

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 12246 - L2 Version 3  
Chandra X-Ray Center

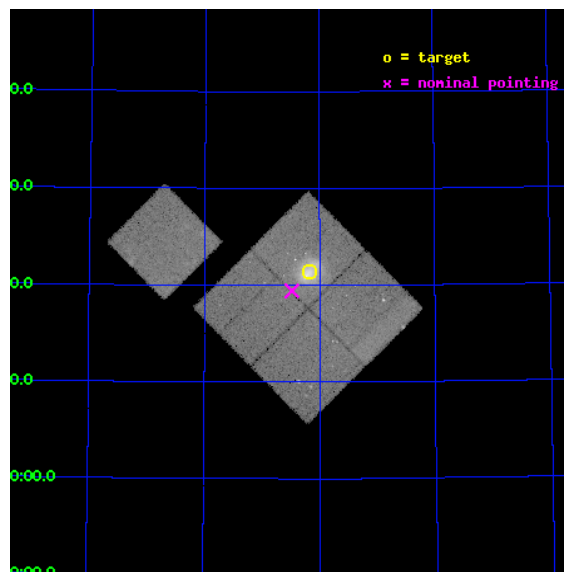
L2 Processing Date : Jul 5 2012

## 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

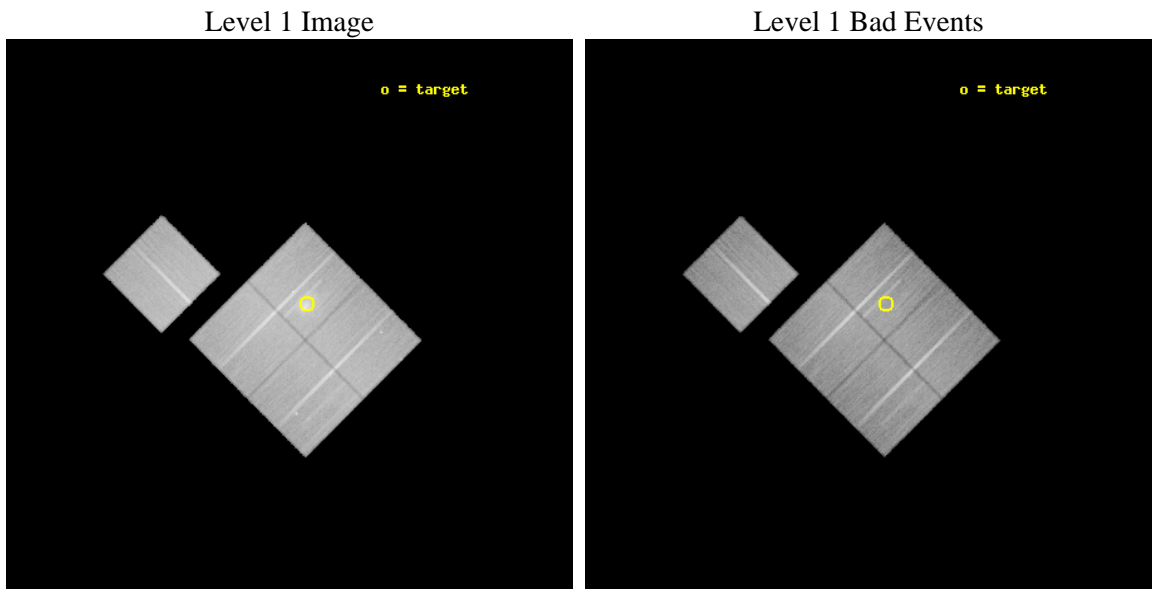
seq_num	801052	Sequence number
obs_id	12246	Observation id
title	Revealing the ICM transport processes with the bow shock, upstream shock and turbulent wake in Abell 2146	Proposal title
observer	Dr Helen Russell	Principal investigator
object	Abell 2146	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	239.04239	Observer's specified target RA [deg]
dec_targ	66.357434	Observer's specified target Dec [deg]
ra_nom	239.12039994148	Nominal RA [deg]
dec_nom	66.323626985296	Nominal Dec [deg]
roll_nom	315.13723420944	Nominal Roll [deg]
revision	3	Processing version of data
ontime	48064.97587657	Sum of GTIs [s]
livetime	47436.971581822	Livetime [s]
ontime0	48071.13472712	Sum of GTIs [s]
ontime1	48068.034736931	Sum of GTIs [s]
ontime2	48074.357747614	Sum of GTIs [s]
ontime3	48064.97587657	Sum of GTIs [s]
ontime6	48077.375627875	Sum of GTIs [s]
l2events	196986	Number of level 2 events



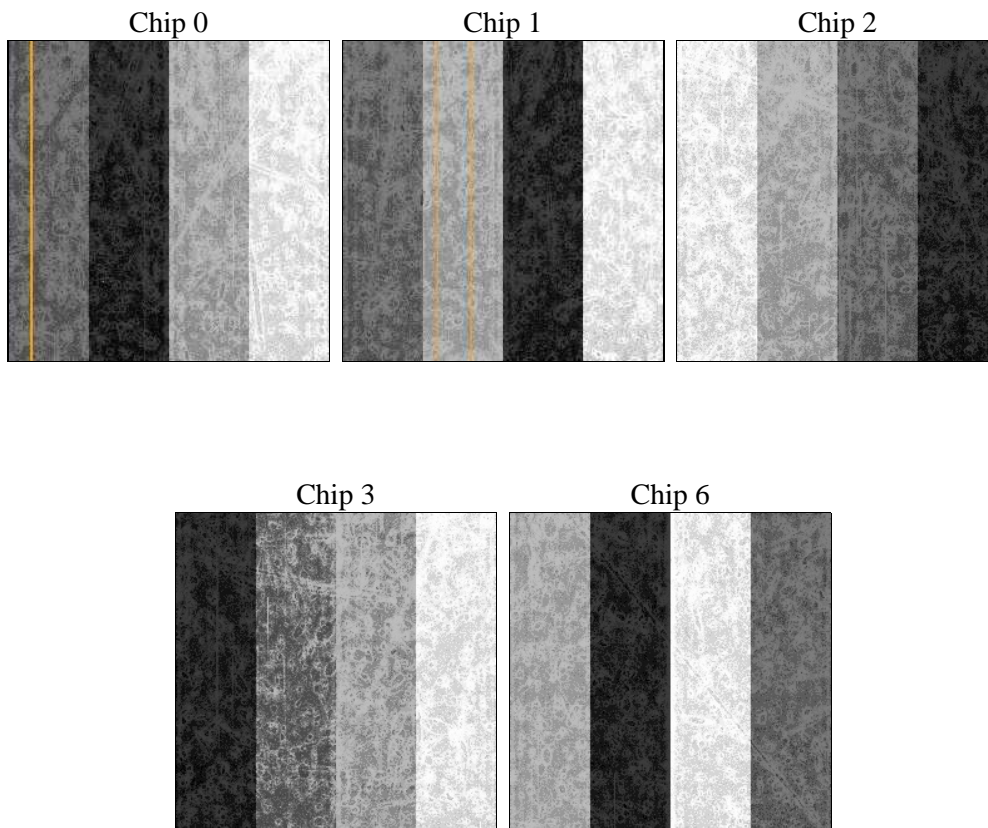
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	48027.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	48064.97587657	Sum of GTIs [s]
caldbver	4.5.0	&#160	ontime0	48071.13472712	Sum of GTIs [s]
date	2012-07-05T18:09:35	Date and time of file creation	ontime1	48068.034736931	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	48074.357747614	Sum of GTIs [s]
			ontime3	48064.97587657	Sum of GTIs [s]
			ontime6	48077.375627875	Sum of GTIs [s]
			l1events	1785122	Number of level 1 events

### 2.1.4 Events

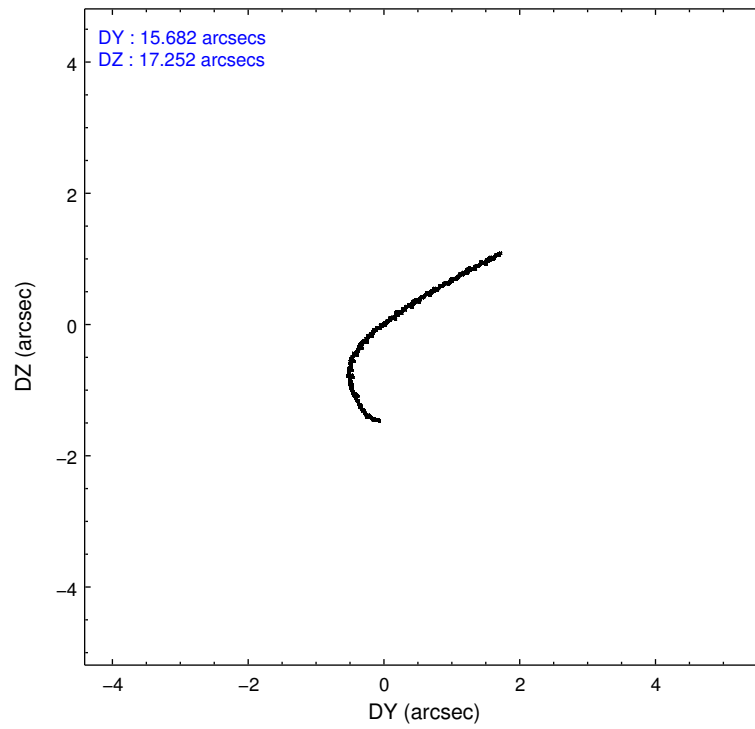
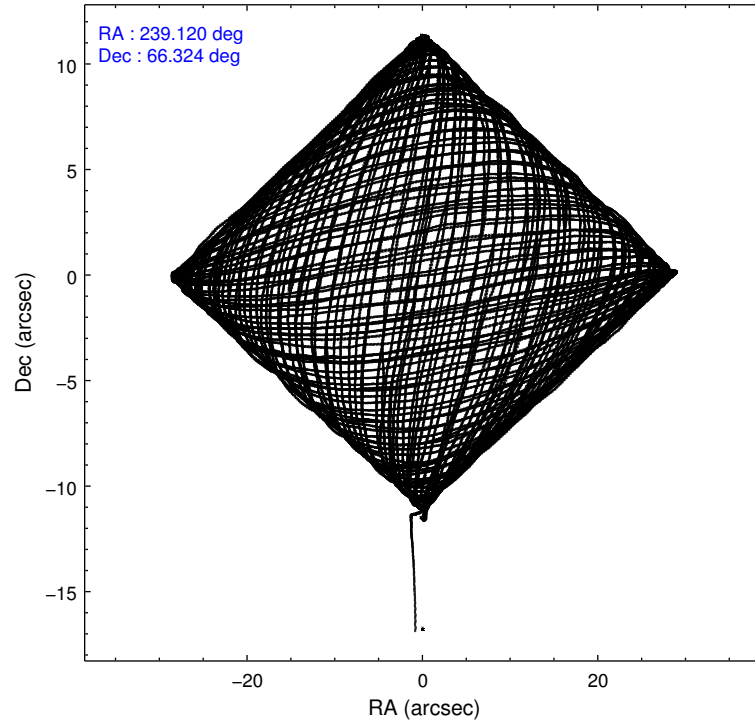
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	332315	336043	367591	386743	362430
rejected events	292766	291674	329393	318183	322709
rejected %	88%	86%	89%	82%	89%

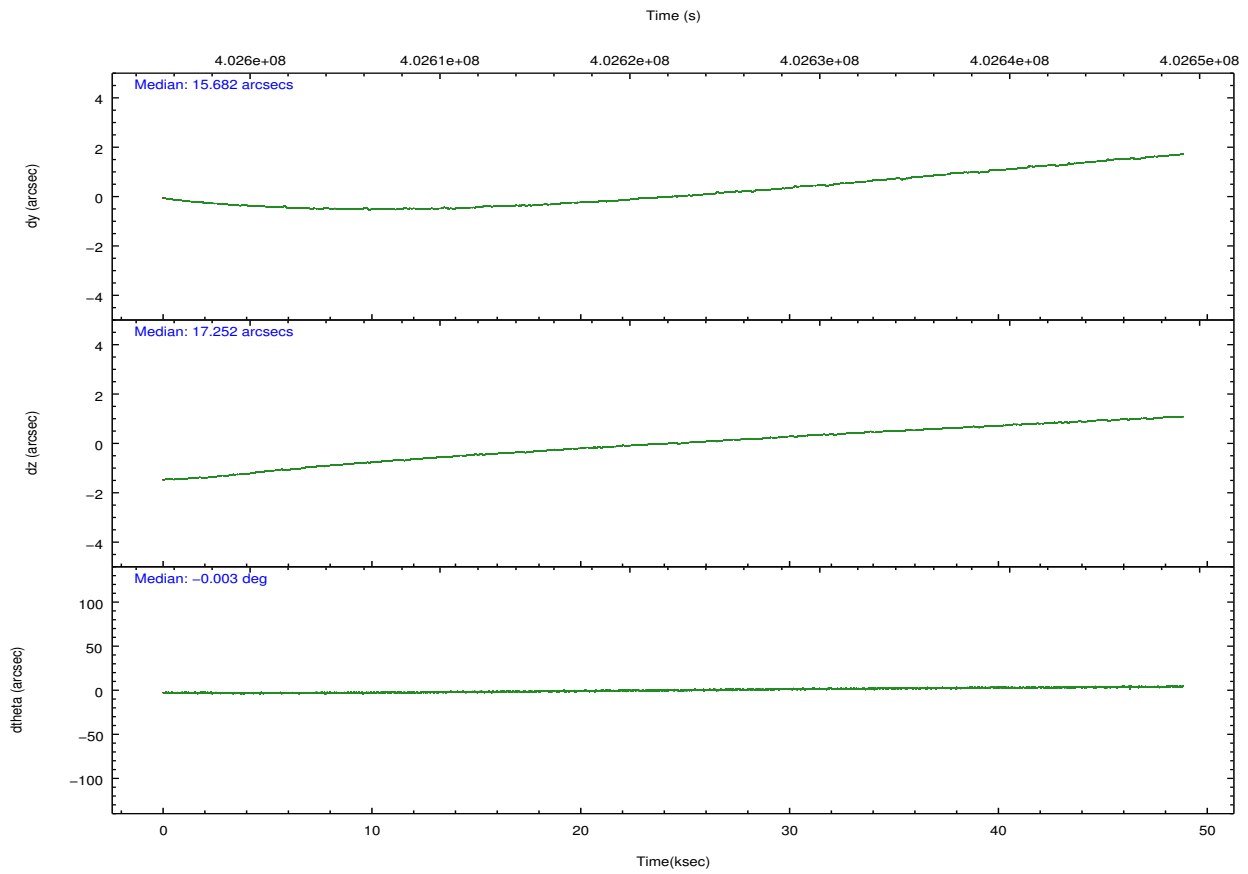
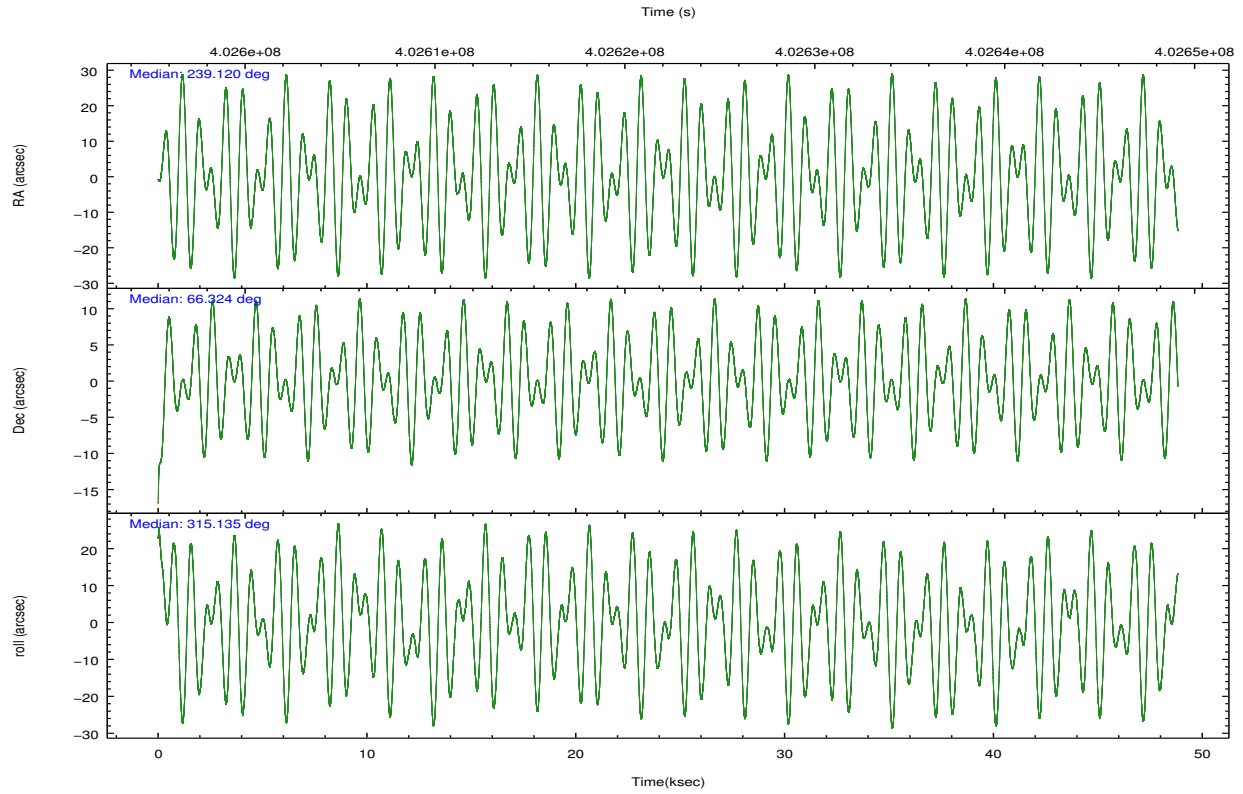
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	14132	16293	13476	38983	13827
	4%	4%	3%	10%	3%
grade 1 events	211	166	182	352	192
	0%	0%	0%	0%	0%
grade 2 events	9621	10487	9570	11379	8800
	2%	3%	2%	2%	2%
grade 3 events	4191	4355	3926	4976	4272
	1%	1%	1%	1%	1%
grade 4 events	3852	4387	3996	4910	4107
	1%	1%	1%	1%	1%
grade 5 events	14439	15562	13483	16574	15838
	4%	4%	3%	4%	4%
grade 6 events	7762	8854	7240	8321	8725
	2%	2%	1%	2%	2%
grade 7 events	278107	275939	315718	301248	306669
	83%	82%	85%	77%	84%

## 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	239.054145	239.1203999414823	CCD I2 on	Y	Y
[deg] Pointing Dec	66.330574	66.32362698529576	CCD I3 on	Y	Y
[deg] Pointing Roll	314.989228	315.1372342094392	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	-228.592463	-228.5990329025337	CCD S3 on	N	N
[mm] SIM translation stage offset	-5	-4.993420100396037	CCD S4 on	N	N
[s] Observation start time (MET)	402598663.184000	402596917.17947	CCD S5 on	N	N
Observation start date	2010-10-04T16:56:37	2010-10-04T16:28:37	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	402646690.184000	402647182.15705	On-chip summing requested	N	N
Observation end date	2010-10-05T06:17:04	2010-10-05T06:26:22	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



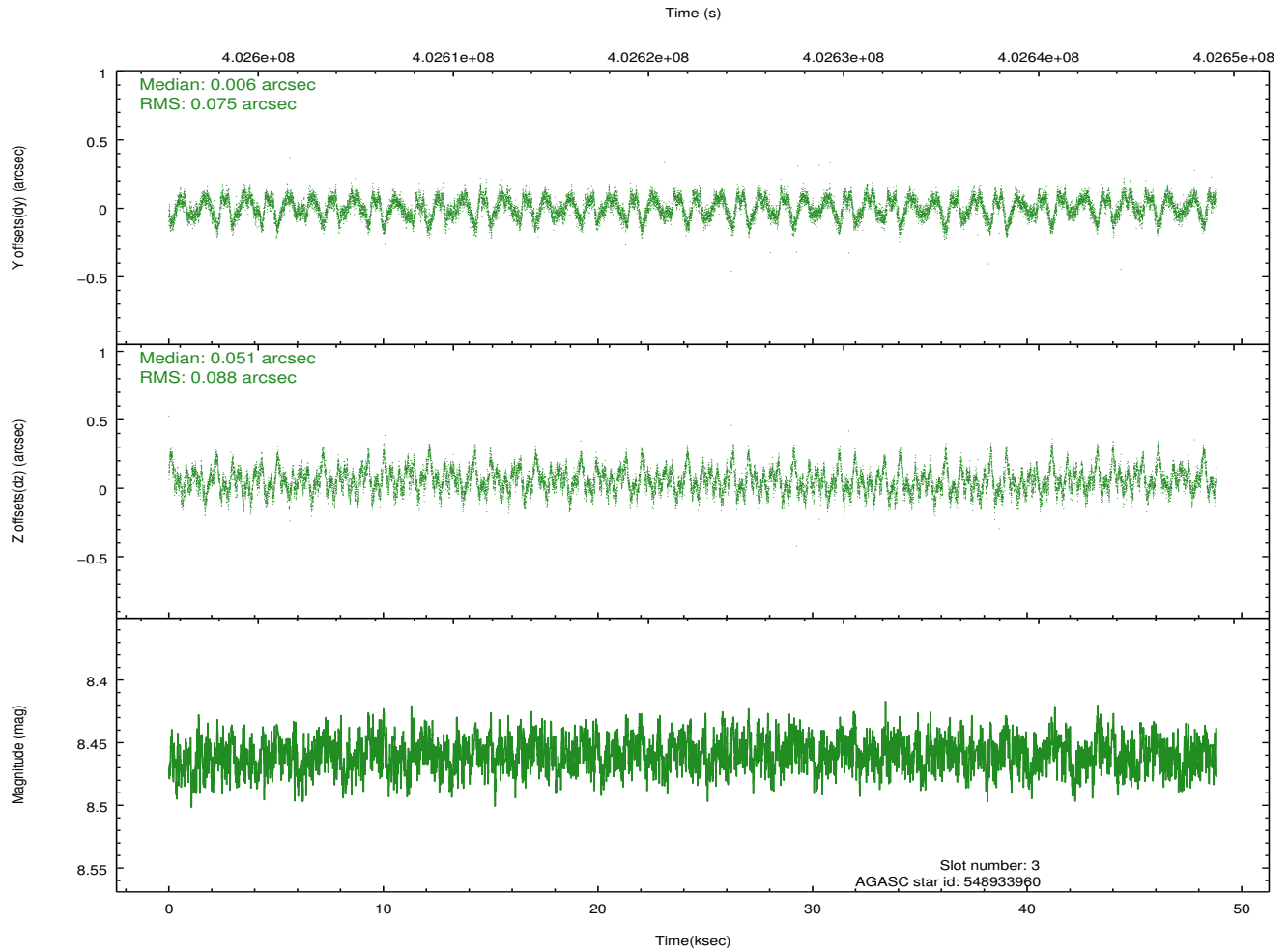
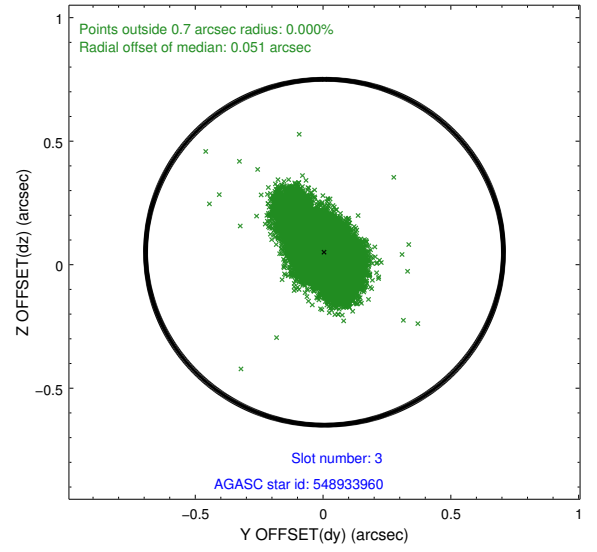
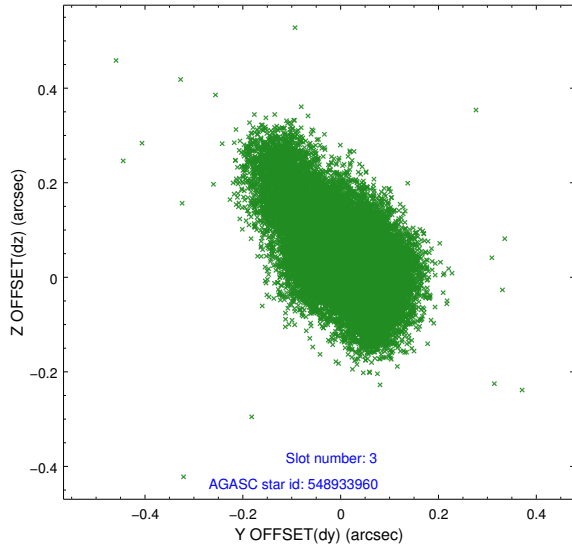


### Slot Statistics

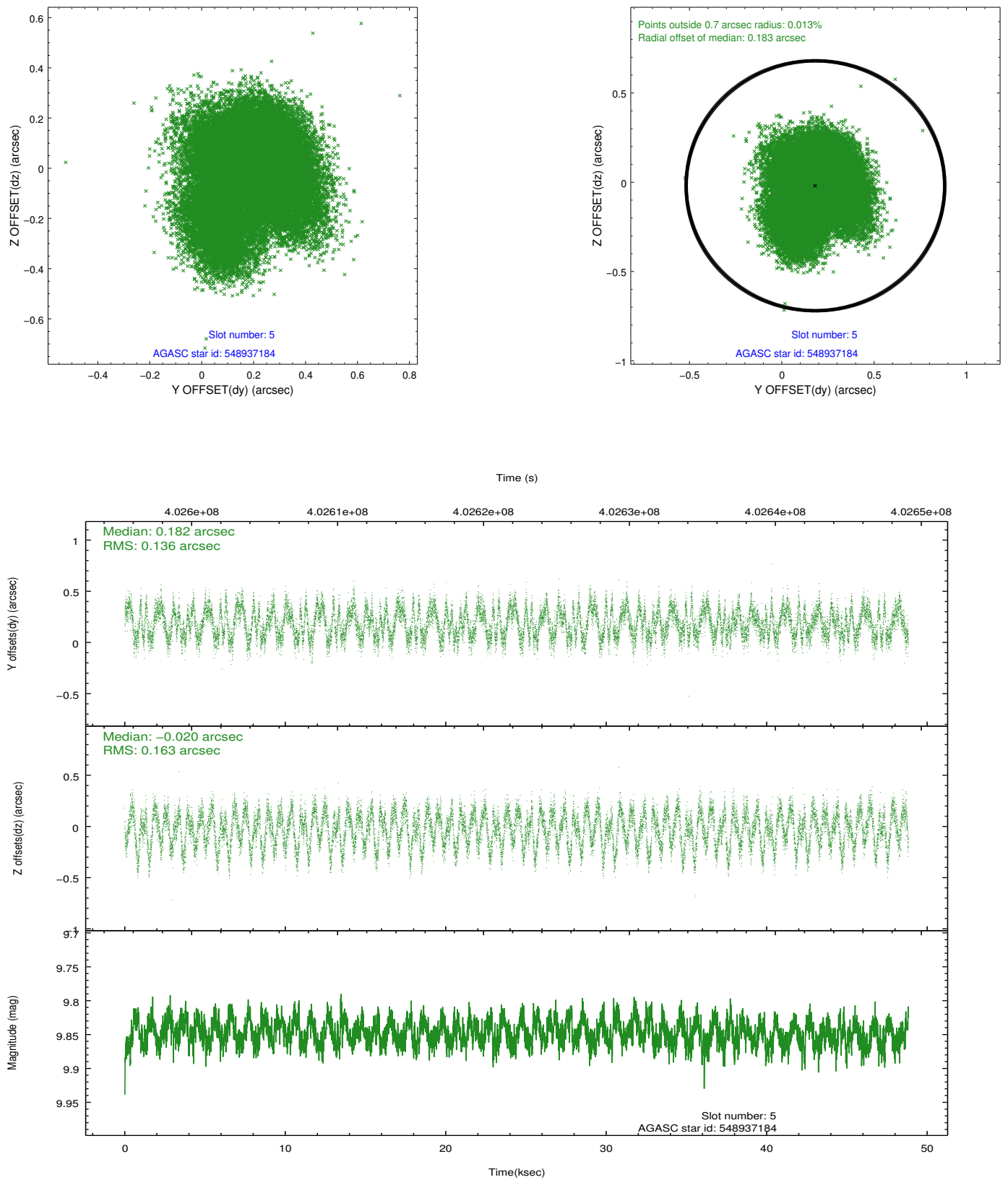
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.00	11911	0.069	-0.007	0.028	0.037	0.000000	0.000000	923.50	-943.31
1	FID	ACIS-I-5	6.98	11910	-0.219	0.078	0.016	0.022	0.000000	0.000000	-1824.94	954.20
2	FID	ACIS-I-6	7.00	11909	0.054	-0.001	0.019	0.029	0.000000	0.000000	389.00	1598.66
3	GUIDE	548933960	8.46	23806	0.006	0.051	0.118	0.212	237.671184	66.428675	-1672.01	-1143.12
4	OMITTED		0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
5	GUIDE	548937184	9.85	23787	0.182	-0.020	0.231	0.344	238.771821	66.565432	-884.00	312.57
6	GUIDE	548939872	10.33	23783	-0.018	0.068	0.206	0.322	238.964867	66.978384	-1738.16	1560.15
7	GUIDE	549850840	9.33	23791	-0.178	-0.103	0.114	0.181	241.038865	66.468628	1633.43	2400.78

## 2.4 Star Slots

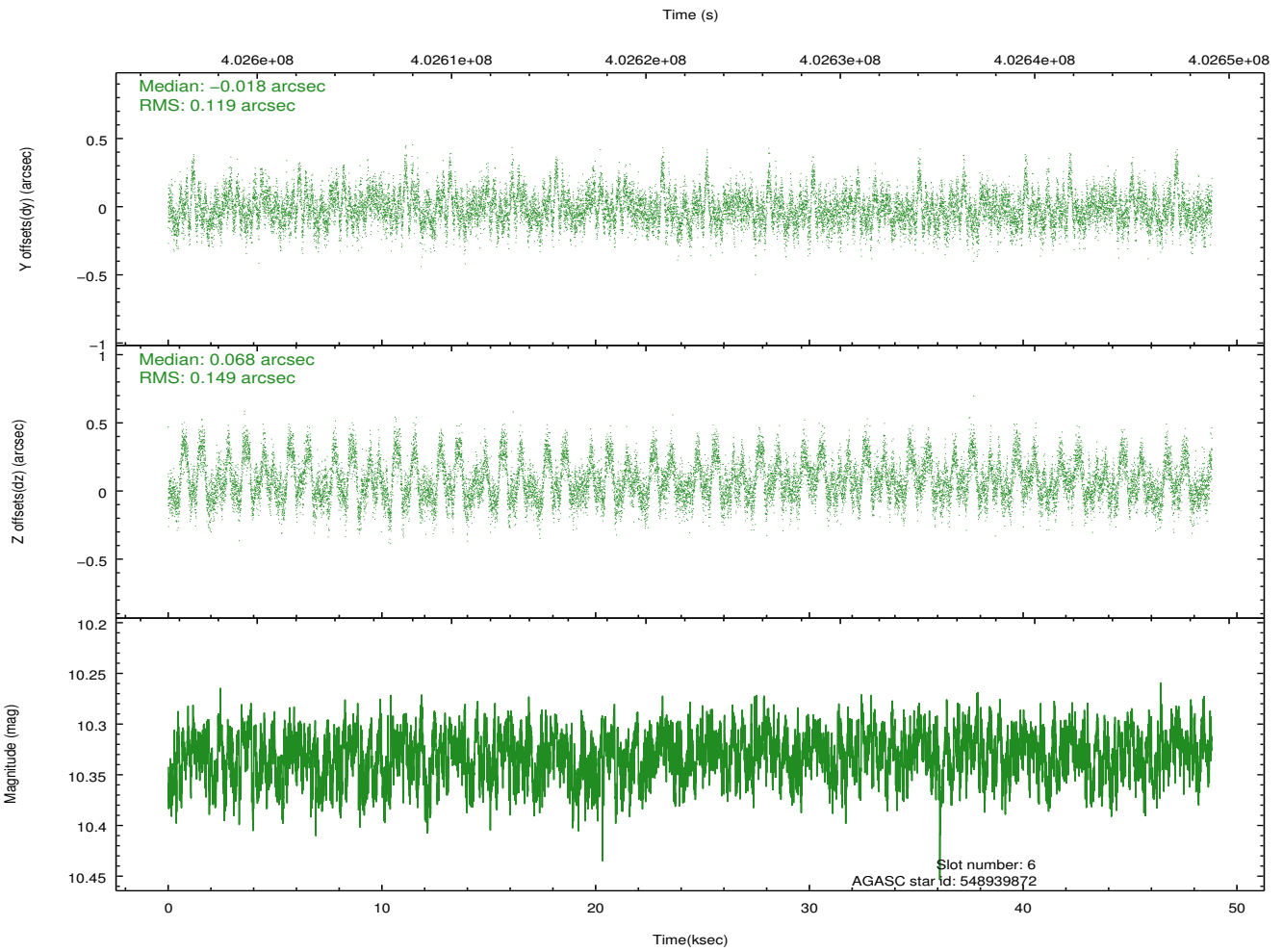
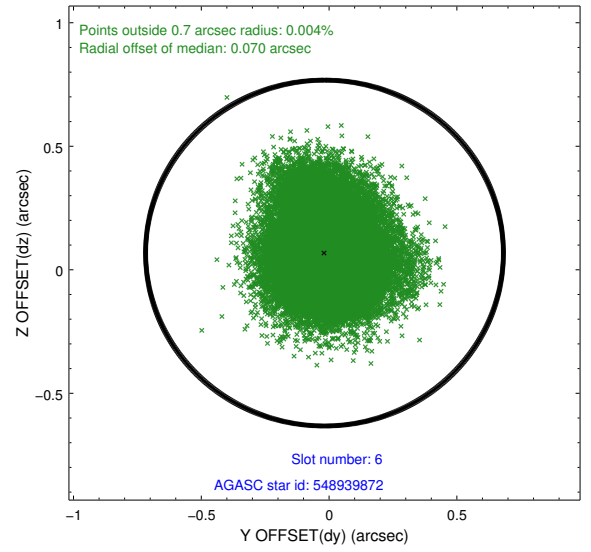
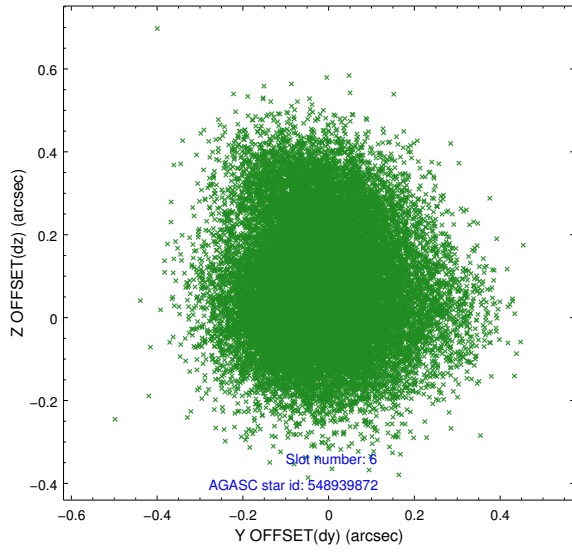
### 2.4.1 Slot 3



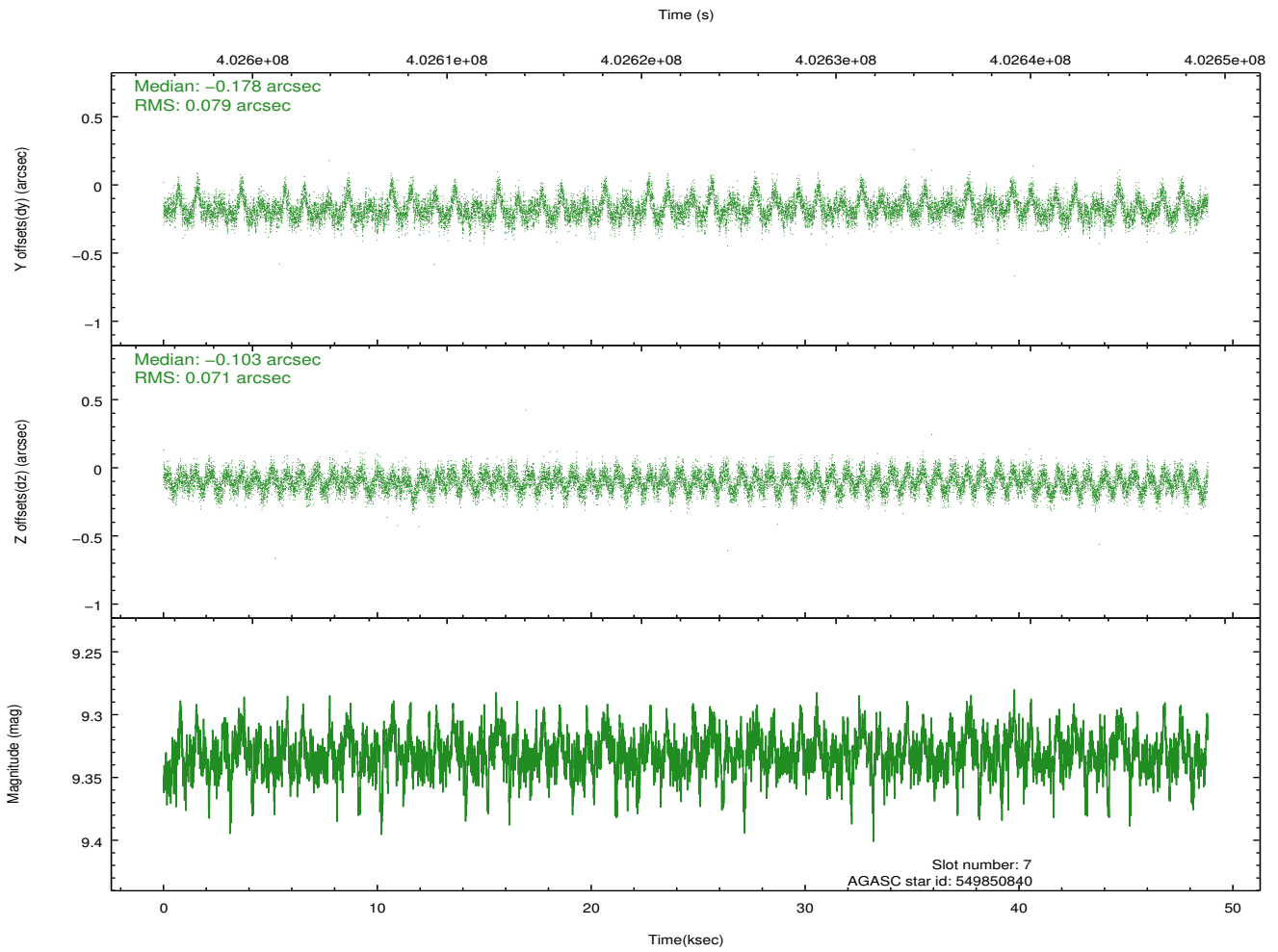
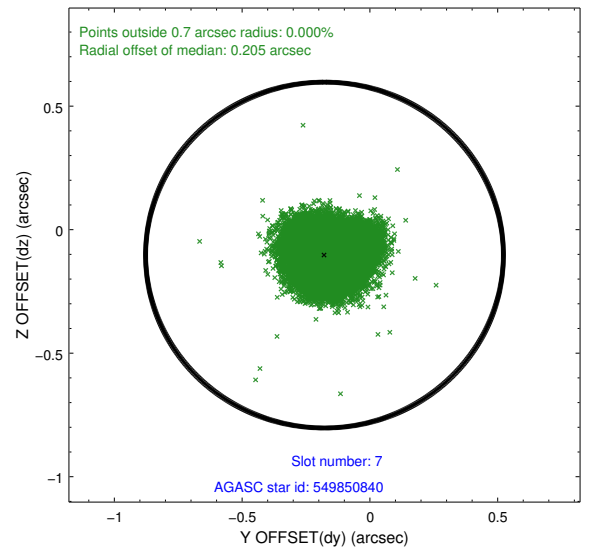
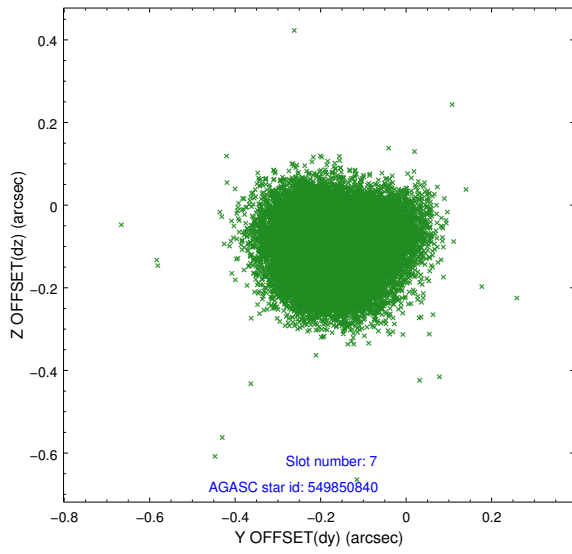
## 2.4.2 Slot 5



### 2.4.3 Slot 6

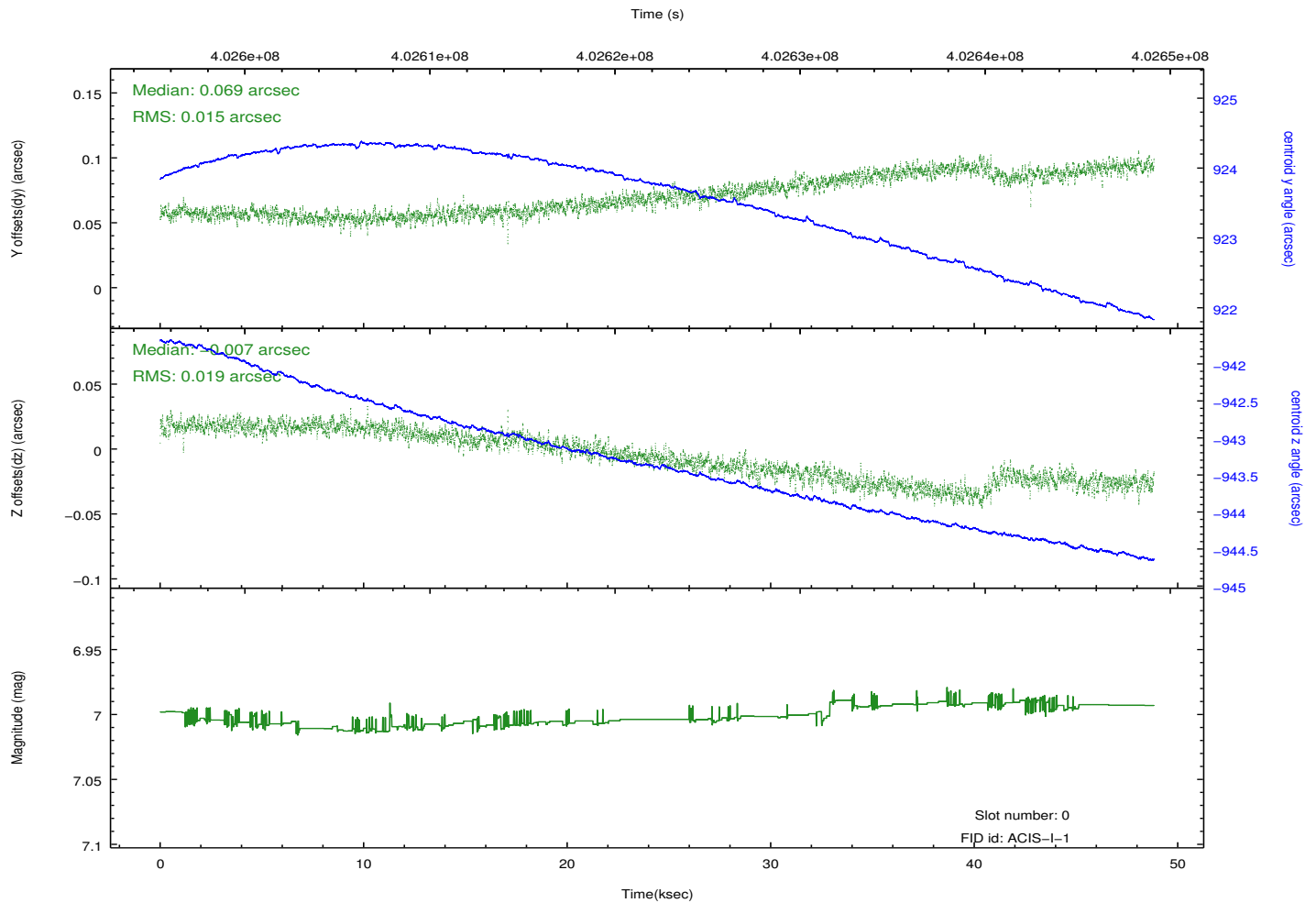
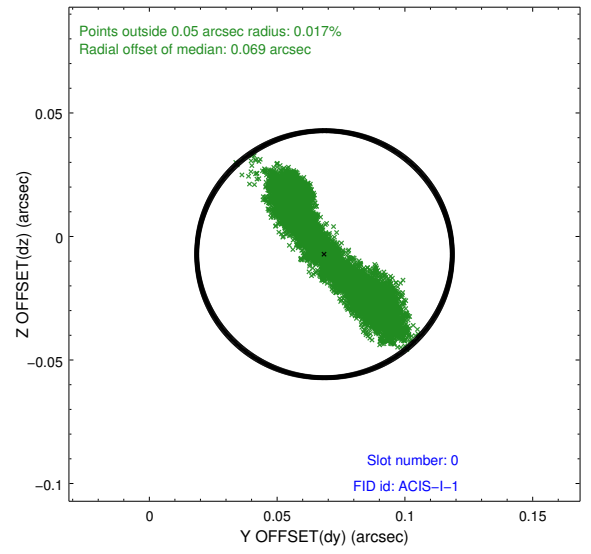
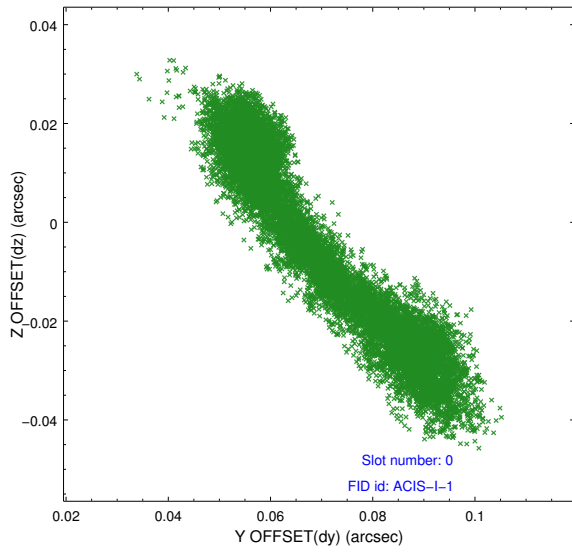


### 2.4.4 Slot 7

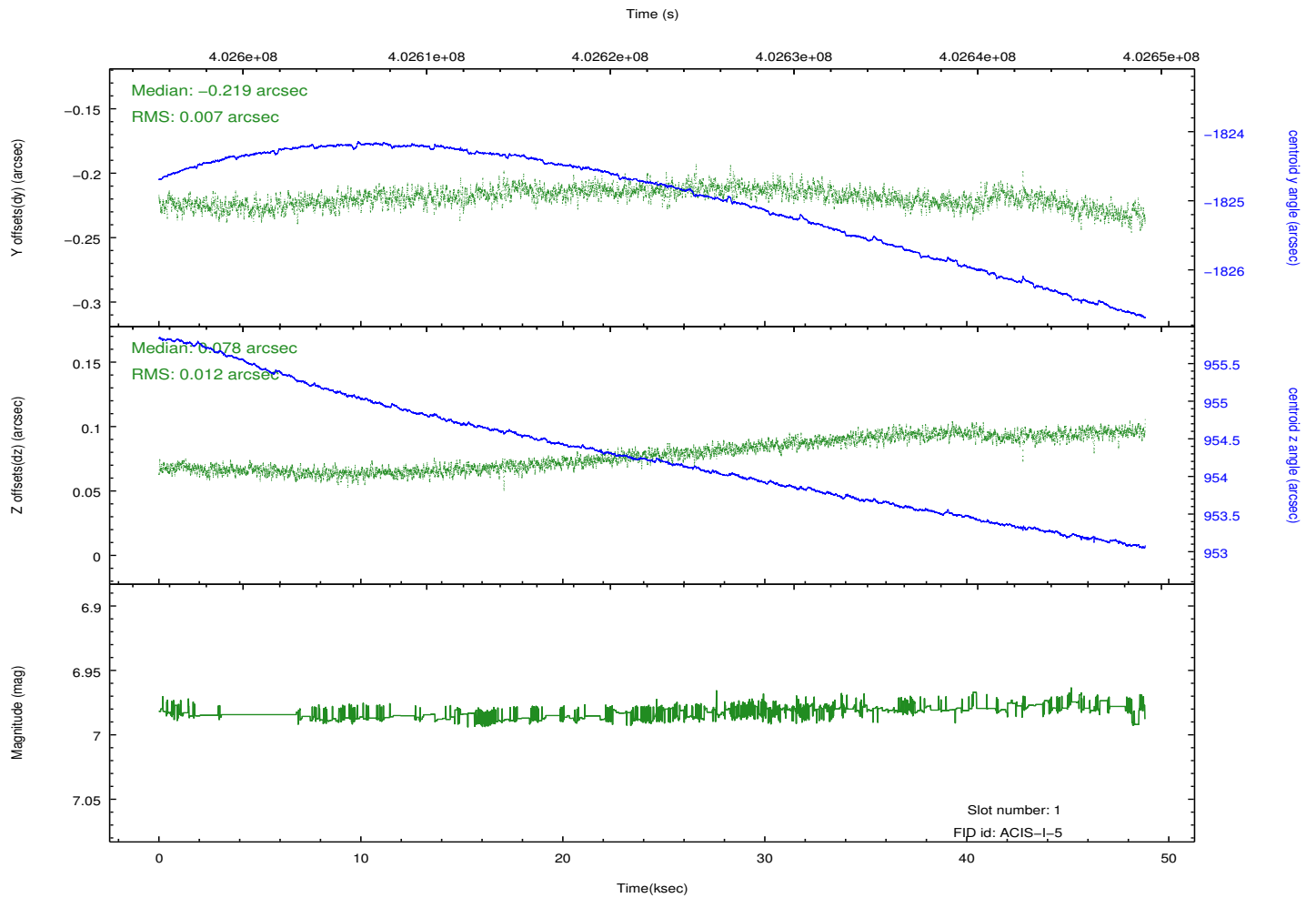
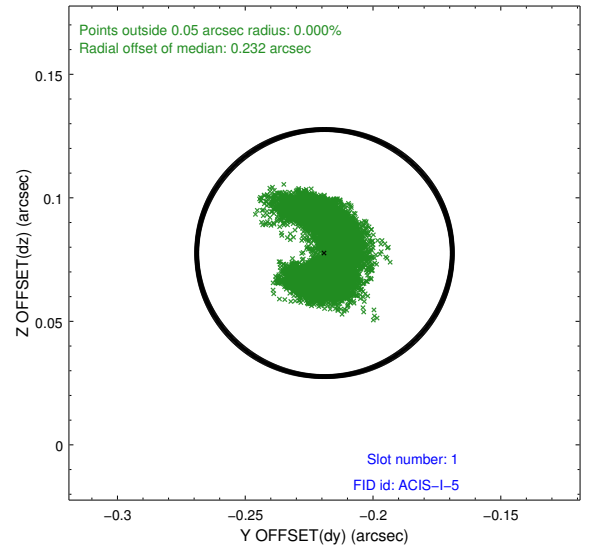
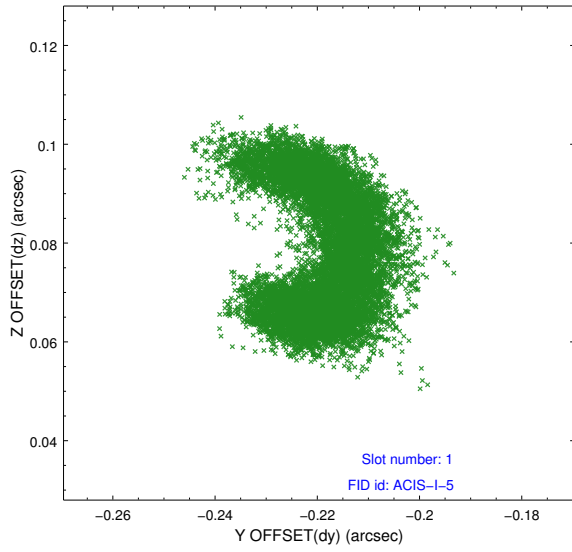


## 2.5 FID Slots

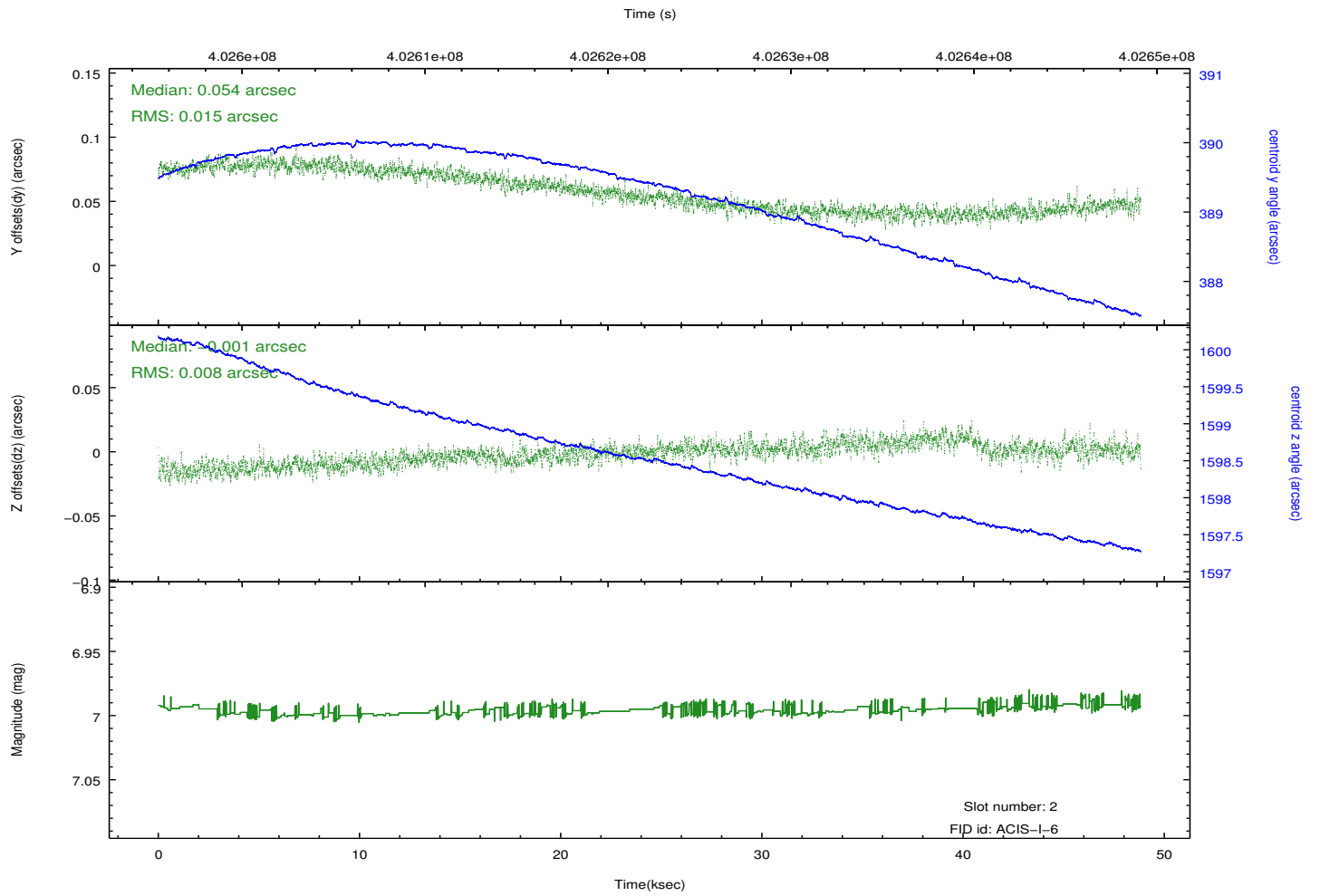
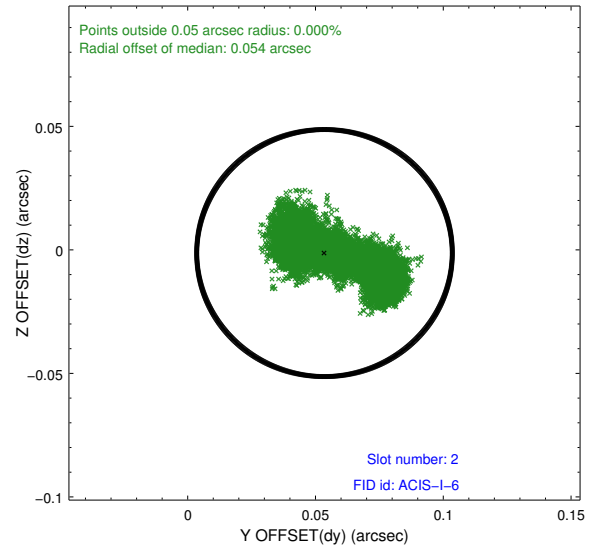
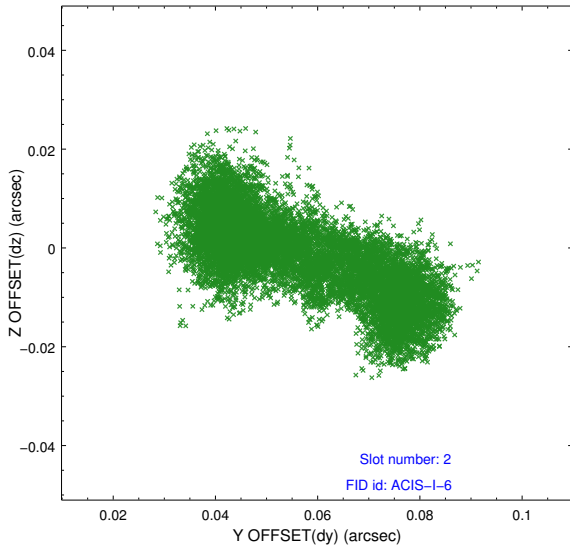
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.07.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	48.064975873113

## 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.