

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 12688 - L2 Version 2  
Chandra X-Ray Center

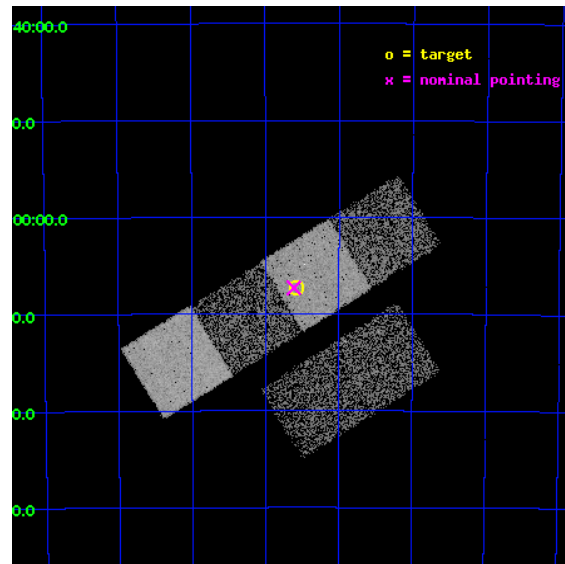
L2 Processing Date : Feb 6 2012

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# 1 Front

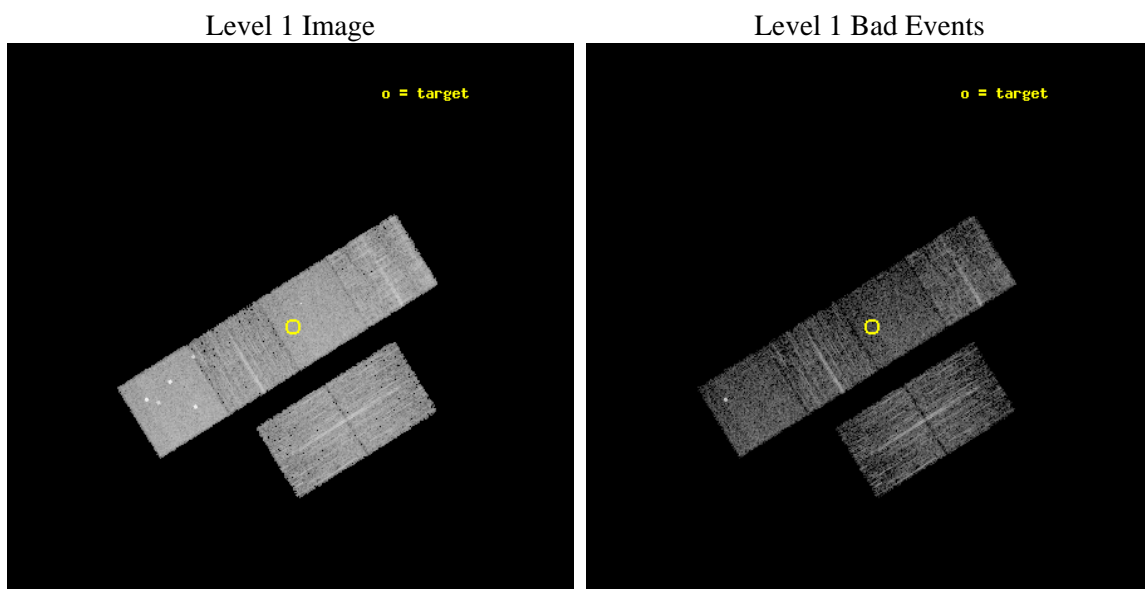
seq_num	501521	Sequence number
obs_id	12688	Observation id
title	Hunting for Anti-magnetars with Chandra	Proposal title
observer	Dr Chi-Yung Ng	Principal investigator
object	PSR J1107-5907	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	166.89375	Observer's specified target RA [deg]
dec_targ	-59.121861	Observer's specified target Dec [deg]
ra_nom	166.90307098043	Nominal RA [deg]
dec_nom	-59.121870948347	Nominal Dec [deg]
roll_nom	328.16456981785	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5055.3954922557	Sum of GTIs [s]
livetime	4991.381030539	Livetime [s]
ontime2	5055.436532259	Sum of GTIs [s]
ontime3	5055.2723722458	Sum of GTIs [s]
ontime5	5055.3544522524	Sum of GTIs [s]
ontime6	5055.3134122491	Sum of GTIs [s]
ontime7	5055.3954922557	Sum of GTIs [s]
ontime8	5055.2313322425	Sum of GTIs [s]
l2events	55784	Number of level 2 events



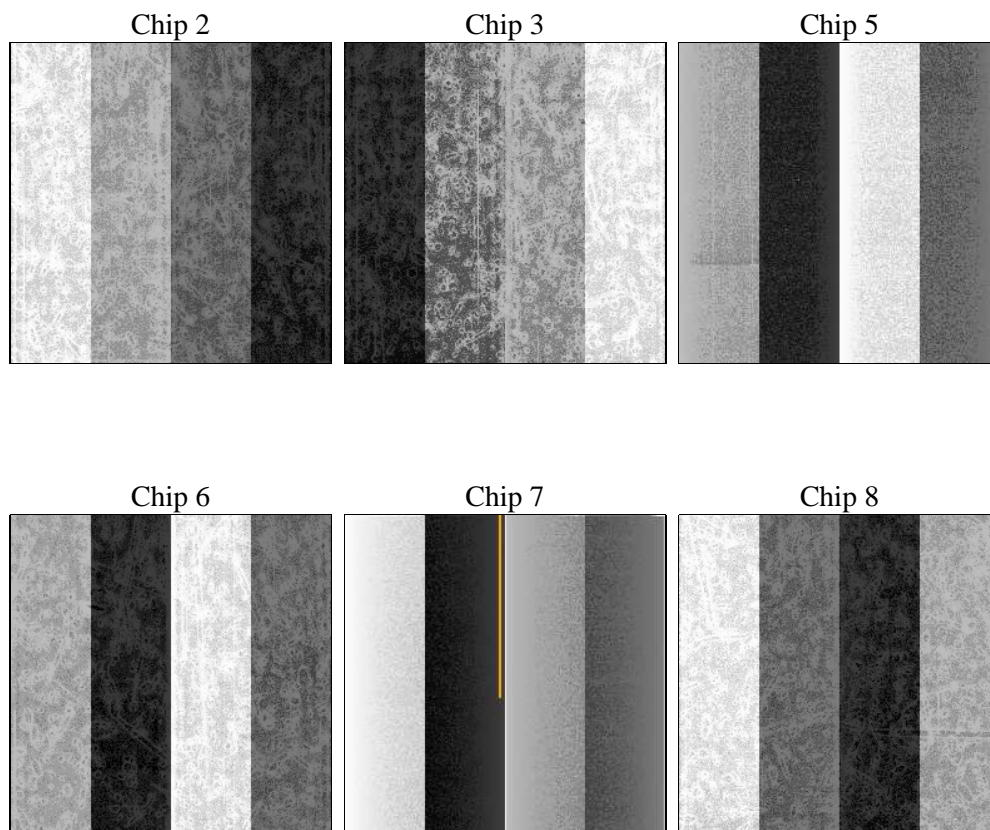
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	5055.3954922557	Sum of GTIs [s]
caldbver	4.4.7	&#160	ontime2	5055.436532259	Sum of GTIs [s]
date	2012-02-06T23:22:23	Date and time of file creation	ontime3	5055.2723722458	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	5055.3544522524	Sum of GTIs [s]
			ontime6	5055.3134122491	Sum of GTIs [s]
			ontime7	5055.3954922557	Sum of GTIs [s]
			ontime8	5055.2313322425	Sum of GTIs [s]
			l1events	238485	Number of level 1 events

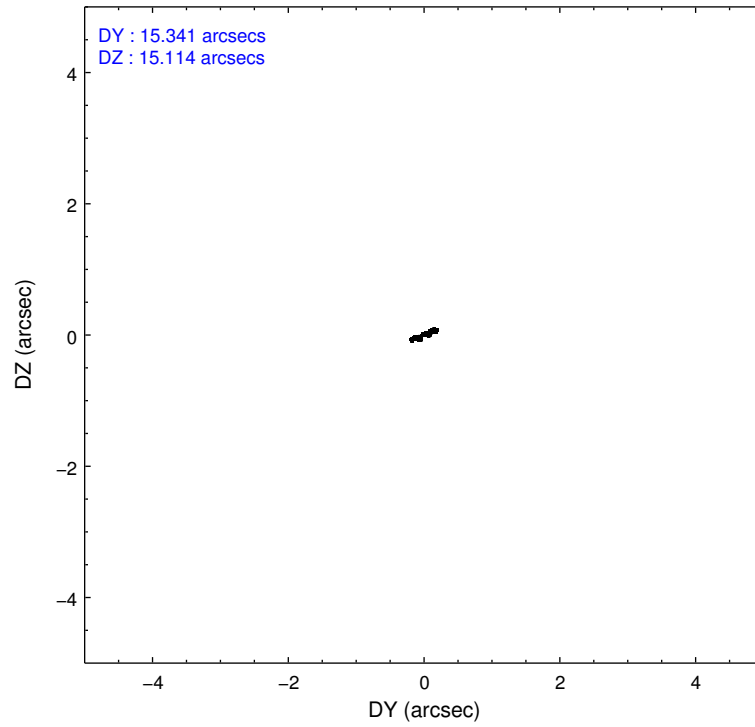
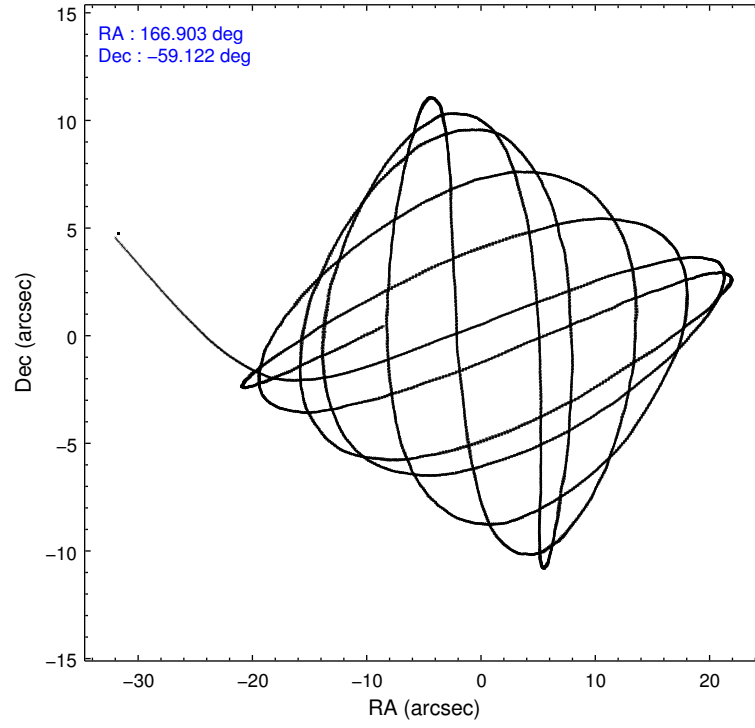
### 2.1.4 Events

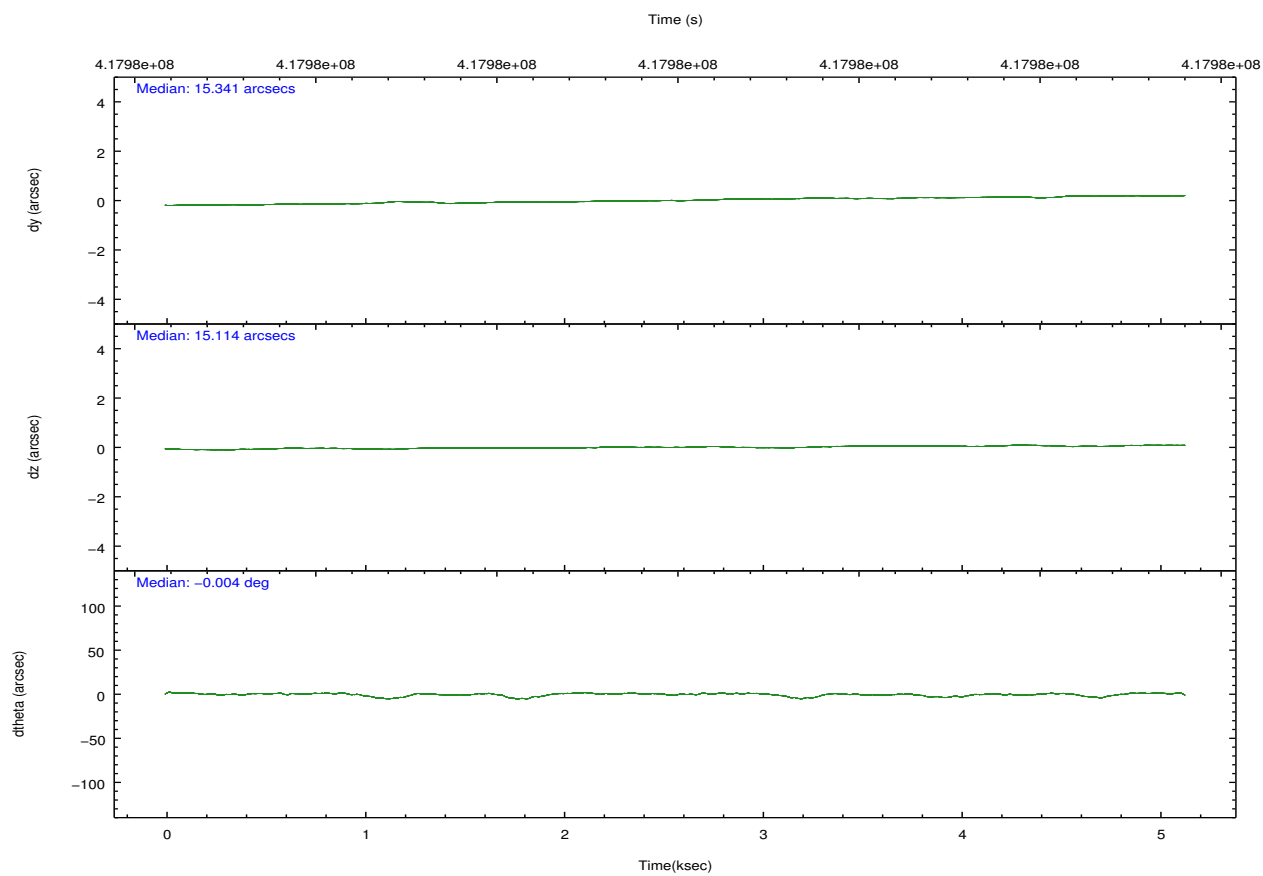
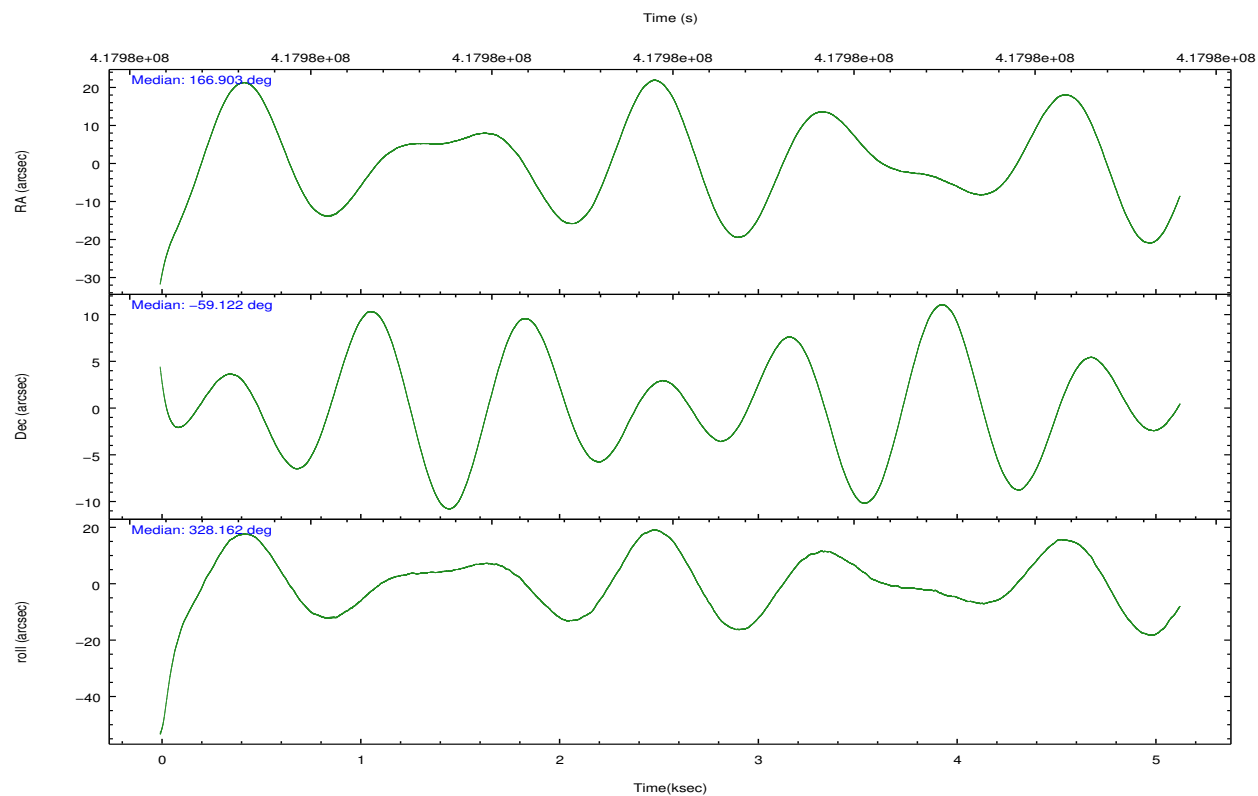
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	34123	32473	53709	33184	42282	42714	grade 0 events	1347	1376	4532	1513	1763	3663
rejected events	30485	28913	26170	29201	23130	31212		3%	4%	8%	4%	4%	8%
rejected %	89%	89%	48%	87%	54%	73%	grade 1 events	14	20	114	17	55	32
								0%	0%	0%	0%	0%	0%
							grade 2 events	900	767	7936	879	3932	2633
								2%	2%	14%	2%	9%	6%
							grade 3 events	370	378	982	396	1658	1158
								1%	1%	1%	1%	3%	2%
							grade 4 events	375	364	934	389	1643	1112
								1%	1%	1%	1%	3%	2%
							grade 5 events	1435	1431	4028	1590	4268	2161
								4%	4%	7%	4%	10%	5%
							grade 6 events	650	677	13176	808	10170	2941
								1%	2%	24%	2%	24%	6%
							grade 7 events	29032	27460	22007	27592	18793	29014
								85%	84%	40%	83%	44%	67%

## 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	166.849937	166.9030709804288	CCD I2 on	Y	Y
[deg] Pointing Dec	-59.121358	-59.12187094834683	CCD I3 on	Y	Y
[deg] Pointing Roll	327.962397	328.1645698178534	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O2	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	O1	Y
[s] Observation start time (MET)	417975544.184000	417974433.836	CCD S5 on	N	N
Observation start date	2011-03-31T16:17:58	2011-03-31T16:00:33	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	417980544.184000	417981680.07388	On-chip summing requested	N	N
Observation end date	2011-03-31T17:41:18	2011-03-31T18:01:20	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



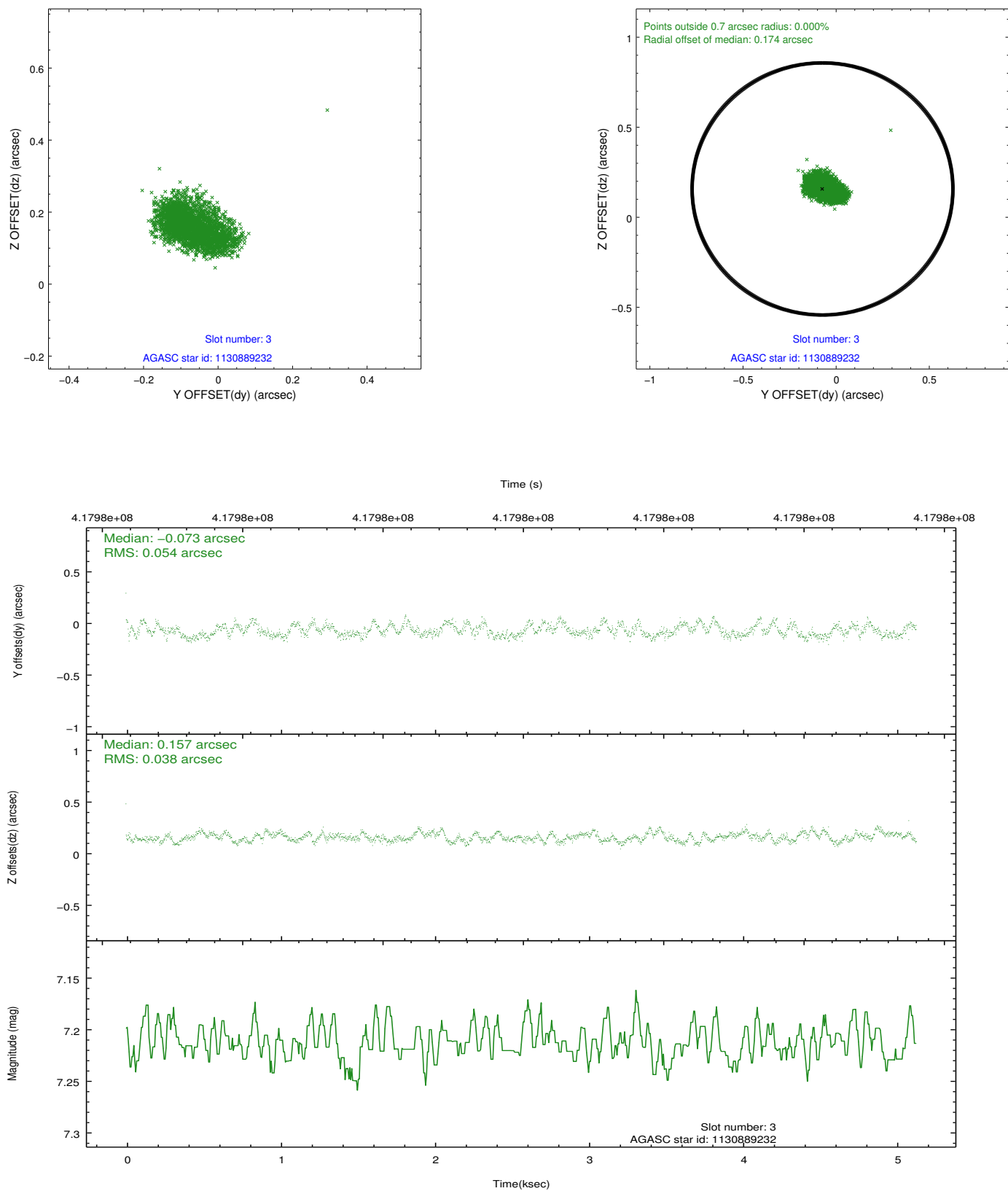


### Slot Statistics

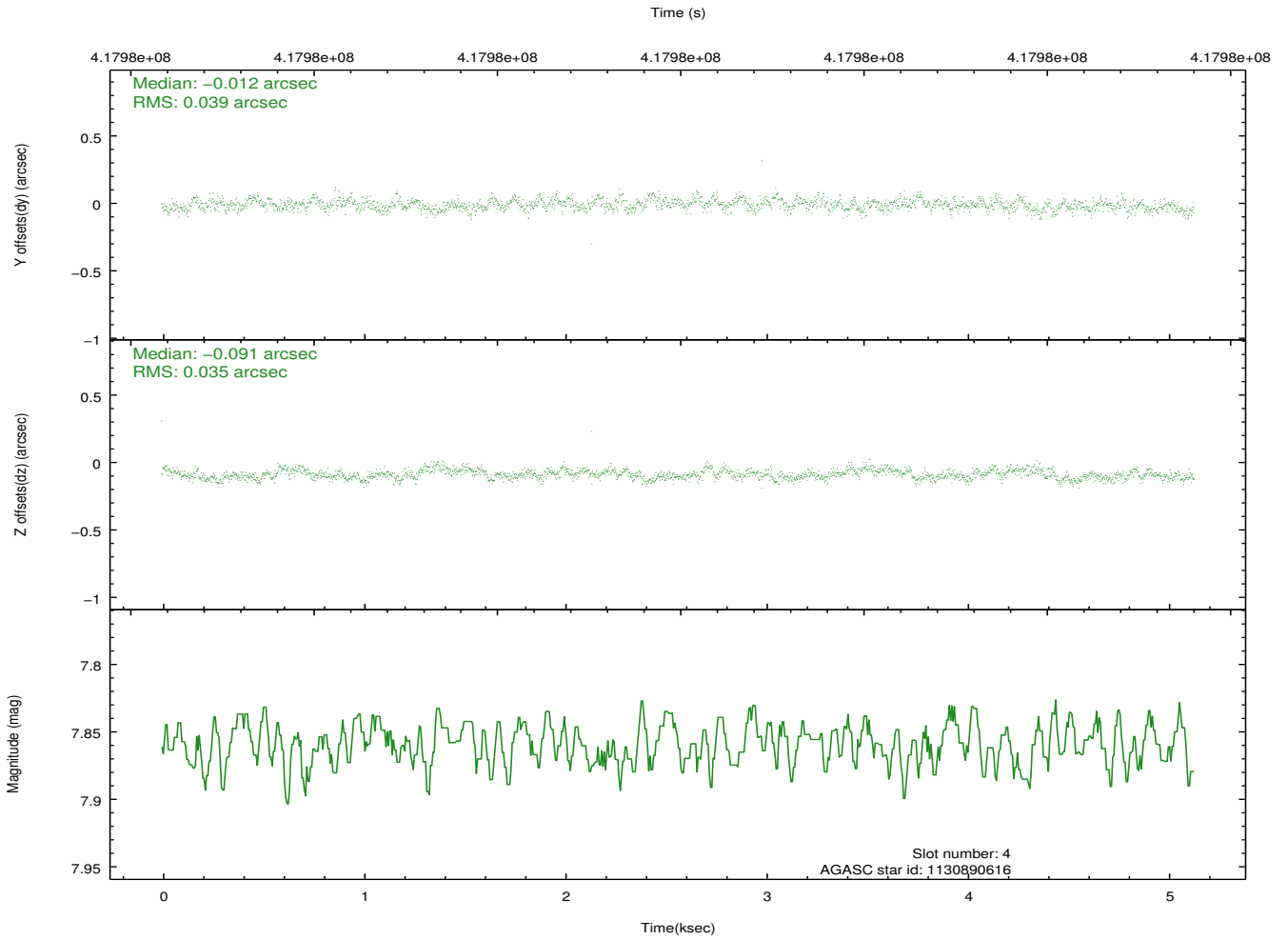
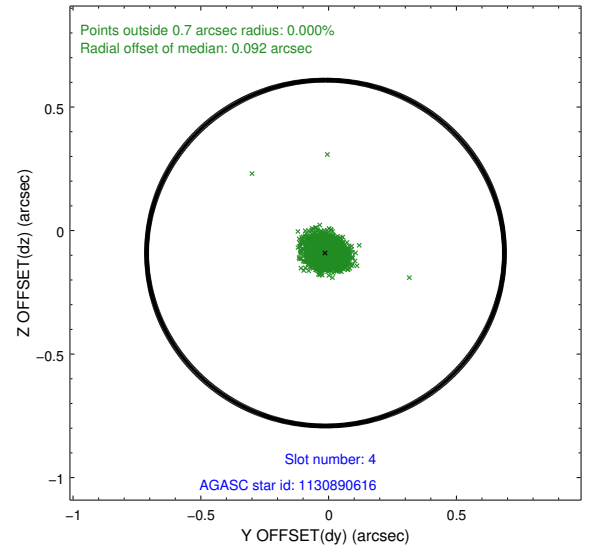
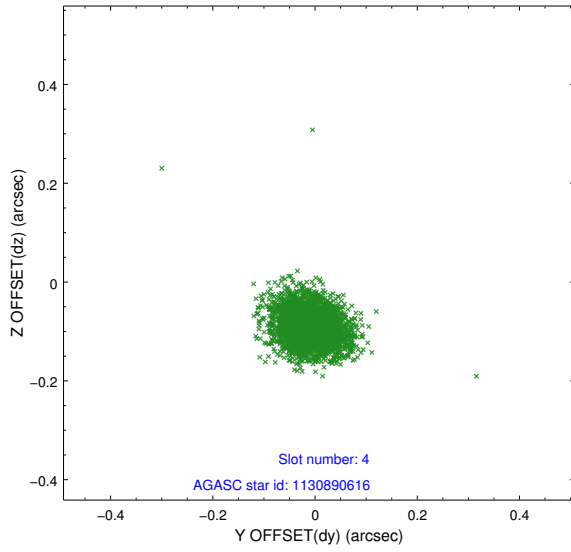
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.97	1252	-0.145	-0.105	0.016	0.042	0.000000	0.000000	-768.48	-1736.55
1	FID	ACIS-S-4	7.05	1252	0.157	0.073	0.017	0.049	0.000000	0.000000	2144.57	170.88
2	FID	ACIS-S-6	7.19	1252	-0.038	0.034	0.019	0.038	0.000000	0.000000	395.14	809.58
3	GUIDE	1130889232	7.21	2504	-0.073	0.157	0.071	0.110	166.928700	-59.671197	1171.87	-1601.65
4	GUIDE	1130890616	7.86	2503	-0.012	-0.091	0.053	0.088	167.866940	-59.225731	1795.39	662.62
5	GUIDE	1130893464	6.74	2504	-0.145	-0.077	0.079	0.124	167.421437	-58.837722	364.13	1426.91
6	GUIDE	1130770280	7.97	2503	0.120	0.030	0.076	0.124	166.053176	-58.728590	-2006.88	402.03
7	GUIDE	1130773616	7.56	2503	0.104	-0.029	0.077	0.127	166.149862	-58.755802	-1803.05	416.62

## 2.4 Star Slots

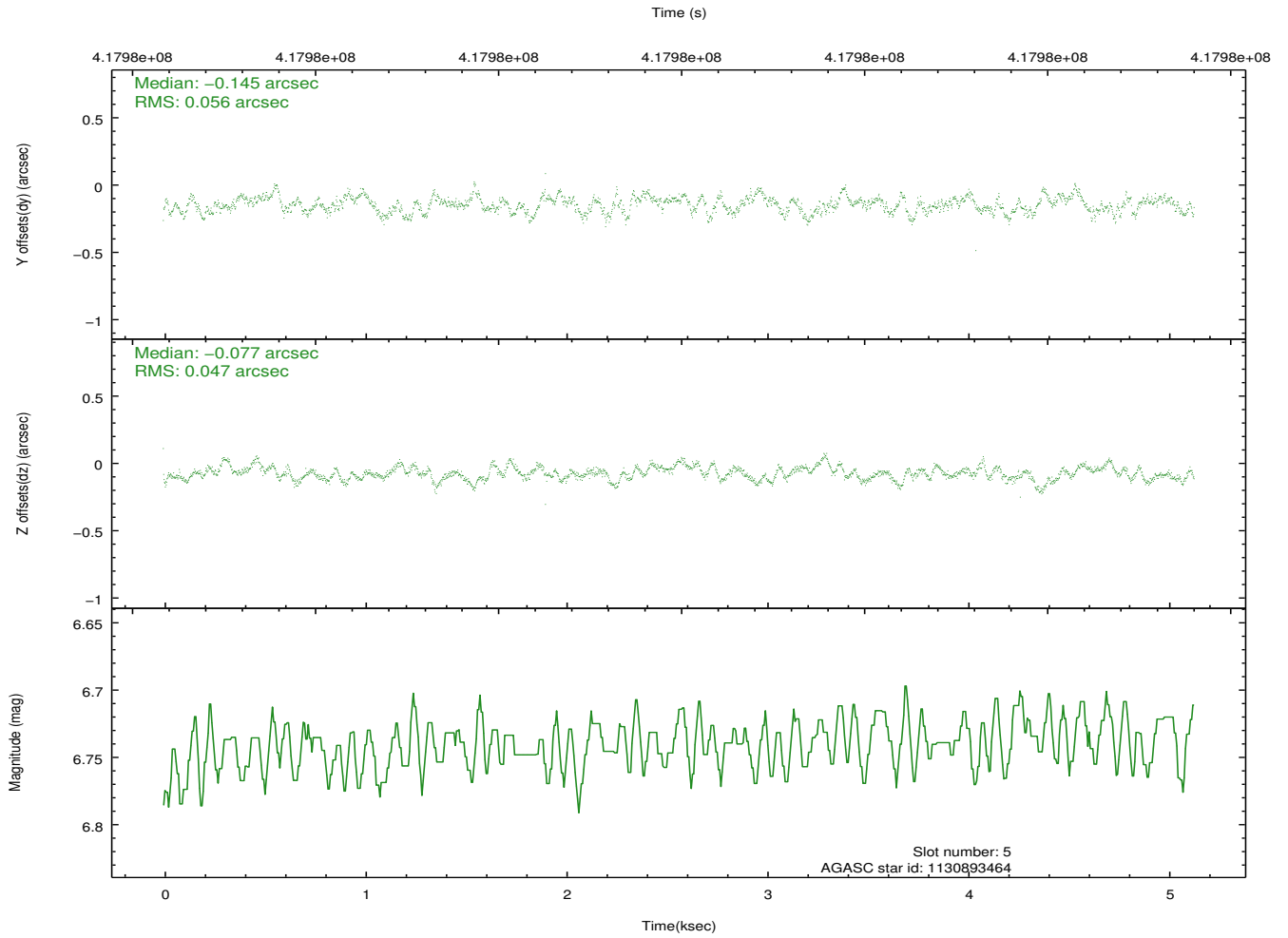
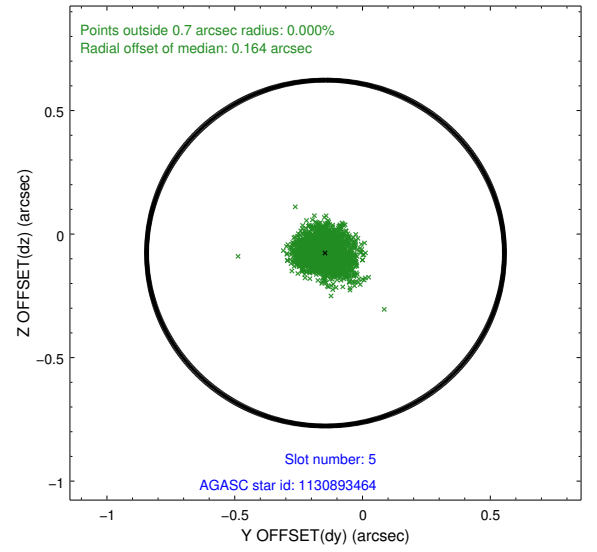
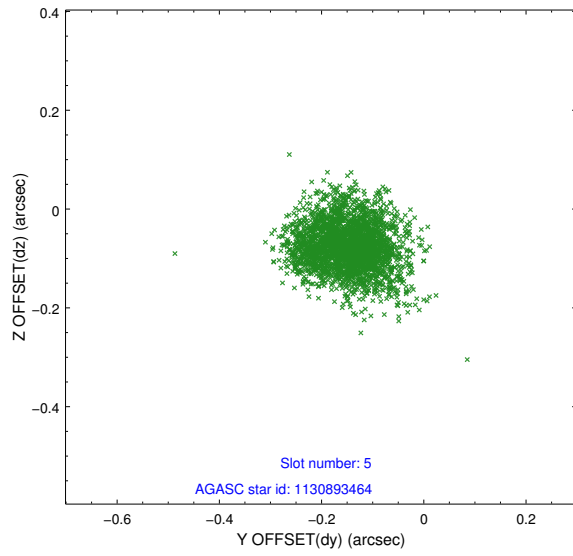
### 2.4.1 Slot 3



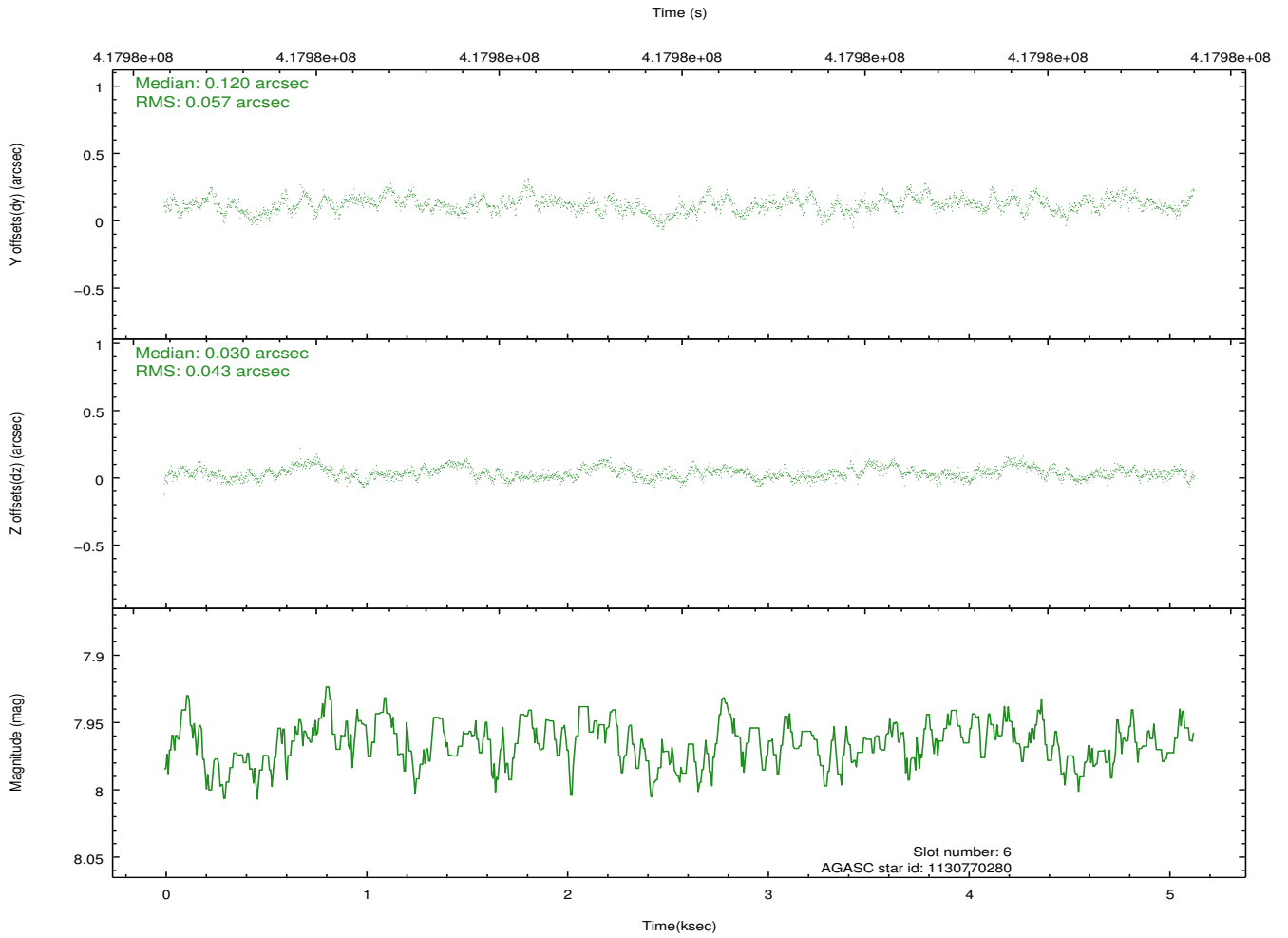
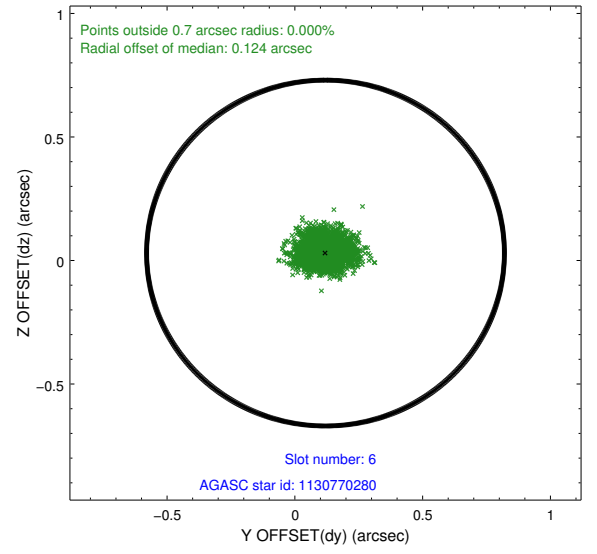
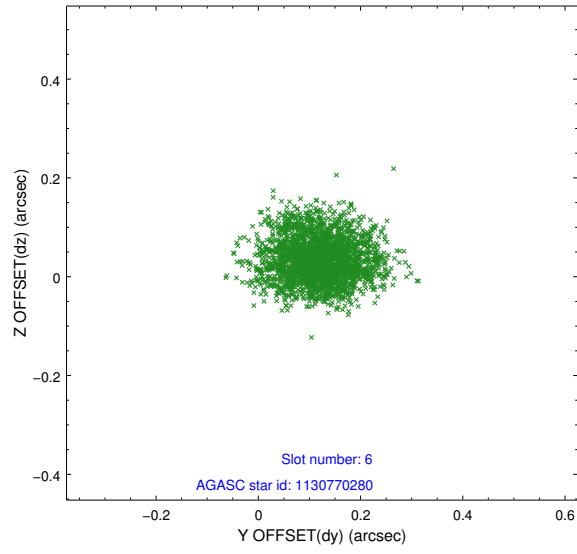
## 2.4.2 Slot 4



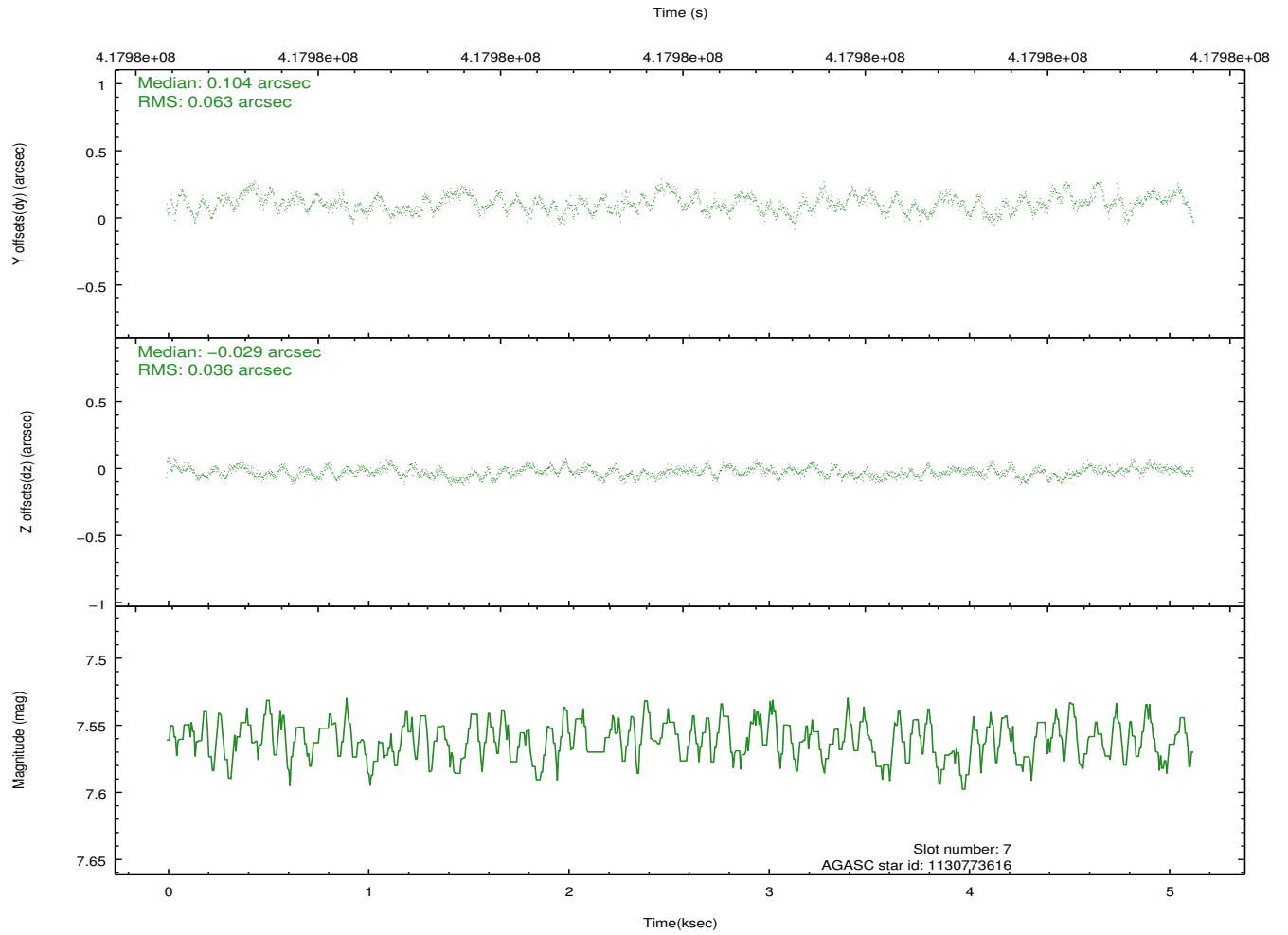
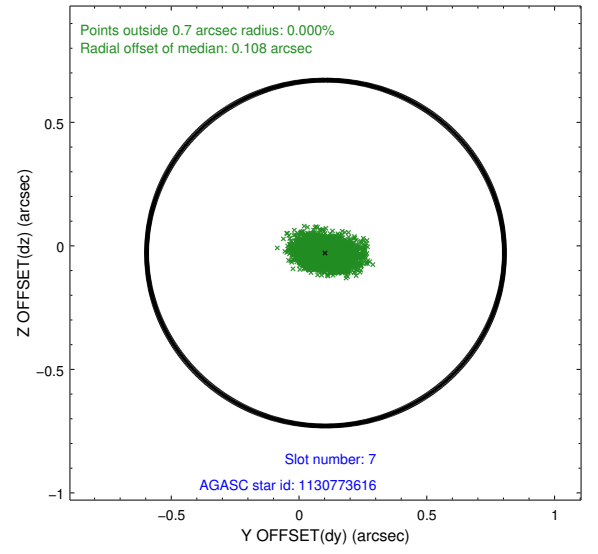
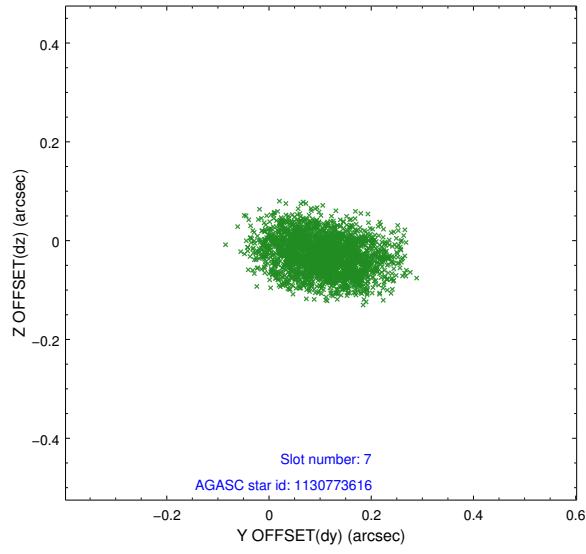
### 2.4.3 Slot 5



## 2.4.4 Slot 6

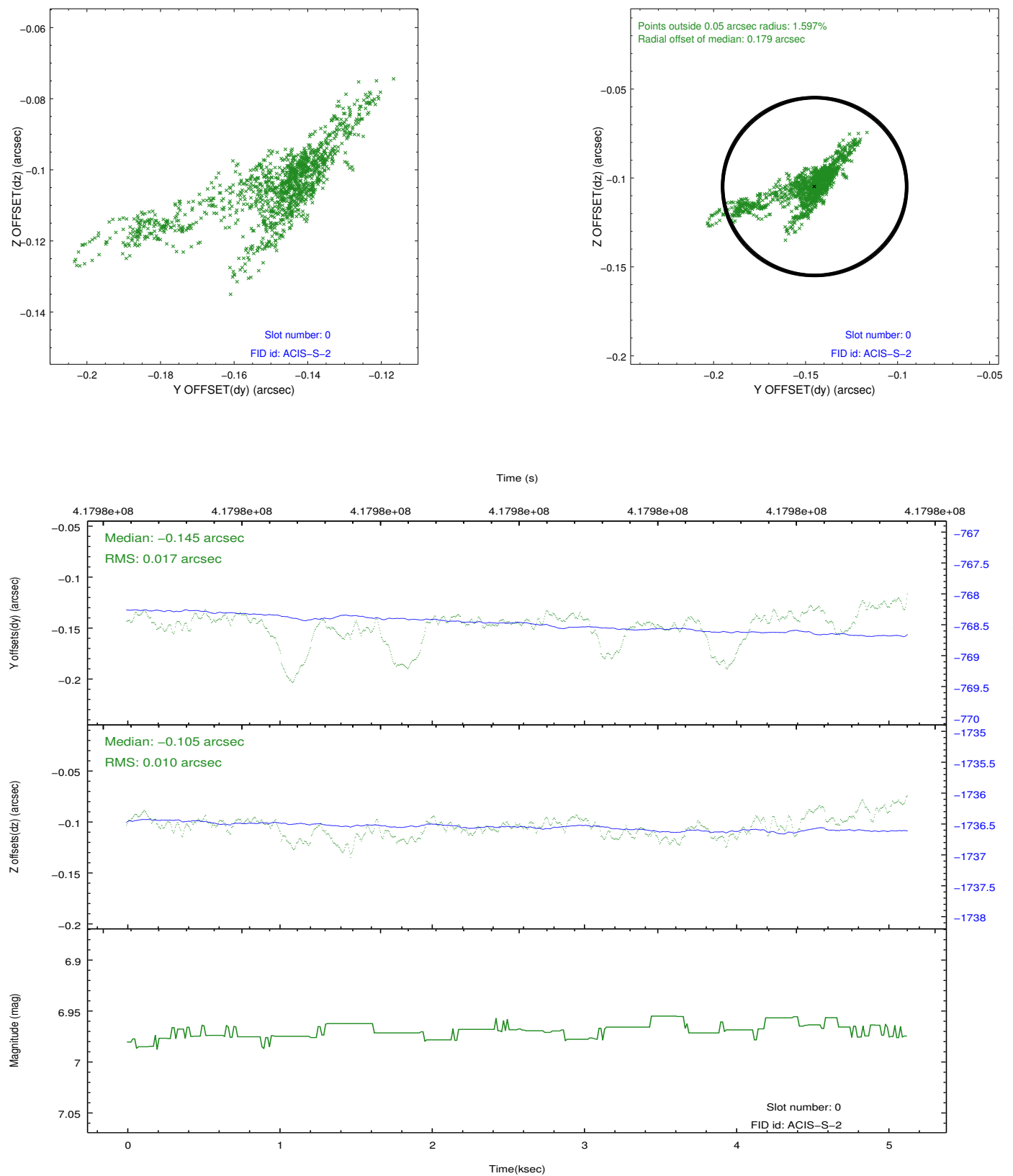


## 2.4.5 Slot 7

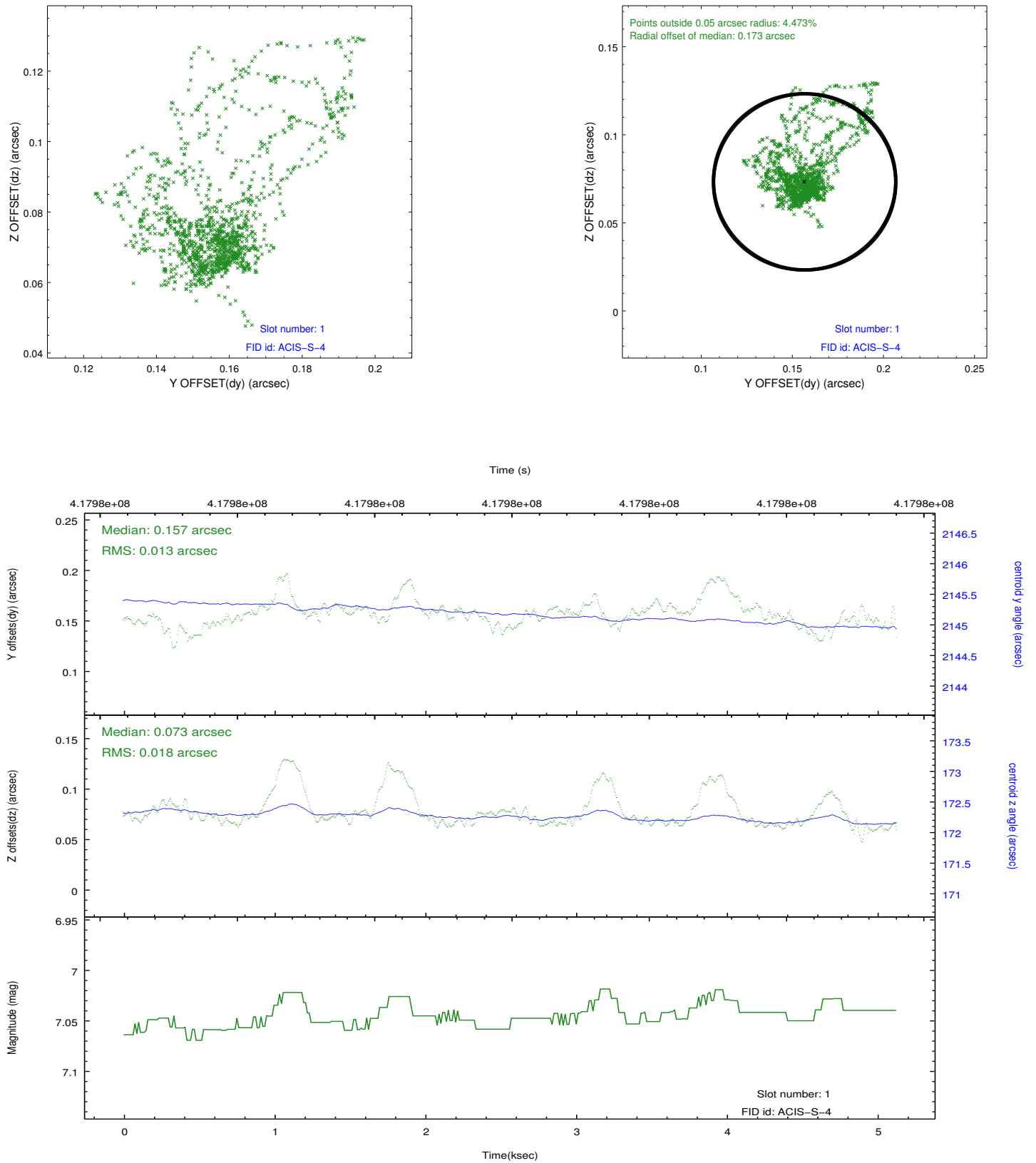


## 2.5 FID Slots

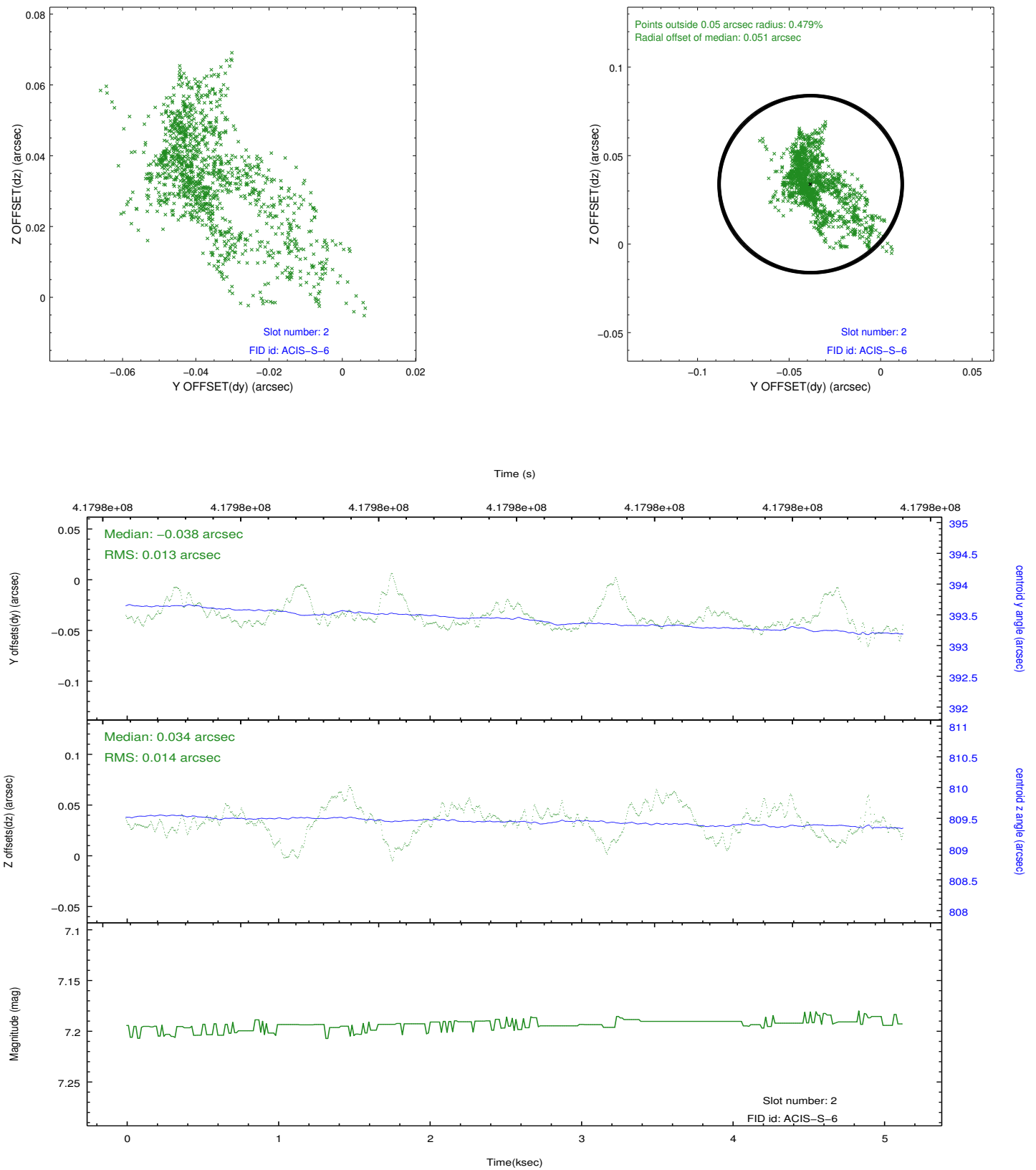
### 2.5.1 Slot 0



## 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)	2012.02.09
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.0553954894543

## A.2 Comments

The data for this observation have been processed using the 'EDSER' sub-pixel event-repositioning algorithm of Li et al. (2004, ApJ, 610, 1204). Small-scale features should become sharper for sources near the aim point. The improvement will be less noticeable for off-axis sources where the size of the point-spread function is comparable to or larger than the size of an ACIS pixel. To take full advantage of the improvement, images should be binned on spatial scales smaller than the size of an ACIS pixel. Note that, at present, the point-spread function has not been calibrated for data to which the EDSER algorithm has been applied. If dither was disabled for the observation, then the algorithm can introduce artificial aliasing effects on spatial scales smaller than a pixel. If you would prefer to use no sub-pixel adjustment or to apply a coordinate randomization, then use `acis_process_events` to reprocess the data with the parameter `pix_adj=NONE` or `RANDOMIZE`, respectively.