

# V&V Reference Report

## L2 ASCDS Version : 10.3.1

Observation 16660 - L2 Version 2  
Chandra X-Ray Center

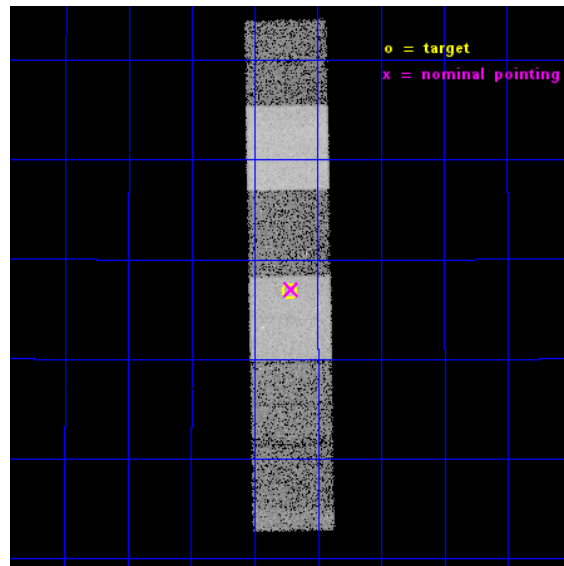
L2 Processing Date : Dec 17 2014

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# 1 Front

seq_num	200981	Sequence number
obs_id	16660	Observation id
title	An age-activity calibration for old low-mass stars	Proposal title
observer	Dr Katja Poppenhaeager	Principal investigator
object	SDSS J075745.52+280728.8	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	119.430833	Observer's specified target RA [deg]
dec_targ	28.1125	Observer's specified target Dec [deg]
ra_nom	119.42704366821	Nominal RA [deg]
dec_nom	28.116802273422	Nominal Dec [deg]
roll_nom	89.001389197777	Nominal Roll [deg]
revision	2	Processing version of data
ontime	14962.137515724	Sum of GTIs [s]
livetime	14772.677921382	Livetime [s]
ontime4	14962.178555727	Sum of GTIs [s]
ontime5	14962.09647572	Sum of GTIs [s]
ontime6	14962.055435717	Sum of GTIs [s]
ontime7	14962.137515724	Sum of GTIs [s]
ontime8	14962.014395714	Sum of GTIs [s]
ontime9	14961.973355711	Sum of GTIs [s]
l2events	131860	Number of level 2 events

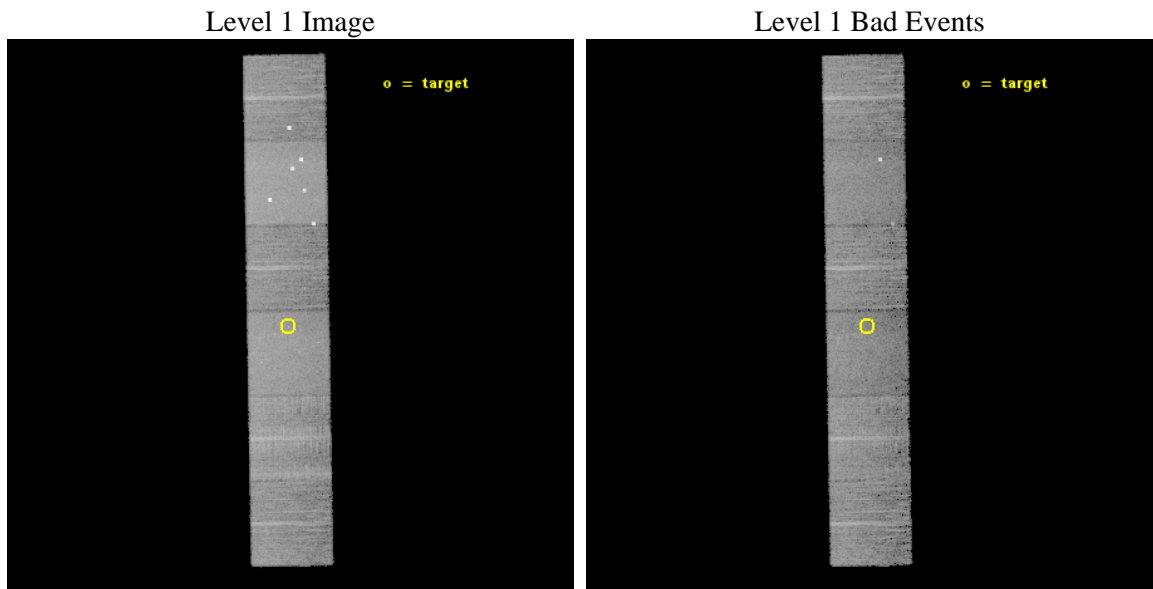




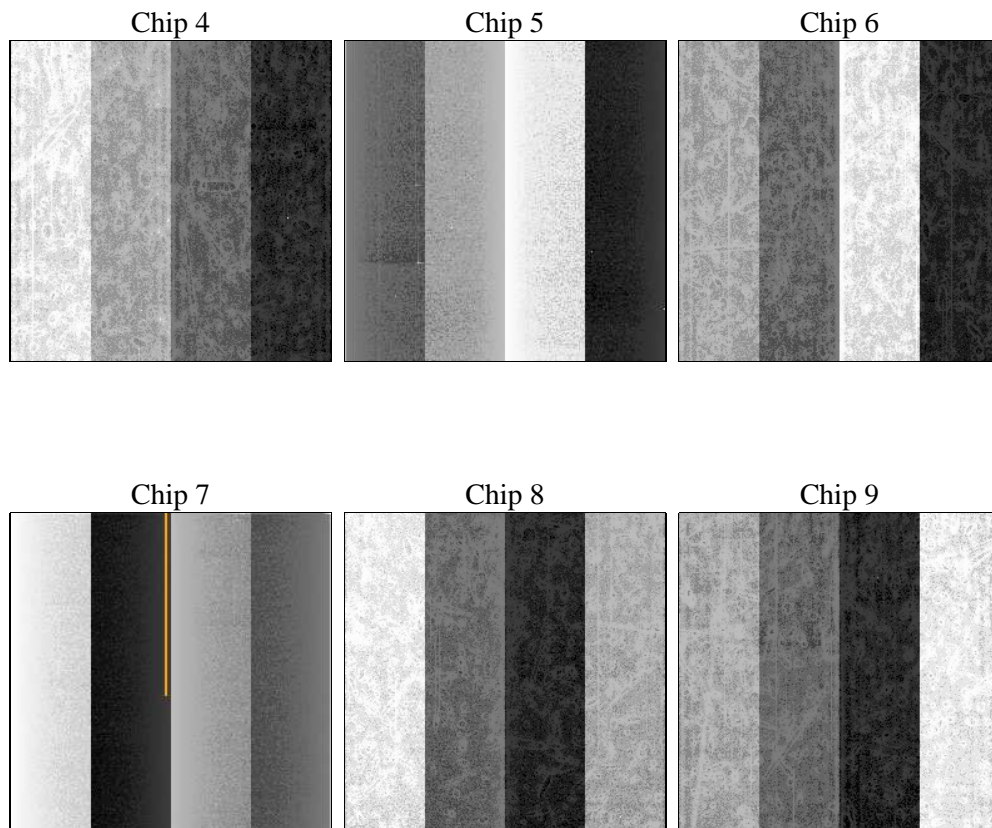
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	15000.730000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	14962.137515724	Sum of GTIs [s]
caldsver	4.6.5	&#160	ontime4	14962.178555727	Sum of GTIs [s]
date	2014-12-17T15:22:59	Date and time of file creation	ontime5	14962.09647572	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	14962.055435717	Sum of GTIs [s]
			ontime7	14962.137515724	Sum of GTIs [s]
			ontime8	14962.014395714	Sum of GTIs [s]
			ontime9	14961.973355711	Sum of GTIs [s]
			l1events	574842	Number of level 1 events

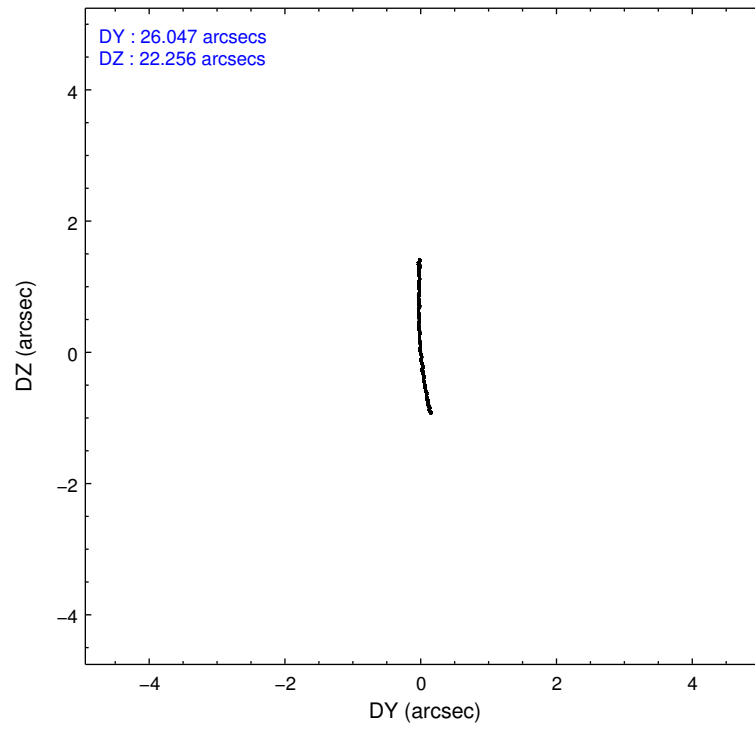
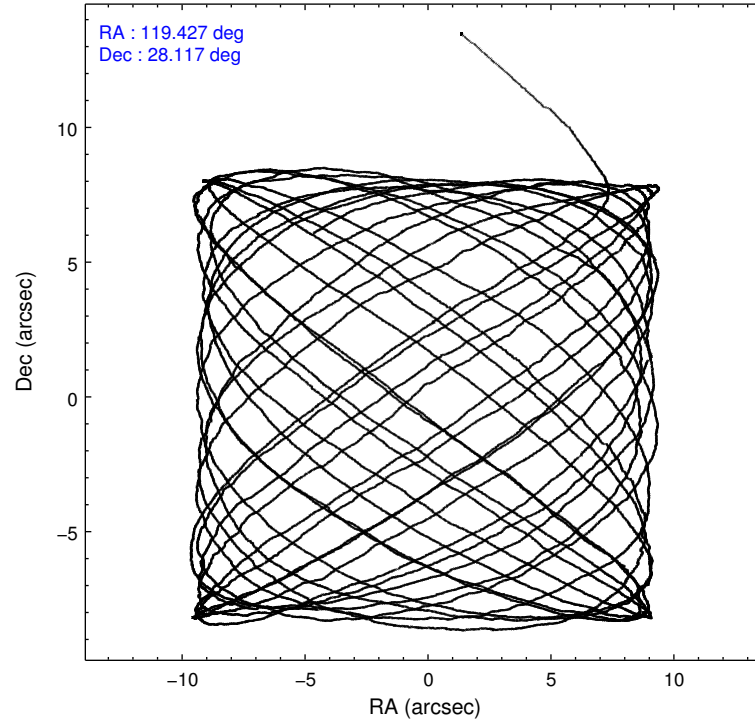
### 2.1.4 Events

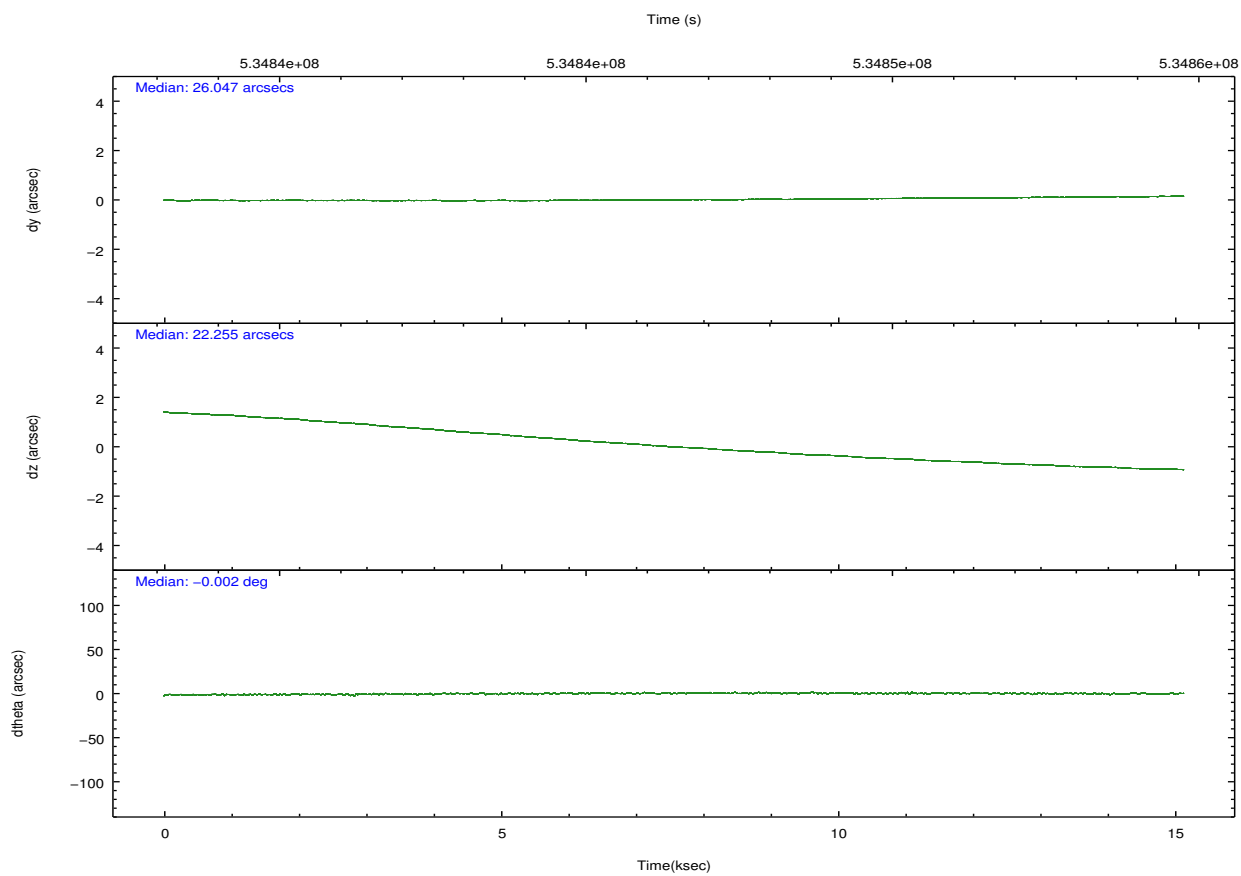
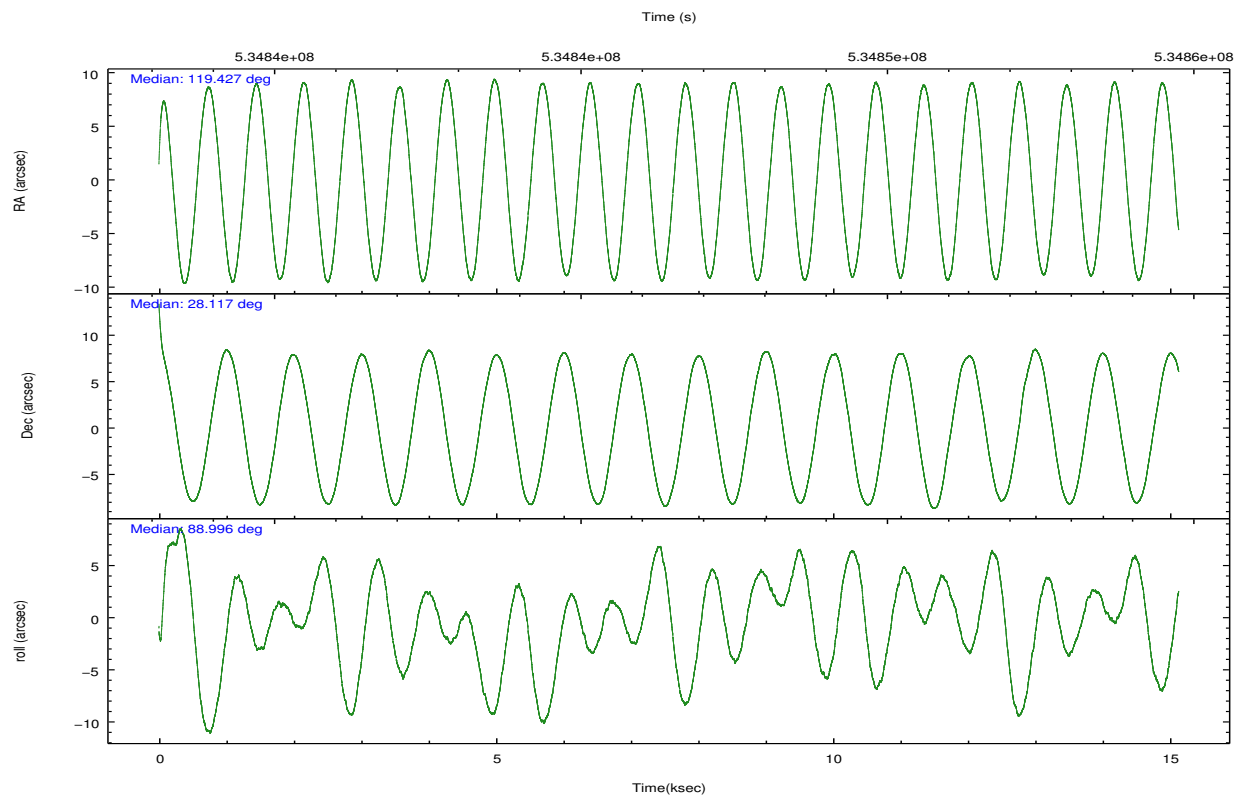
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	85861	136502	75355	101696	100453	74975	grade 0 events	6668	13829	3186	3933	7574	3329
rejected events	73330	66141	66183	57466	73483	65549		7%	10%	4%	3%	7%	4%
rejected %	85%	48%	87%	56%	73%	87%	grade 1 events	82	387	38	119	78	46
								0%	0%	0%	0%	0%	0%
							grade 2 events	2296	20104	2063	8996	6557	2107
								2%	14%	2%	8%	6%	2%
							grade 3 events	959	2233	882	3719	2777	962
								1%	1%	1%	3%	2%	1%
							grade 4 events	924	2088	946	3737	2594	952
								1%	1%	1%	3%	2%	1%
							grade 5 events	3912	10025	3955	10478	5696	4402
								4%	7%	5%	10%	5%	5%
							grade 6 events	1690	32139	2096	23864	7474	2083
								1%	23%	2%	23%	7%	2%
							grade 7 events	69330	55697	62189	46850	67703	61094
								80%	40%	82%	46%	67%	81%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-456789	ACIS-456789	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	119.442478	119.4270436682123	CCD I2 on	N	N
[deg] Pointing Dec	28.092962	28.11680227342169	CCD I3 on	N	N
[deg] Pointing Roll	88.837494	89.00138919777694	CCD S0 on	O1	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O3	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	O5	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	O4	Y
[s] Observation start time (MET)	534838996.184000	534837807.59918	CCD S5 on	O2	Y
Observation start date	2014-12-13T06:22:09	2014-12-13T06:03:27	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	534853997.184000	534854222.97509	On-chip summing requested	N	N
Observation end date	2014-12-13T10:32:10	2014-12-13T10:37:02	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



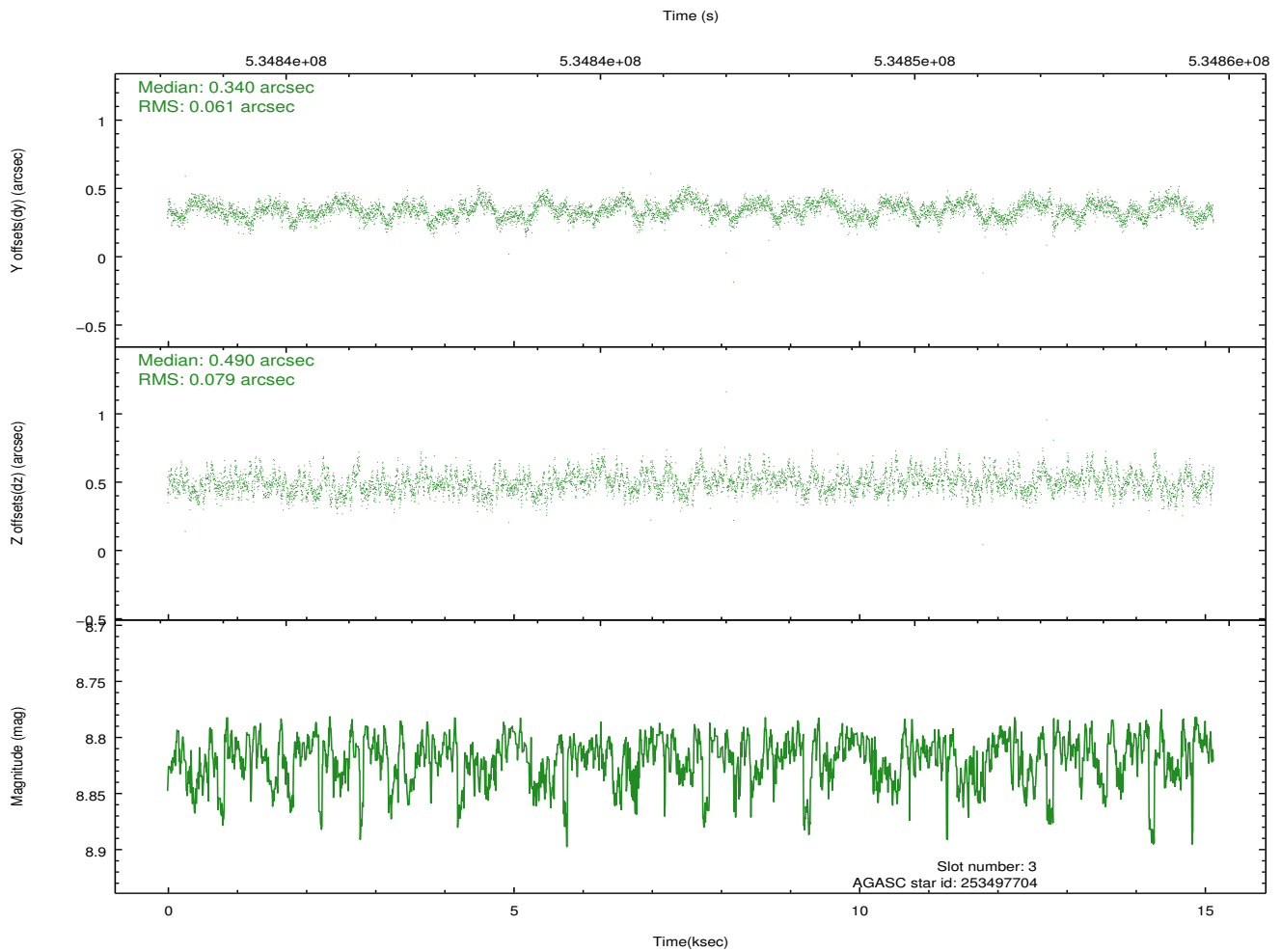
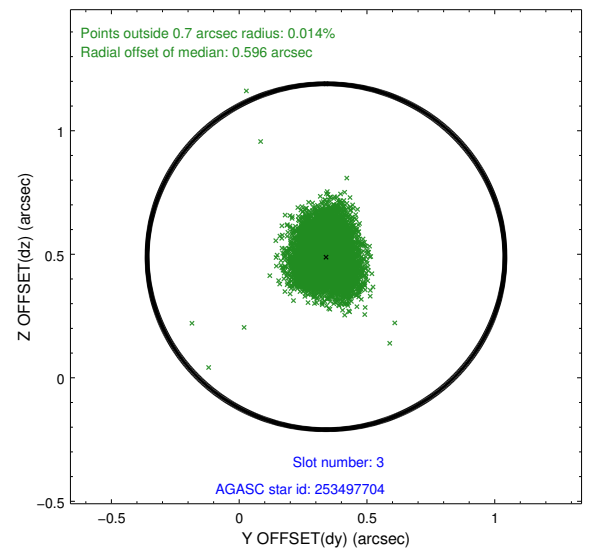
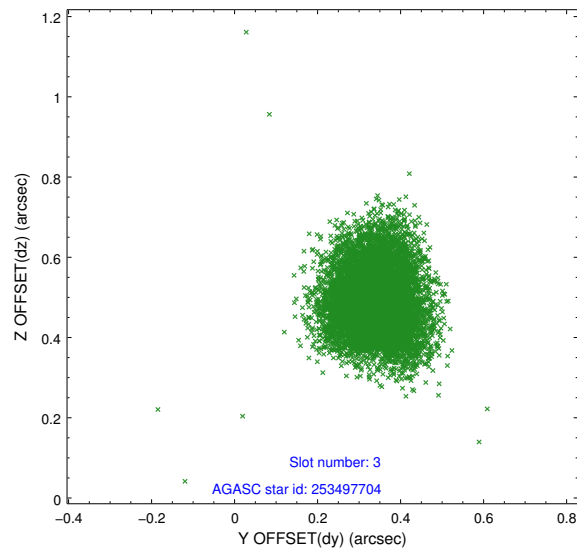


### Slot Statistics

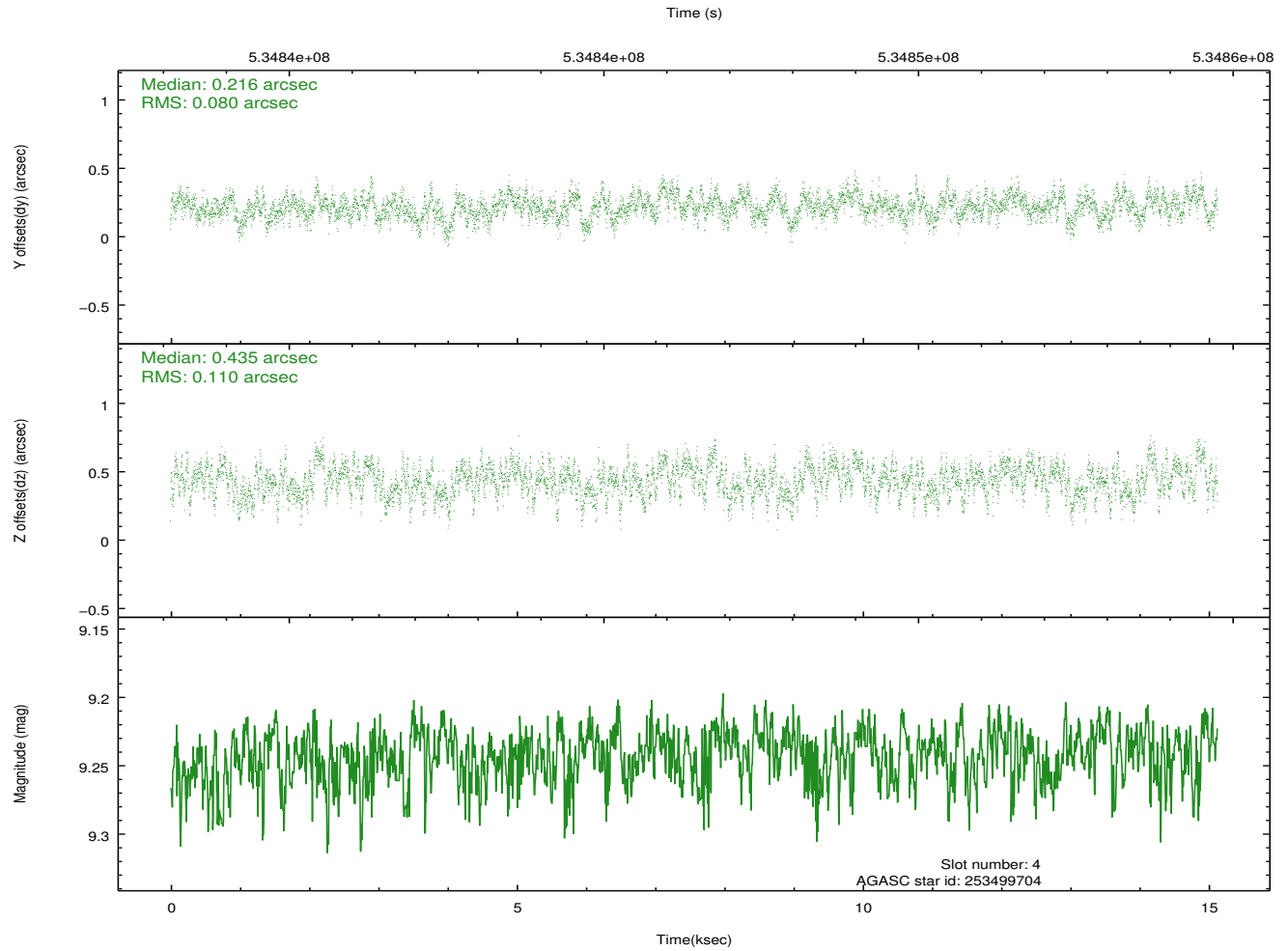
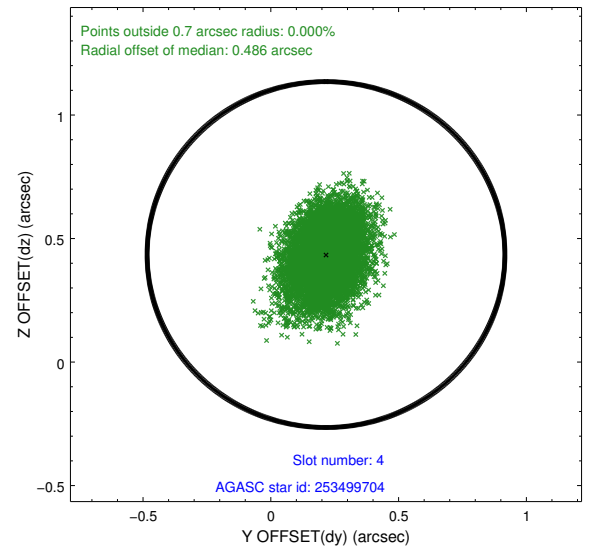
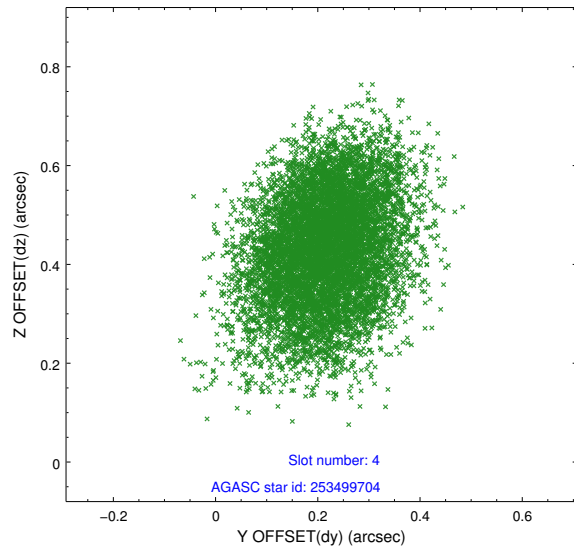
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.94	3691	-0.186	-0.103	0.008	0.015	0.000000	0.000000	-779.60	-1744.00
1	FID		ACIS-S-4	7.04	3691	0.235	0.105	0.007	0.013	0.000000	0.000000	2134.04	164.25
2	FID		ACIS-S-6	7.17	3691	-0.076	0.005	0.008	0.013	0.000000	0.000000	382.97	801.96
3	GUIDE	used	253497704	8.82	7378	0.340	0.490	0.106	0.171	120.126023	27.861524	-782.05	-2191.35
4	GUIDE	used	253499704	9.24	7372	0.216	0.435	0.145	0.234	119.830788	27.742742	-1233.05	-1262.43
5	GUIDE	used	254023464	8.52	7381	-0.016	0.123	0.092	0.149	119.807759	28.494757	1470.21	-1125.80
6	GUIDE	used	253897600	7.52	7382	-0.205	-0.583	0.093	0.149	118.784536	28.384184	1010.73	2105.06
7	GUIDE	used	253896832	8.98	7381	-0.339	-0.462	0.114	0.192	118.885747	28.521019	1508.89	1792.07

## 2.4 Star Slots

### 2.4.1 Slot 3

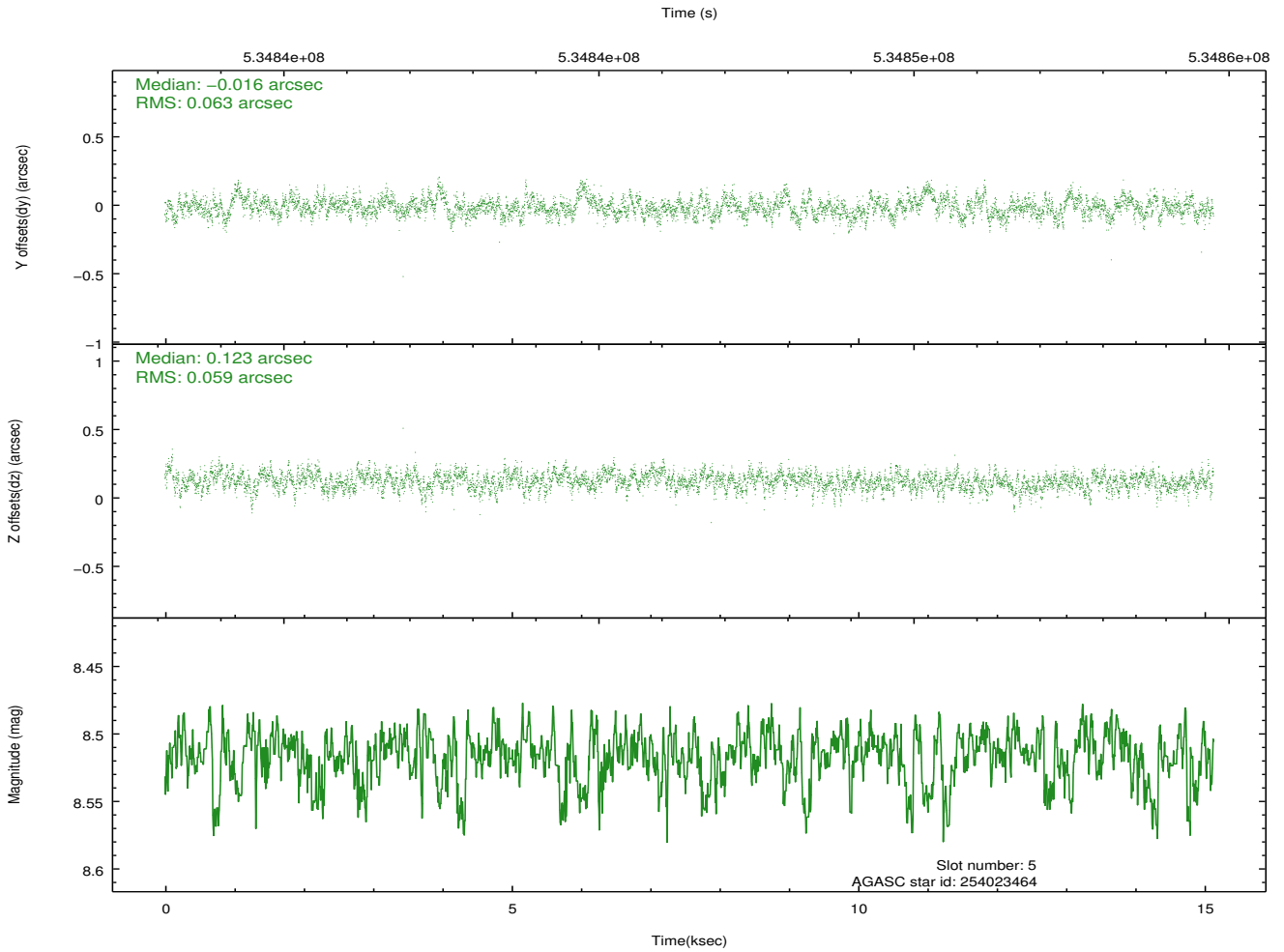
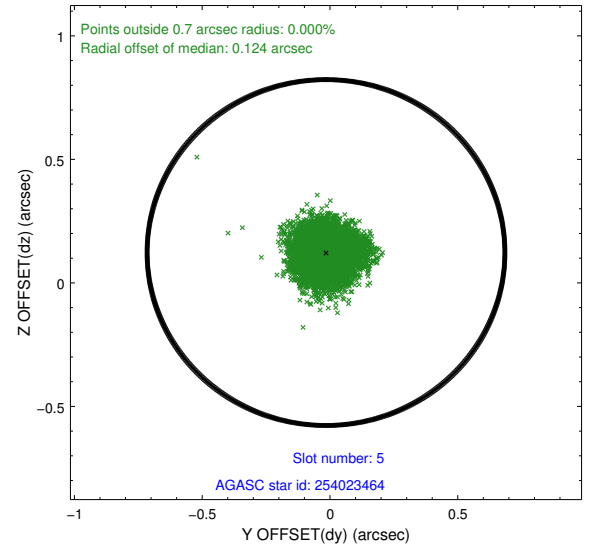
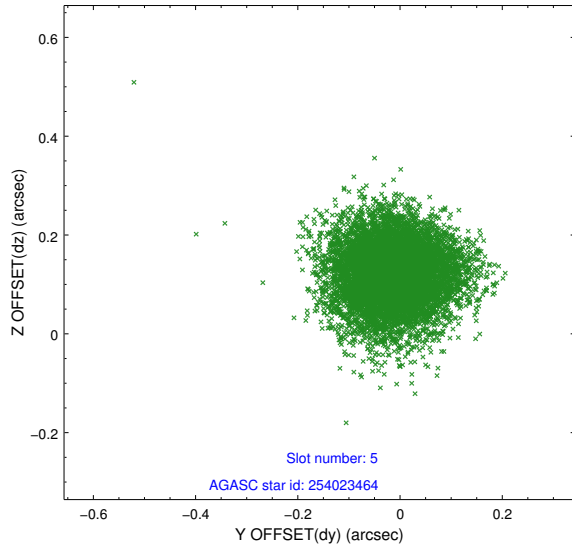


## 2.4.2 Slot 4

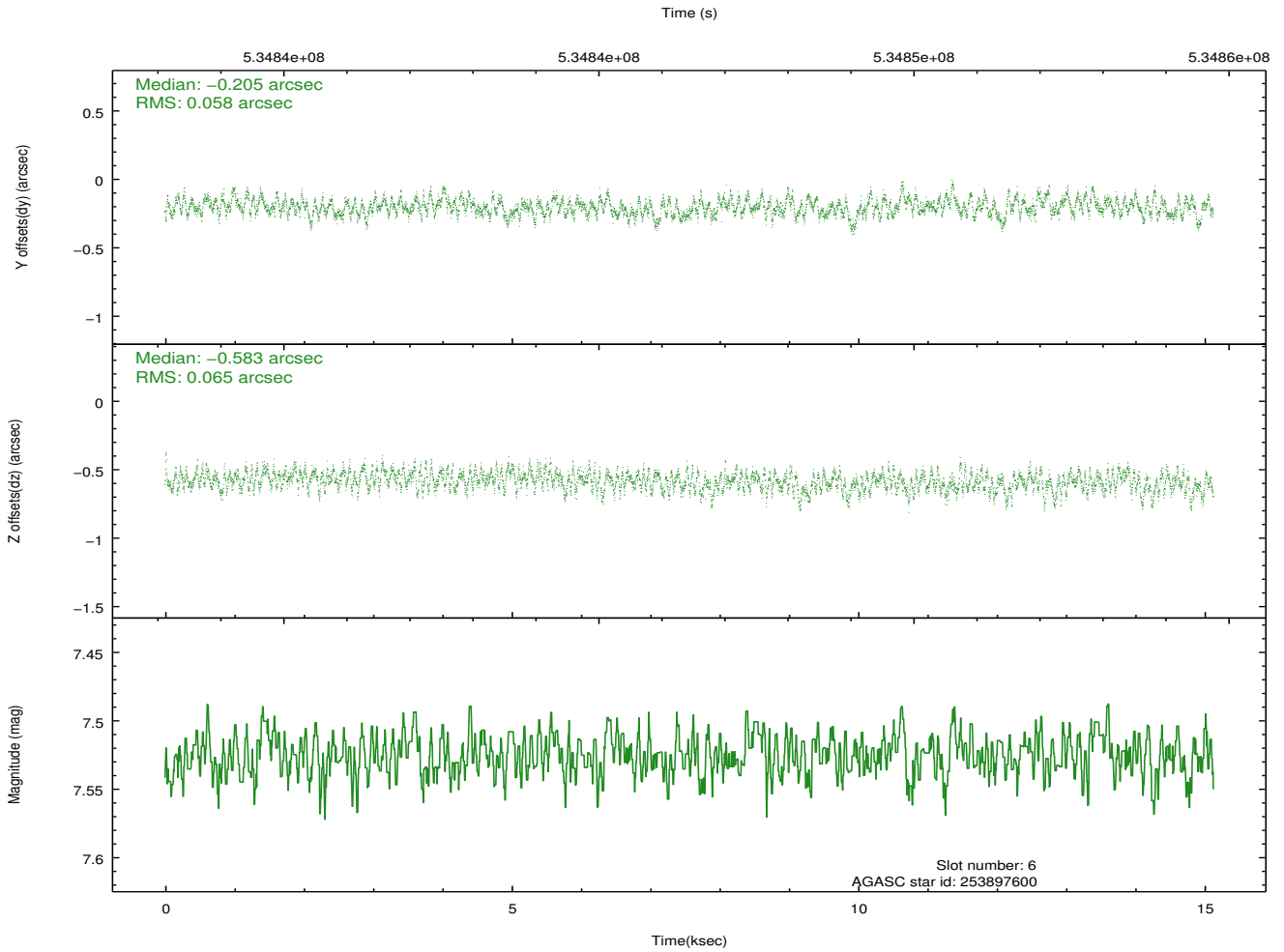
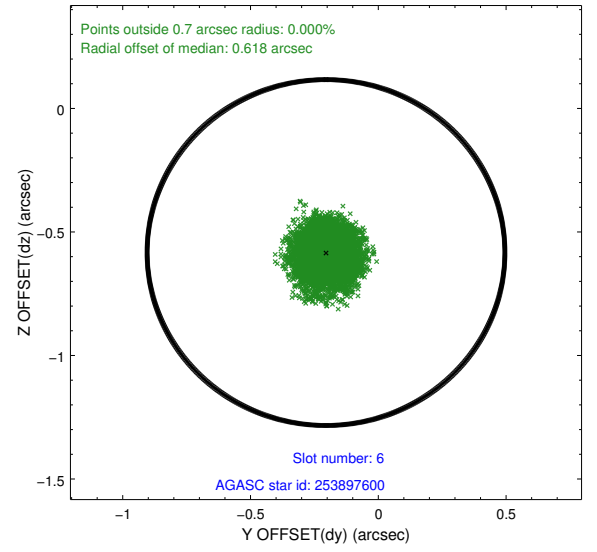
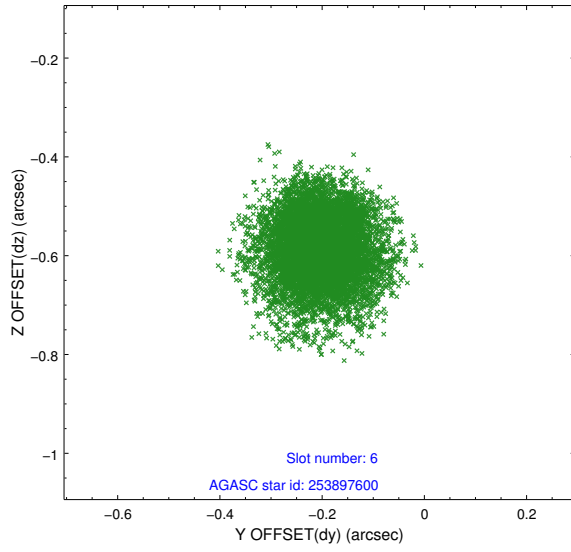




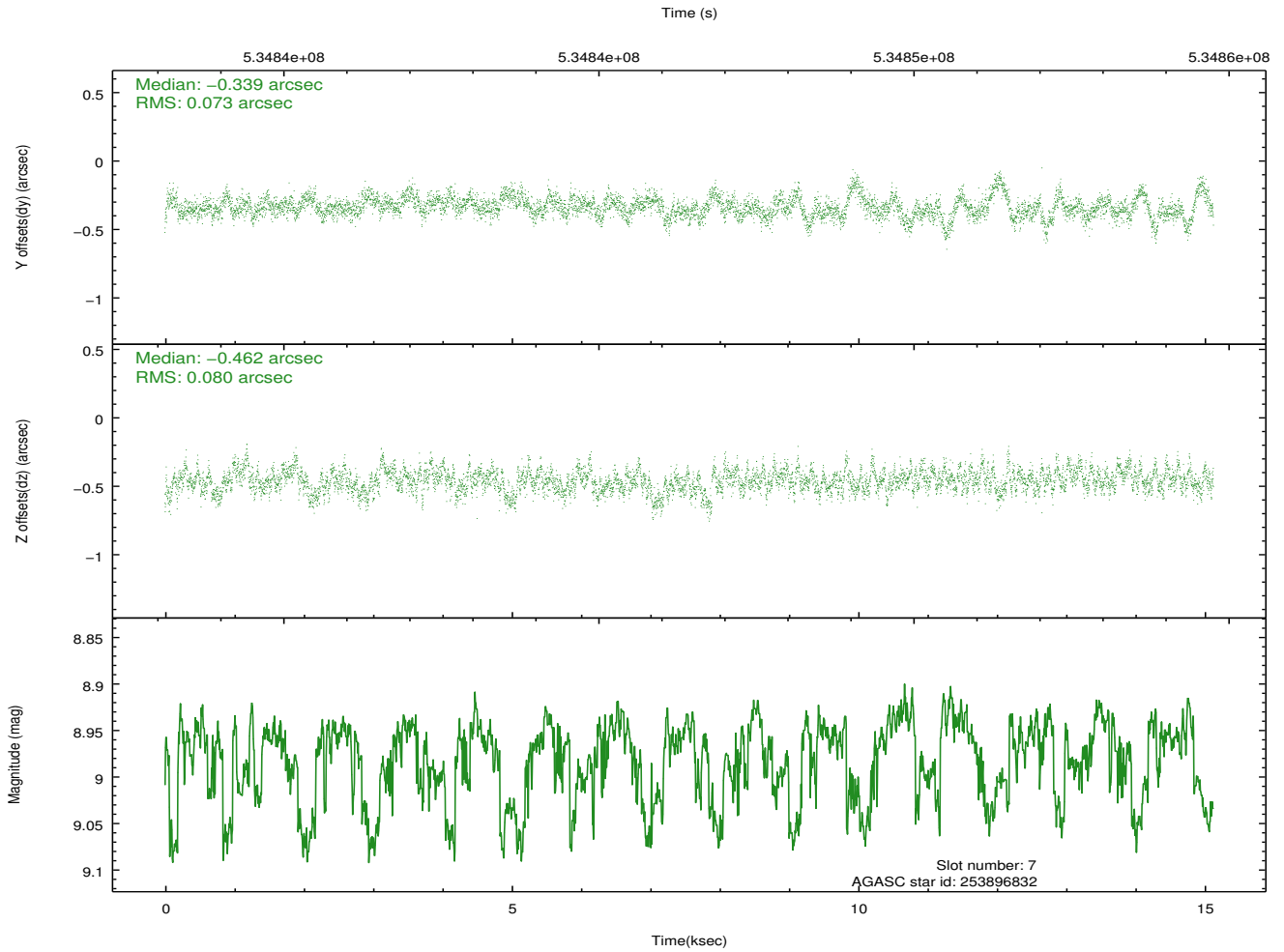
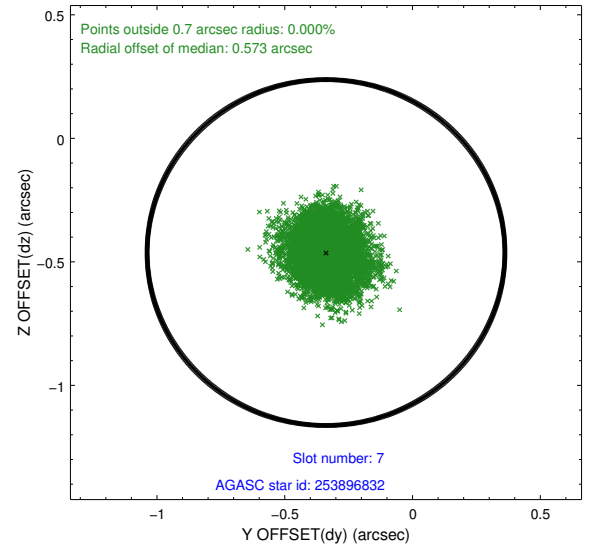
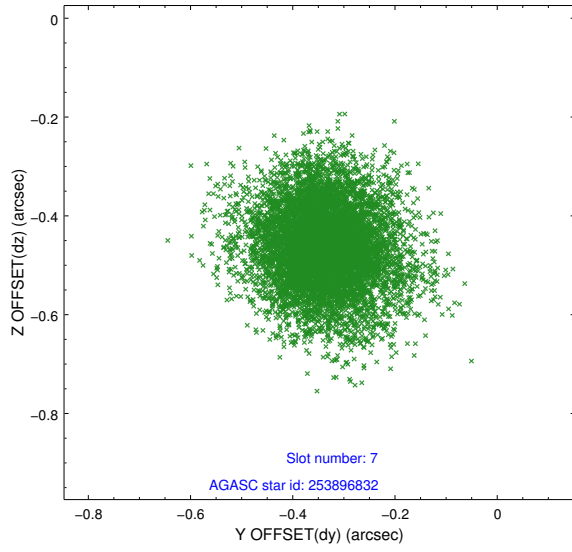
### 2.4.3 Slot 5



## 2.4.4 Slot 6

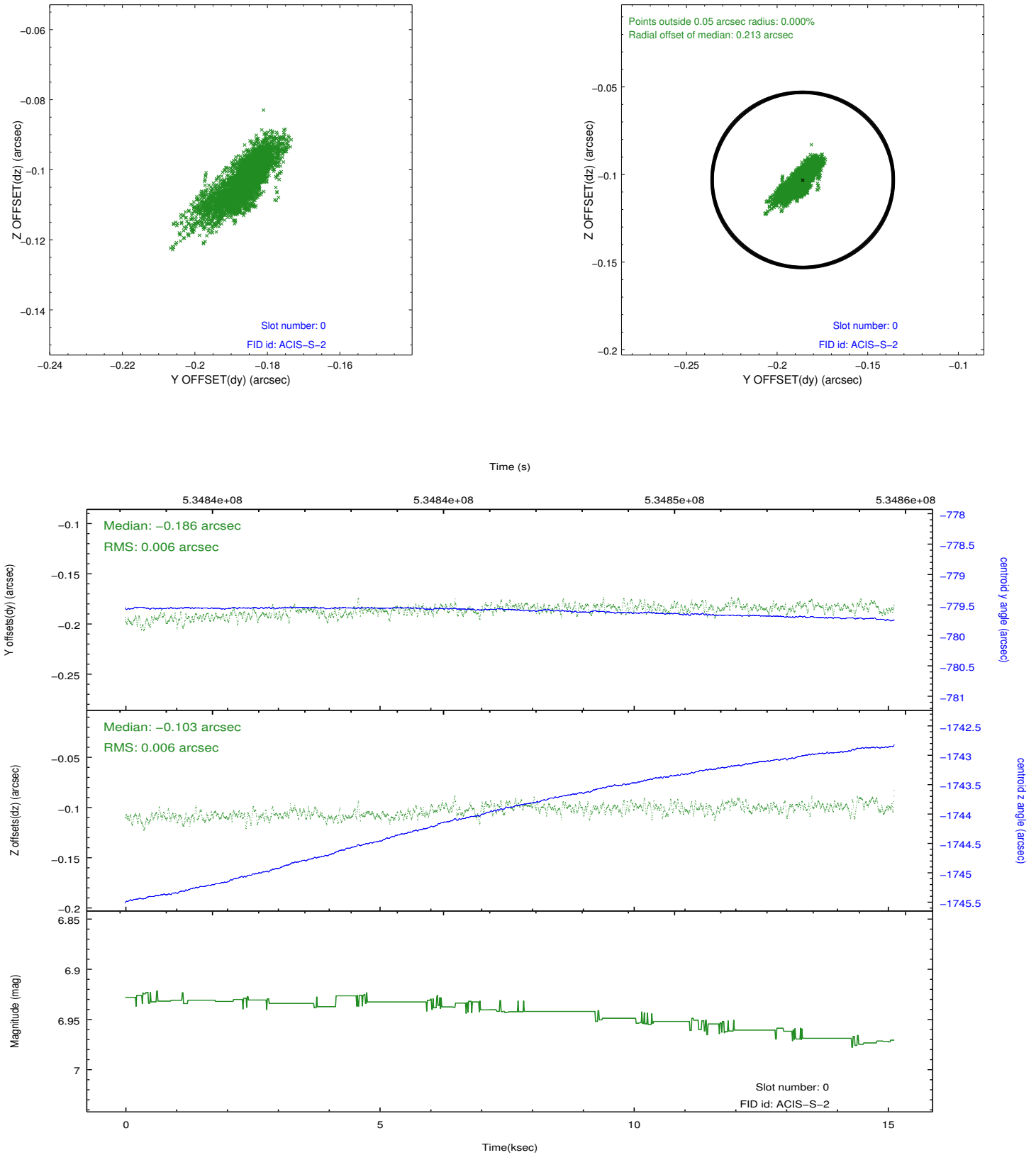


## 2.4.5 Slot 7

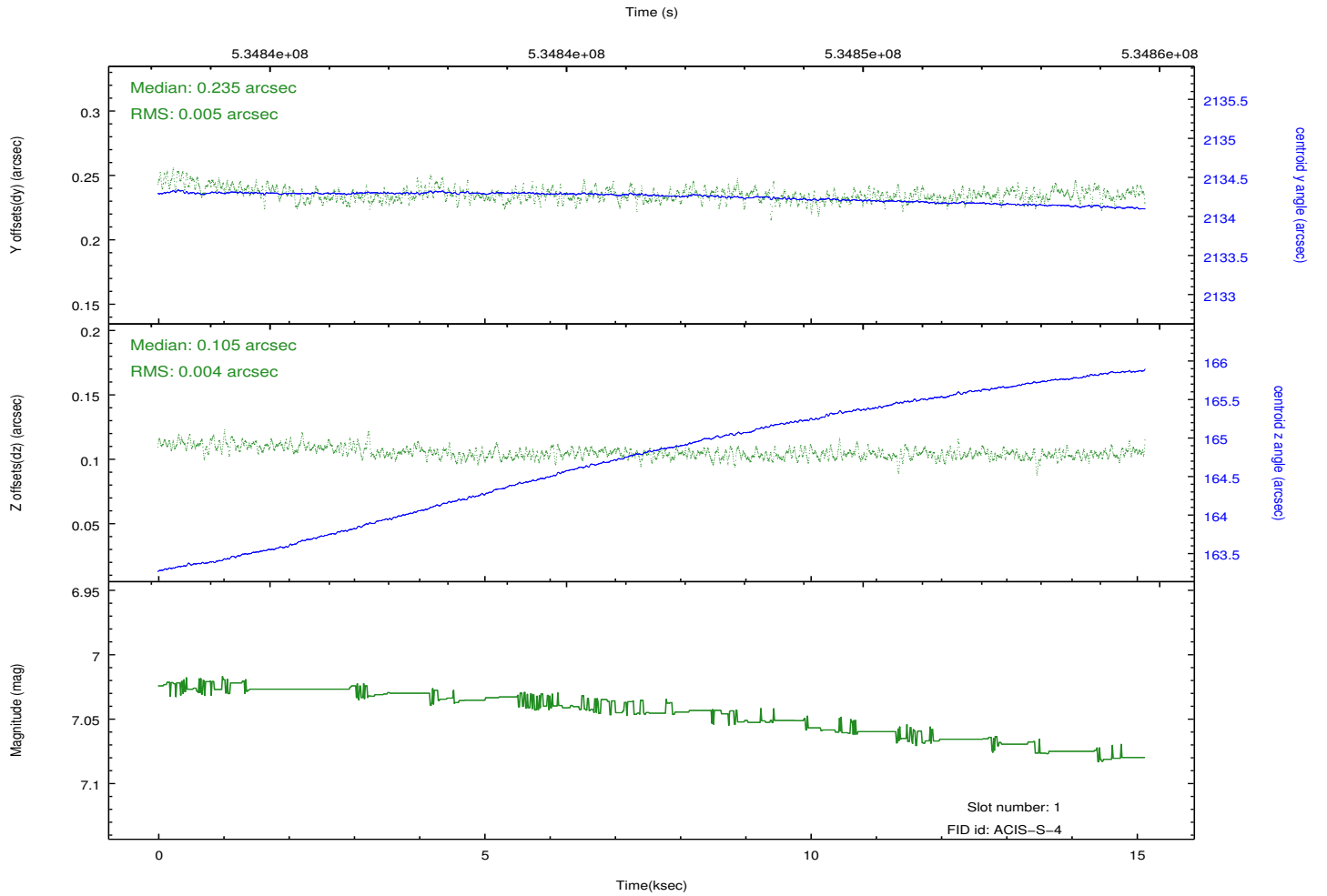
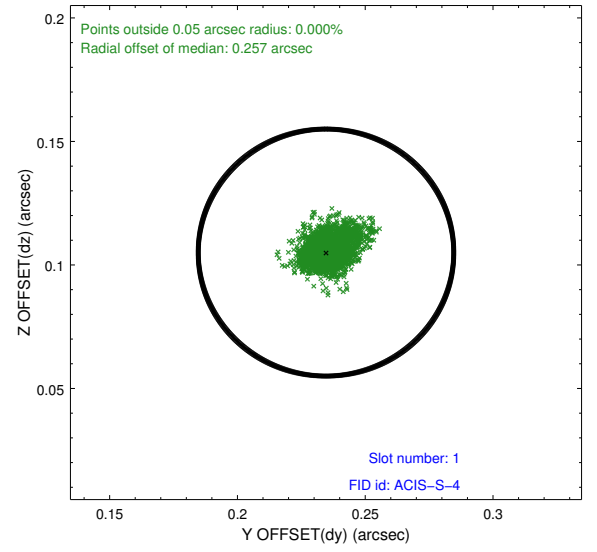
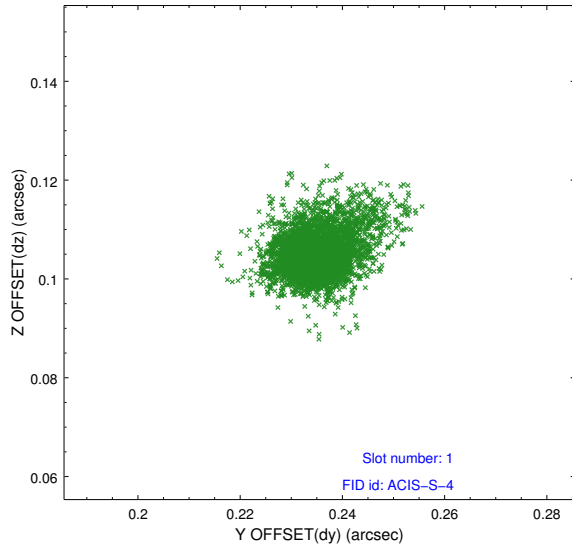


## 2.5 FID Slots

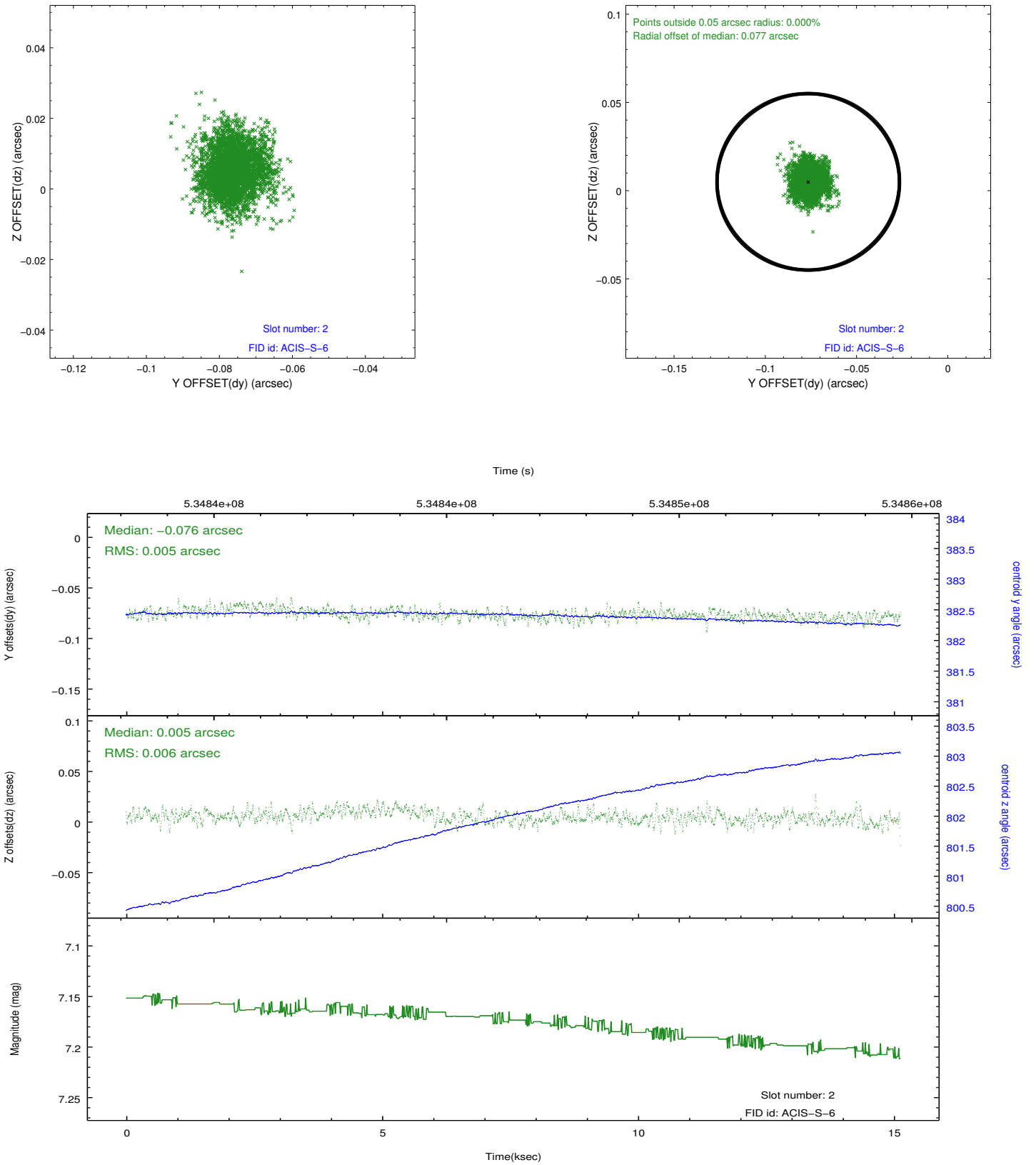
### 2.5.1 Slot 0



## 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)	2014.12.18
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	14.962137515724

## A.2 Comments

A spatial region of the original bias map for CCD = 4 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 = 4 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: (119.35973,28.53273), (119.35969,28.53013), (119.41265,28.52936), (119.41441,28.53193).