

# V&V Reference Report

## L2 ASCDS Version : 10.5.2

Observation 19308 - L2 Version 2  
Chandra X-Ray Center

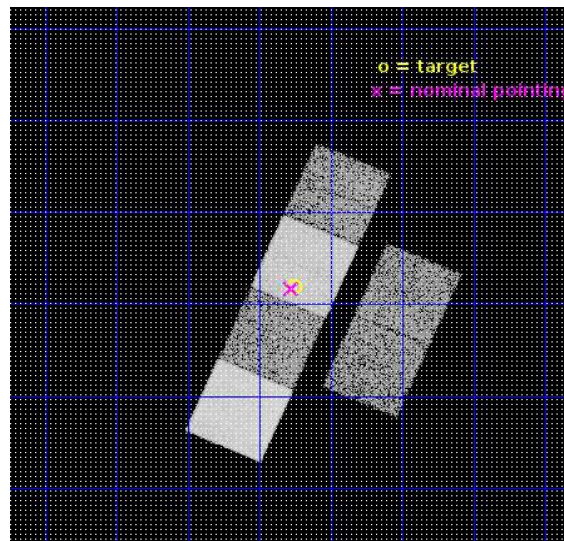
L2 Processing Date : Dec 14 2016

## Contents

<b>1</b>	<b>Front</b>	<b>2</b>
<b>2</b>	<b>OBI</b>	<b>3</b>
2.1	OBI . . . . .	3
2.1.1	Images . . . . .	3
2.1.2	Bias . . . . .	3
2.1.3	Parameters . . . . .	4
2.1.4	Events . . . . .	4
2.2	Compared Parameters . . . . .	5
2.3	Aspect . . . . .	6
2.4	Star Slots . . . . .	9
2.4.1	Slot 3 . . . . .	9
2.4.2	Slot 5 . . . . .	10
2.4.3	Slot 6 . . . . .	11
2.4.4	Slot 7 . . . . .	12
2.5	FID Slots . . . . .	13
2.5.1	Slot 0 . . . . .	13
2.5.2	Slot 1 . . . . .	14
2.5.3	Slot 2 . . . . .	15
<b>A</b>	<b>Summary</b>	<b>16</b>
A.1	Status . . . . .	16
A.2	Comments . . . . .	16

# 1 Front

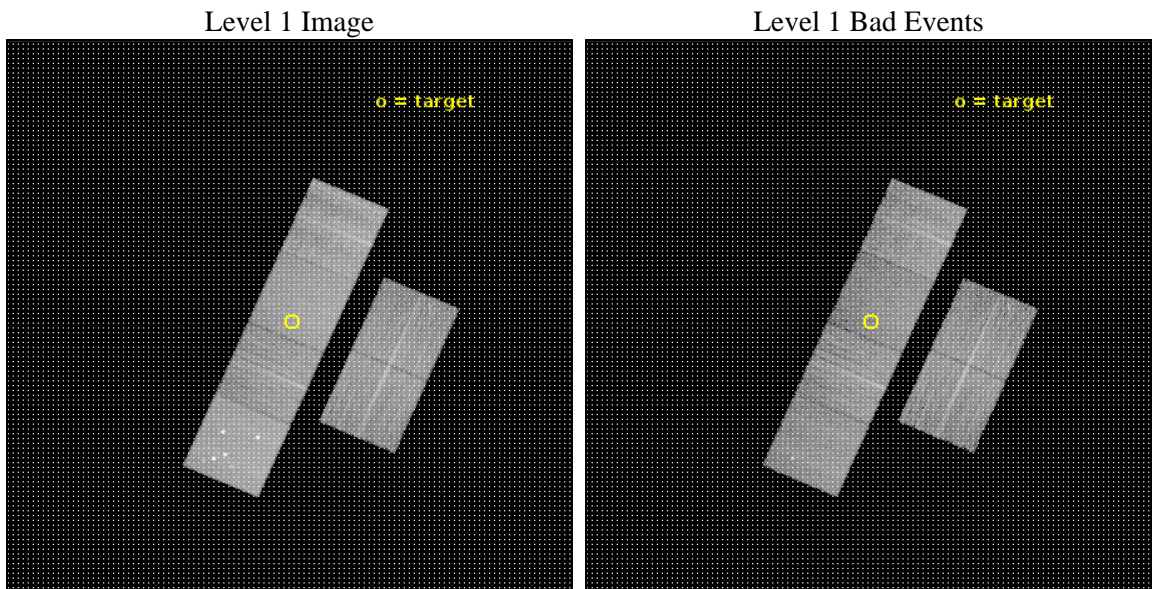
seq_num	601265	Sequence number
obs_id	19308	Observation id
title	A homogeneous view of X-ray halos in massive early-type galaxies	P
observer	Andy Goulding	Principal investigator
object	NGC0128	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	7.3125	Observer's specified target RA [deg]
dec_targ	2.864167	Observer's specified target Dec [deg]
ra_nom	7.3189660308411	Nominal RA [deg]
dec_nom	2.8614667777026	Nominal Dec [deg]
roll_nom	293.52345194811	Nominal Roll [deg]
revision	2	Processing version of data
ontime	11939.200177908	Sum of GTIs [s]
livetime	11788.018836332	Livetime [s]
ontime2	11939.200177908	Sum of GTIs [s]
ontime3	11939.200177908	Sum of GTIs [s]
ontime5	11939.200177908	Sum of GTIs [s]
ontime6	11939.200177908	Sum of GTIs [s]
ontime7	11939.200177908	Sum of GTIs [s]
ontime8	11939.200177908	Sum of GTIs [s]
l2events	135551	Number of level 2 events



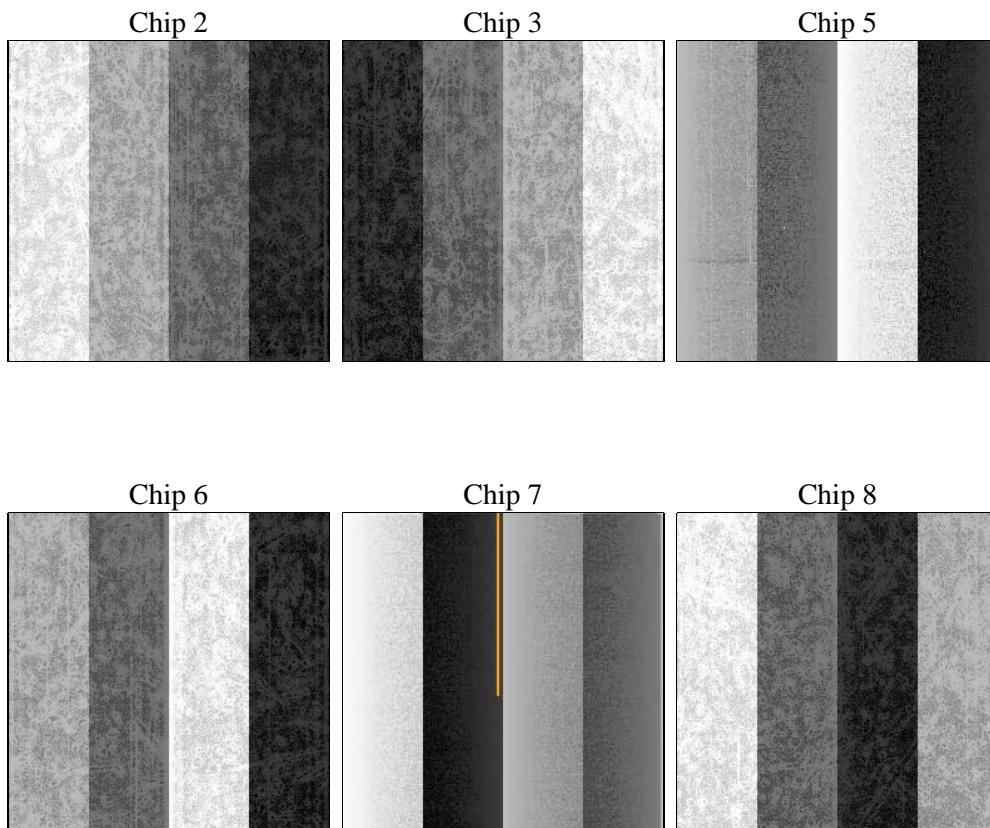
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	12000.000000	[s] Scheduled observation exposure time
ascdsver	10.5.2	Processing system revision	ontime	11939.200177908	Sum of GTIs [s]
caldsver	4.7.3	&#160	ontime2	11939.200177908	Sum of GTIs [s]
date	2016-12-14T18:23:54	Date and time of file creation	ontime3	11939.200177908	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	11939.200177908	Sum of GTIs [s]
			ontime6	11939.200177908	Sum of GTIs [s]
			ontime7	11939.200177908	Sum of GTIs [s]
			ontime8	11939.200177908	Sum of GTIs [s]
			l1events	613358	Number of level 1 events

### 2.1.4 Events

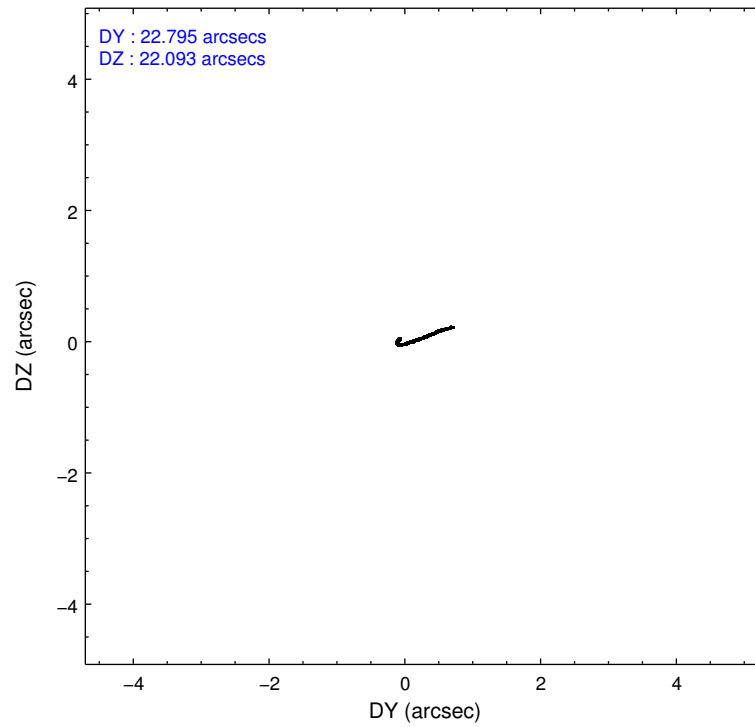
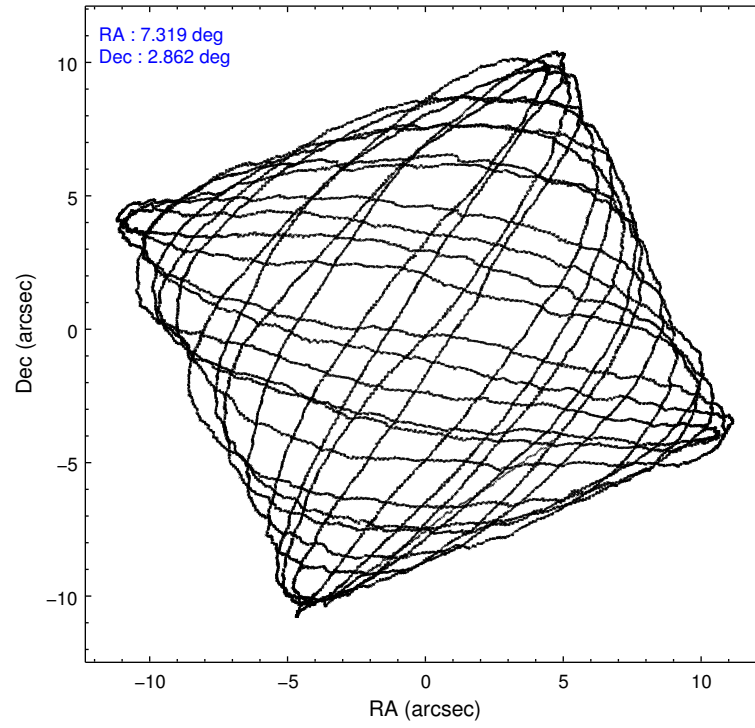
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	85172	80712	144317	87143	106686	109328	grade 0 events	2979	2848	13982	3026	3792	7852
rejected events	76583	72390	68485	77703	60411	81485		3%	3%	9%	3%	3%	7%
rejected %	89%	89%	47%	89%	56%	74%	grade 1 events	49	46	355	33	134	79
								0%	0%	0%	0%	0%	0%
							grade 2 events	2080	1858	23314	2252	9958	6754
								2%	2%	16%	2%	9%	6%
							grade 3 events	875	902	1908	907	3591	3006
								1%	1%	1%	1%	3%	2%
							grade 4 events	864	938	1735	904	3504	2724
								1%	1%	1%	1%	3%	2%
							grade 5 events	3354	3860	8587	3818	10222	5745
								3%	4%	5%	4%	9%	5%
							grade 6 events	1794	1778	34912	2355	25439	7510
								2%	2%	24%	2%	23%	6%
							grade 7 events	73177	68482	59524	73848	50046	75658
								85%	84%	41%	84%	46%	69%

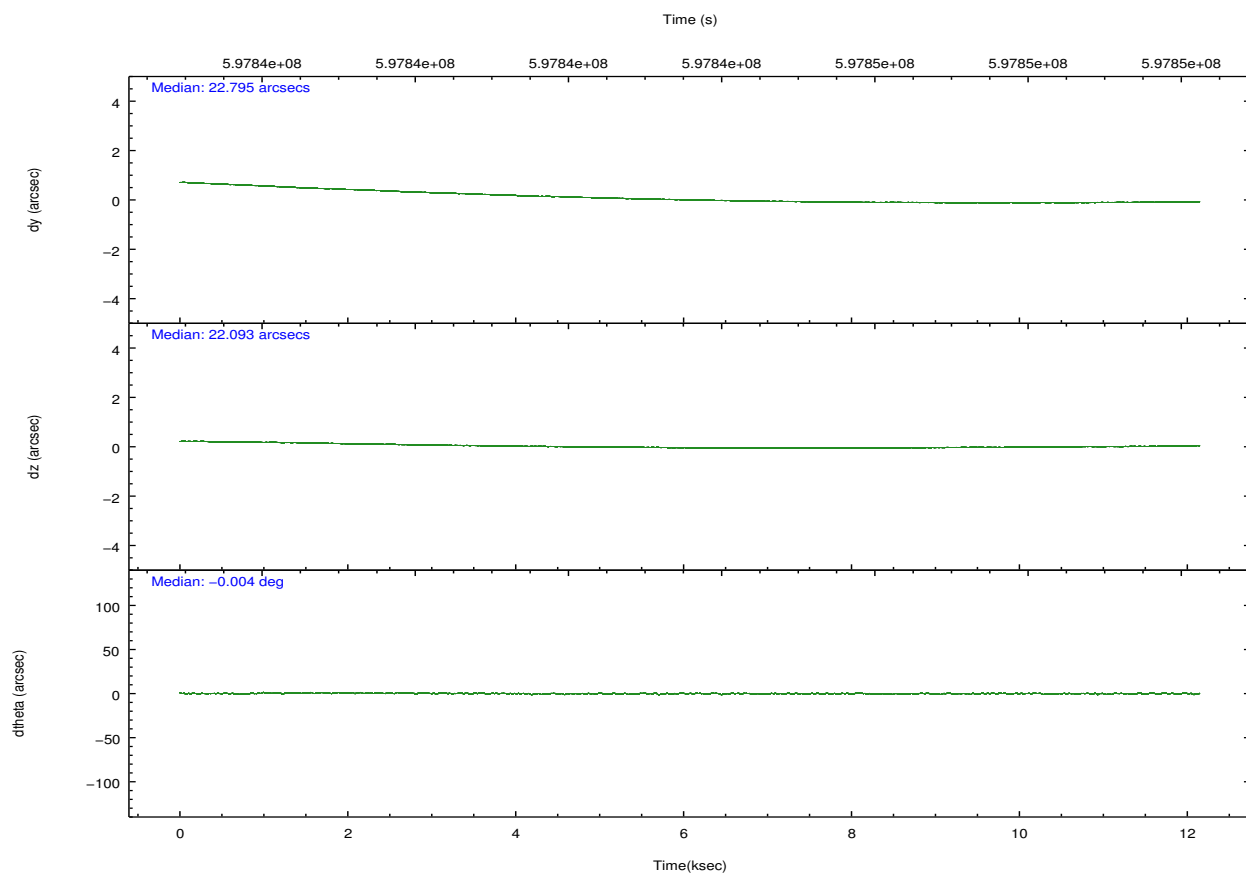
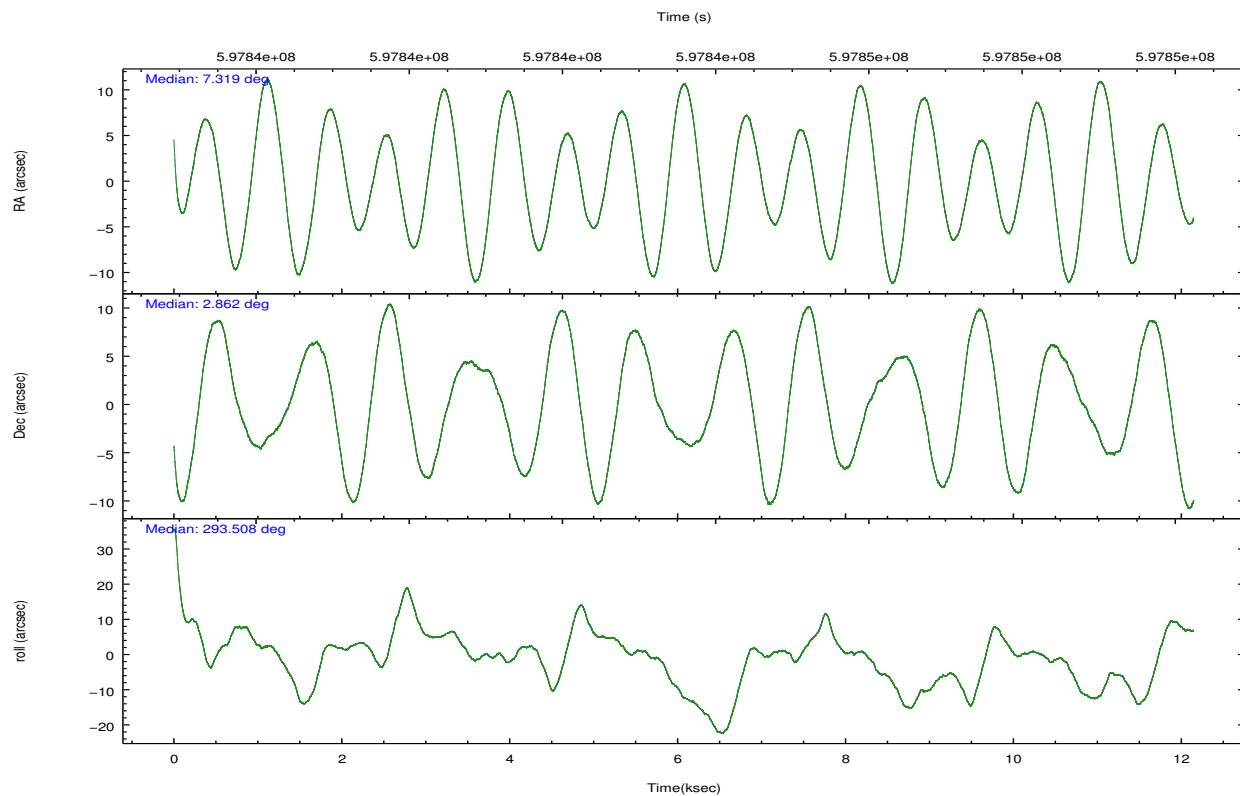


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	ACIS-235678	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	7.296658	7.318966030841096	CCD I2 on	O1	Y
[deg] Pointing Dec	2.877517	2.861466777702635	CCD I3 on	O2	Y
[deg] Pointing Roll	293.367926	293.5234519481145	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	Y	Y
[s] Observation start time (MET)	597837653.184000	597836655.04799	CCD S5 on	N	N
Observation start date	2016-12-11T09:59:45	2016-12-11T09:44:15	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	597849653.184000	597850231.17378	On-chip summing requested	N	N
Observation end date	2016-12-11T13:19:45	2016-12-11T13:30:31	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



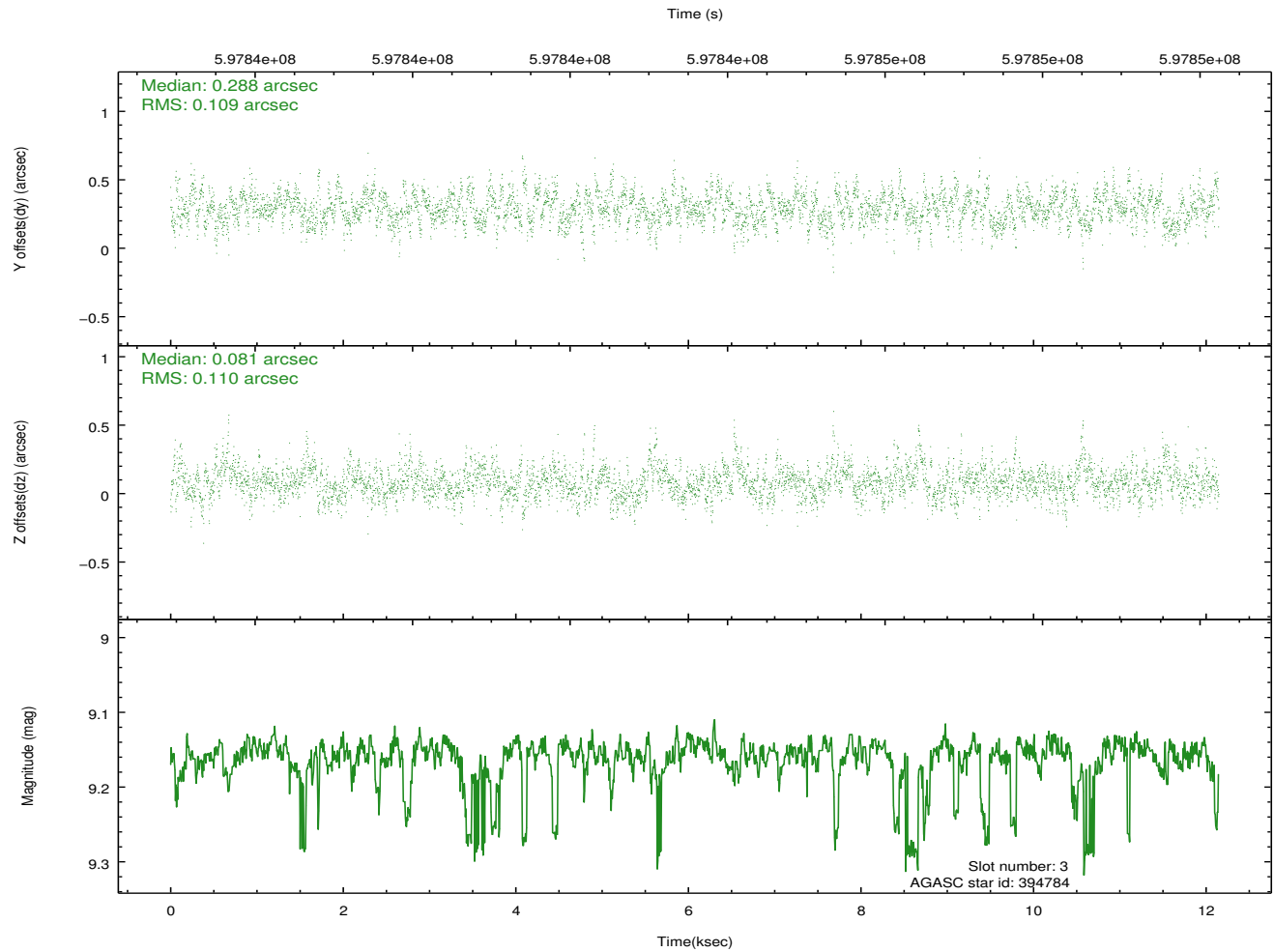
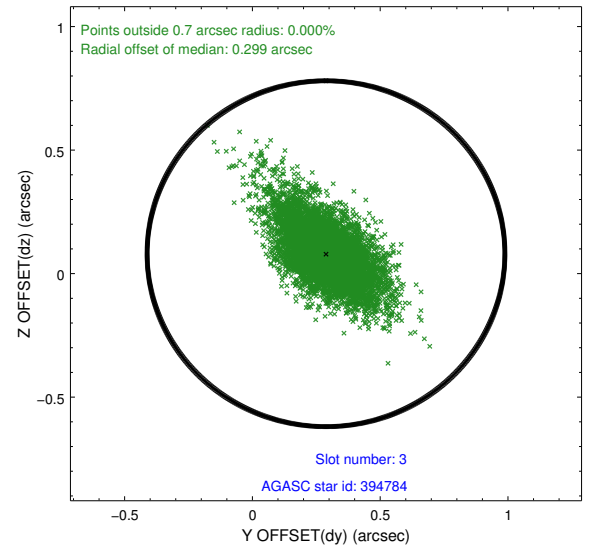
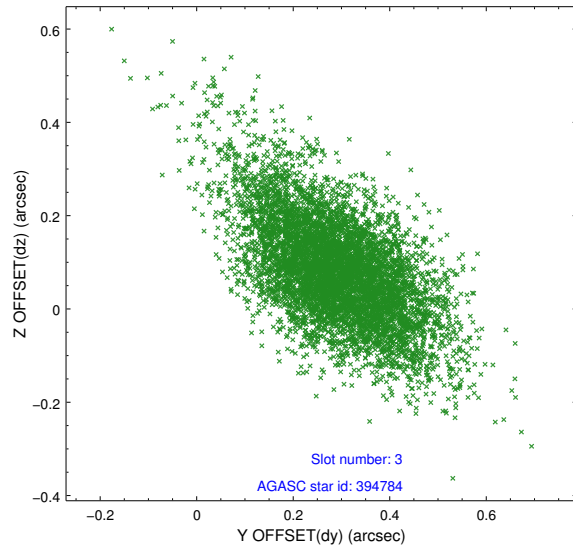


Slot Statistics

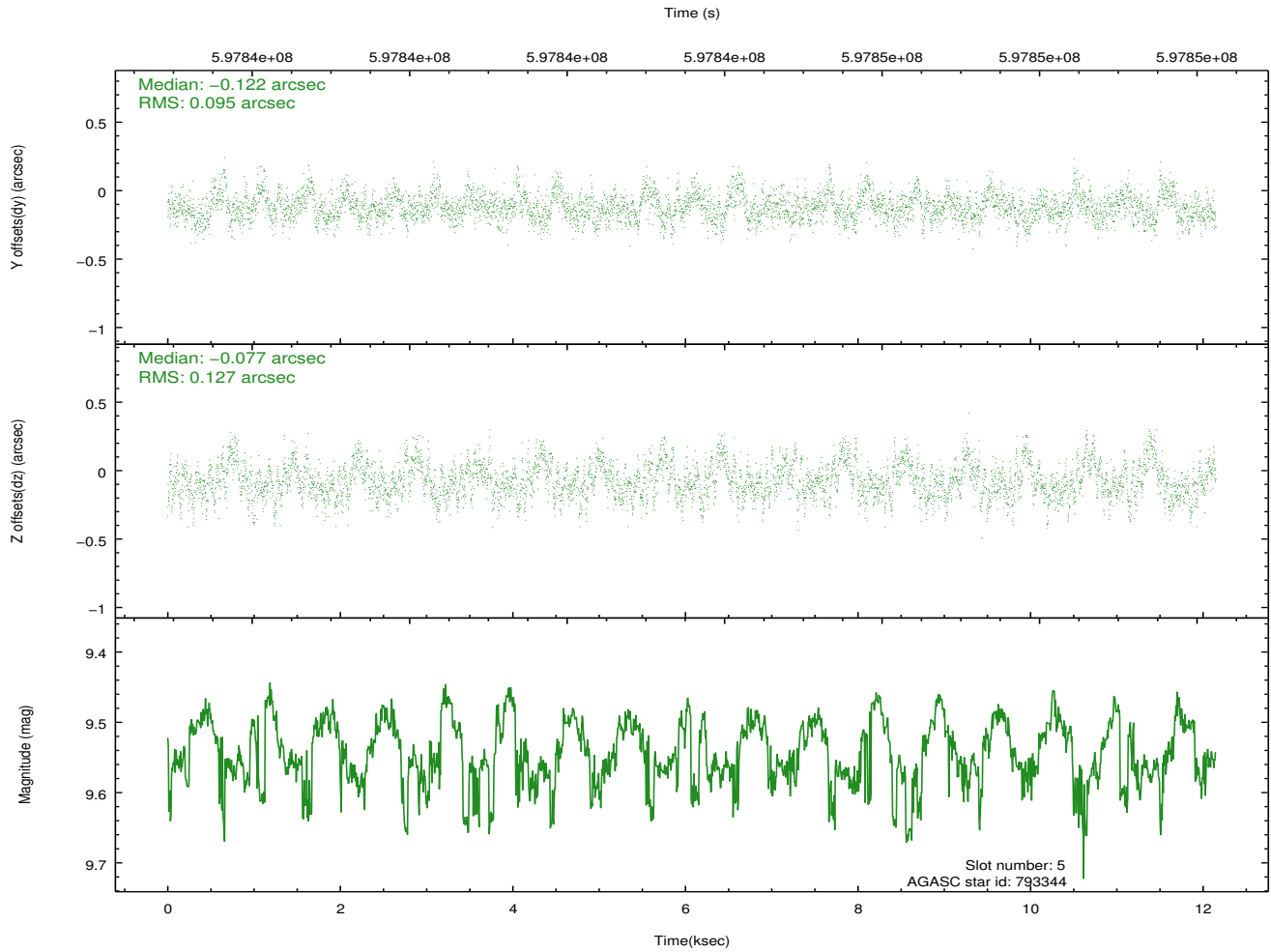
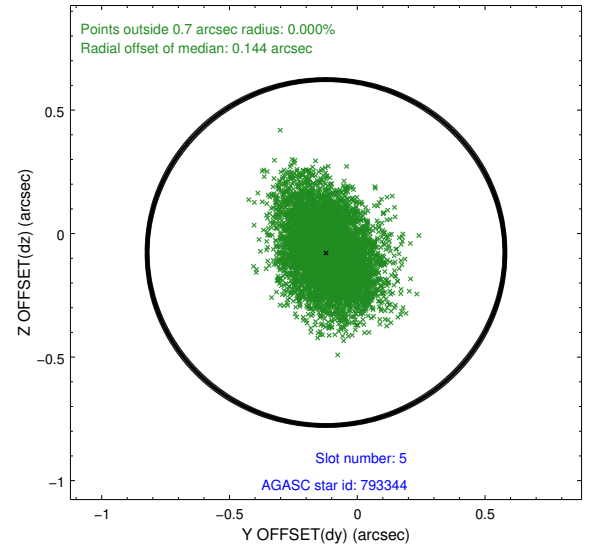
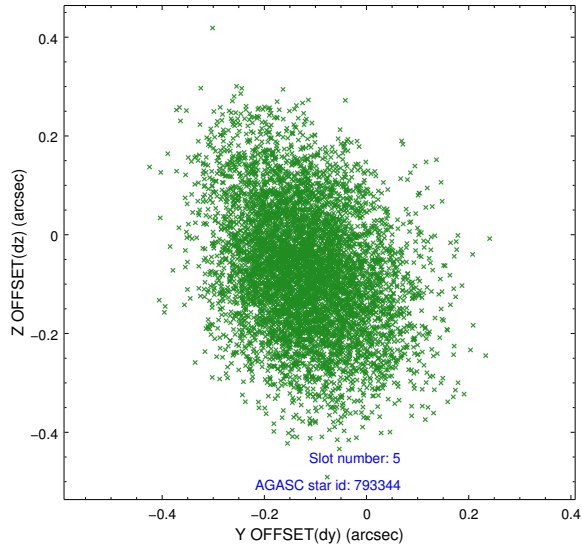
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.11	2963	-0.223	-0.163	0.009	0.022	0.000000	0.000000	-776.30	-1743.81
1	FID		ACIS-S-4	7.21	2963	0.534	0.151	0.013	0.029	0.000000	0.000000	2137.53	164.58
2	FID		ACIS-S-5	7.22	2963	-0.344	0.020	0.010	0.017	0.000000	0.000000	-1828.76	158.56
3	GUIDE	used	394784	9.16	5920	0.288	0.081	0.154	0.284	6.989485	2.053767	2285.22	-2189.82
4	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
5	GUIDE	used	793344	9.55	5917	-0.122	-0.077	0.168	0.280	7.295658	2.685606	633.83	-277.03
6	GUIDE	used	1317008	8.68	5921	-0.099	-0.331	0.110	0.183	7.961798	2.459885	2328.65	1601.22
7	GUIDE	used	1704304	8.23	5924	-0.074	0.331	0.137	0.224	7.630174	3.266895	-811.19	1657.06

## 2.4 Star Slots

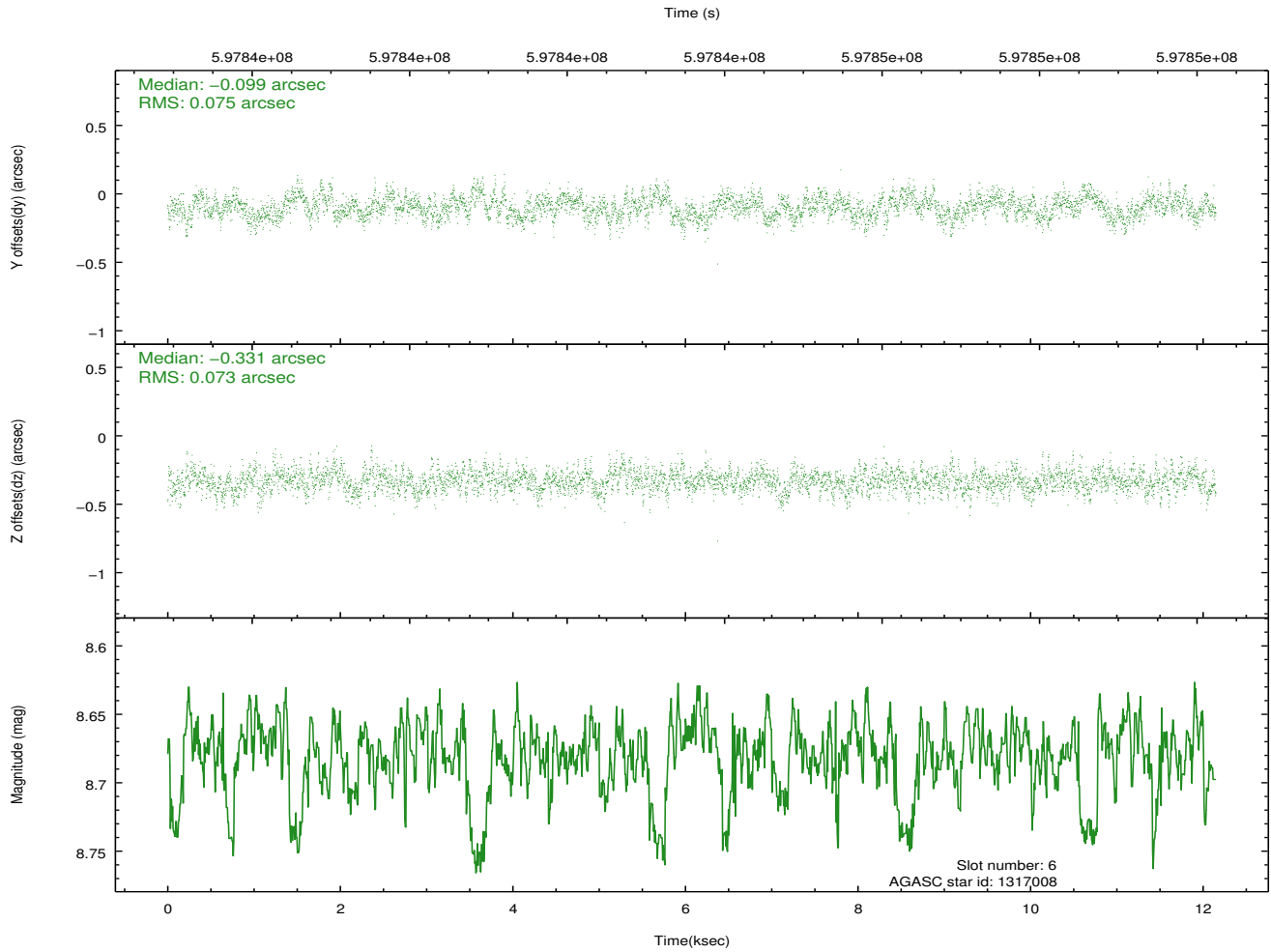
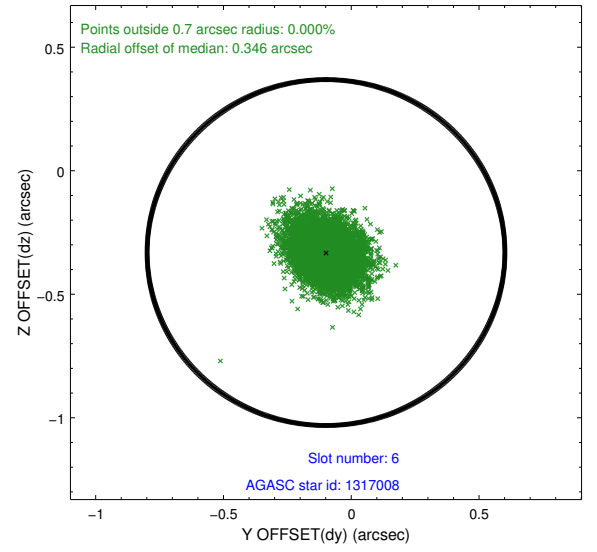
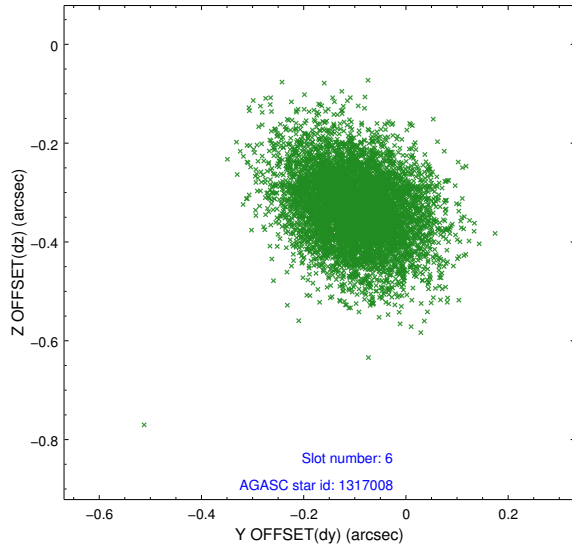
### 2.4.1 Slot 3



## 2.4.2 Slot 5

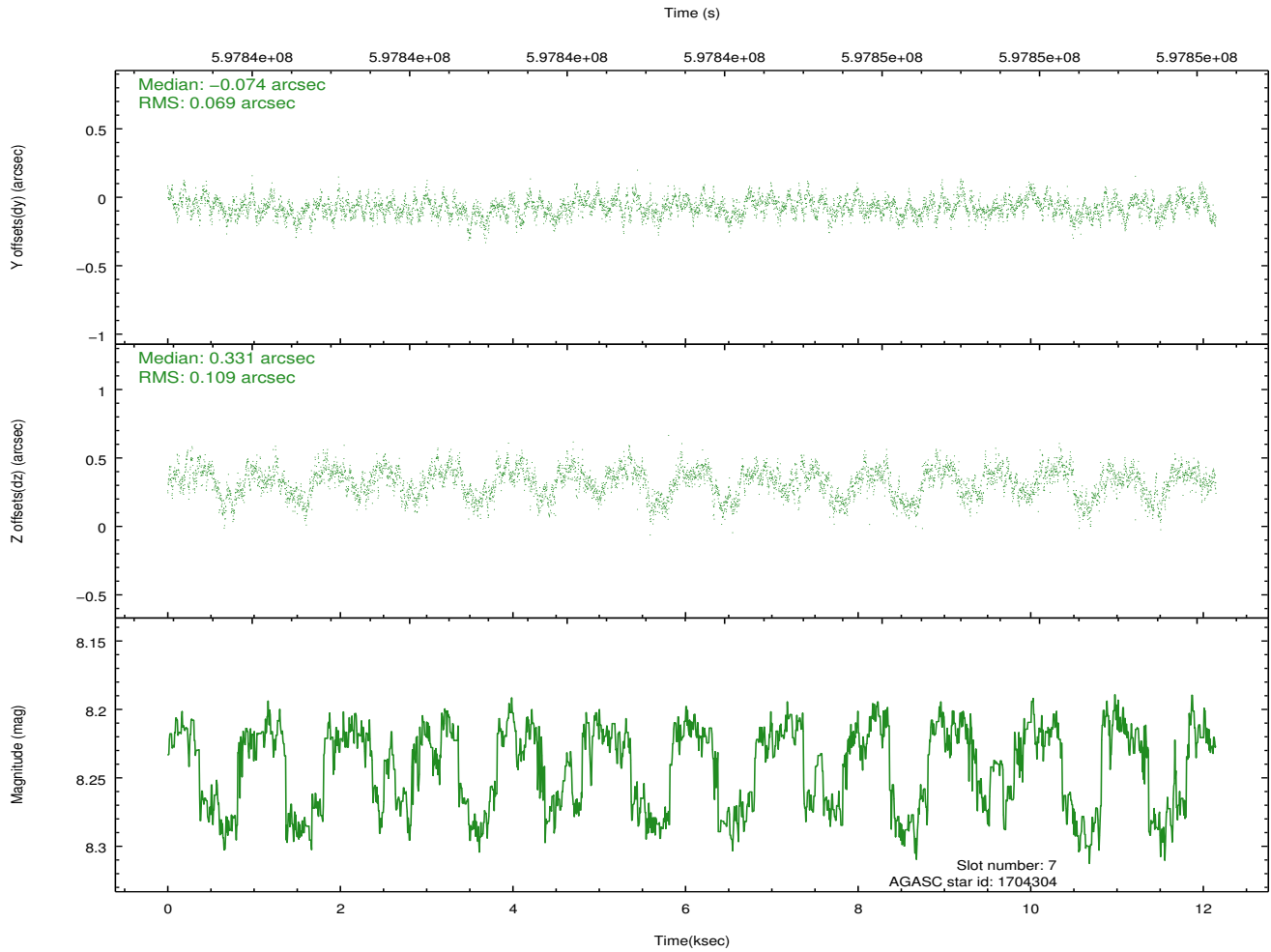
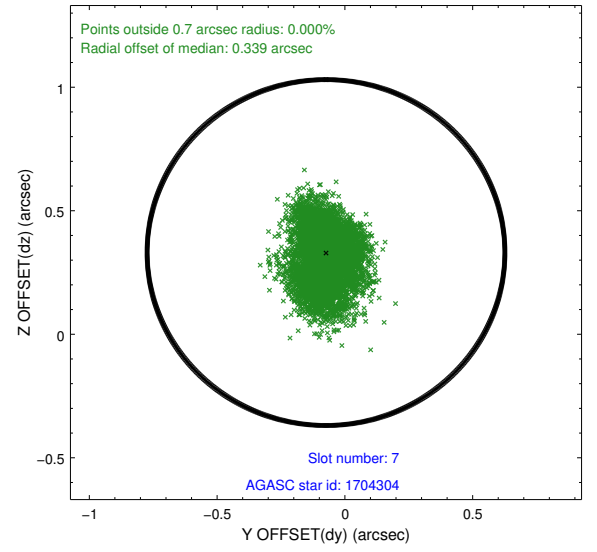
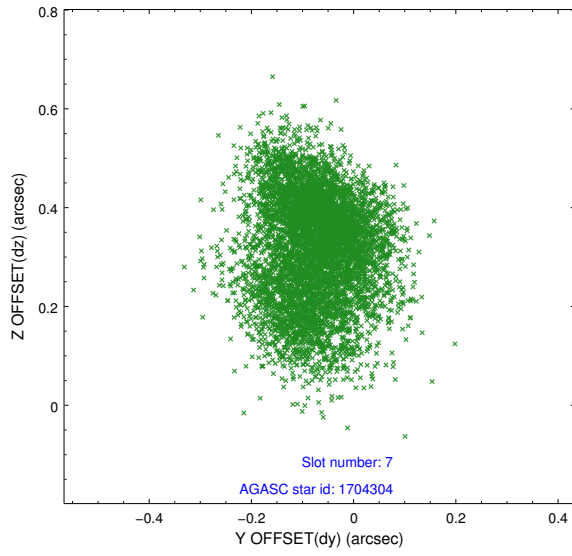


### 2.4.3 Slot 6



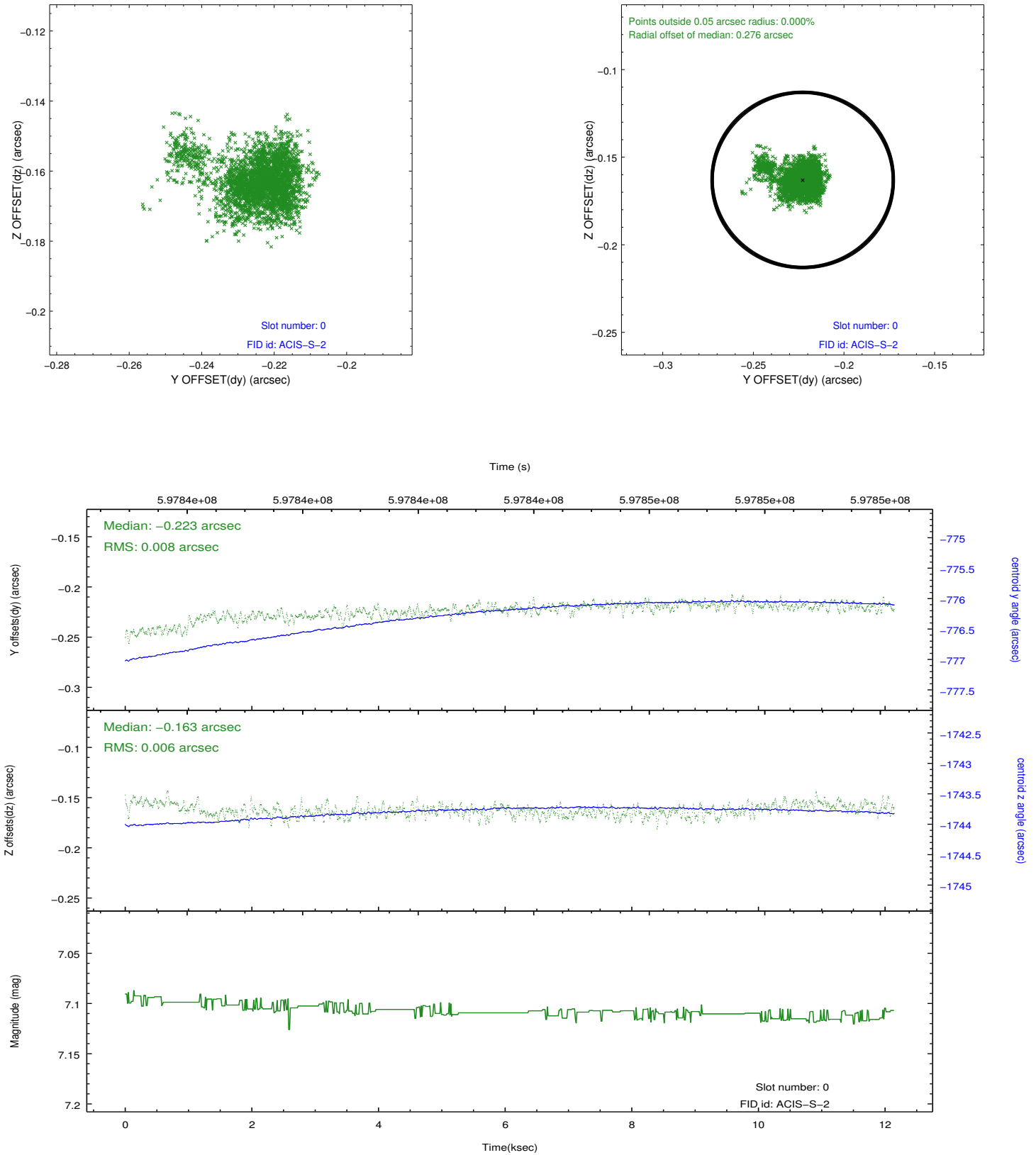


## 2.4.4 Slot 7

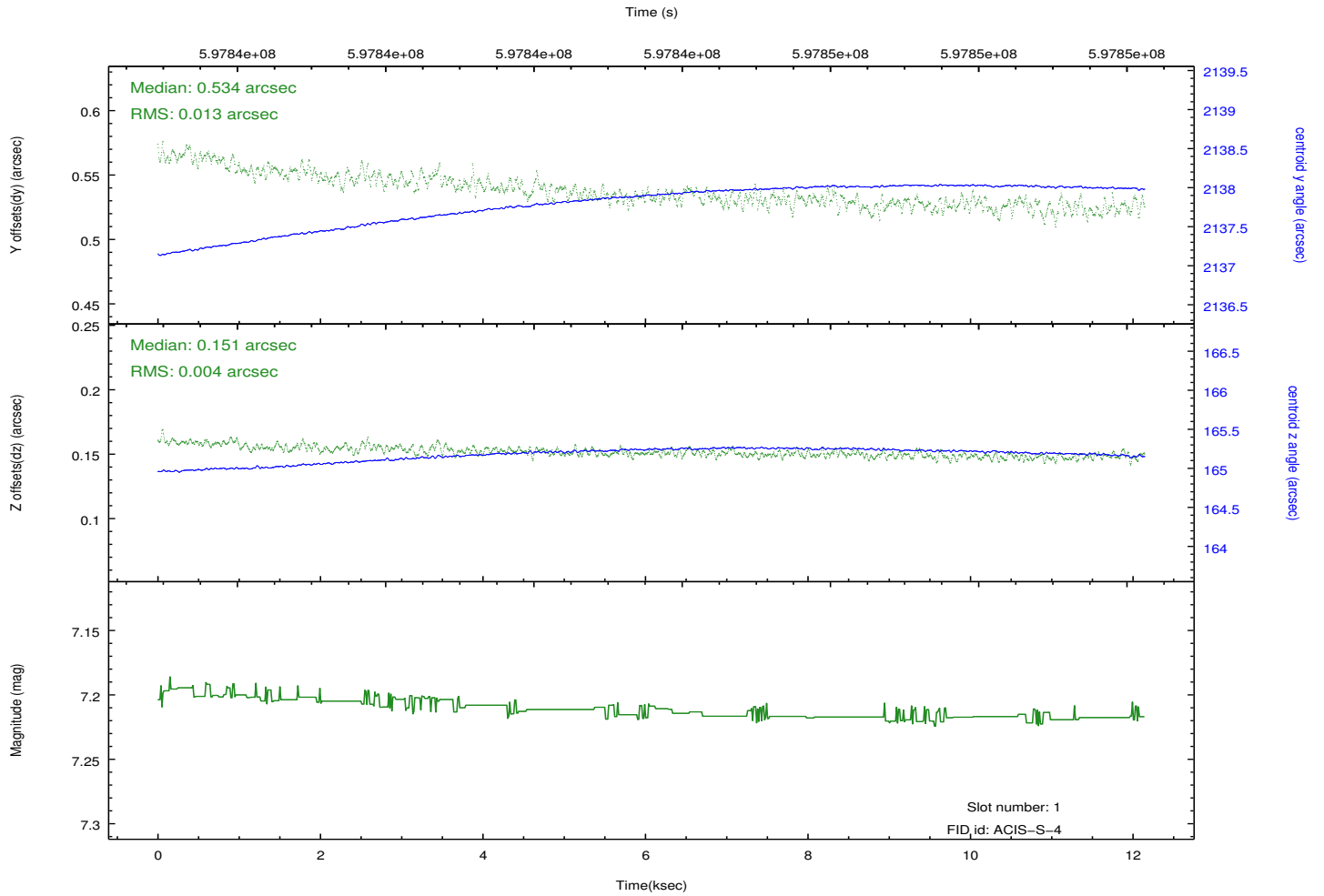
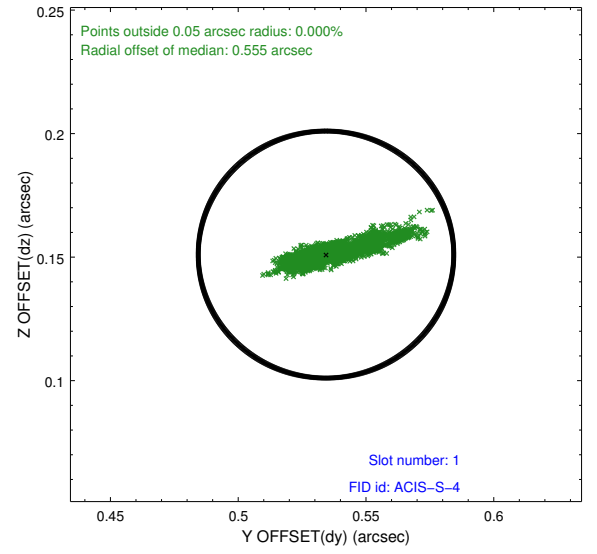
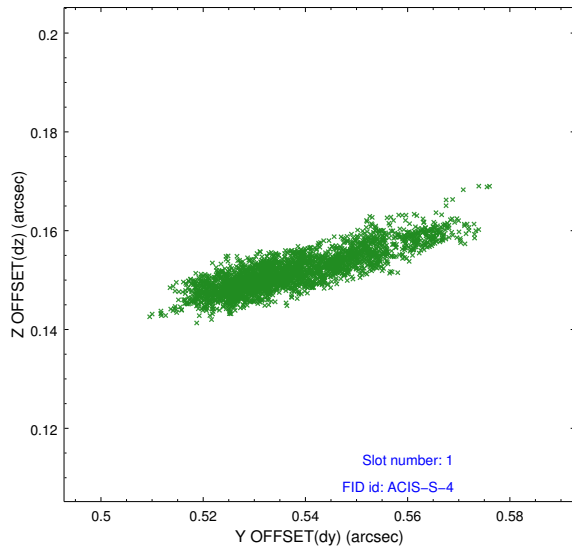


## 2.5 FID Slots

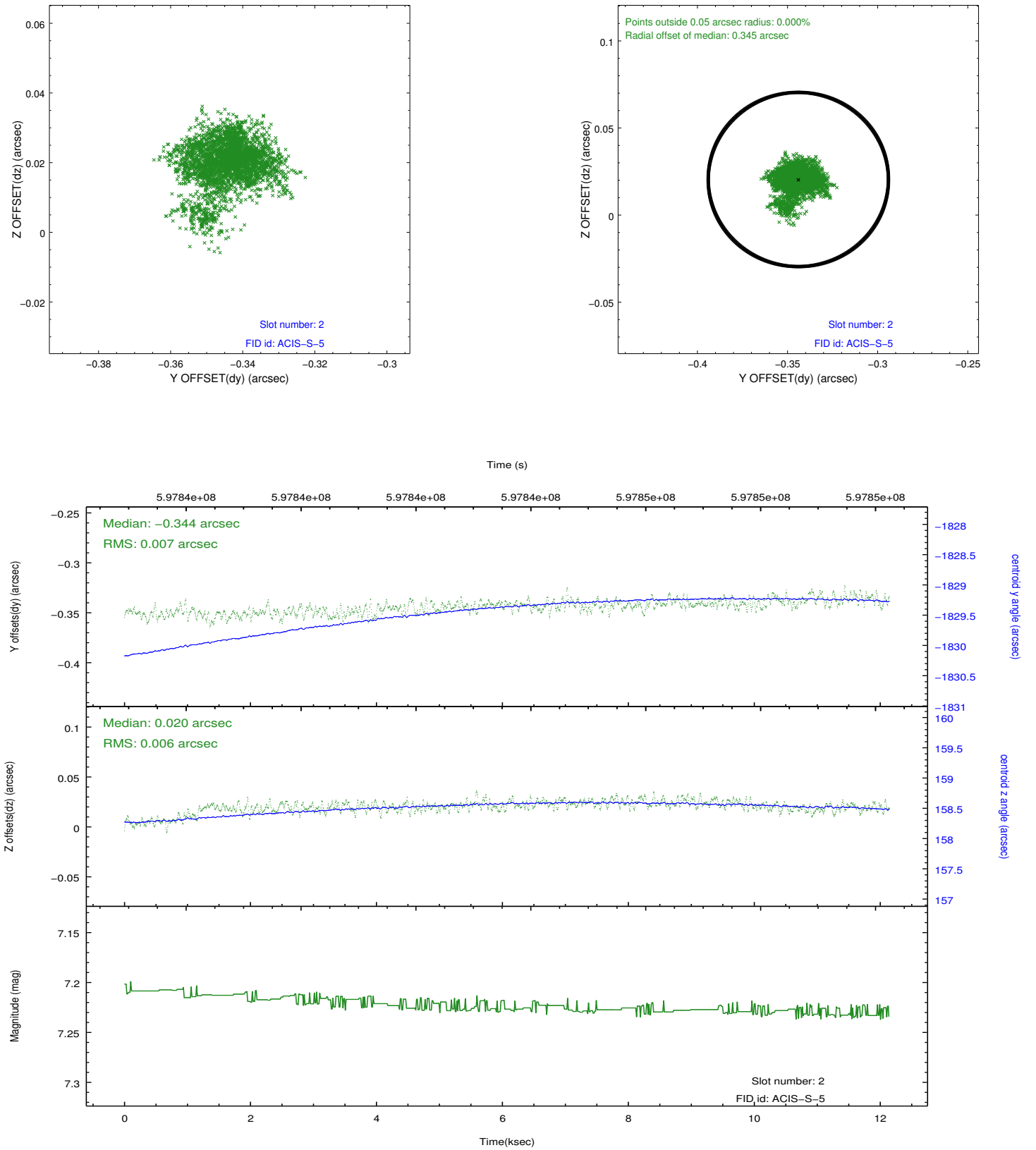
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



## A Summary

### A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2016.12.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	11.939200177908

### A.2 Comments

The guide star in slot 4 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this guide star from the solution.