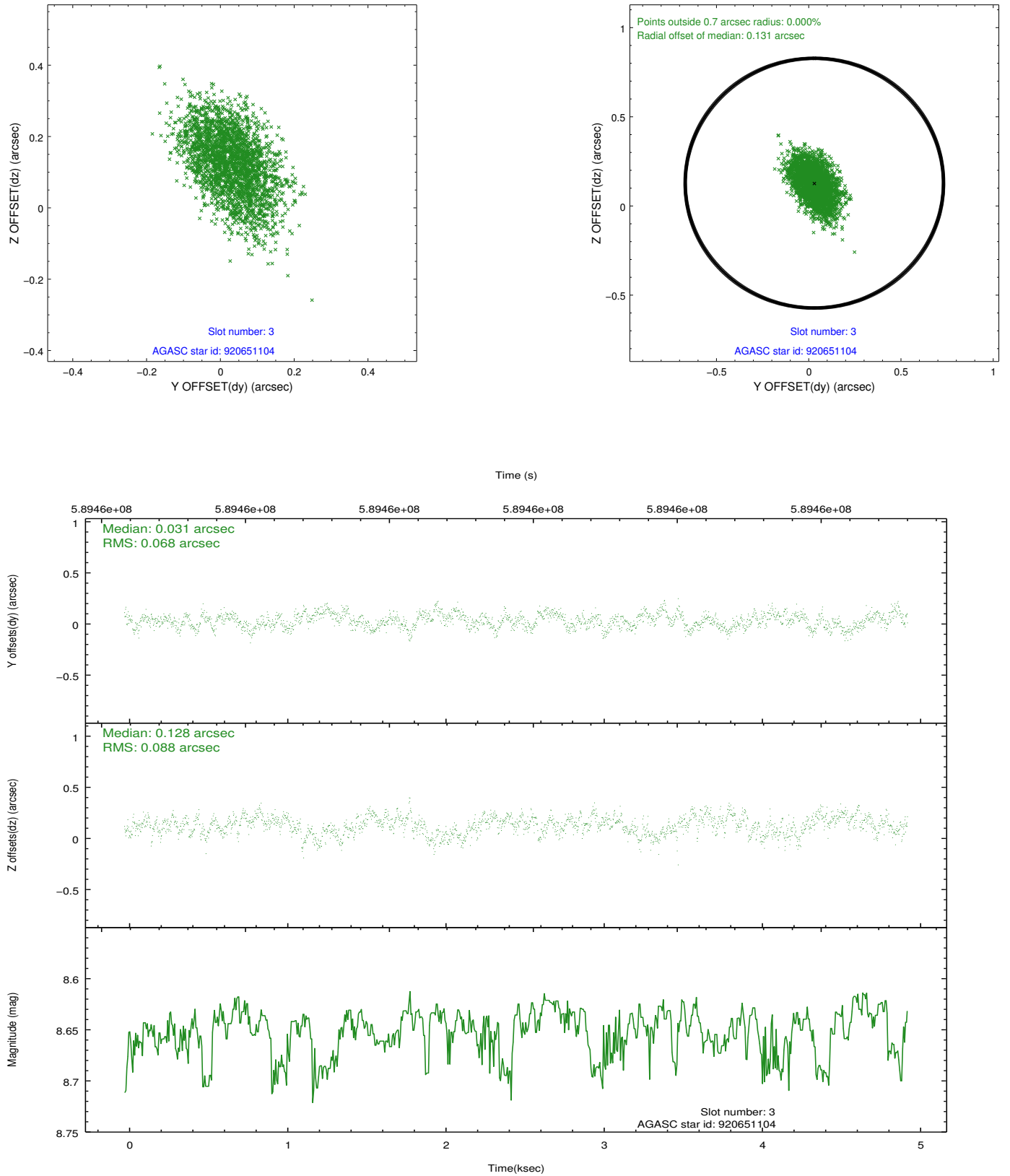


### Slot Statistics

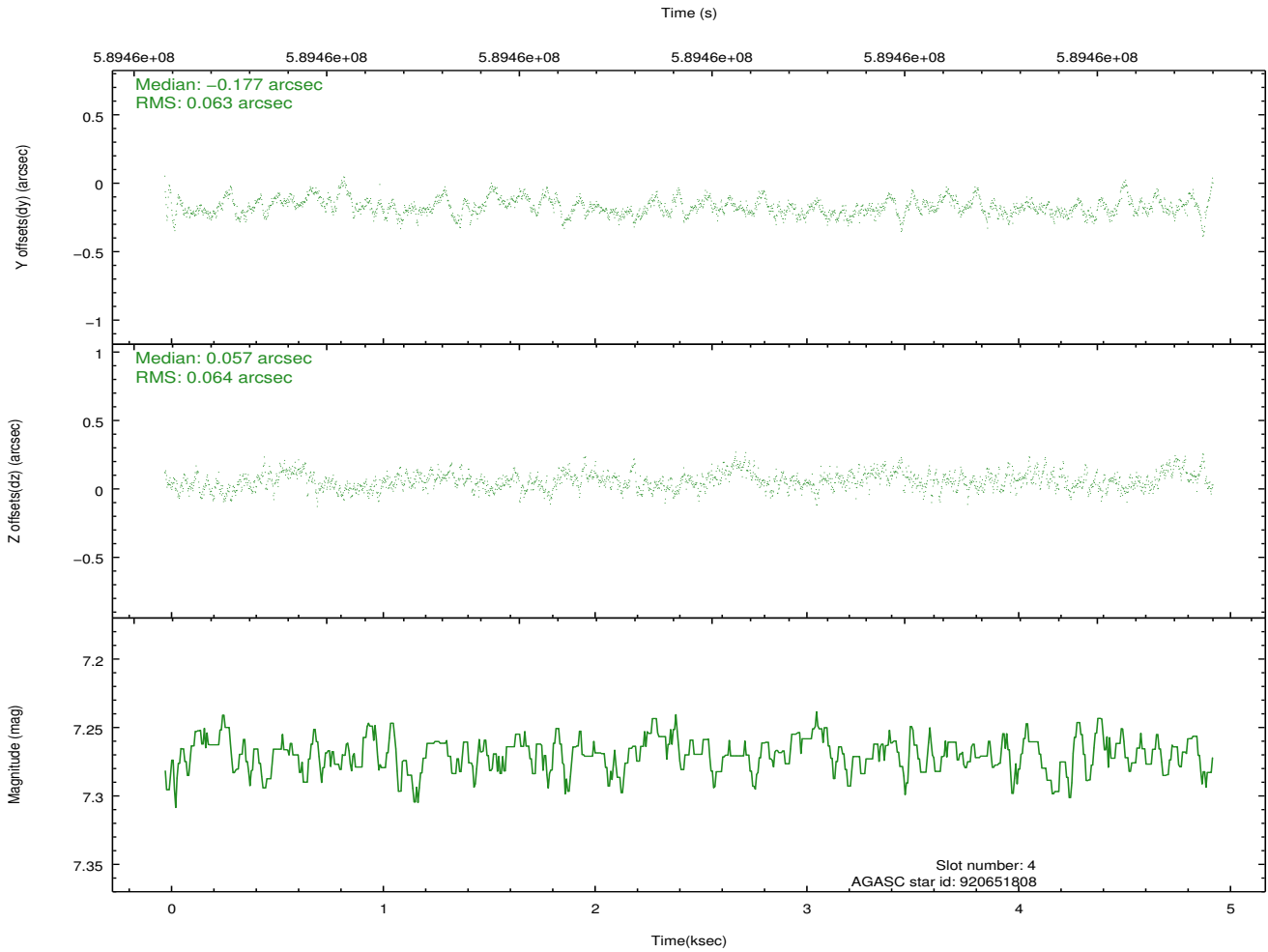
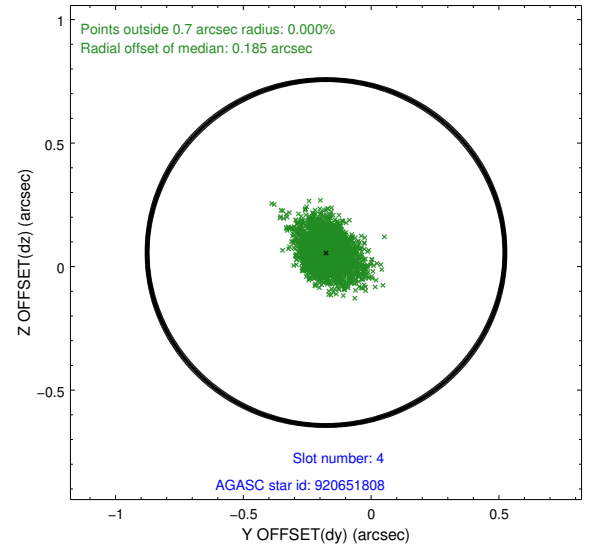
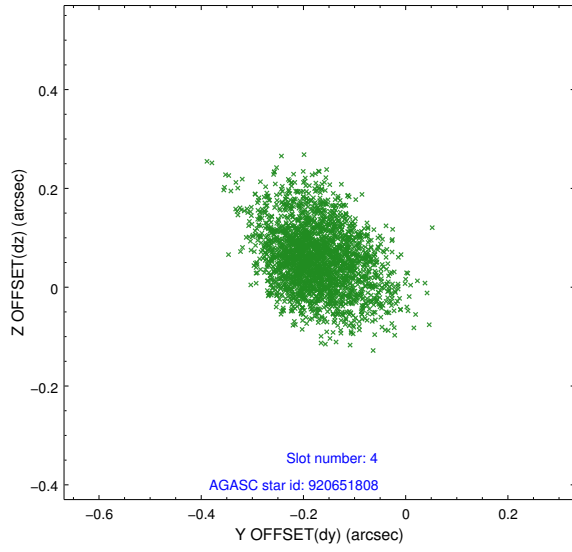
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.07	1207	-0.183	-0.117	0.008	0.014	0.000000	0.000000	-768.86	-1739.83
1	FID		ACIS-S-4	7.17	1207	0.434	0.120	0.006	0.012	0.000000	0.000000	2144.49	167.59
2	FID		ACIS-S-5	7.17	1207	-0.282	0.006	0.011	0.019	0.000000	0.000000	-1820.21	162.58
3	GUIDE	used	920651104	8.65	2414	0.031	0.128	0.117	0.192	53.495721	-34.796351	-1295.42	1030.68
4	GUIDE	used	920651808	7.27	2415	-0.177	0.057	0.095	0.159	53.624364	-34.832415	-1383.22	638.63
5	GUIDE	used	921569984	8.96	2415	-0.260	0.066	0.142	0.229	54.380660	-33.949644	2019.08	-1252.89
6	GUIDE	used	921571056	8.55	2410	0.346	-0.935	0.105	0.176	54.339011	-34.649674	-498.24	-1394.17
7	GUIDE	used	921575736	8.52	2414	0.056	0.682	0.091	0.151	54.586331	-34.827401	-1060.36	-2186.54

## 2.4 Star Slots

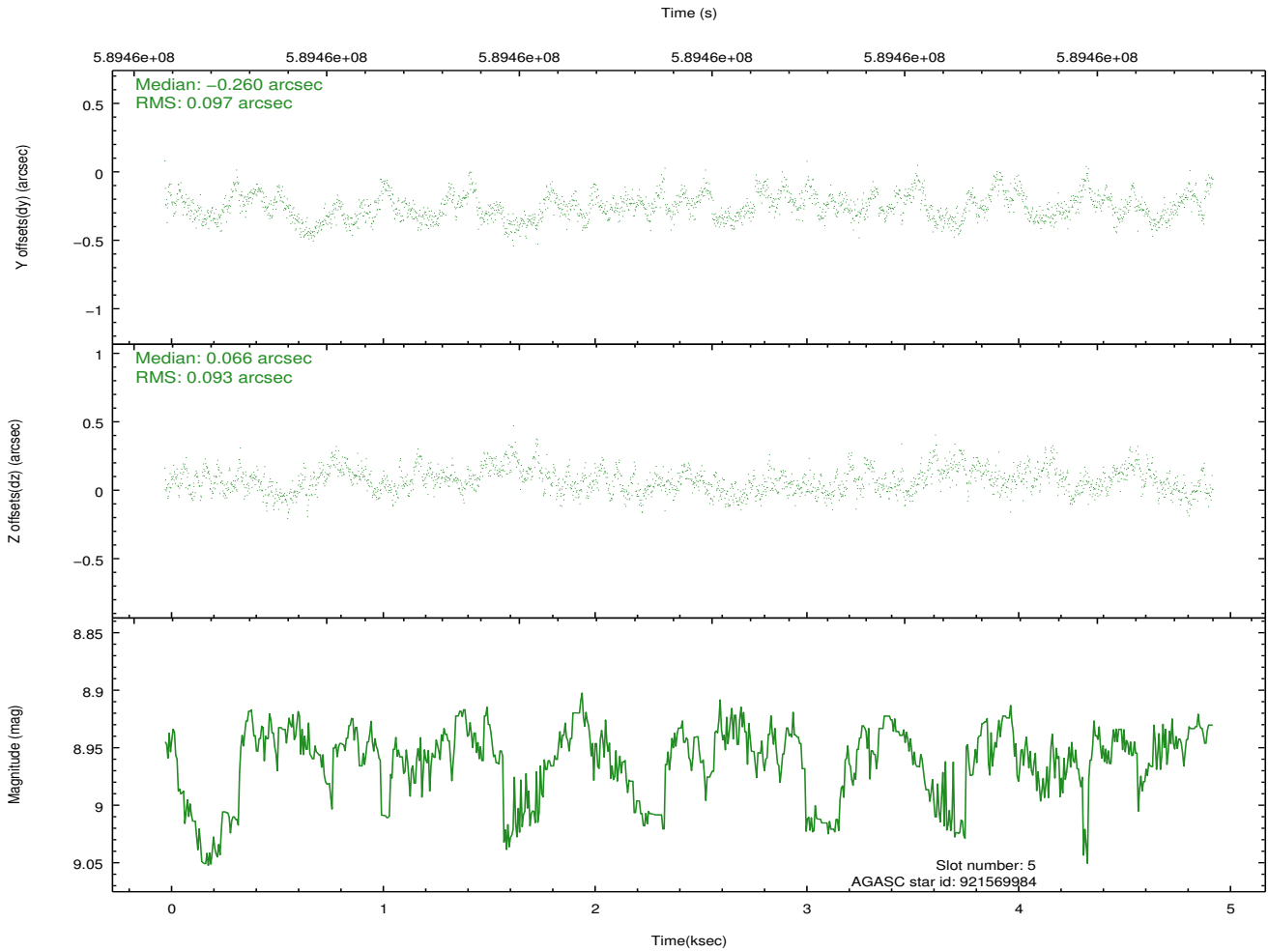
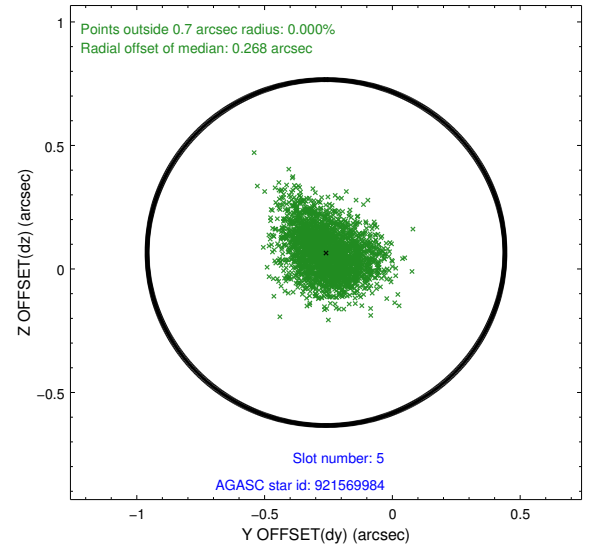
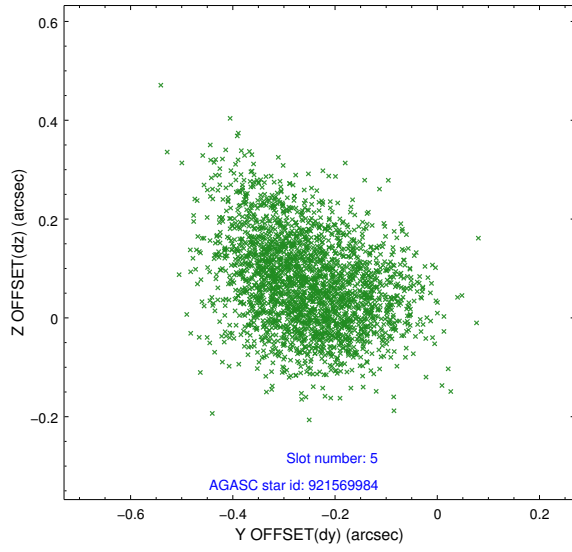
### 2.4.1 Slot 3



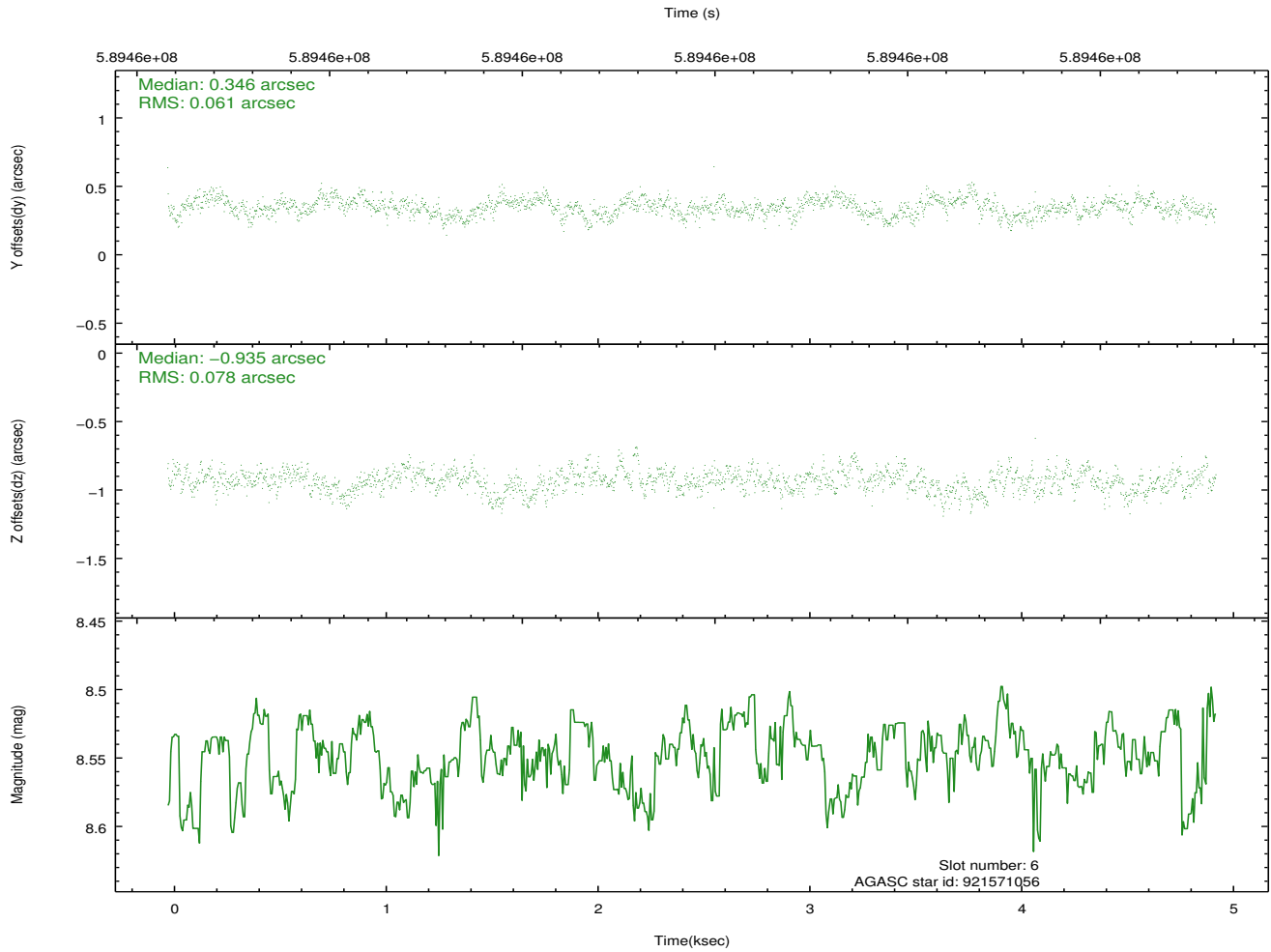
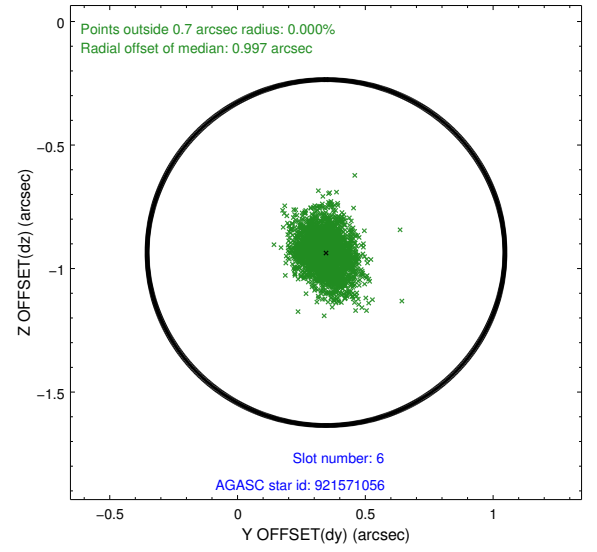
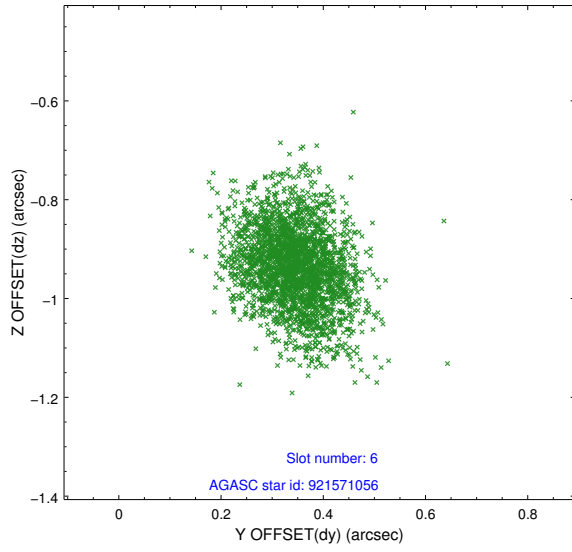
## 2.4.2 Slot 4



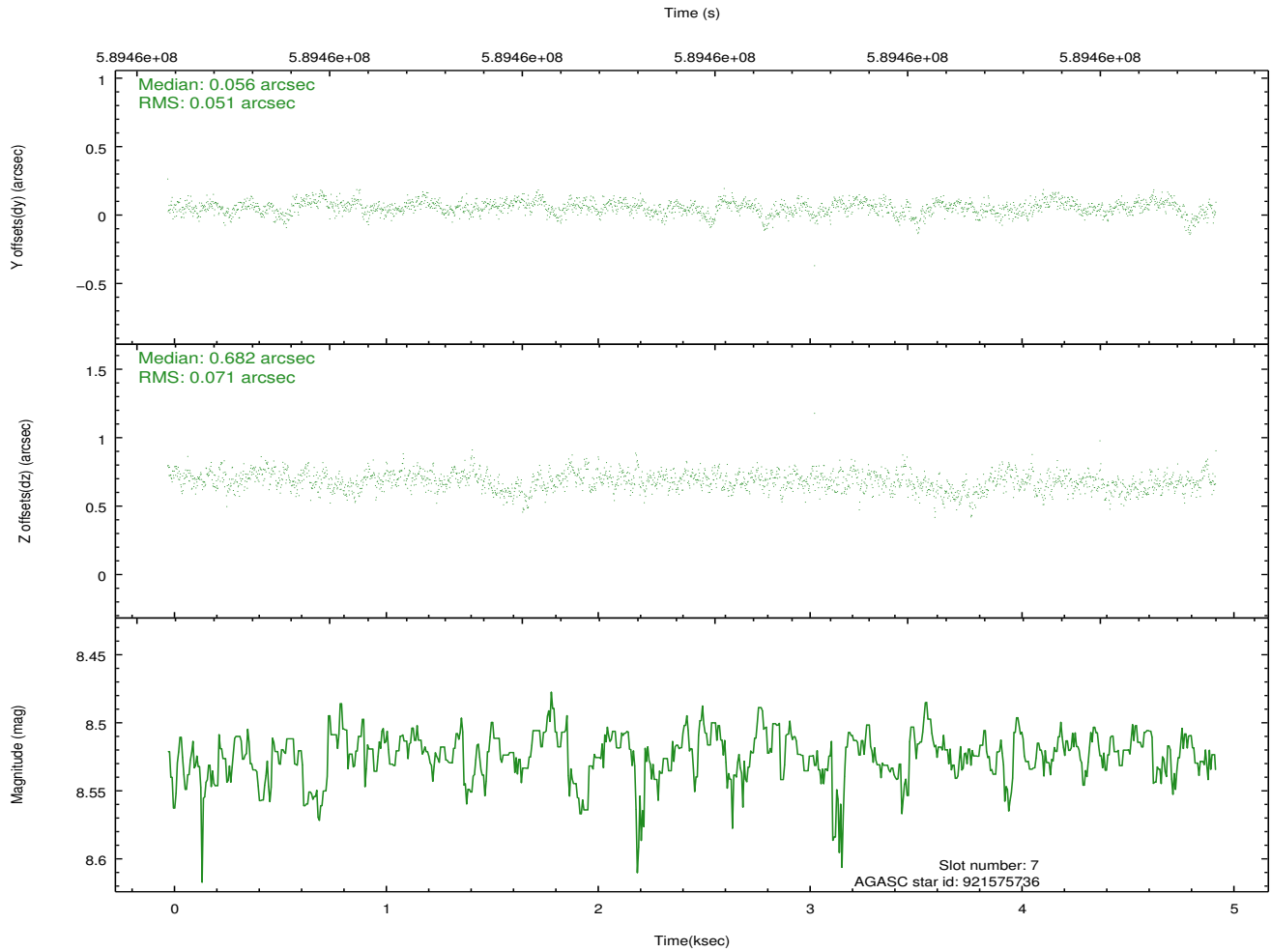
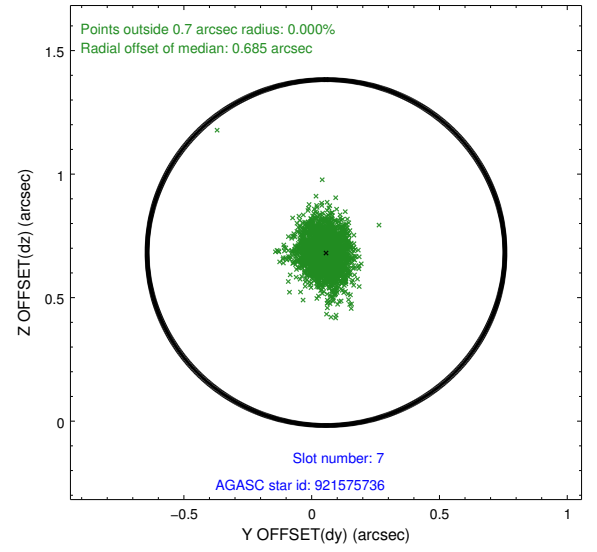
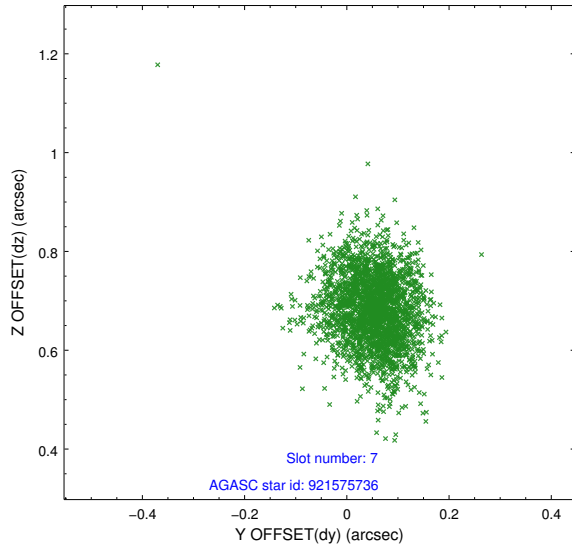
### 2.4.3 Slot 5



## 2.4.4 Slot 6

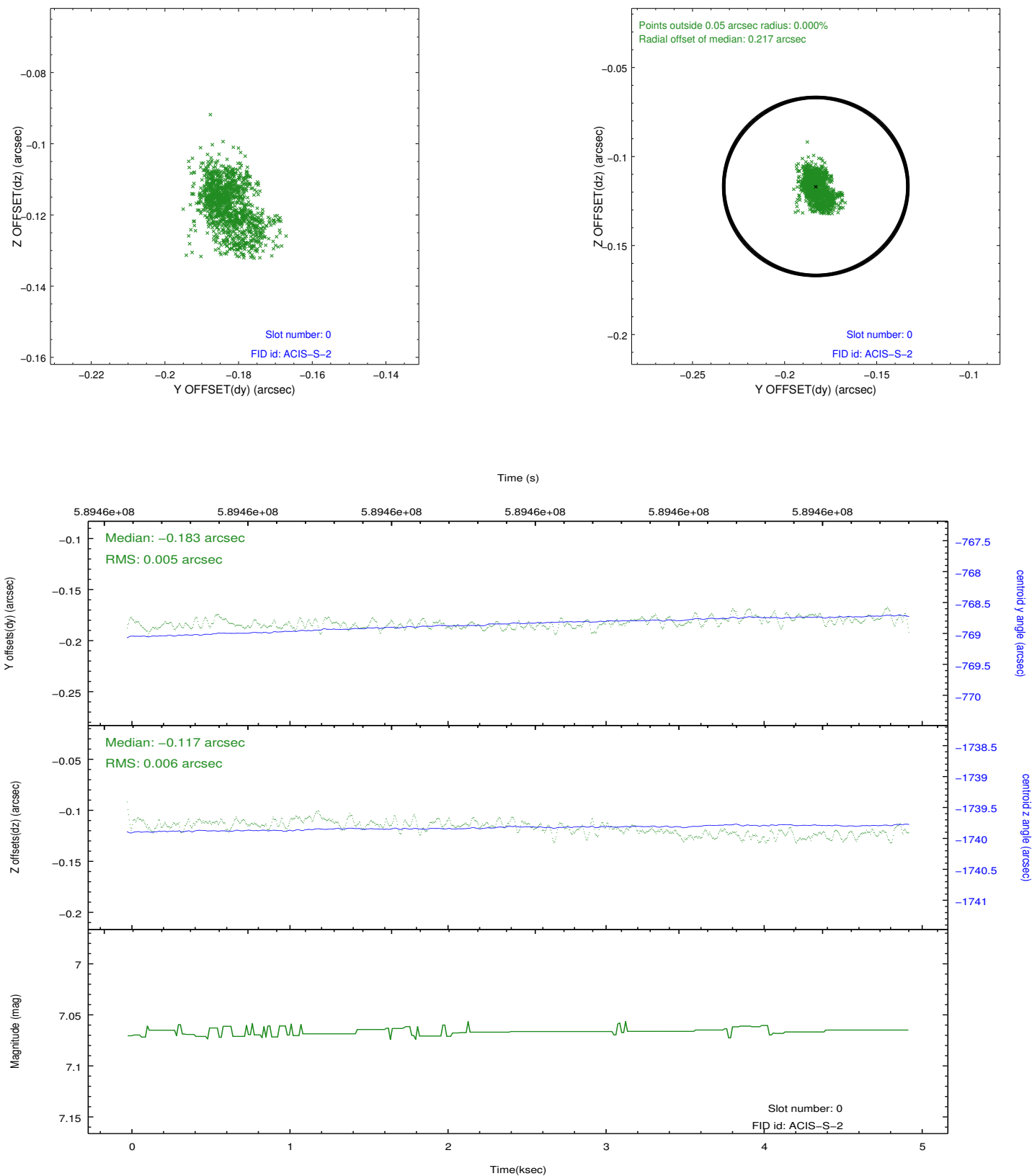


## 2.4.5 Slot 7

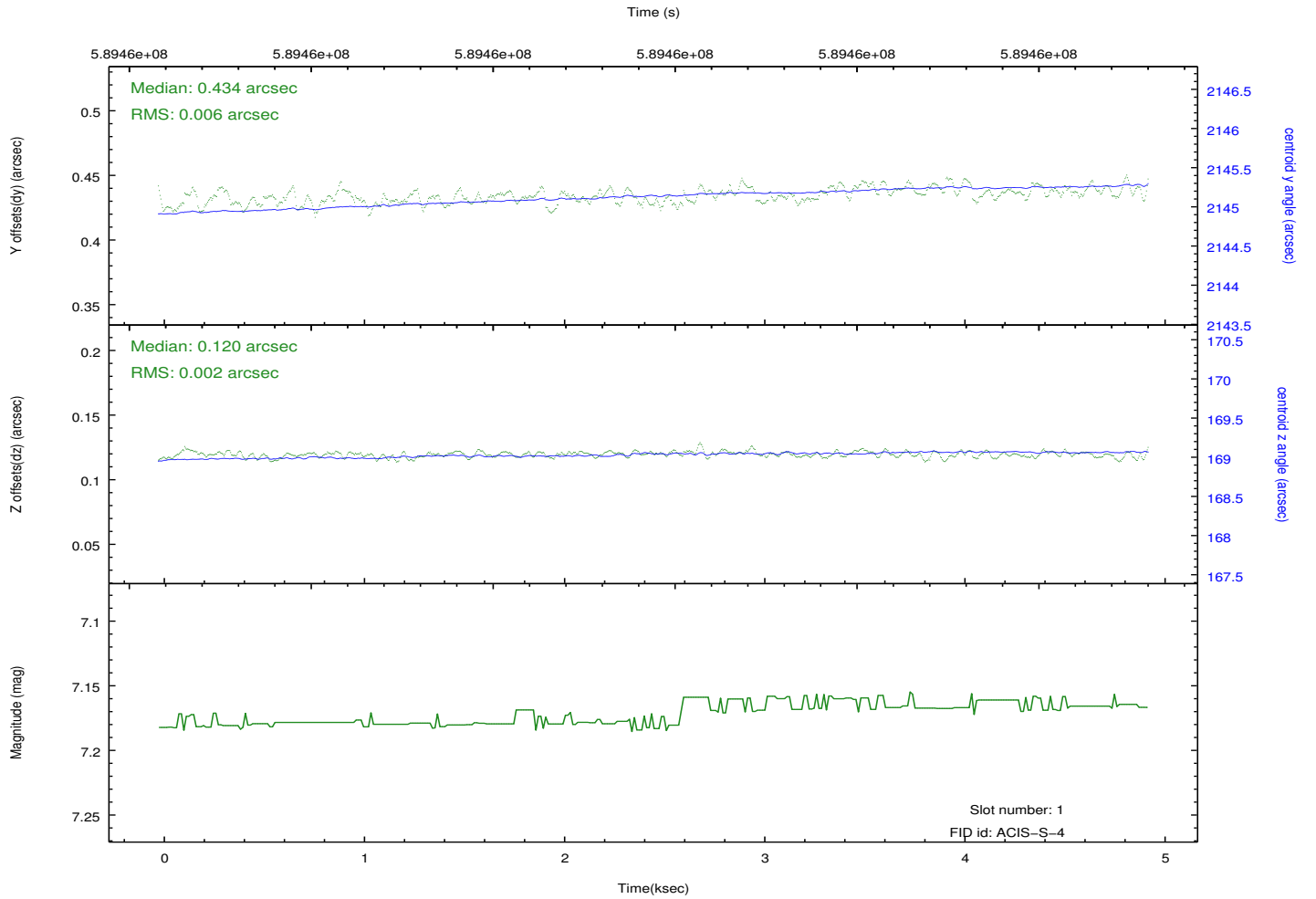
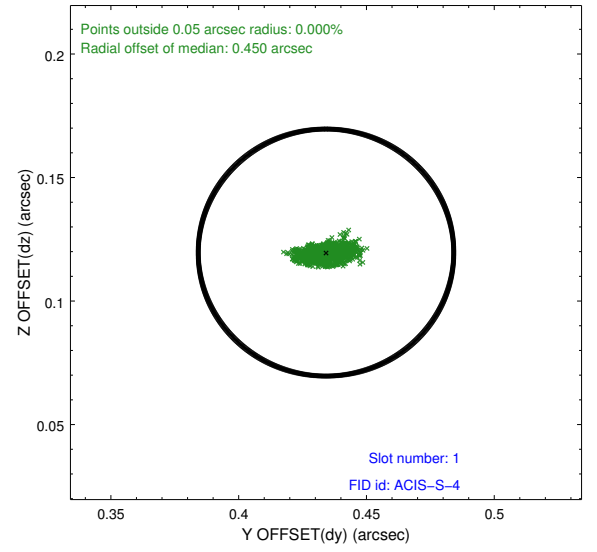
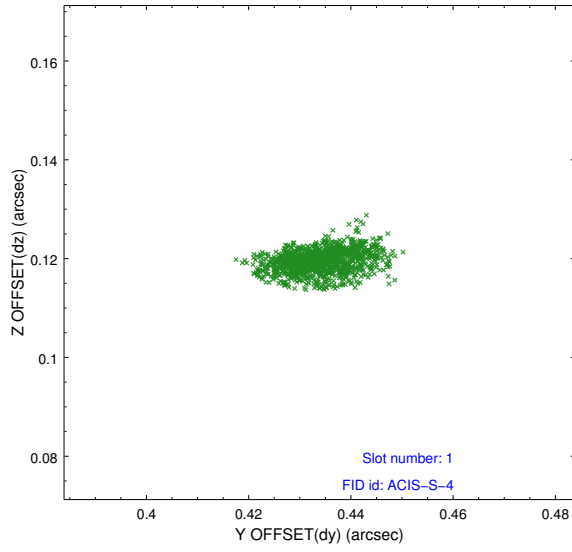


## 2.5 FID Slots

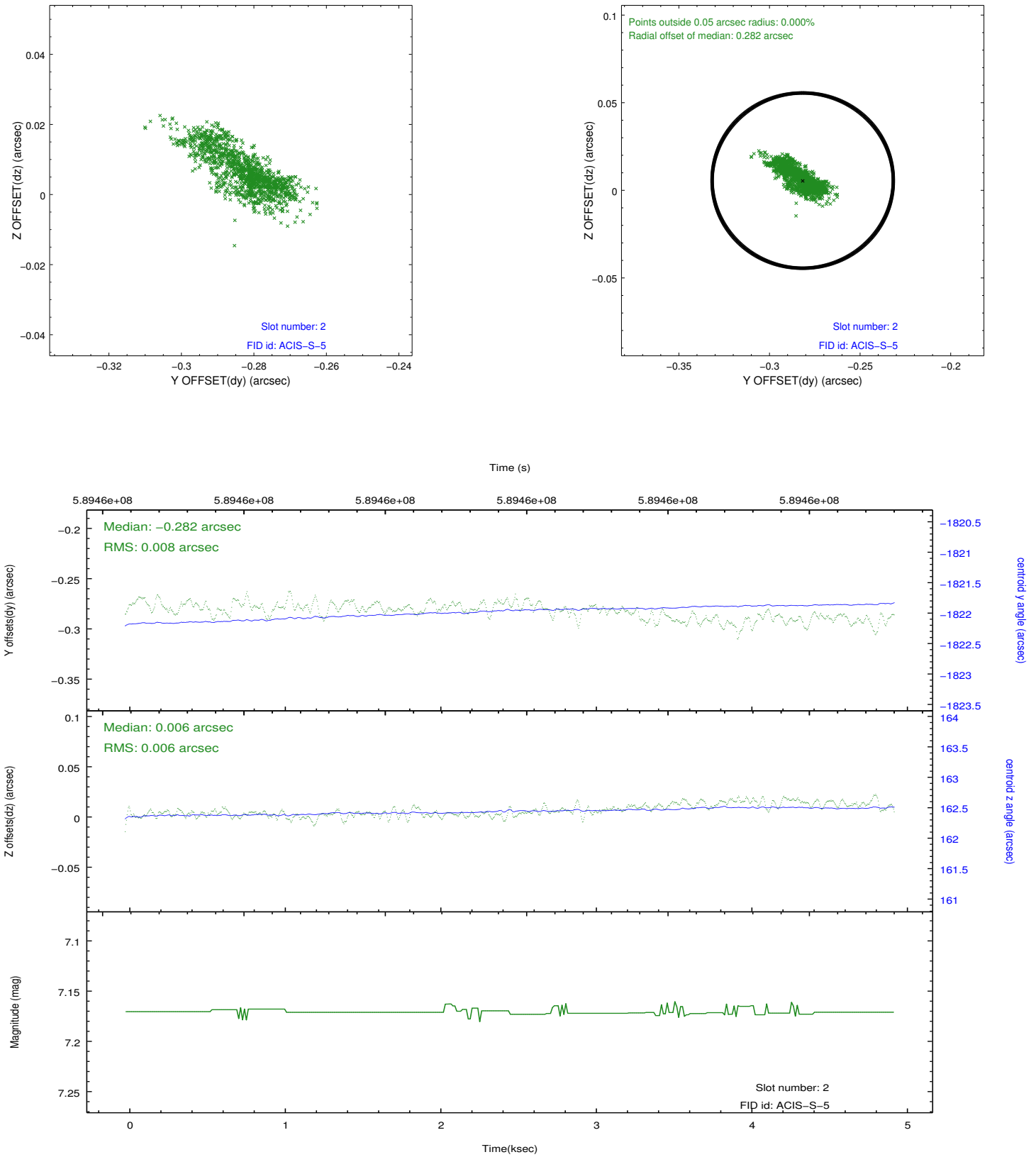
### 2.5.1 Slot 0



## 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)	2016.09.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.9135000379086

## A.2 Comments

A spatial region of the original bias map for CCD = 6 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small ( $\sim 20$  eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 6 has been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels affected by the anomaly are bounded by sky coords:  
(53.80143,-34.38752),(53.80113,-34.38983),(53.96940,-34.40451),(53.96969,-34.40220).