

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 9335 - L2 Version 3  
Chandra X-Ray Center

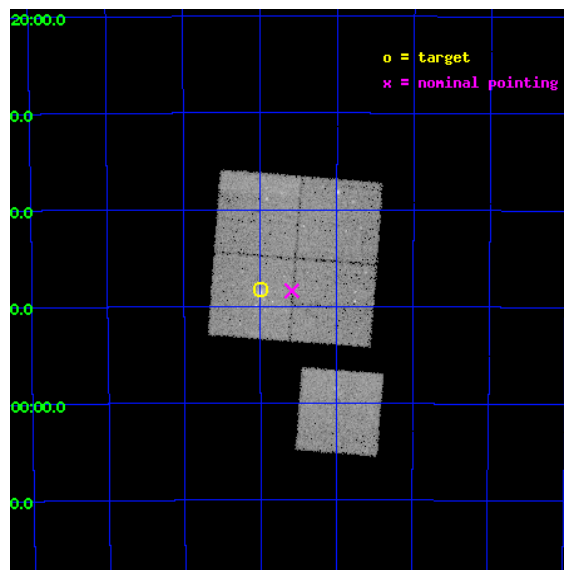
L2 Processing Date : Jun 4 2012

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# 1 Front

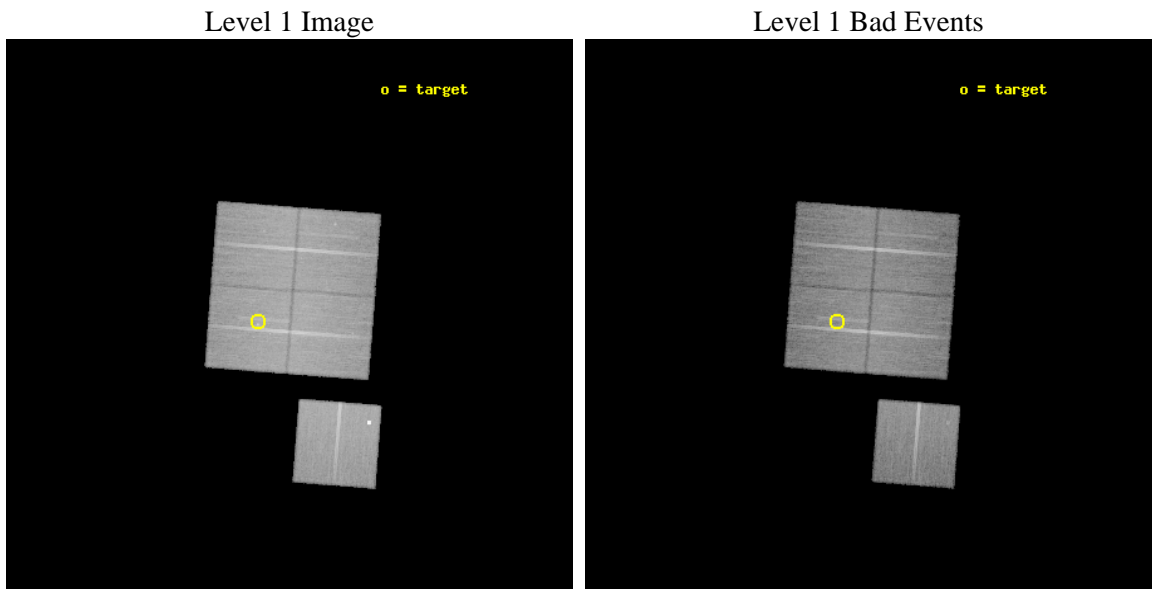
seq_num	800672	Sequence number
obs_id	9335	Observation id
title	Chandra Observations of SZ-selected Galaxy Clusters Detected by the South Pole Telescope	Proposal title
observer	Professor Gordon Garmire	Principal investigator
object	SPT-CL 0001-5748	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	0.249	Observer's specified target RA [deg]
dec_targ	-57.8042	Observer's specified target Dec [deg]
ra_nom	0.14700139807389	Nominal RA [deg]
dec_nom	-57.806522568435	Nominal Dec [deg]
roll_nom	184.44213005689	Nominal Roll [deg]
revision	3	Processing version of data
ontime	30542.86020112	Sum of GTIs [s]
livetime	30143.795247266	Livetime [s]
ontime0	30545.878091395	Sum of GTIs [s]
ontime1	30542.778141141	Sum of GTIs [s]
ontime2	30545.96014154	Sum of GTIs [s]
ontime3	30542.86020112	Sum of GTIs [s]
ontime6	30545.837051392	Sum of GTIs [s]
l2events	115427	Number of level 2 events



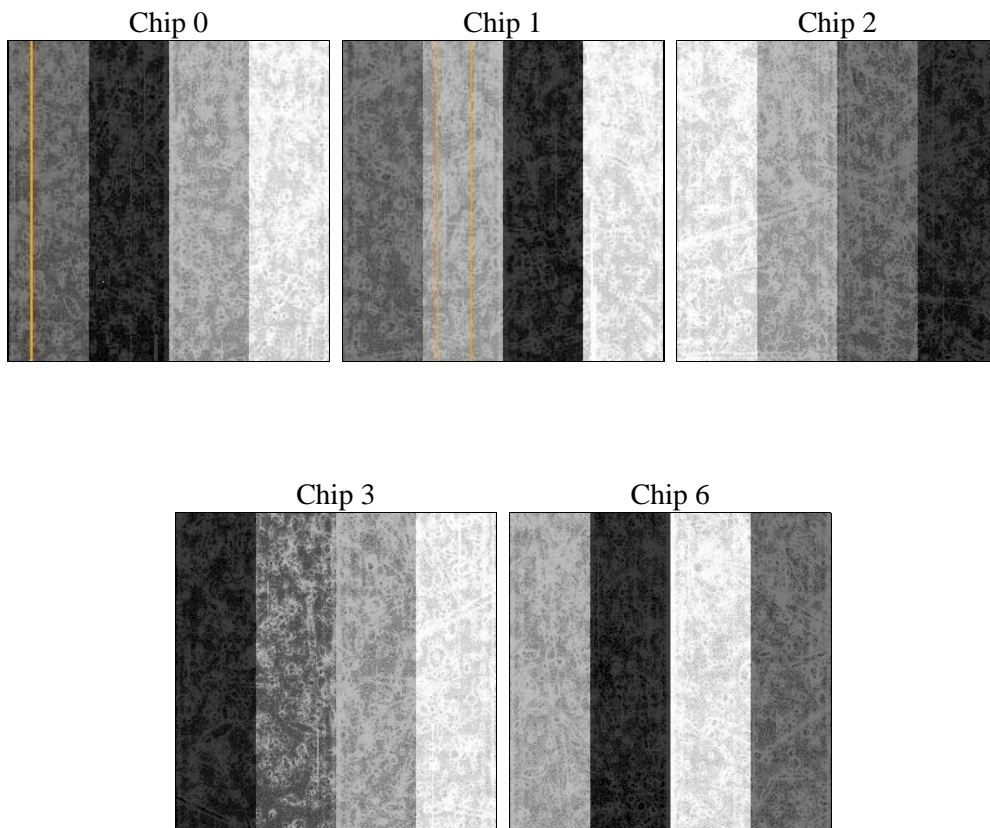
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30505.764000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	30542.86020112	Sum of GTIs [s]
caldbver	4.4.9	&#160	ontime0	30545.878091395	Sum of GTIs [s]
date	2012-06-04T14:33:17	Date and time of file creation	ontime1	30542.778141141	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	30545.96014154	Sum of GTIs [s]
			ontime3	30542.86020112	Sum of GTIs [s]
			ontime6	30545.837051392	Sum of GTIs [s]
			l1events	1293656	Number of level 1 events

### 2.1.4 Events

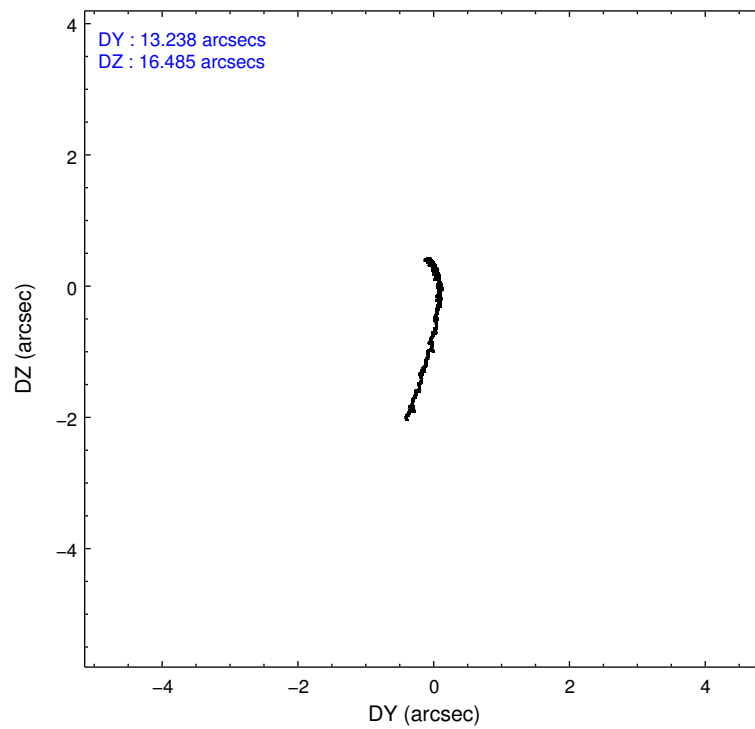
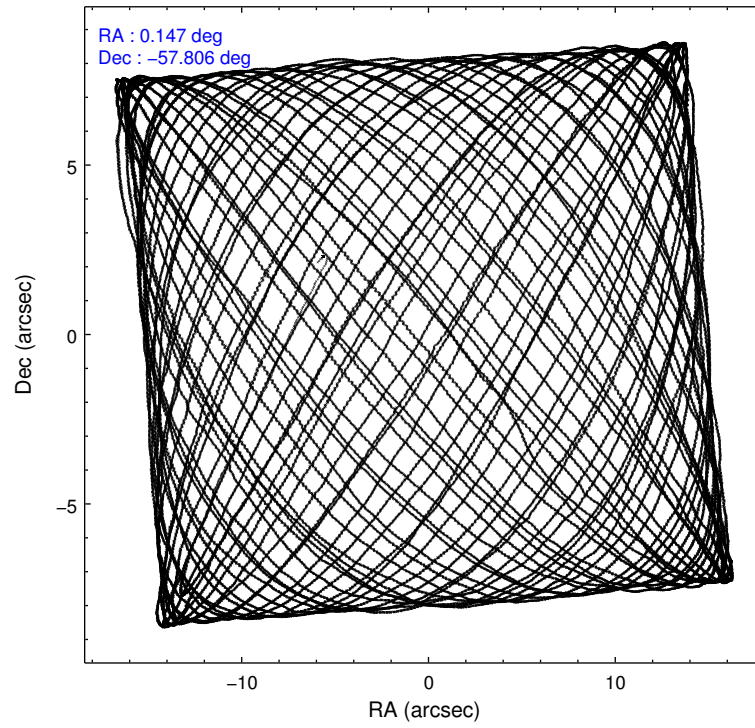
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	240429	249290	271320	262626	269991
rejected events	213046	219170	245176	235122	232932
rejected %	88%	87%	90%	89%	86%

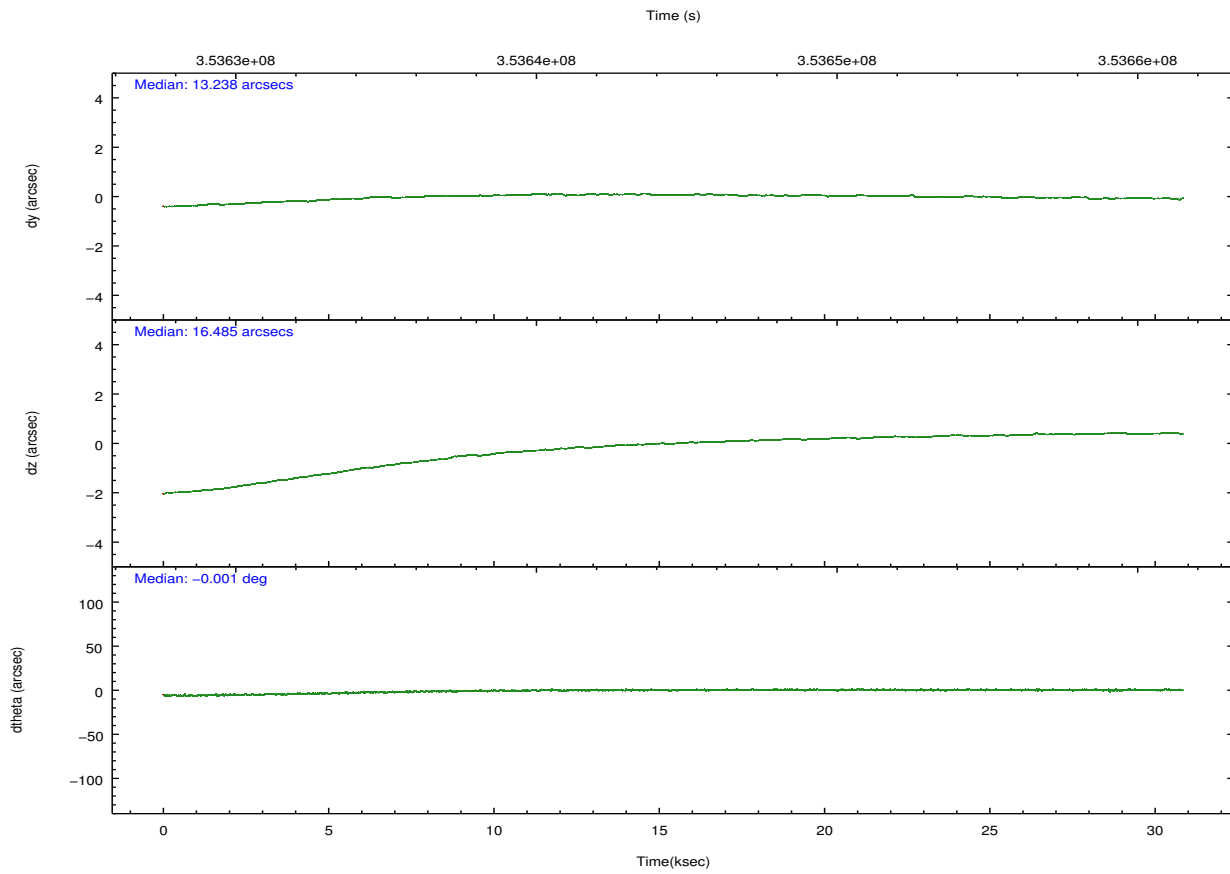
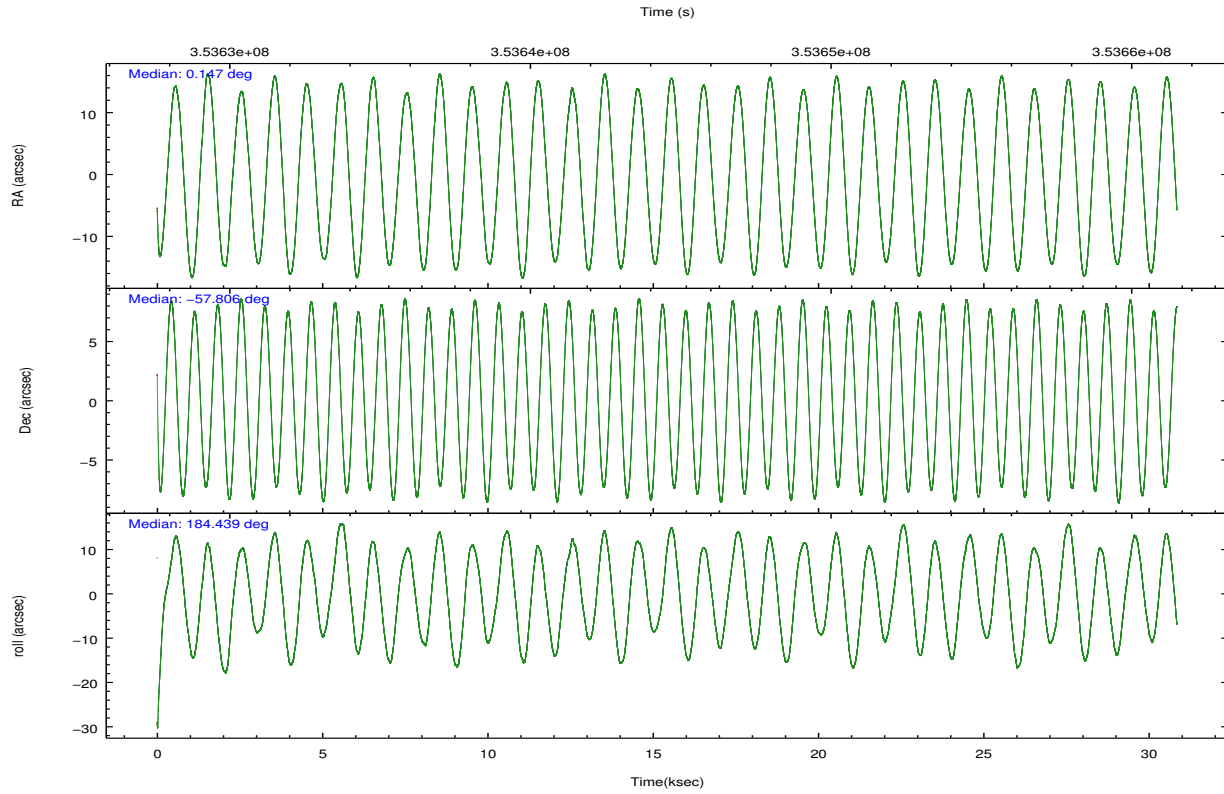
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	9735	10719	9335	10532	10403
	4%	4%	3%	4%	3%
grade 1 events	141	134	179	153	205
	0%	0%	0%	0%	0%
grade 2 events	6706	7076	6486	6004	14825
	2%	2%	2%	2%	5%
grade 3 events	2982	3190	2683	2928	3023
	1%	1%	0%	1%	1%
grade 4 events	2811	3133	2776	2849	2906
	1%	1%	1%	1%	1%
grade 5 events	9535	10417	8987	10773	10699
	3%	4%	3%	4%	3%
grade 6 events	5152	6004	4867	5194	5906
	2%	2%	1%	1%	2%
grade 7 events	203367	208617	236007	224193	222024
	84%	83%	86%	85%	82%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-01236	ACIS-01236	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	0.189420	0.1470013980738916	CCD I2 on	Y	Y
[deg] Pointing Dec	-57.790879	-57.80652256843529	CCD I3 on	Y	Y
[deg] Pointing Roll	184.269347	184.44213005689	CCD S0 on	N	N
[mm] SIM focus pos	-0.782348	-0.7809083437167272	CCD S1 on	N	N
[mm] SIM defocus	0	0.001439871863259334	CCD S2 on	O1	Y
[mm] SIM translation stage pos	-225.840463	-225.8433433320239	CCD S3 on	N	N
[mm] SIM translation stage offset	-7.752	-7.749109670905796	CCD S4 on	N	N
[s] Observation start time (MET)	353629455.184000	353628302.81853	CCD S5 on	N	N
Observation start date	2009-03-16T22:23:09	2009-03-16T22:05:02	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	353659961.184000	353660197.23261	On-chip summing requested	N	N
Observation end date	2009-03-17T06:51:35	2009-03-17T06:56:37	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



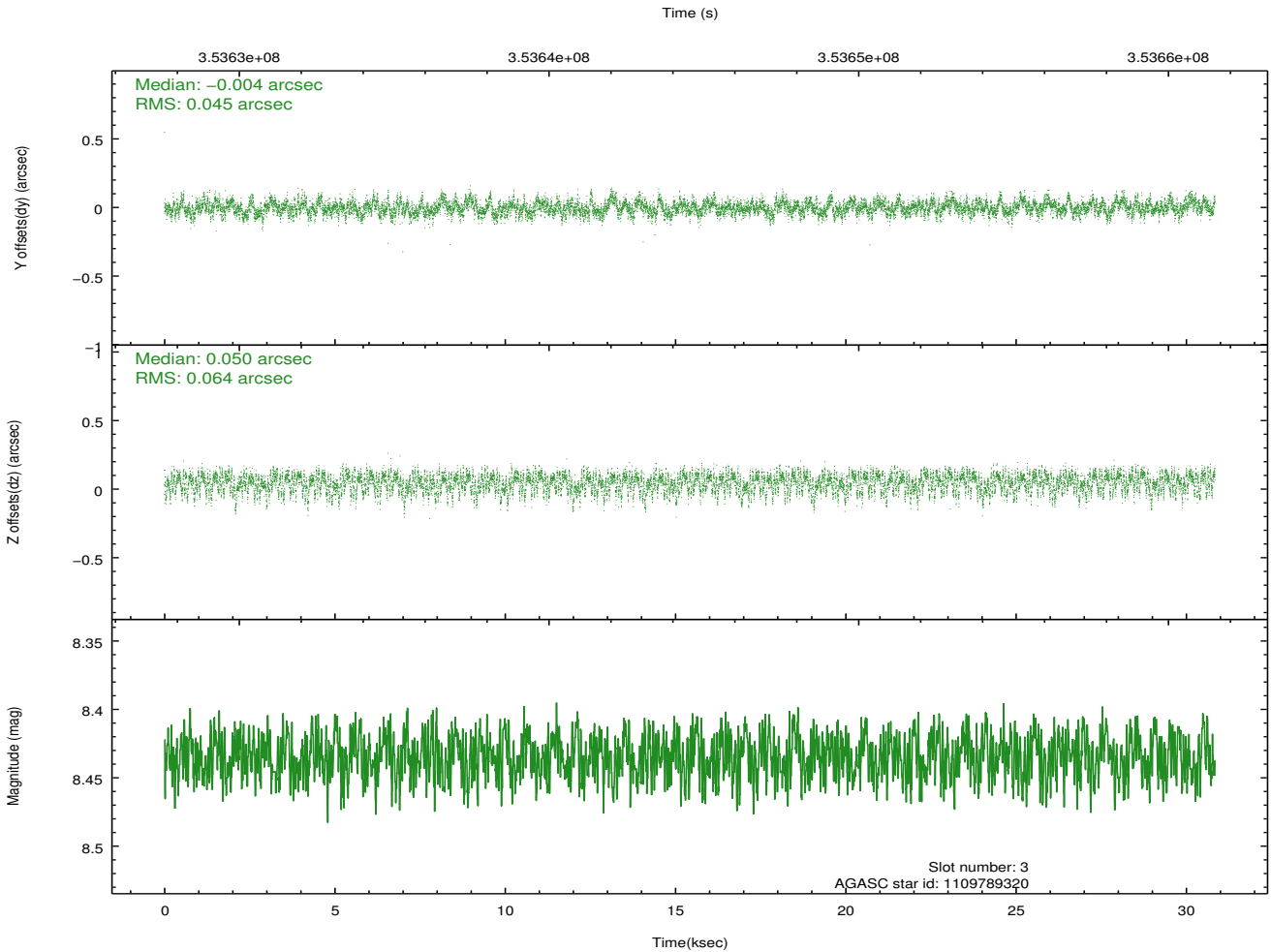
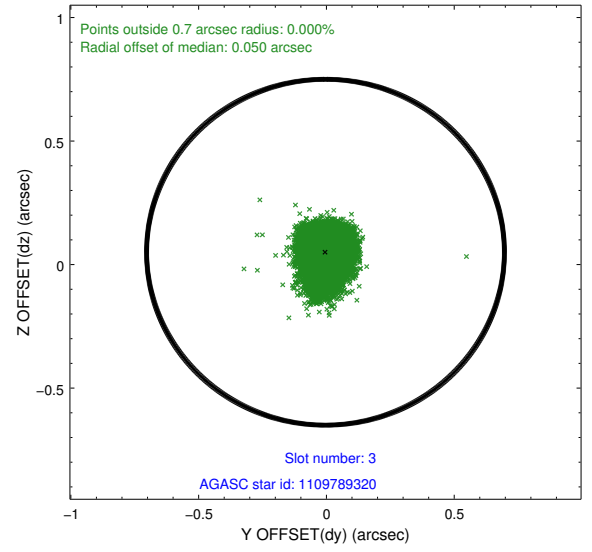
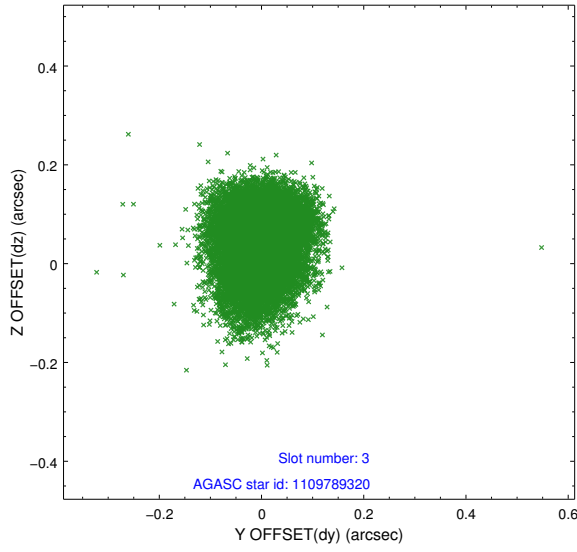


### Slot Statistics

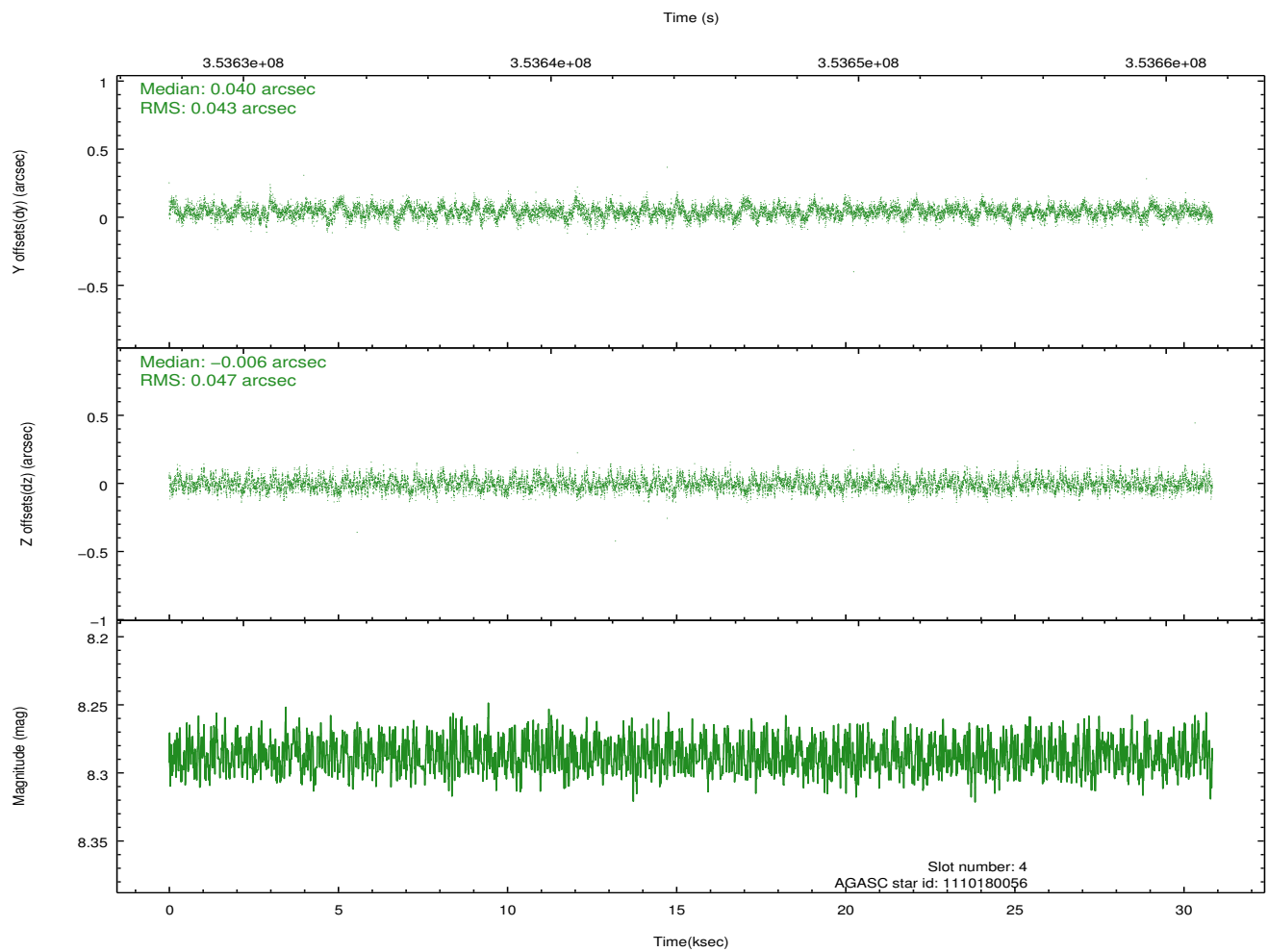
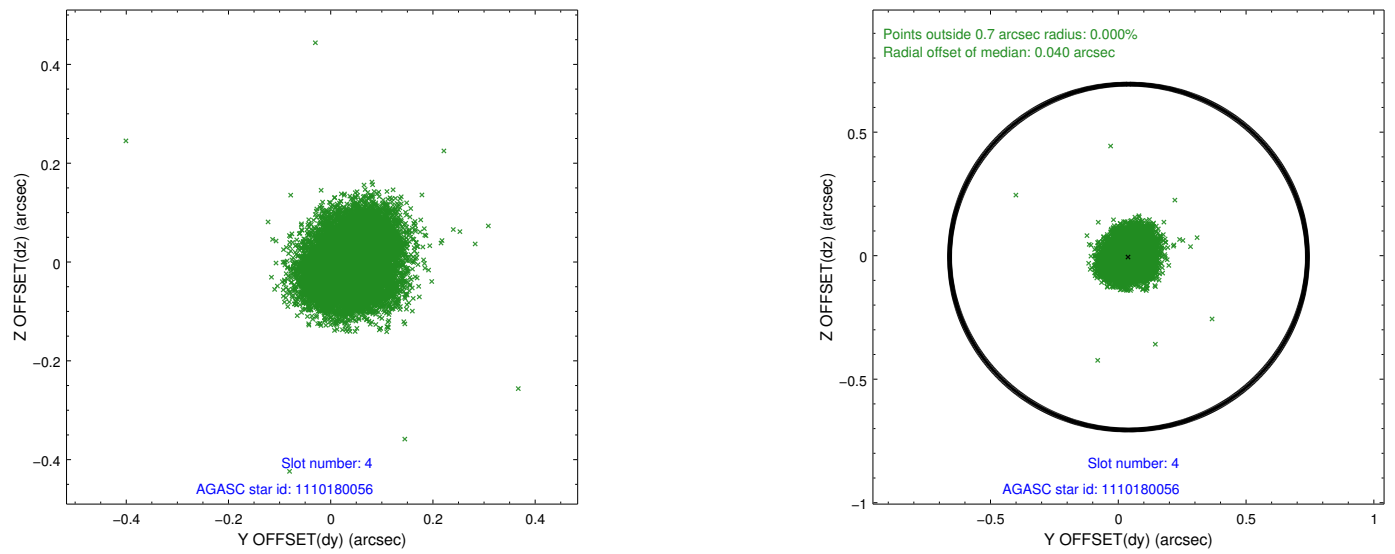
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.05	7522	0.144	-0.106	0.012	0.055	0.000000	0.000000	926.29	-999.01
1	FID	ACIS-I-5	7.04	7524	-0.276	0.122	0.013	0.047	0.000000	0.000000	-1822.18	898.67
2	FID	ACIS-I-6	7.06	7524	0.044	0.058	0.017	0.029	0.000000	0.000000	391.69	1543.18
3	GUIDE	1109789320	8.43	15039	-0.004	0.050	0.083	0.134	0.916016	-57.164464	-1581.46	-2135.32
4	GUIDE	1110180056	8.29	15038	0.040	-0.006	0.068	0.110	0.679636	-57.633667	-983.37	-490.37
5	GUIDE	1110188344	8.69	15033	0.111	-0.111	0.108	0.161	1.411899	-58.289532	-2171.27	1983.37
6	GUIDE	1158553656	9.50	15010	-0.050	0.038	0.138	0.227	359.738396	-57.783236	860.88	-88.60
7	GUIDE	1158554544	9.66	15031	-0.097	0.031	0.184	0.280	359.171758	-57.656252	1919.94	-614.05

## 2.4 Star Slots

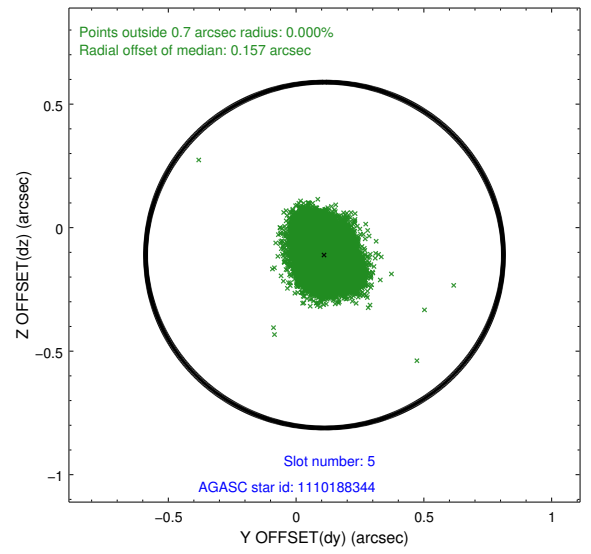
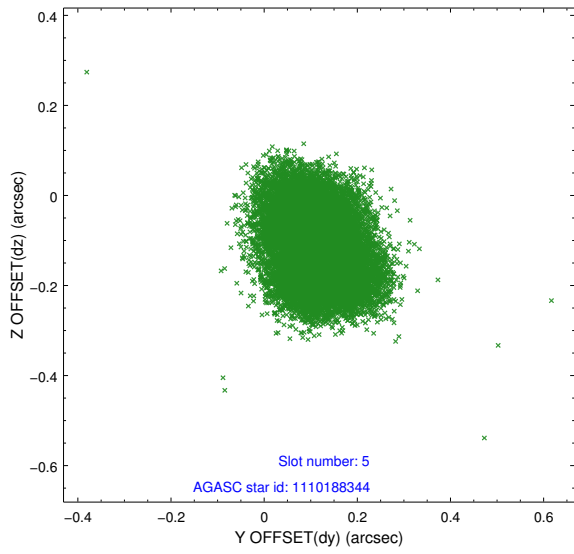
### 2.4.1 Slot 3



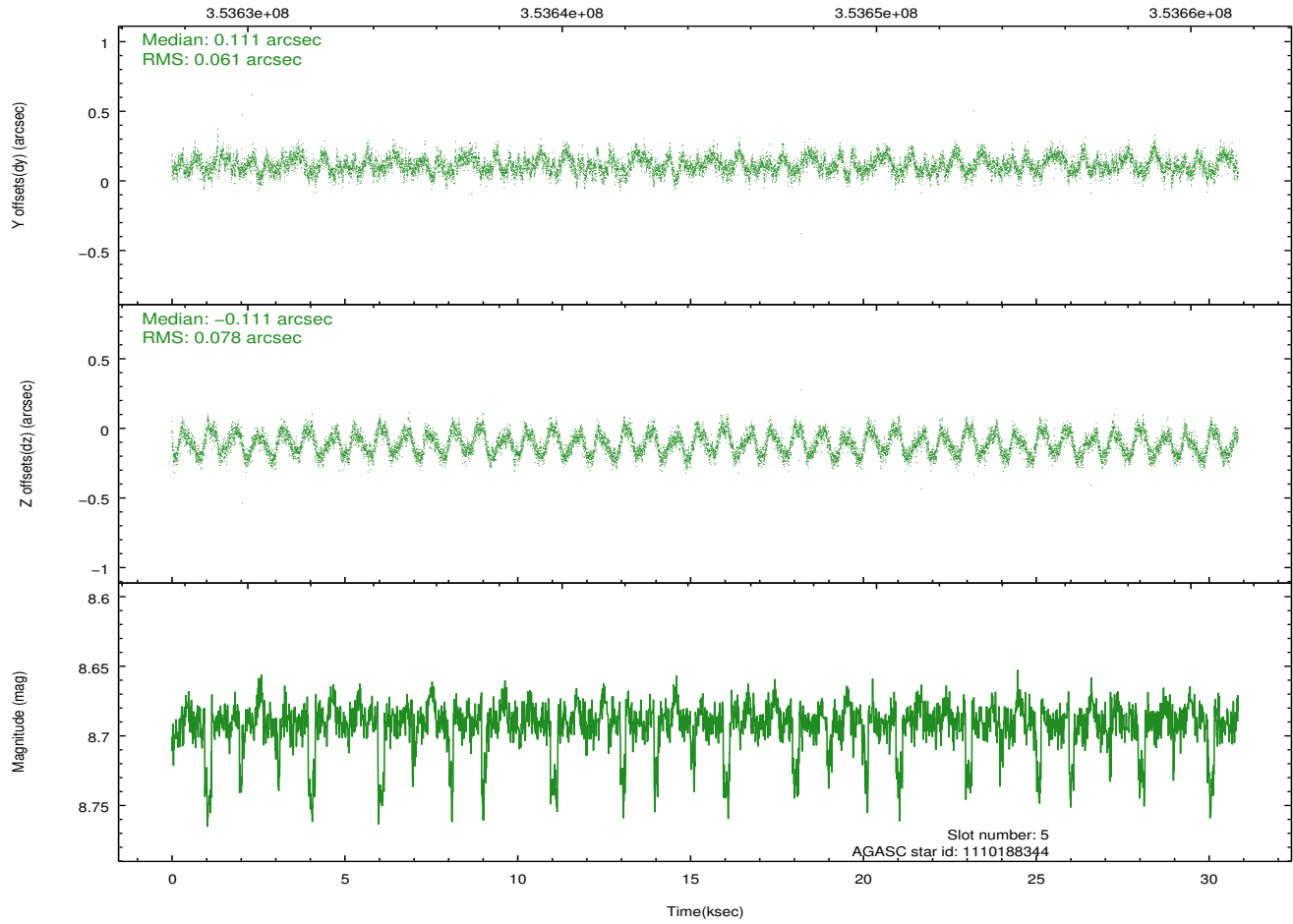
## 2.4.2 Slot 4



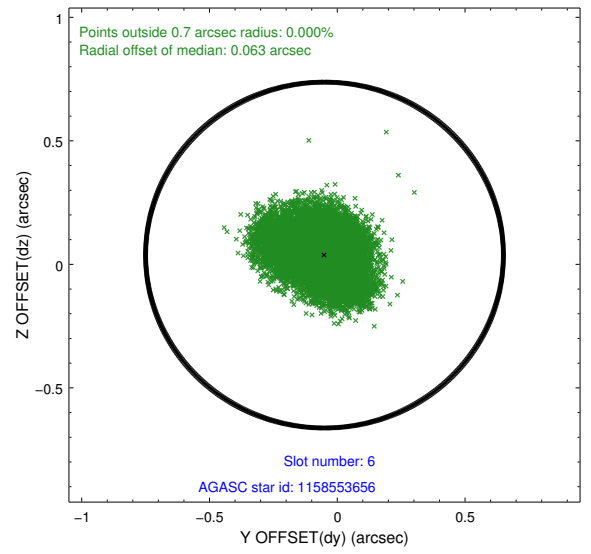
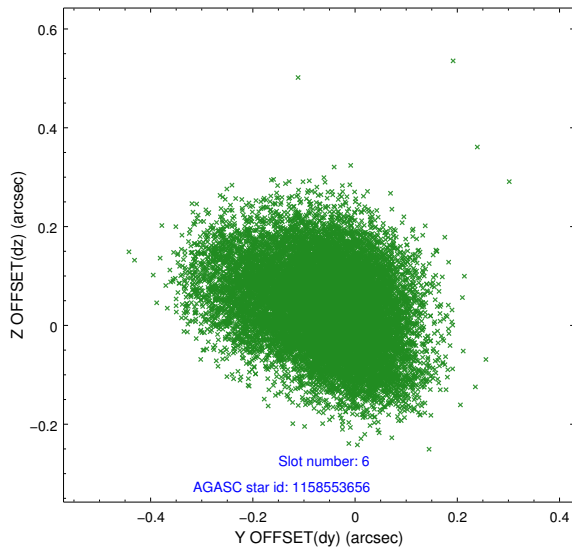
### 2.4.3 Slot 5



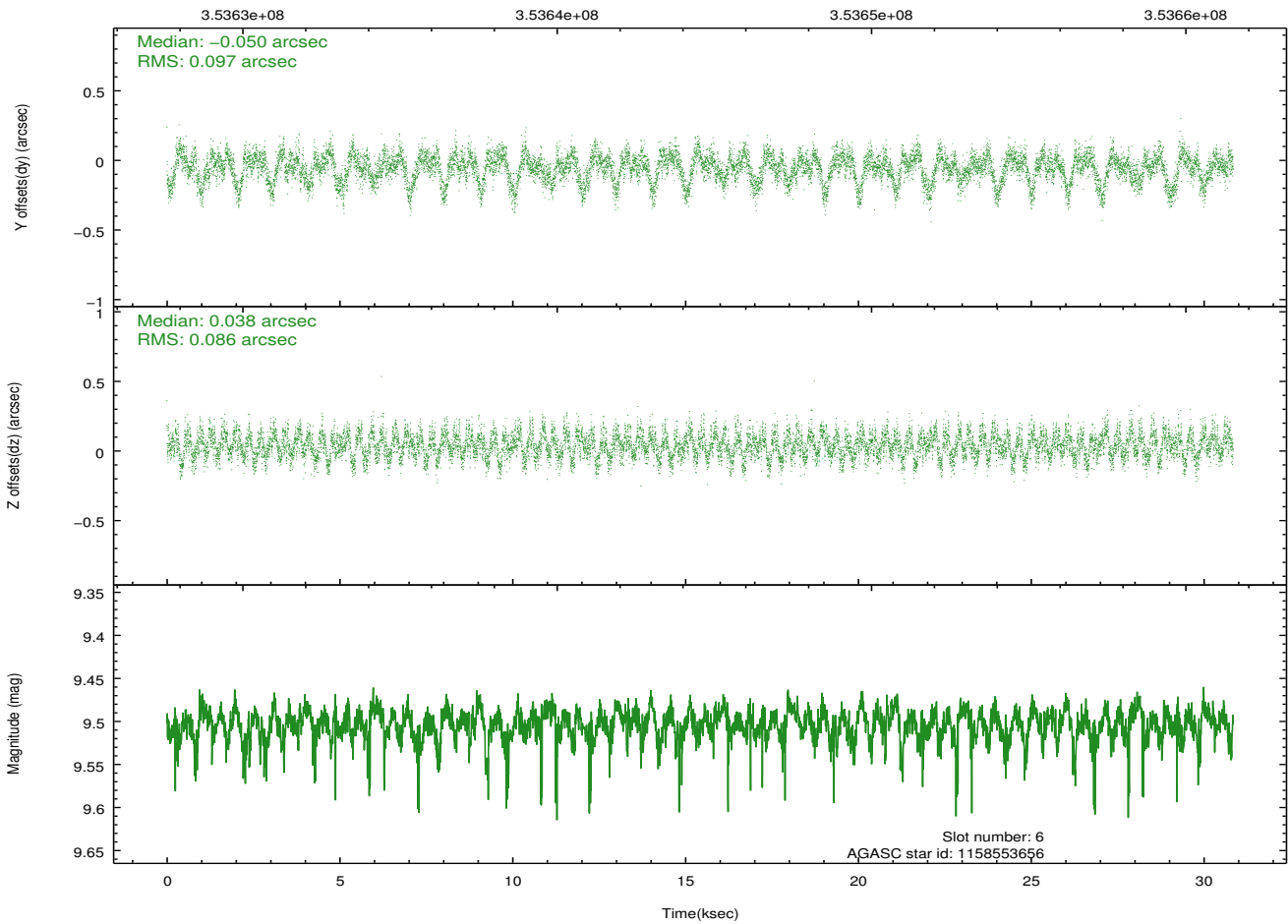
Time (s)



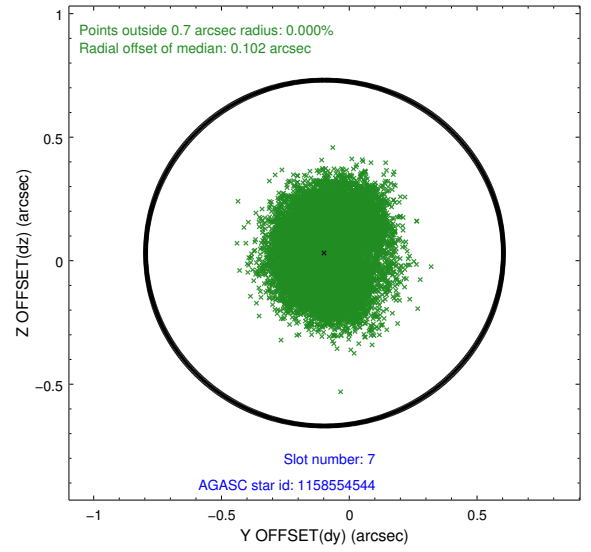
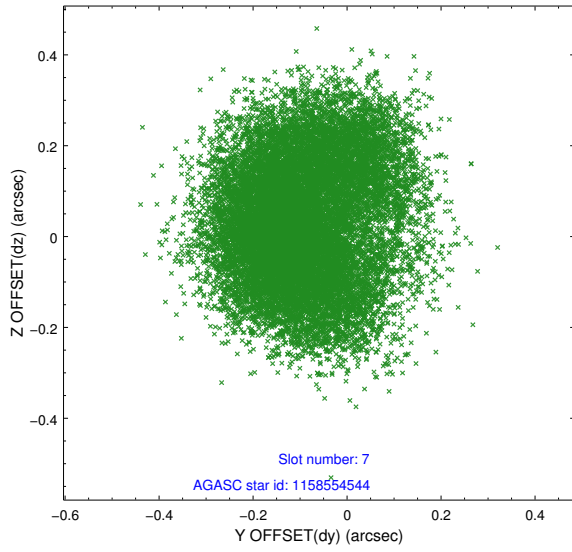
## 2.4.4 Slot 6



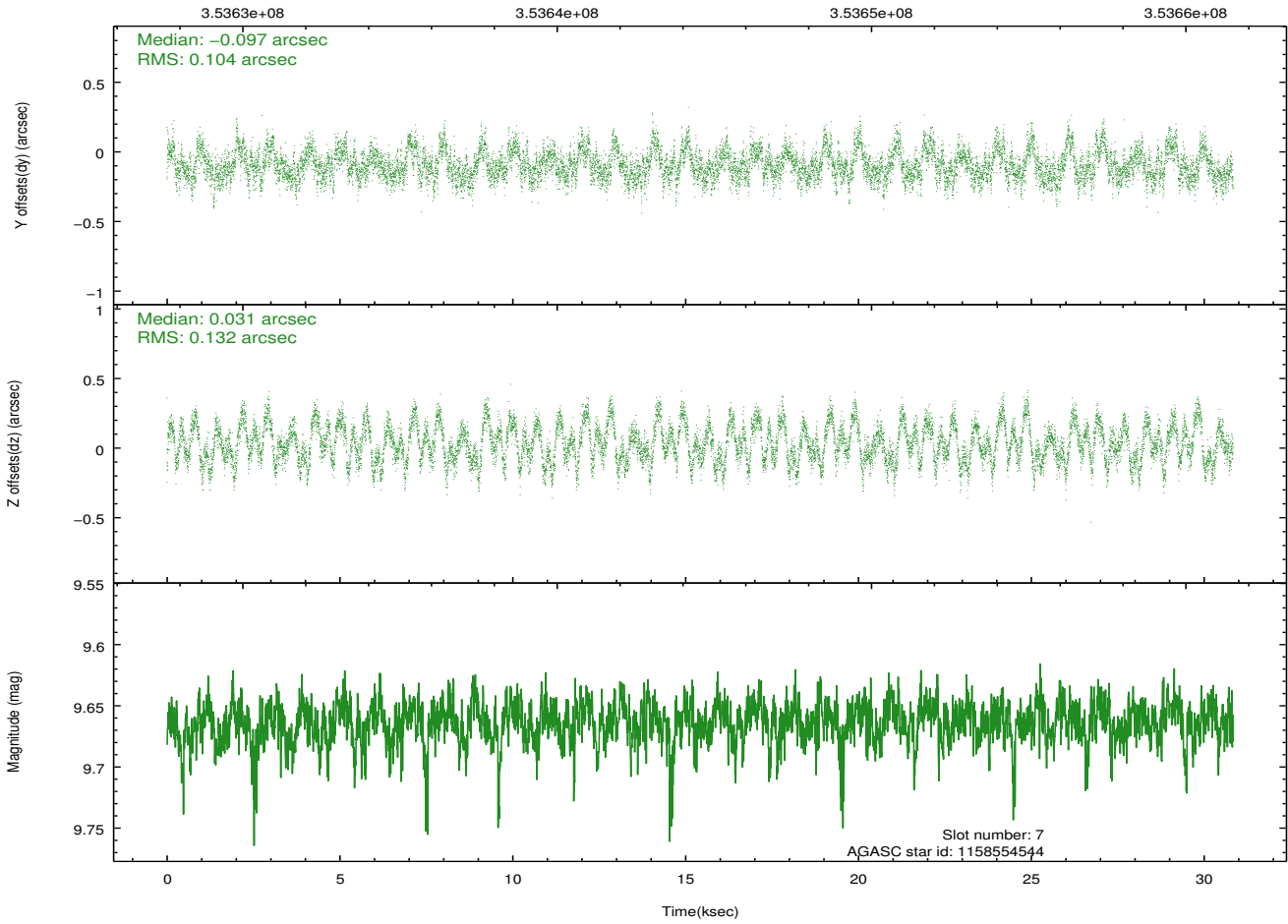
Time (s)



### 2.4.5 Slot 7

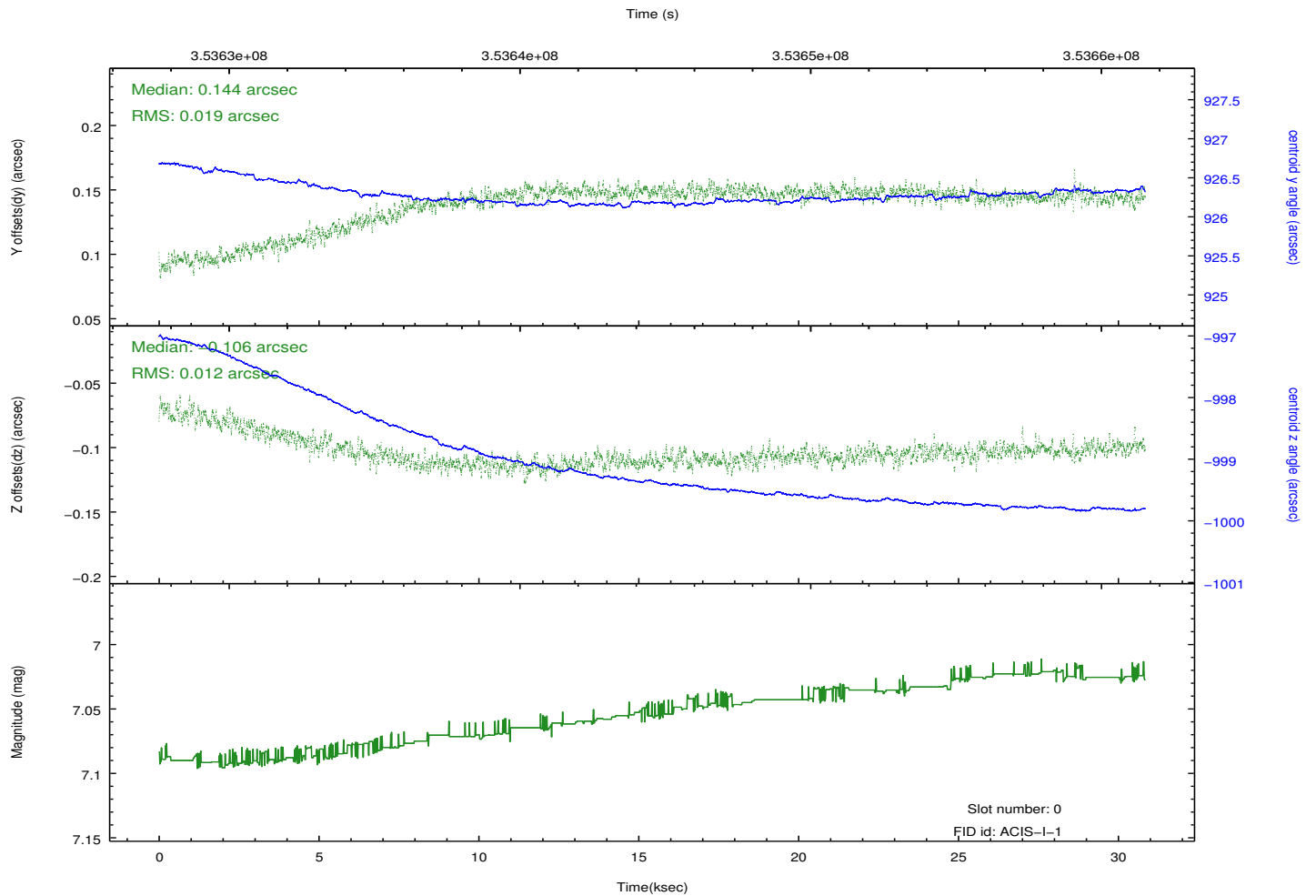
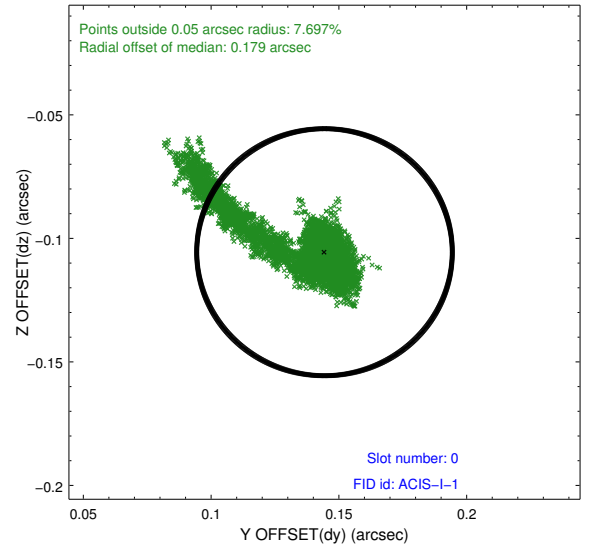
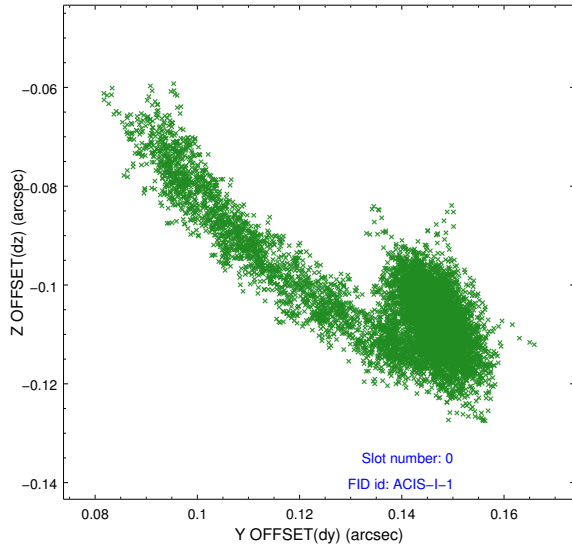


Time (s)

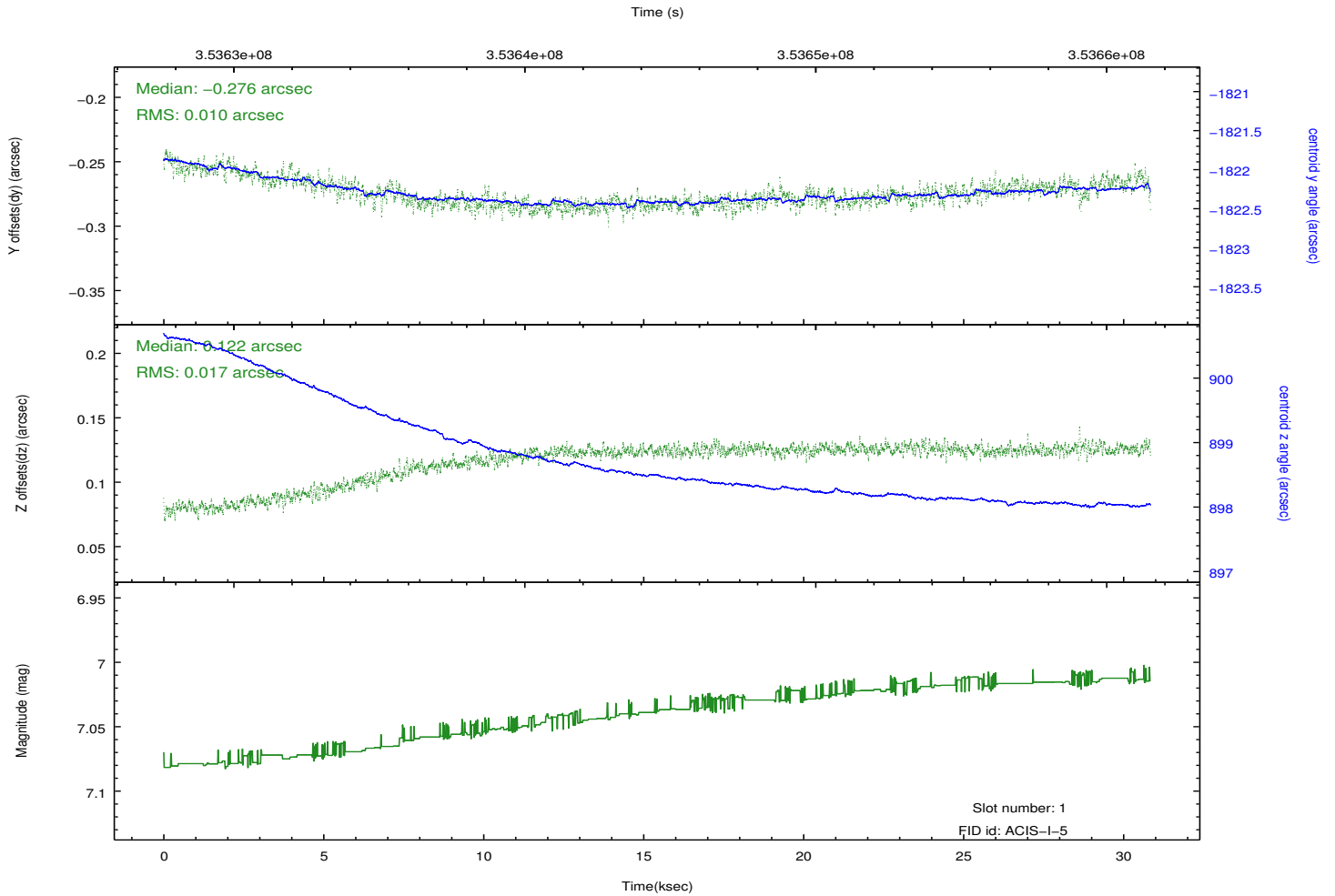
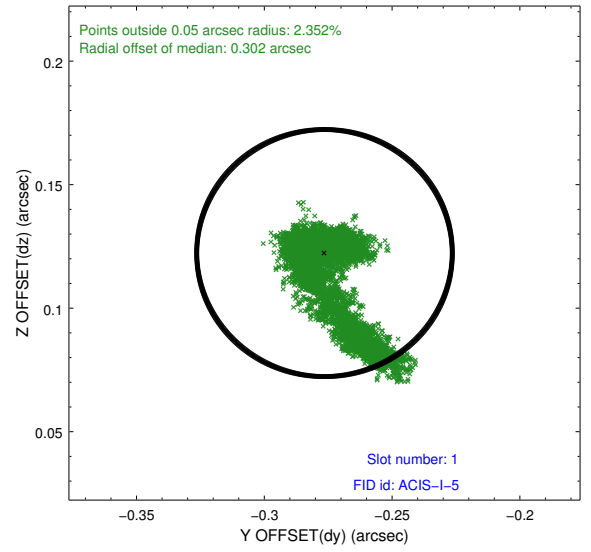
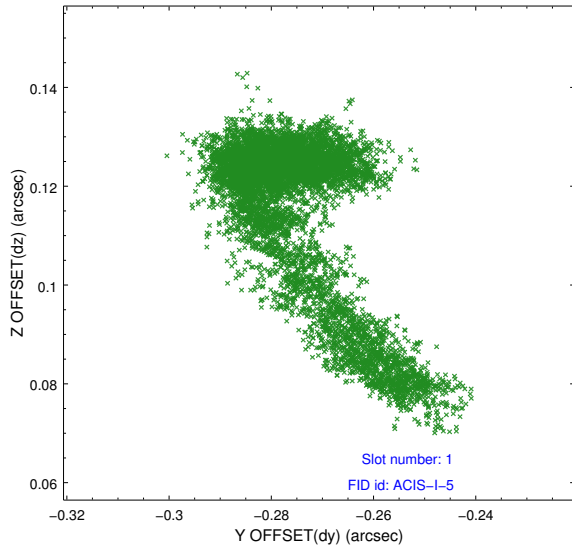


## 2.5 FID Slots

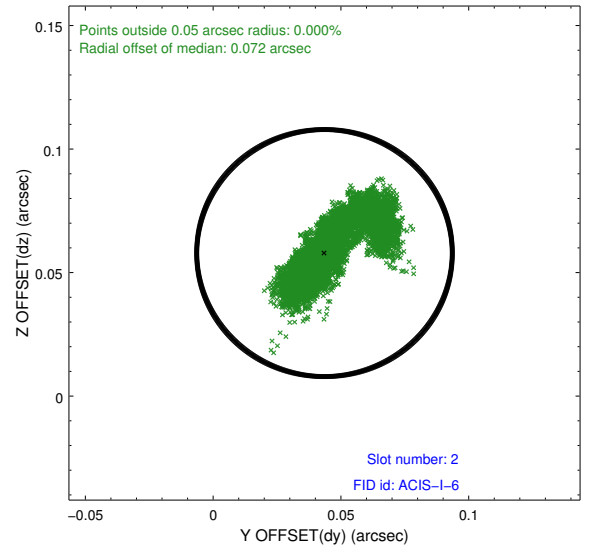
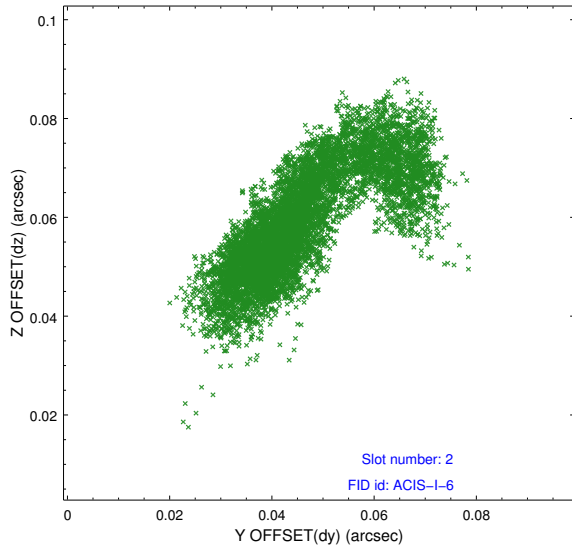
### 2.5.1 Slot 0



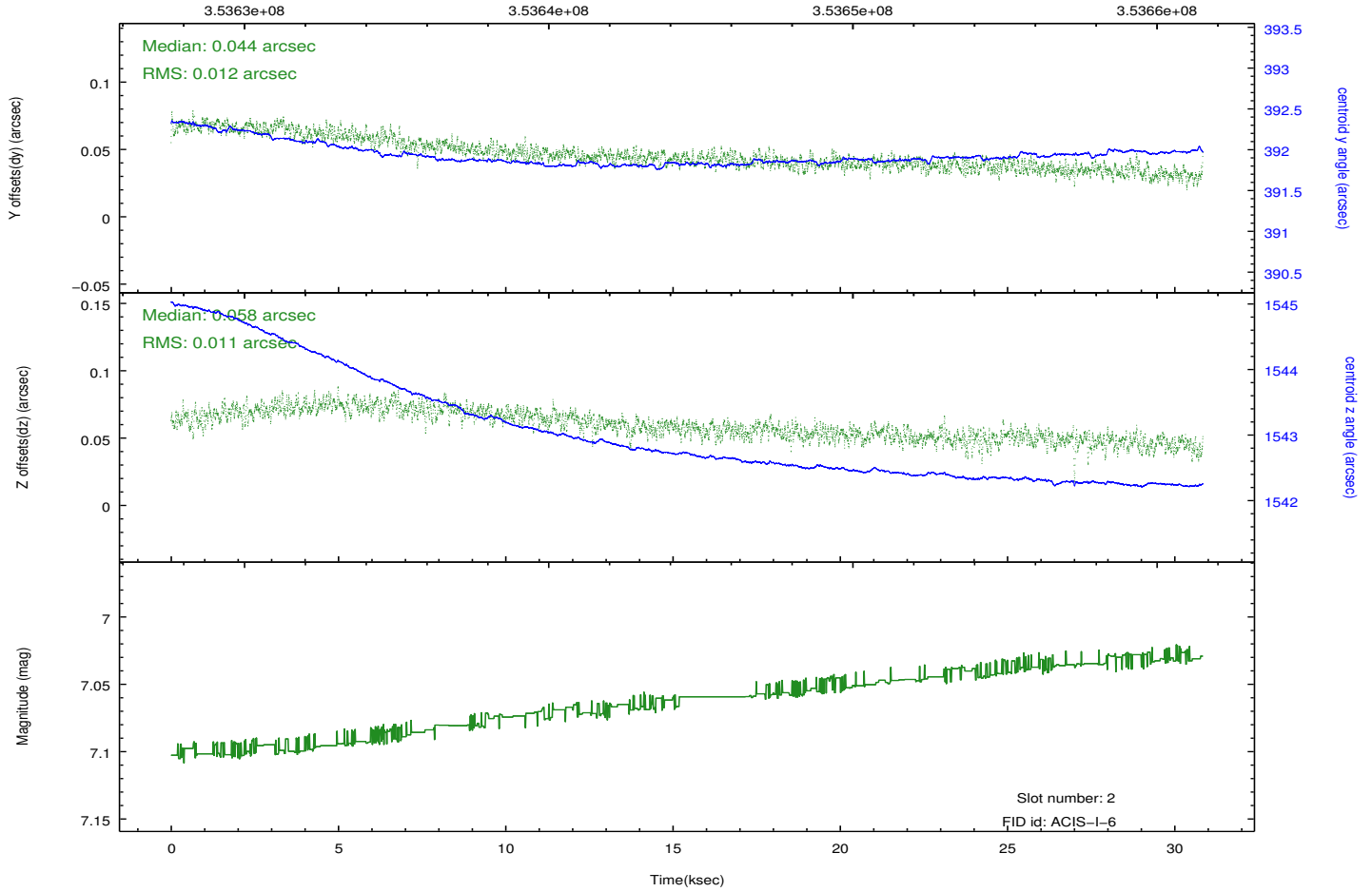
## 2.5.2 Slot 1



### 2.5.3 Slot 2



Time (s)



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.06.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.5442182

## A.2 Comments

A spatial region of the original bias map for CCD = 0 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 = 0 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:  
(359.85805, -57.65910), (359.85879, -57.66468), (0.11877, -57.65421), (0.11800, -57.64864)