

# V&V Reference Report

## L2 ASCDS Version : 10.2.1

Observation 15117 - L2 Version 2  
Chandra X-Ray Center

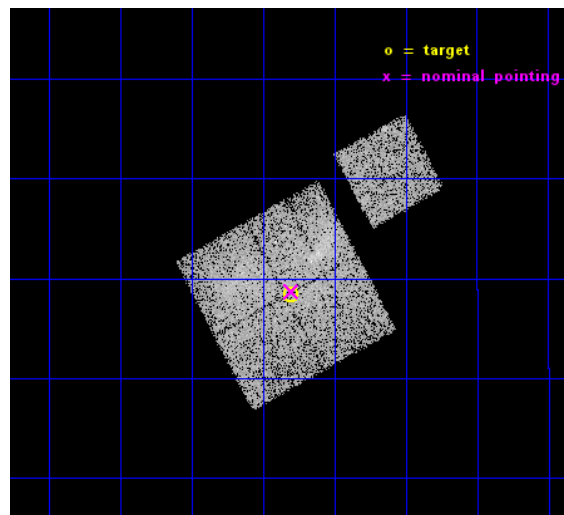
L2 Processing Date : Dec 10 2014

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# 1 Front

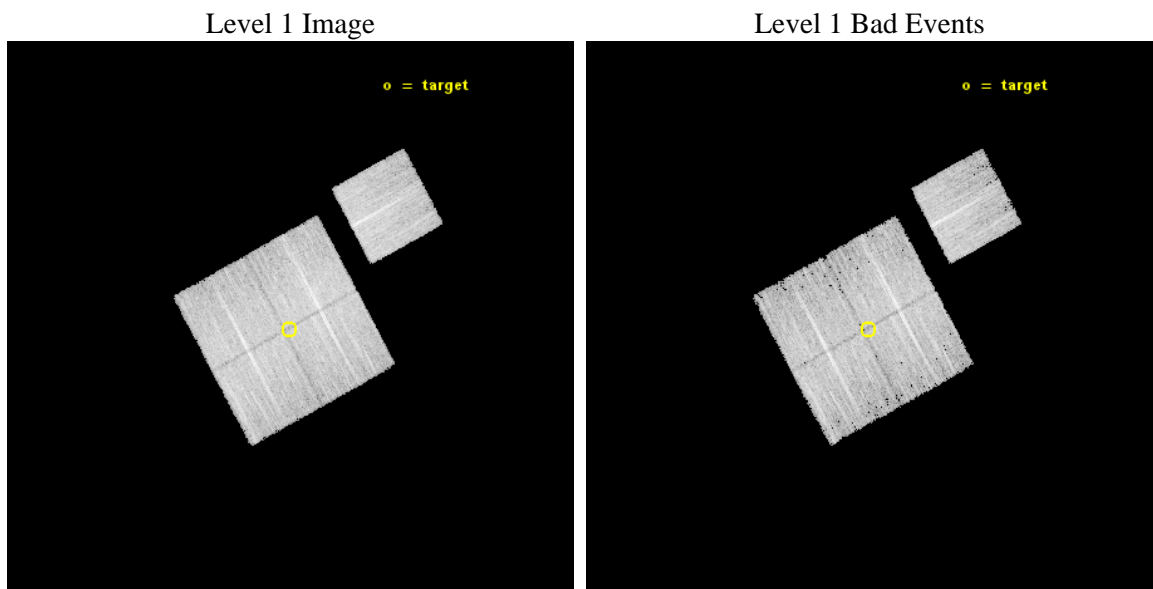
seq_num	801246	Sequence number
obs_id	15117	Observation id
title	A Chandra-Planck Legacy Program for Massive Clusters of Galaxies	P
observer	Dr. Christine Jones	Principal investigator
object	G241.85+51.53	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	159.825	Observer's specified target RA [deg]
dec_targ	5.14	Observer's specified target Dec [deg]
ra_nom	159.8249426988	Nominal RA [deg]
dec_nom	5.1449919868577	Nominal Dec [deg]
roll_nom	61.551686609372	Nominal Roll [deg]
revision	2	Processing version of data
ontime	13772.253208995	Sum of GTIs [s]
livetime	13592.308581834	Livetime [s]
ontime0	13768.989018619	Sum of GTIs [s]
ontime1	13772.171128869	Sum of GTIs [s]
ontime2	13769.071068168	Sum of GTIs [s]
ontime3	13772.253208995	Sum of GTIs [s]
ontime6	13772.089048862	Sum of GTIs [s]
l2events	41001	Number of level 2 events



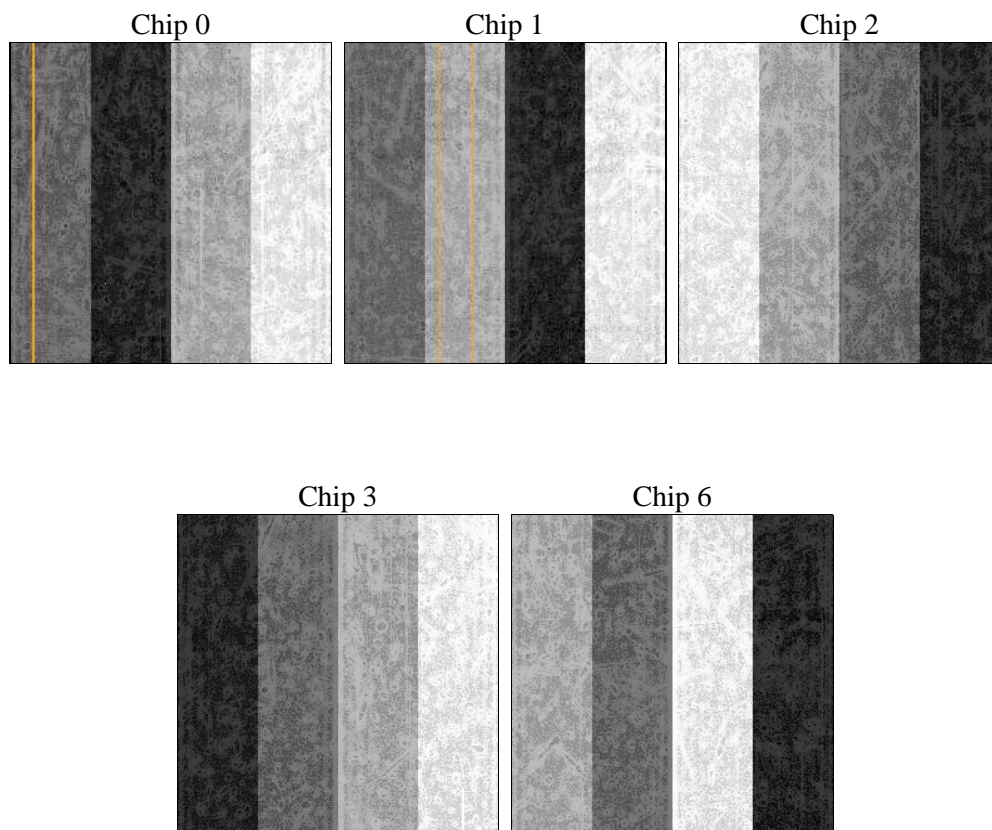
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	14000.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	13772.253208995	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime0	13768.989018619	Sum of GTIs [s]
date	2014-12-10T06:07:32	Date and time of file creation	ontime1	13772.171128869	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	13769.071068168	Sum of GTIs [s]
			ontime3	13772.253208995	Sum of GTIs [s]
			ontime6	13772.089048862	Sum of GTIs [s]
			l1events	330960	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	63698	64888	69151	64939	68284
rejected events	53115	55895	57745	56479	60246
rejected %	83%	86%	83%	86%	88%

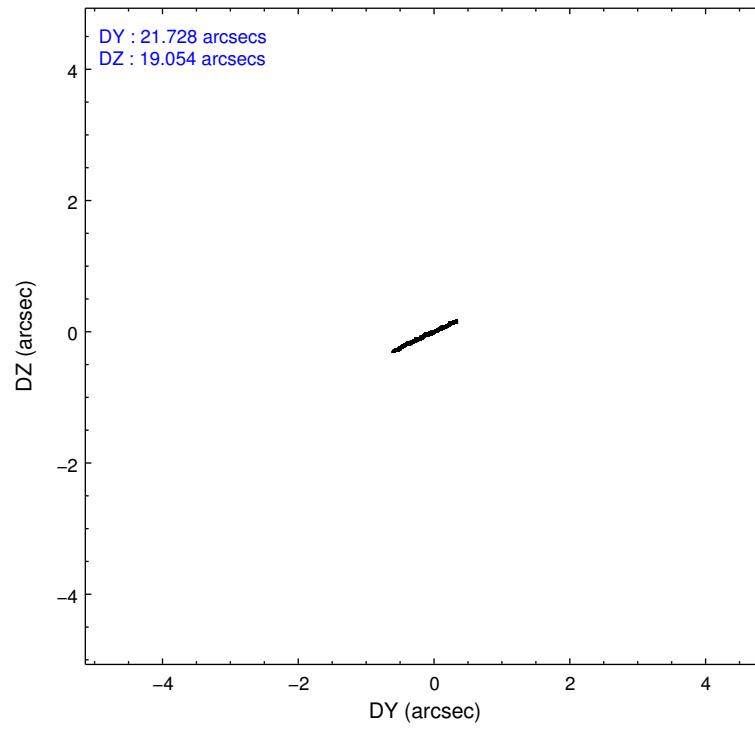
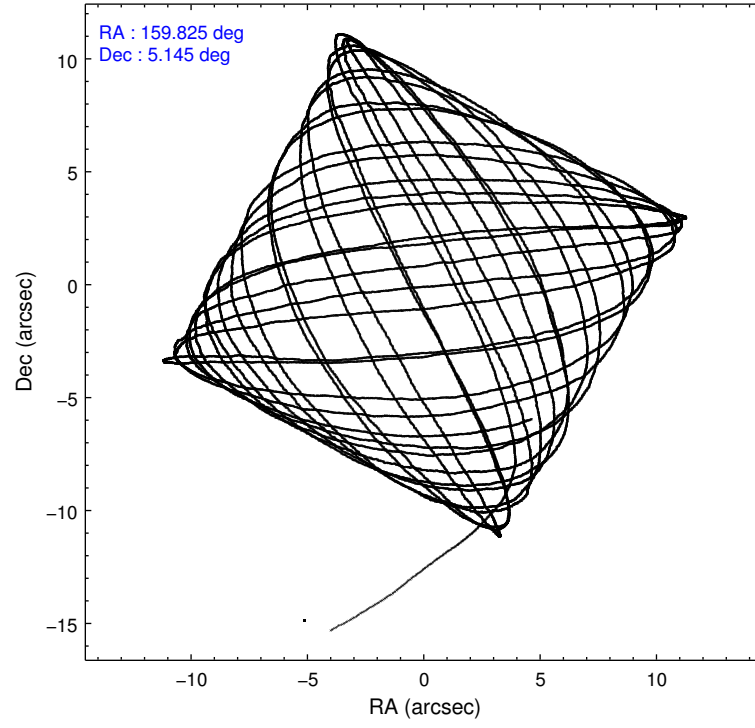
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	4971	3381	5966	3400	2776
	7%	5%	8%	5%	4%
grade 1 events	60	42	42	36	14
	0%	0%	0%	0%	0%
grade 2 events	2208	1999	2145	1749	1775
	3%	3%	3%	2%	2%
grade 3 events	911	785	891	824	824
	1%	1%	1%	1%	1%
grade 4 events	802	837	900	833	771
	1%	1%	1%	1%	1%
grade 5 events	3149	3361	2979	3620	3456
	4%	5%	4%	5%	5%
grade 6 events	1693	1992	1507	1656	1892
	2%	3%	2%	2%	2%
grade 7 events	49904	52491	54721	52821	56776
	78%	80%	79%	81%	83%

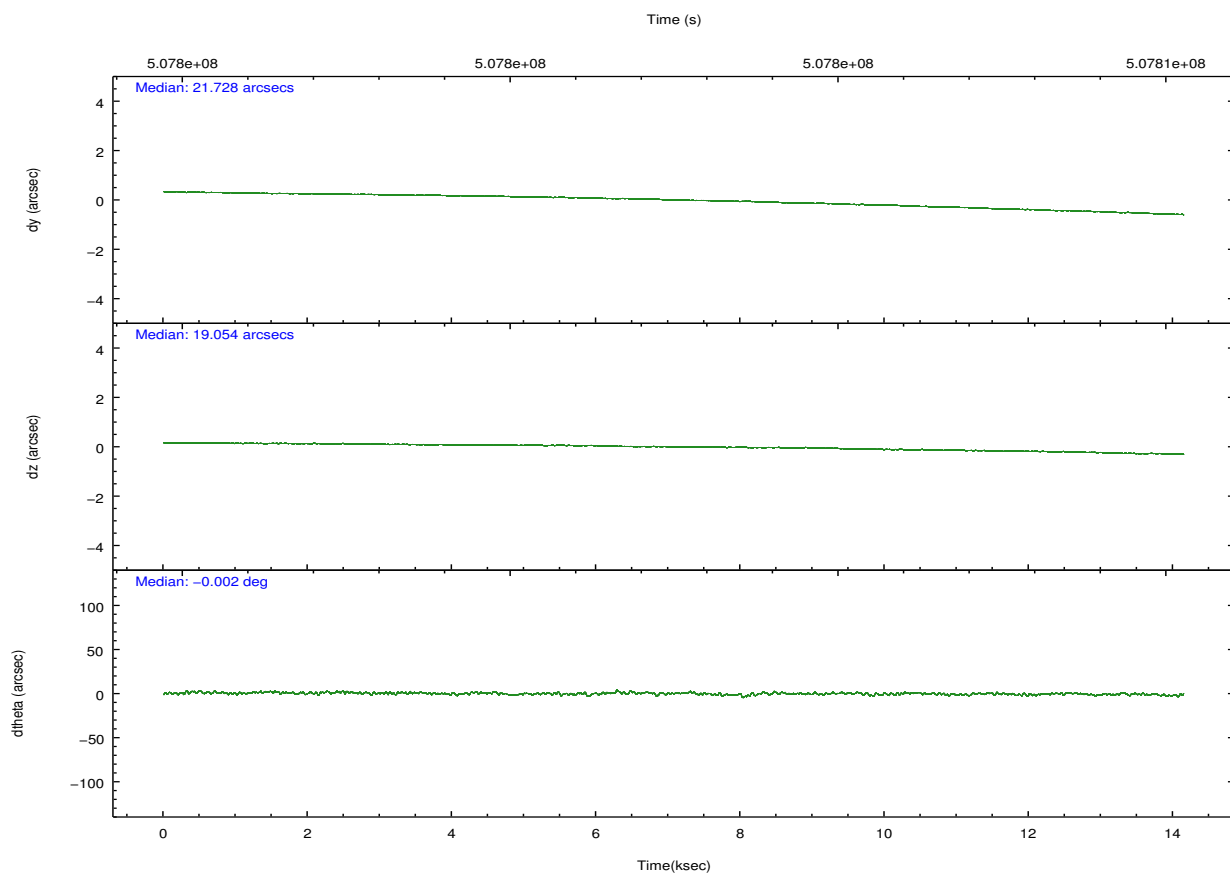
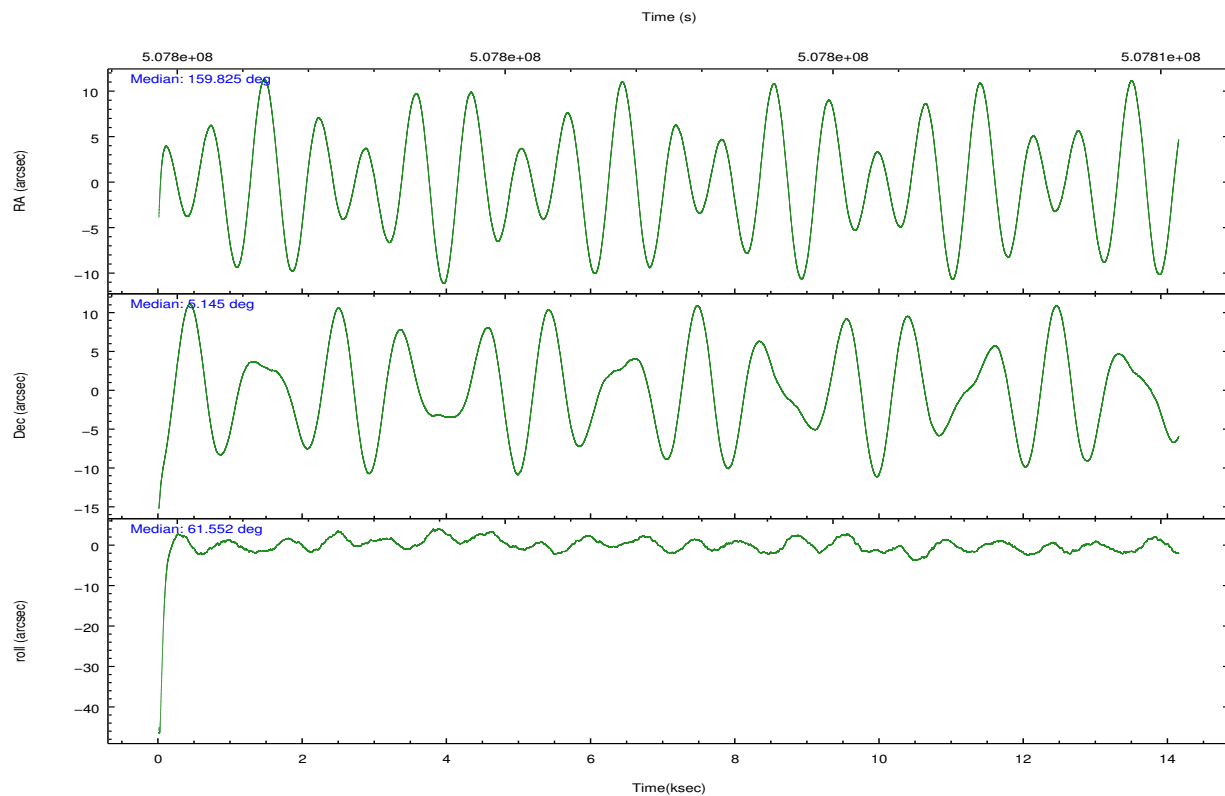


## 2.2 Compared Parameters

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	159.825822	159.8249426987964	CCD I2 on	Y	Y
[deg] Pointing Dec	5.117517	5.144991986857709	CCD I3 on	Y	Y
[deg] Pointing Roll	61.342962	61.55168660937245	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	-233.592463	-233.5874344608287	CCD S3 on	N	N
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	507795580.184000	507794308.60196	CCD S5 on	N	N
Observation start date	2014-02-03T06:18:33	2014-02-03T05:58:28	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	507809580.184000	507810501.55285	On-chip summing requested	N	N
Observation end date	2014-02-03T10:11:53	2014-02-03T10:28:21	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



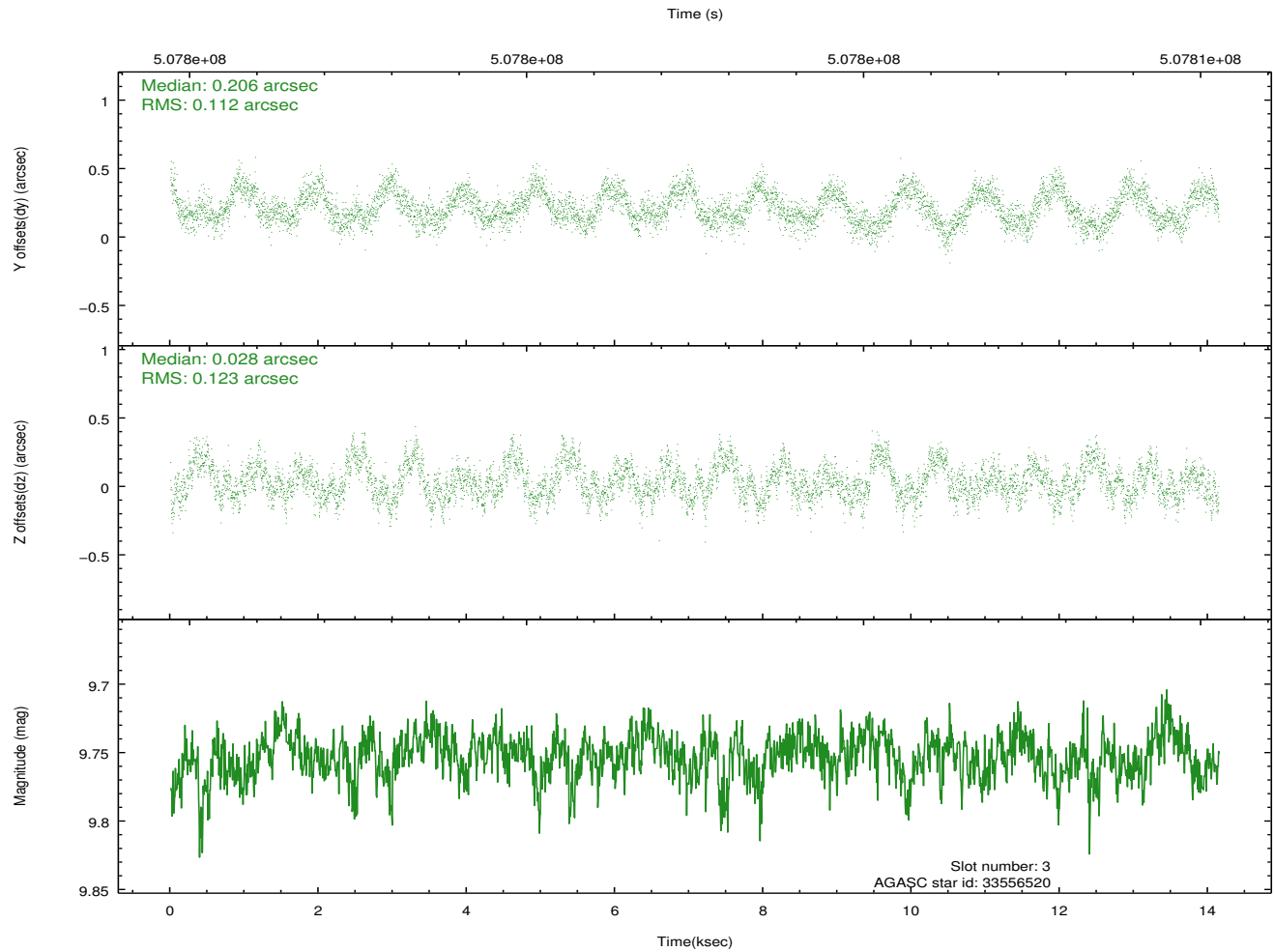
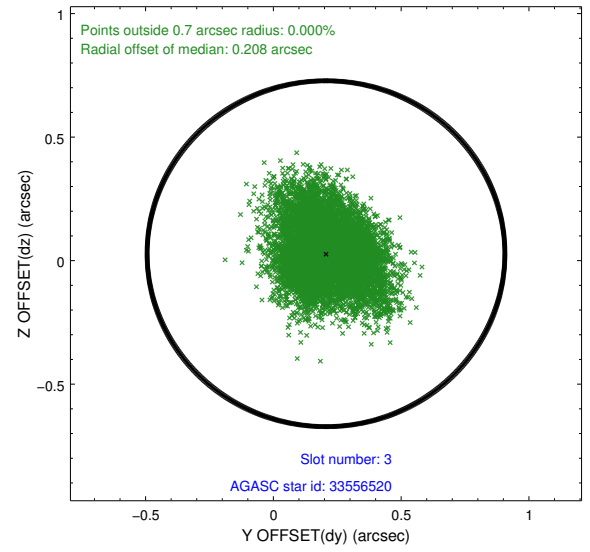
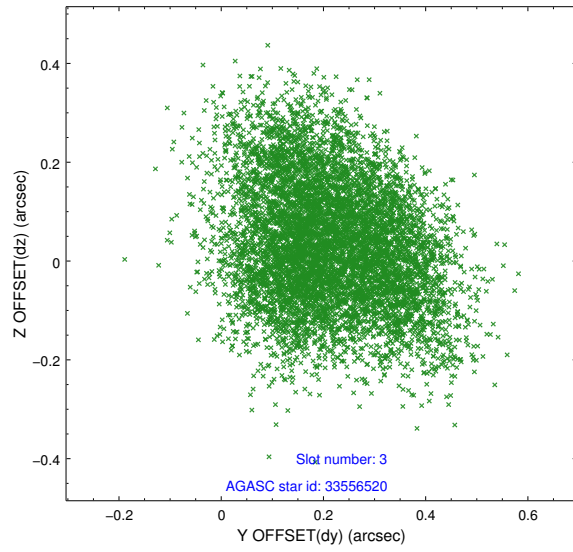


Slot Statistics

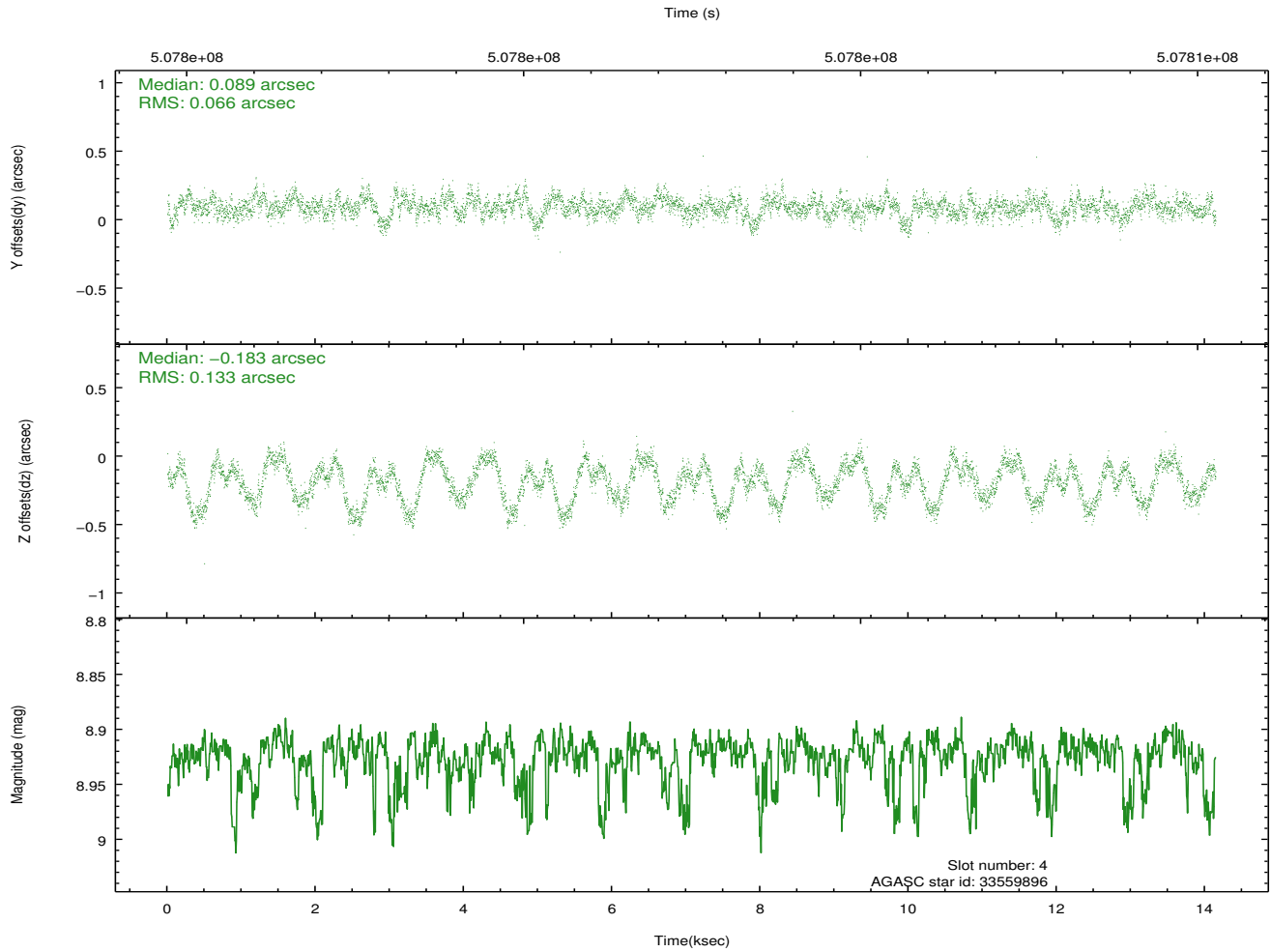
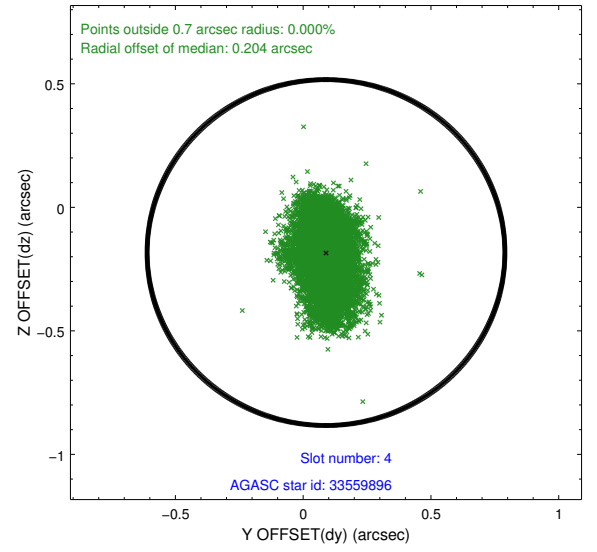
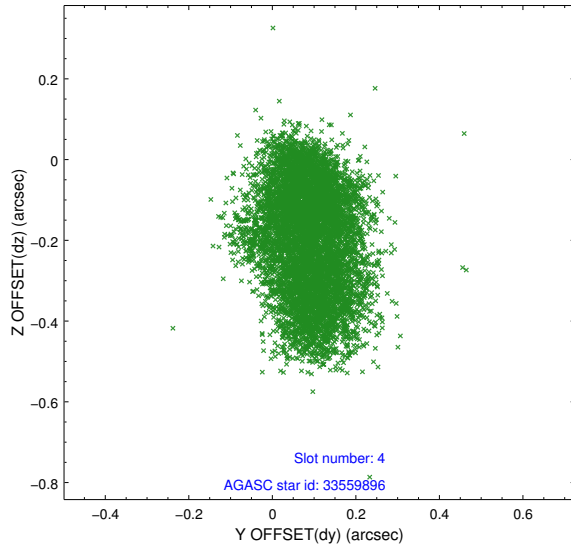
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.17	3450	-0.094	0.040	0.010	0.018	0.000000	0.000000	917.51	-842.68
1	FID		ACIS-I-2	7.07	3450	-0.198	-0.135	0.008	0.013	0.000000	0.000000	-776.51	-849.48
2	FID		ACIS-I-4	7.10	3449	0.193	0.162	0.008	0.014	0.000000	0.000000	2137.52	1057.08
3	GUIDE	used	33556520	9.75	6895	0.206	0.028	0.179	0.284	159.573217	4.689287	-1786.69	56.33
4	GUIDE	used	33559896	8.92	6897	0.089	-0.183	0.159	0.254	159.256061	4.786734	-2024.44	1222.58
5	GUIDE	used	33694440	8.82	6898	0.198	0.479	0.119	0.198	160.085962	4.540107	-1375.93	-1815.17
6	GUIDE	used	33947712	7.68	6899	-0.394	-0.289	0.090	0.140	159.615067	5.913629	2152.79	2036.44
7	GUIDE	used	34086264	9.40	6891	-0.116	-0.018	0.225	0.331	160.159897	5.466164	1676.01	-447.59

## 2.4 Star Slots

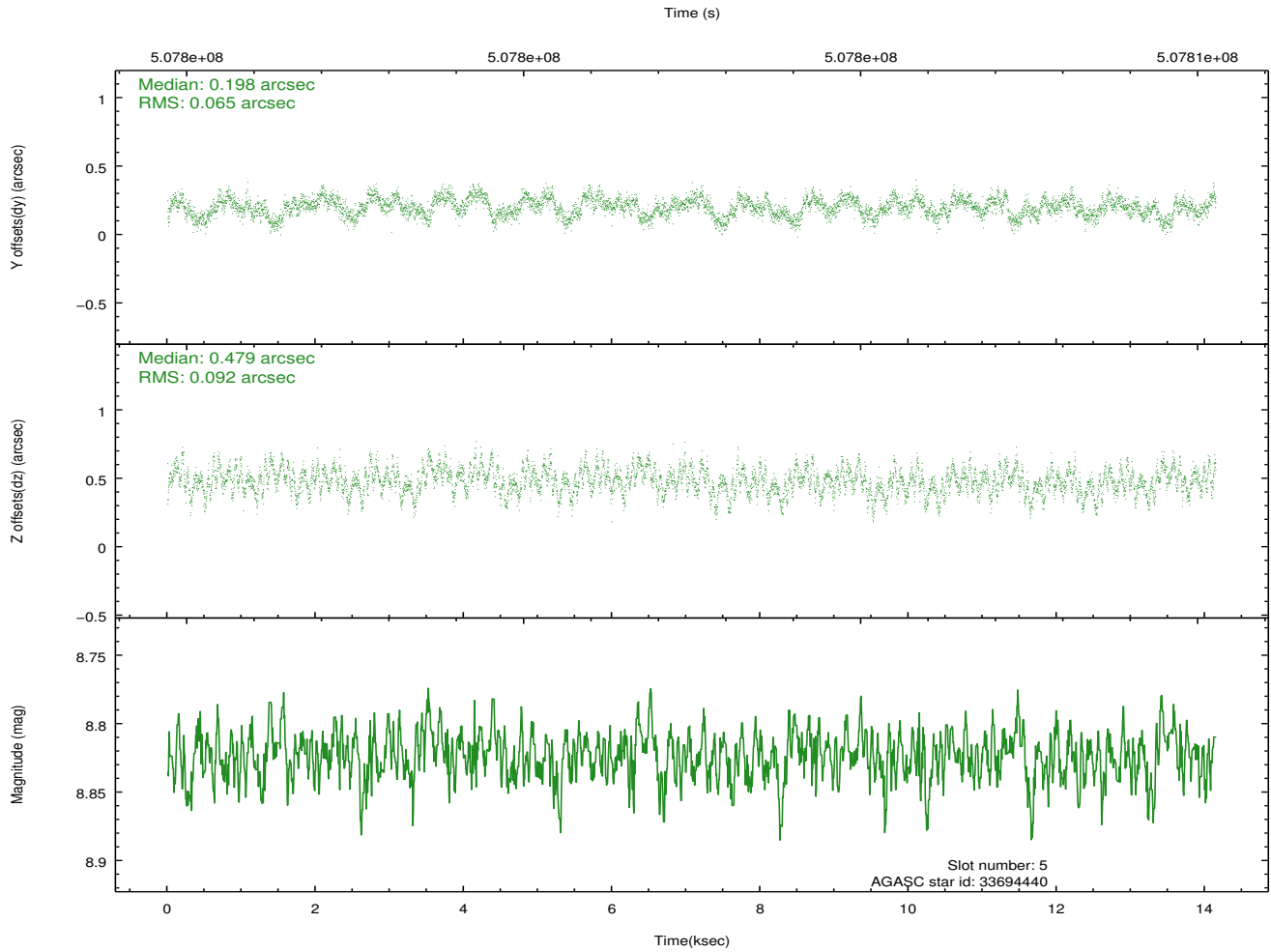
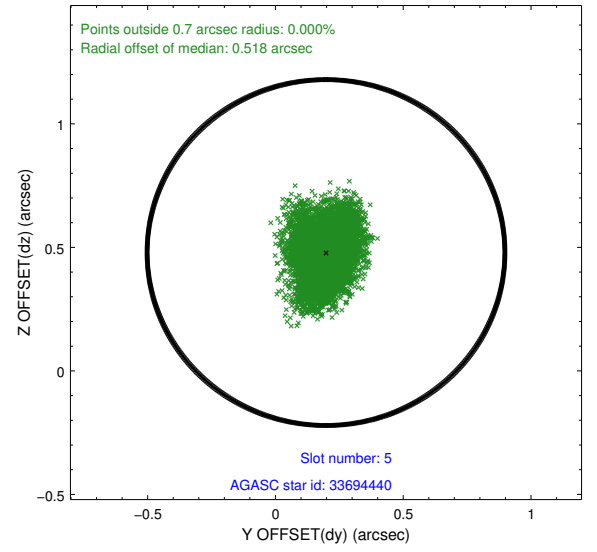
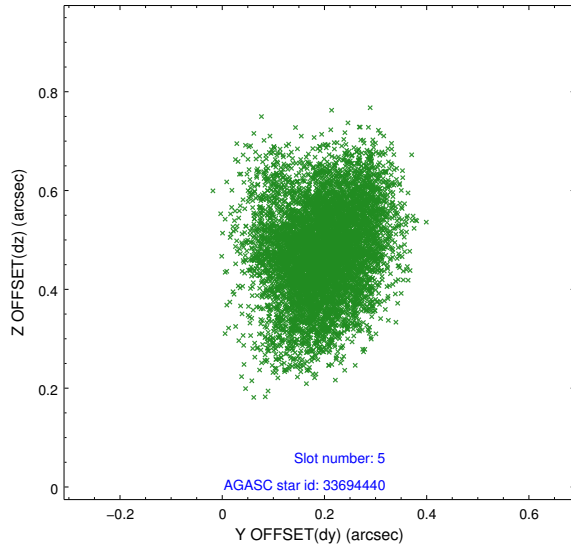
### 2.4.1 Slot 3



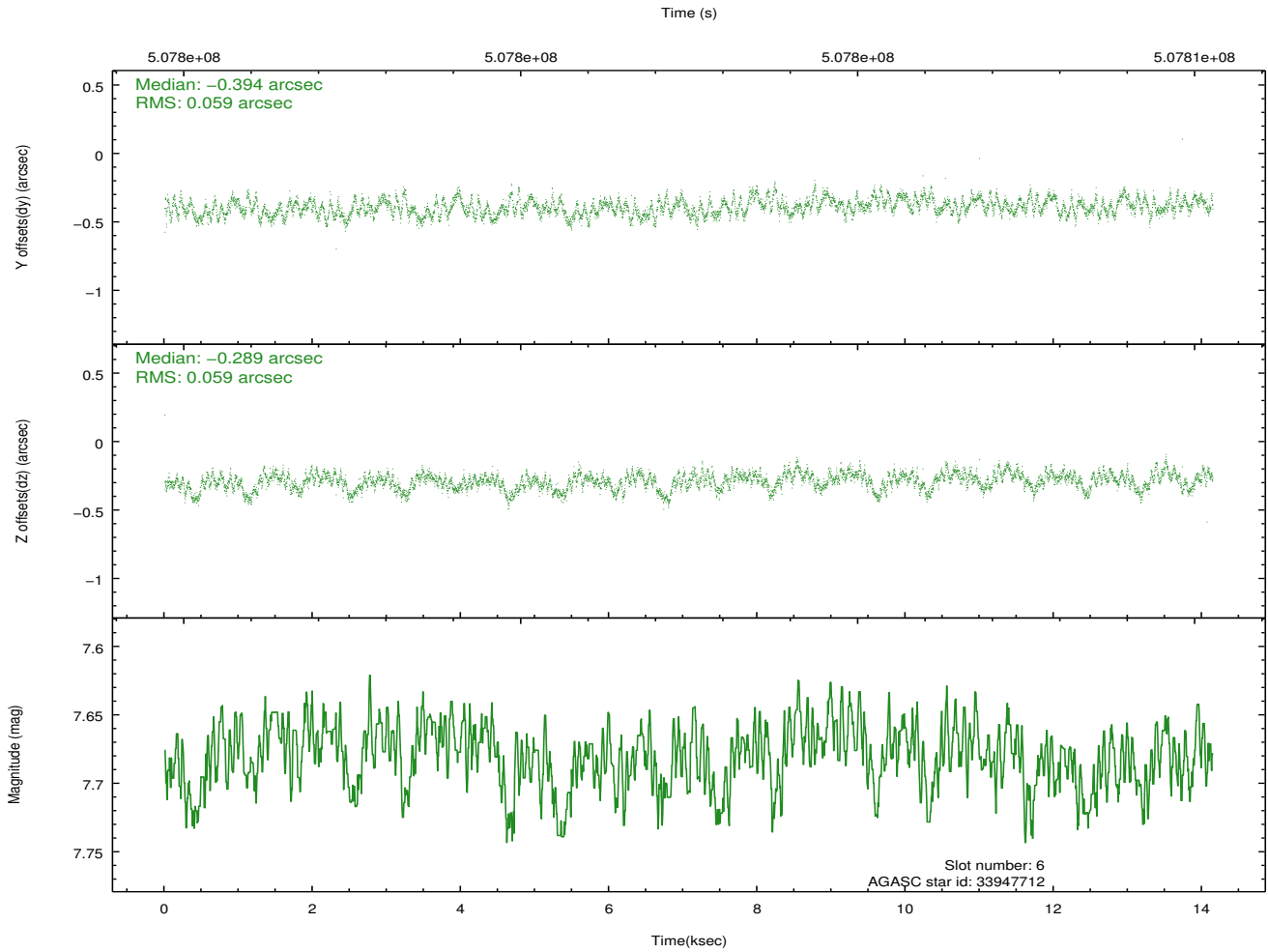
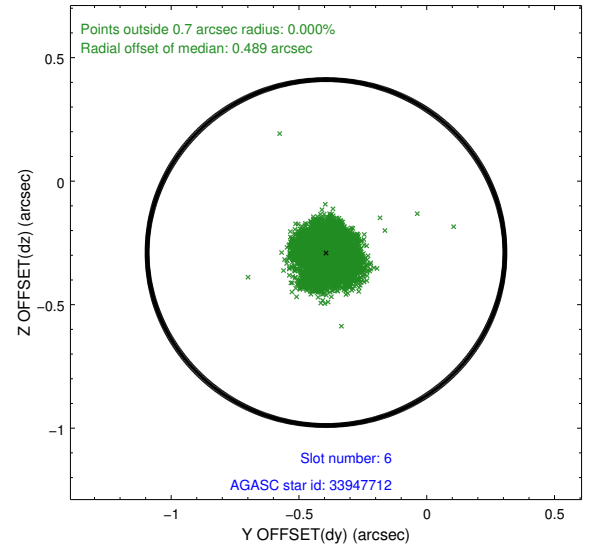
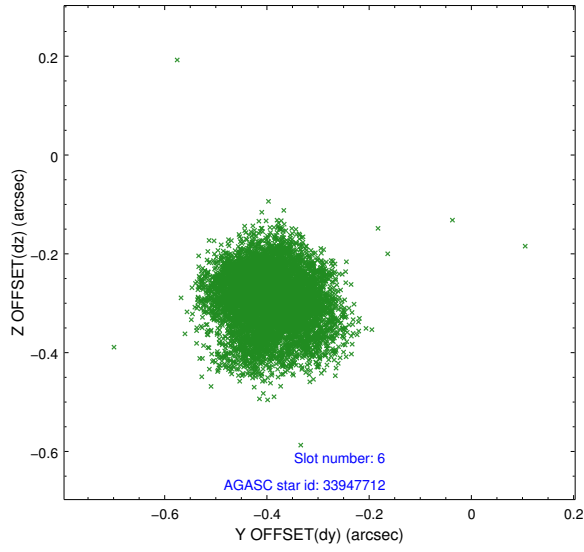
## 2.4.2 Slot 4



### 2.4.3 Slot 5

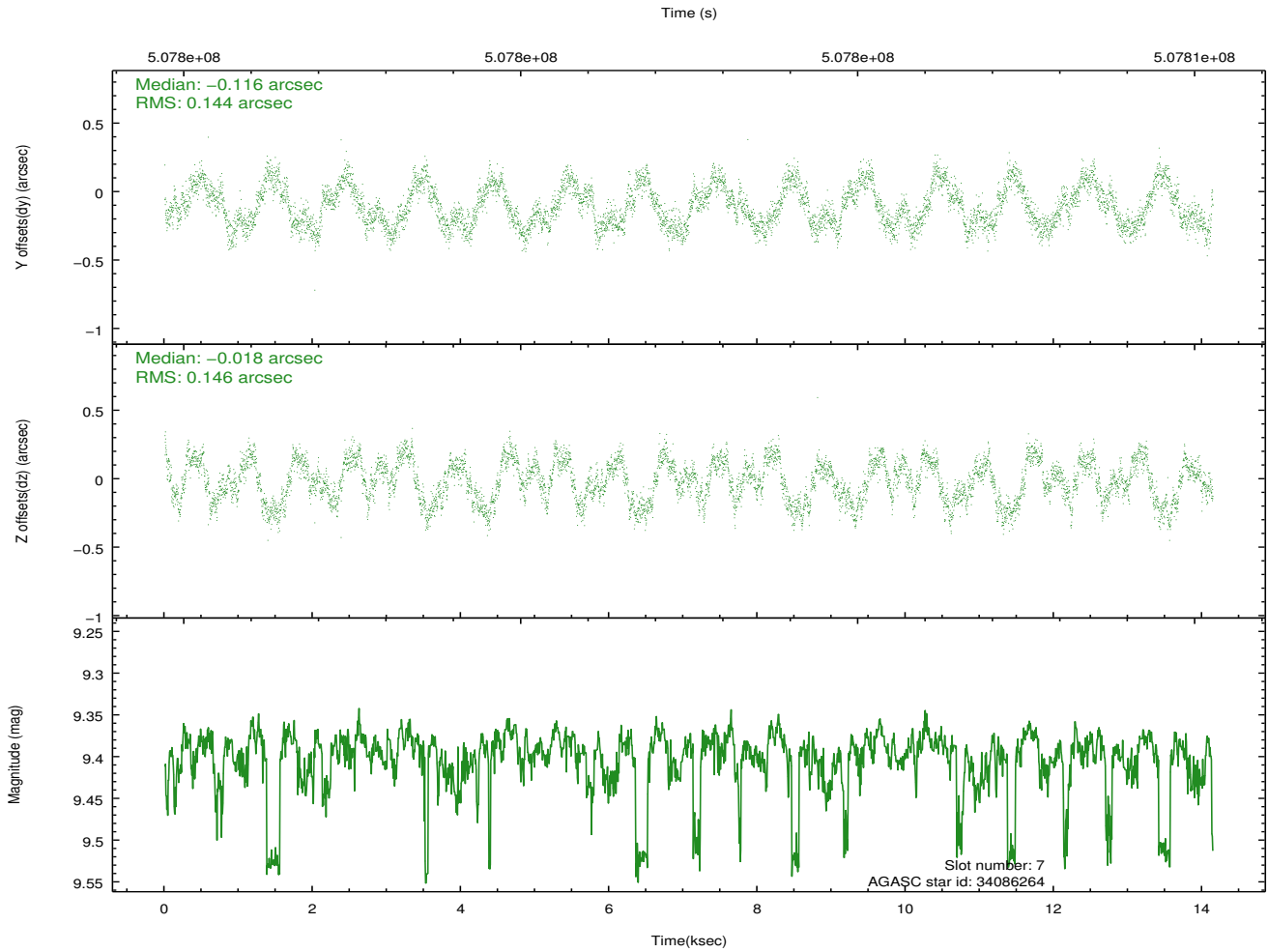
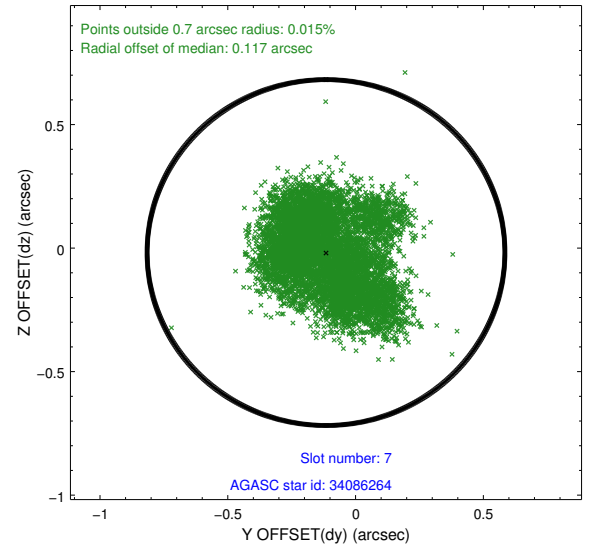
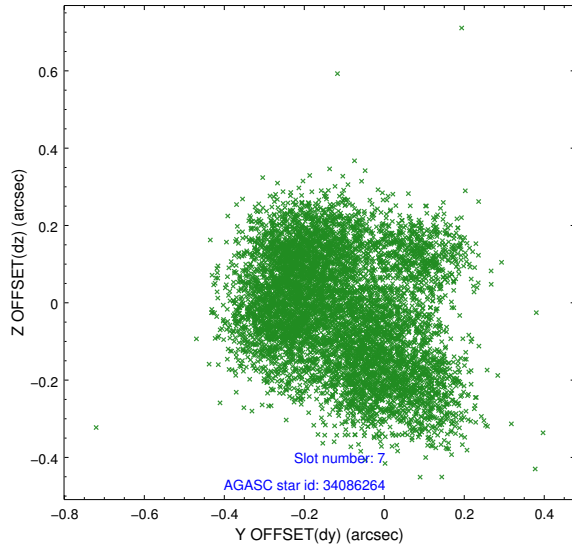


## 2.4.4 Slot 6



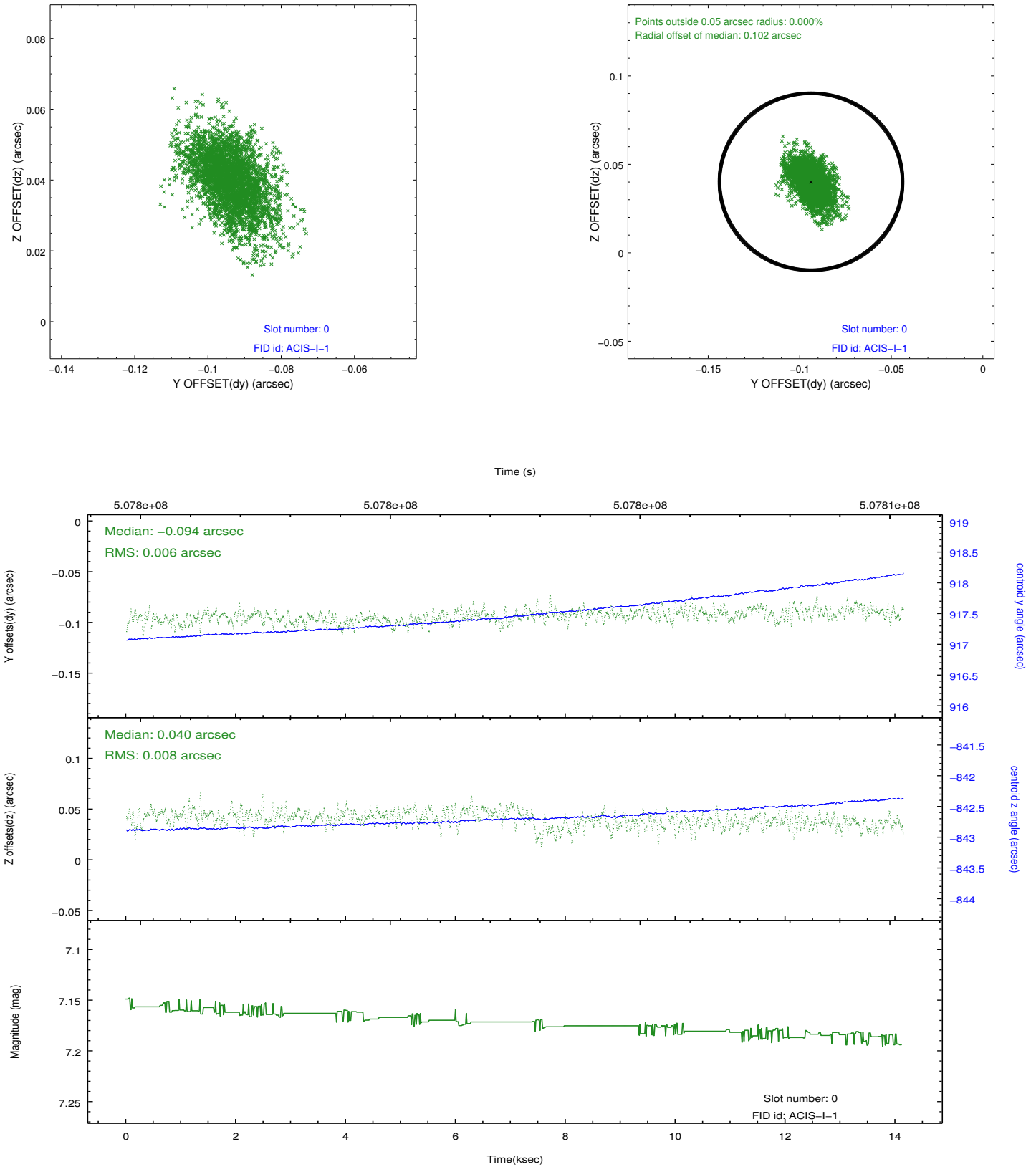


## 2.4.5 Slot 7

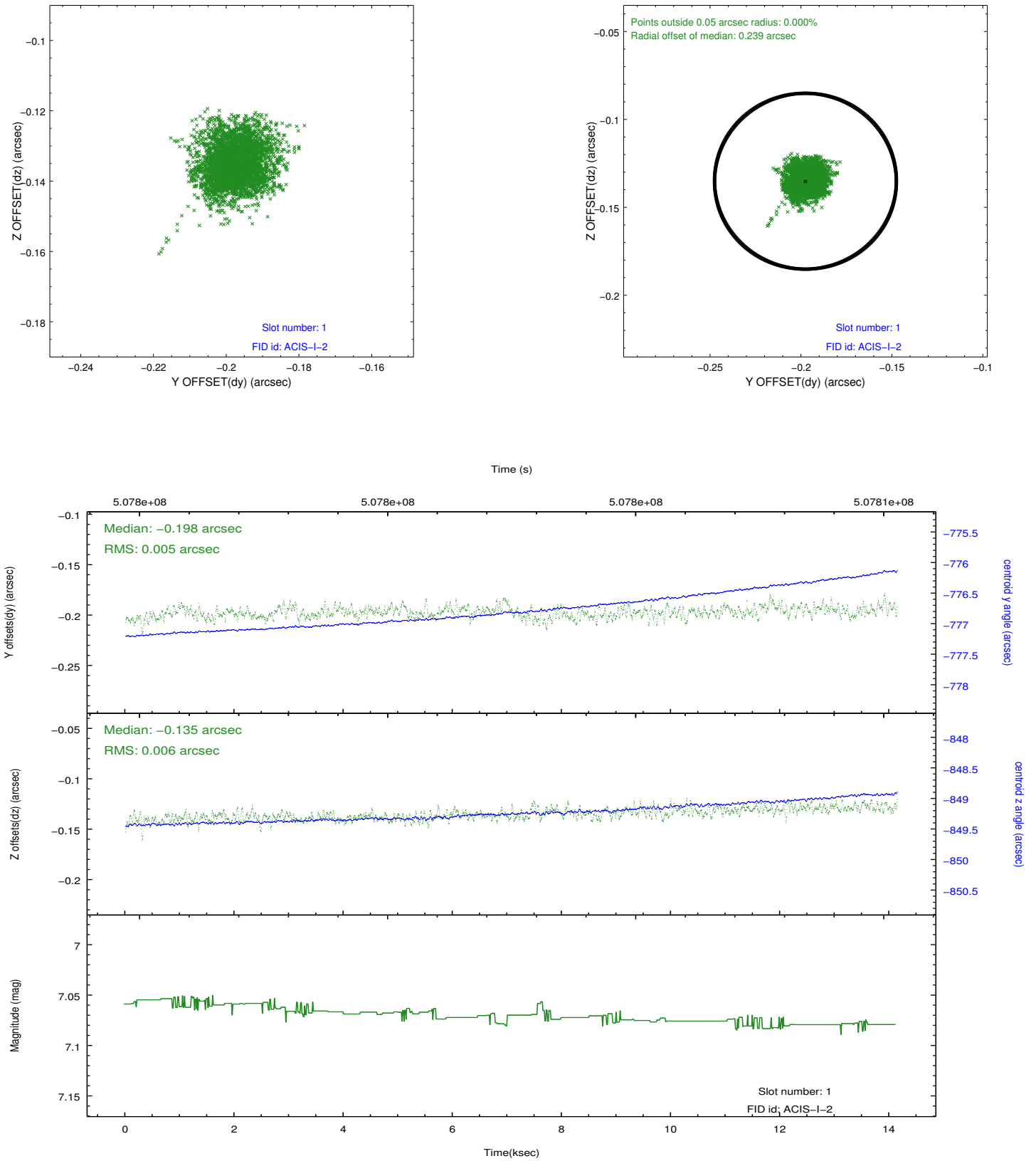


## 2.5 FID Slots

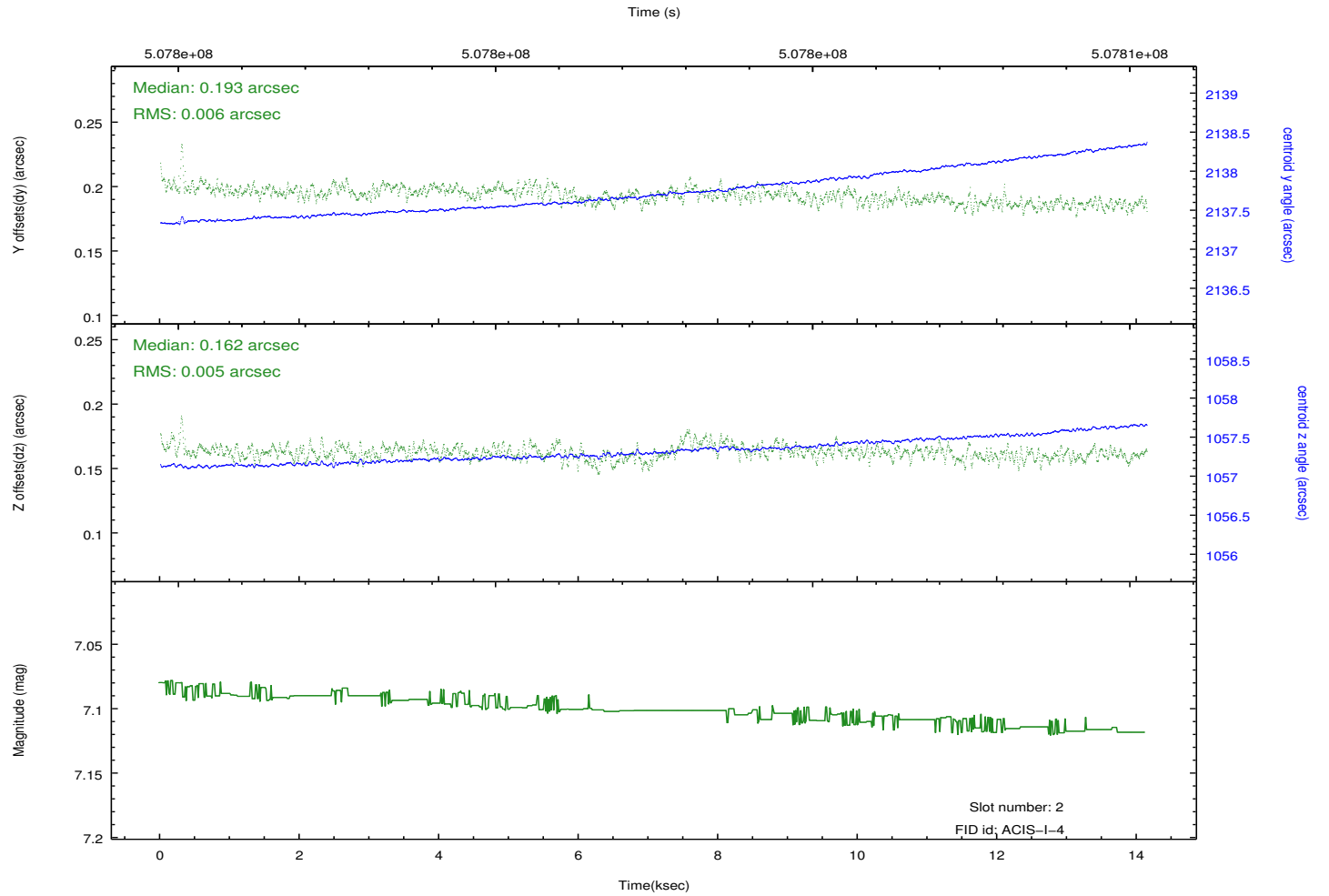
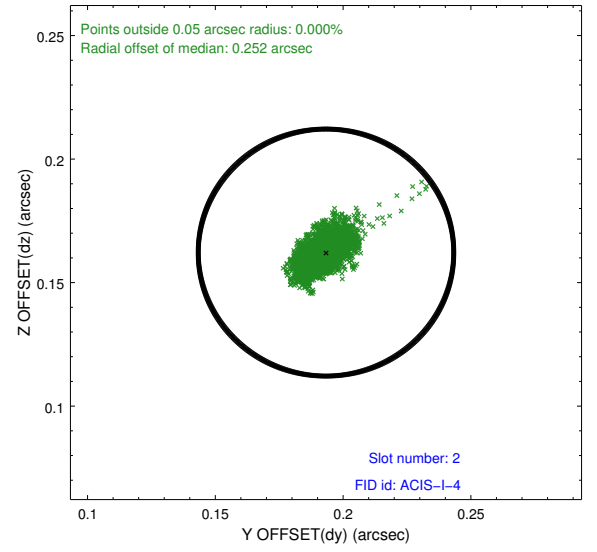
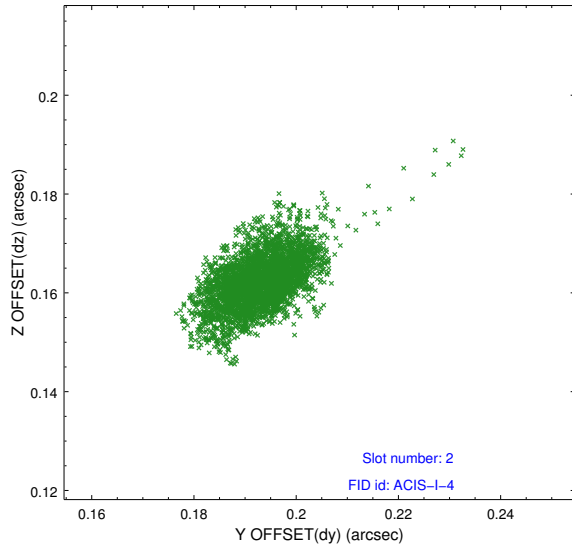
### 2.5.1 Slot 0



## 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)	2014.12.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	13.772253208995

## A.2 Comments

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.