

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 10406 - L2 Version 2  
Chandra X-Ray Center

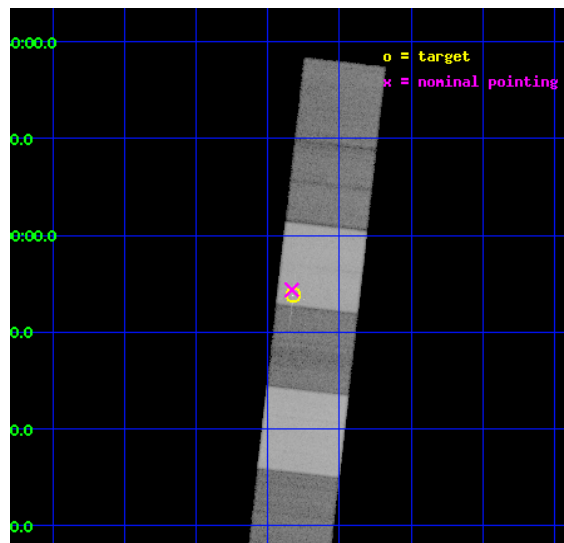
L2 Processing Date : Jun 14 2012

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# 1 Front

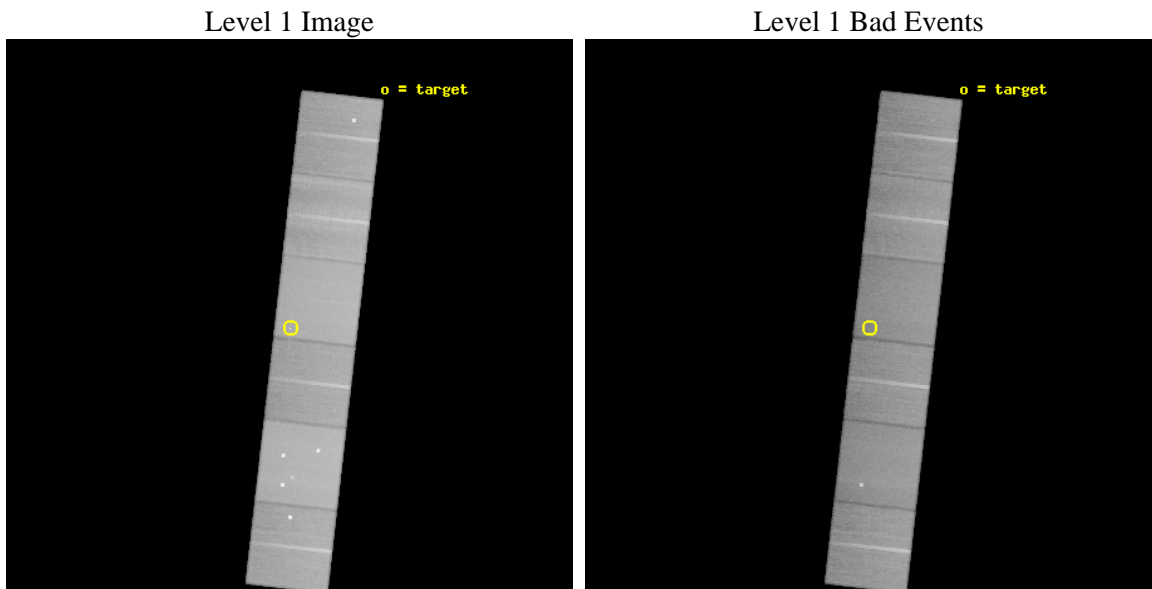
seq_num	701947	Sequence number
obs_id	10406	Observation id
title	Testing the Radio-loud vs Radio-quiet AGN Dichotomy through the Ionized Circumnuclear Gas in 3C 445	Proposal title
observer	Dr. Rita Sambruna	Principal investigator
object	3C 445	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	335.956667	Observer's specified target RA [deg]
dec_targ	-2.103333	Observer's specified target Dec [deg]
ra_nom	335.95818358389	Nominal RA [deg]
dec_nom	-2.0938852445705	Nominal Dec [deg]
roll_nom	276.52782488664	Nominal Roll [deg]
revision	2	Processing version of data
ontime	43945.599836349	Sum of GTIs [s]
livetime	43389.134190358	Livetime [s]
ontime4	43945.599836349	Sum of GTIs [s]
ontime5	43945.599836349	Sum of GTIs [s]
ontime6	43945.599836349	Sum of GTIs [s]
ontime7	43945.599836349	Sum of GTIs [s]
ontime8	43945.599836349	Sum of GTIs [s]
ontime9	43945.599836349	Sum of GTIs [s]
l2events	792158	Number of level 2 events



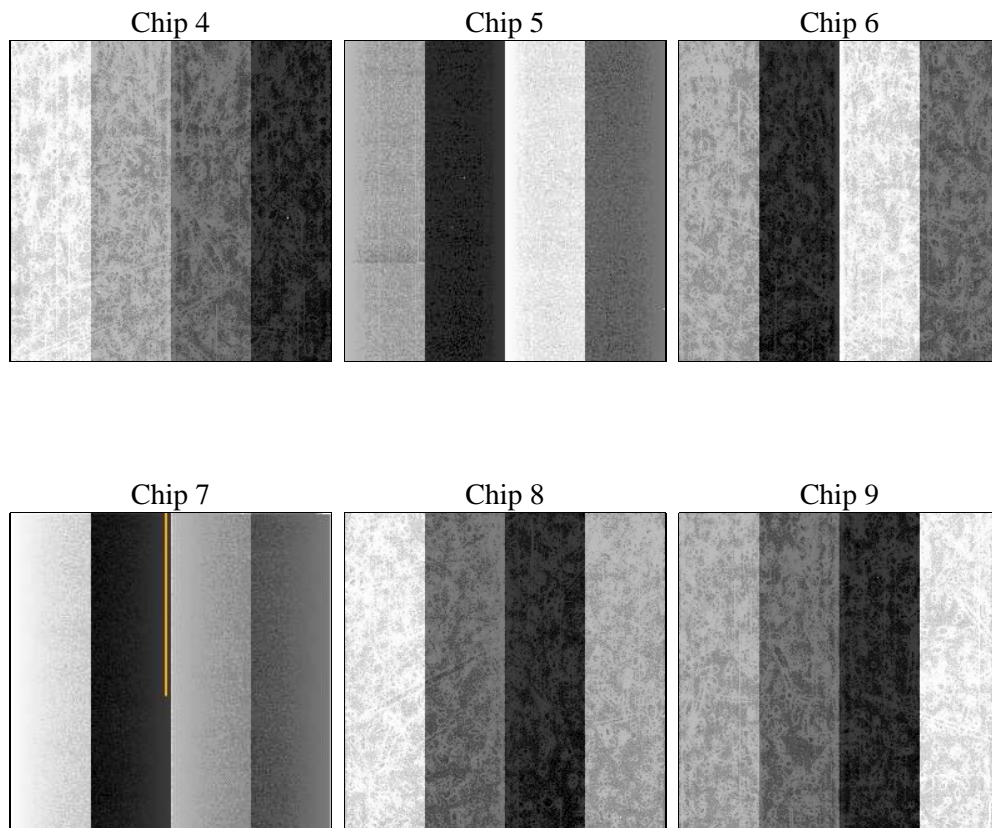
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	44000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	43945.599836349	Sum of GTIs [s]
caldbver	4.4.10	&#160	ontime4	43945.599836349	Sum of GTIs [s]
date	2012-06-13T23:34:59	Date and time of file creation	ontime5	43945.599836349	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	43945.599836349	Sum of GTIs [s]
			ontime7	43945.599836349	Sum of GTIs [s]
			ontime8	43945.599836349	Sum of GTIs [s]
			ontime9	43945.599836349	Sum of GTIs [s]
			l1events	3509721	Number of level 1 events

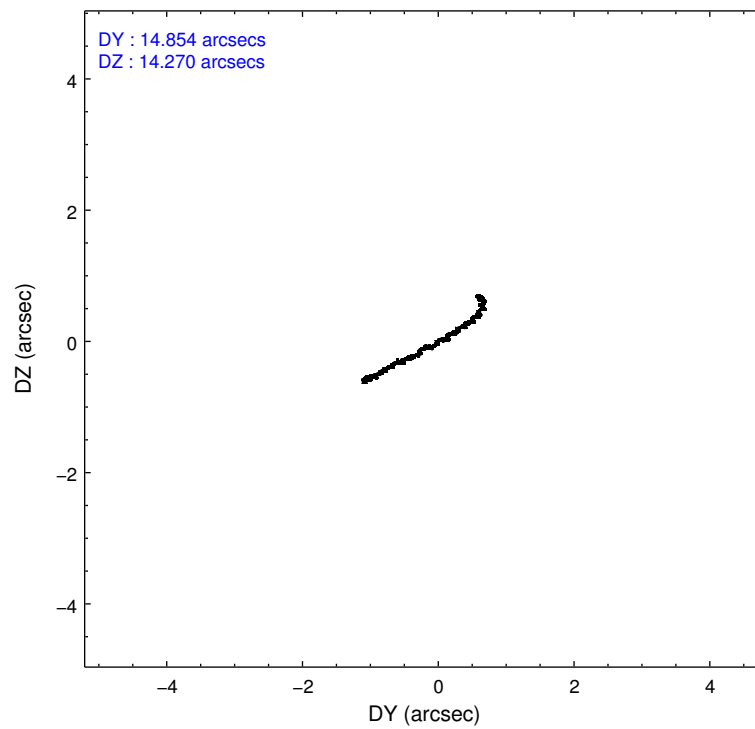
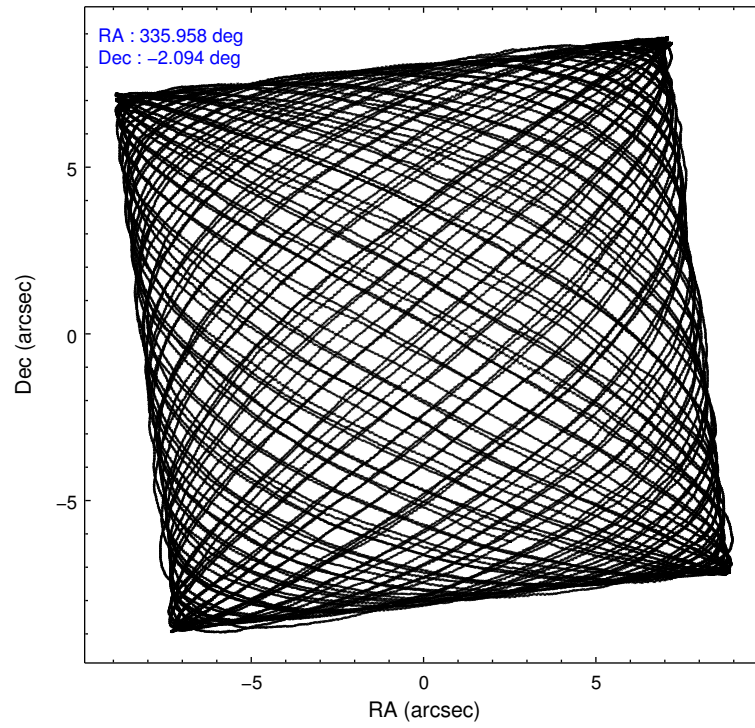
### 2.1.4 Events

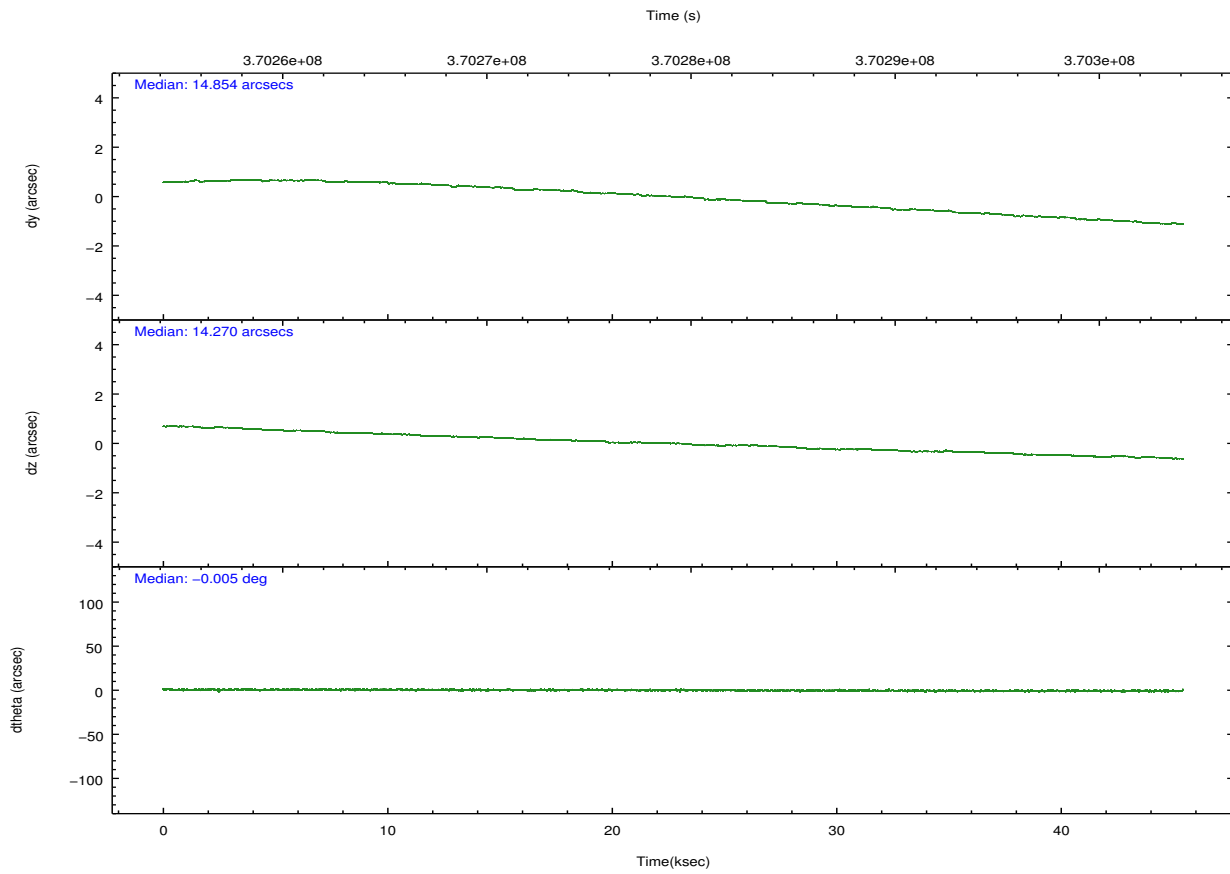
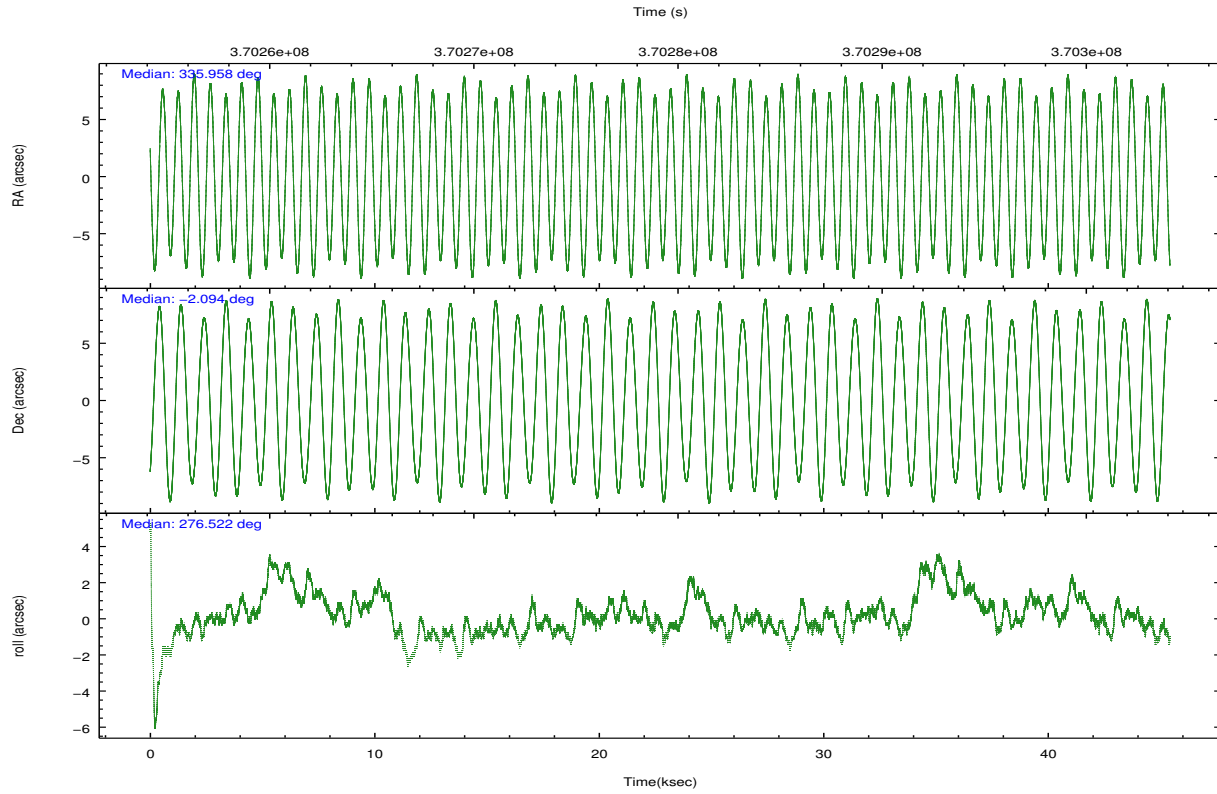
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	538186	749172	477412	662829	605401	476721	grade 0 events	38462	37730	21843	23420	44496	24065
rejected events	465534	400203	420716	386343	463306	409463		7%	5%	4%	3%	7%	5%
rejected %	86%	53%	88%	58%	76%	85%	grade 1 events	598	1044	268	742	472	319
								0%	0%	0%	0%	0%	0%
							grade 2 events	13070	108205	12781	57374	32617	20425
								2%	14%	2%	8%	5%	4%
							grade 3 events	5932	11447	5216	23032	15203	5792
								1%	1%	1%	3%	2%	1%
							grade 4 events	5850	10819	5138	22778	13924	5471
								1%	1%	1%	3%	2%	1%
							grade 5 events	22234	51535	22914	61446	30324	24395
								4%	6%	4%	9%	5%	5%
							grade 6 events	9346	180794	11725	149899	35872	11509
								1%	24%	2%	22%	5%	2%
							grade 7 events	442694	347598	397527	324138	432493	384745
								82%	46%	83%	48%	71%	80%

## 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	LETG	LETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	335.941602	335.9581835838873	Subarray requested	NONE	NONE
[deg] Pointing Dec	-2.072147	-2.093885244570532	Alternating exposures requested	N	N
[deg] Pointing Roll	276.370589	276.5278248866437	[s] Primary exposure time	0.000000	3.2
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-182.132523	-182.1370004450064			
[mm] SIM translation stage offset	-8	-7.995522138001405			
[s] Observation start time (MET)	370257838.184000	370256109.3865			
Observation start date	2009-09-25T09:22:52	2009-09-25T08:55:09			
[s] Observation end time (MET)	370301838.184000	370302674.62634			
Observation end date	2009-09-25T21:36:12	2009-09-25T21:51:14			
Read mode	TIMED	TIMED			

## 2.3 Aspect



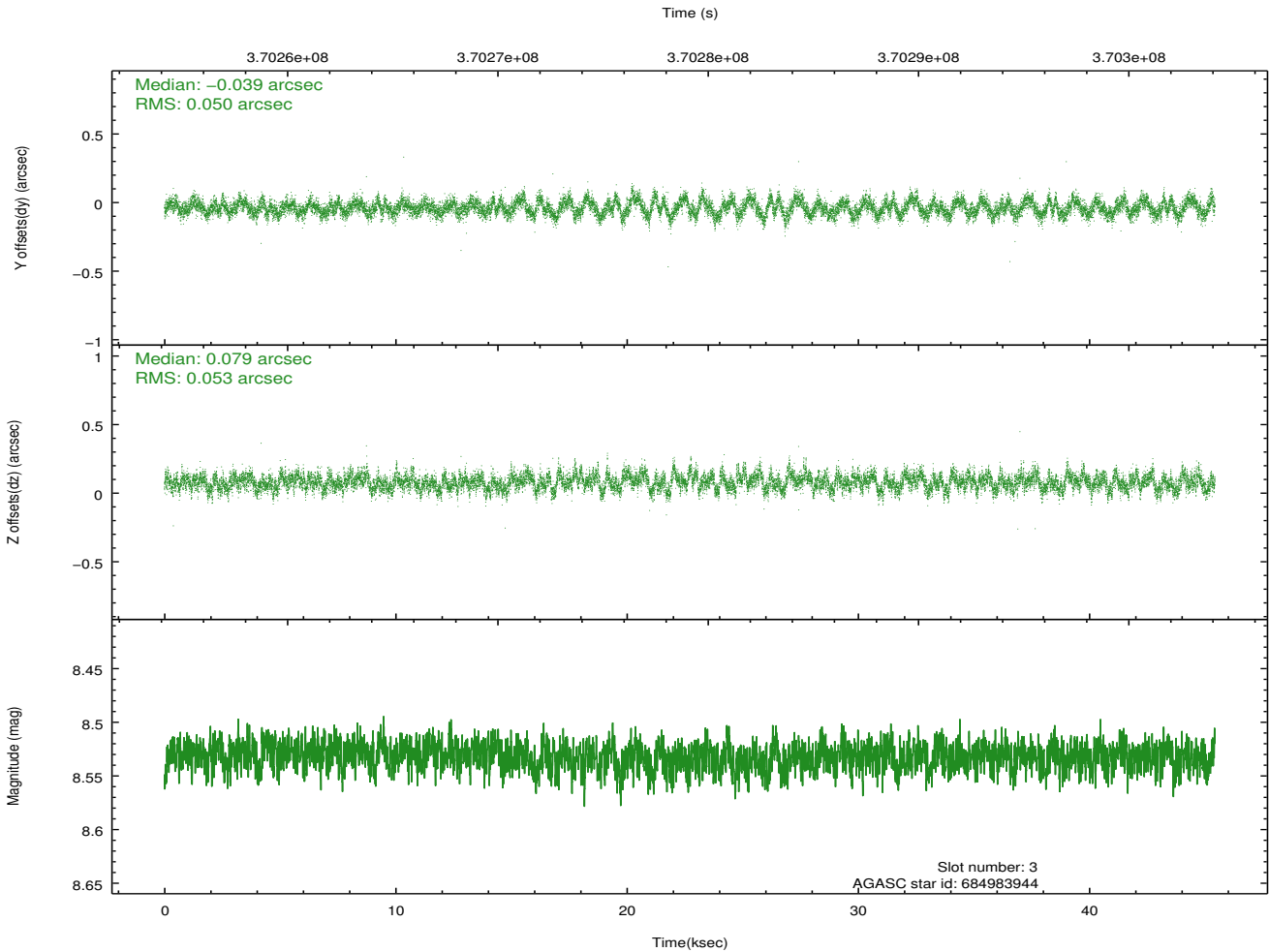
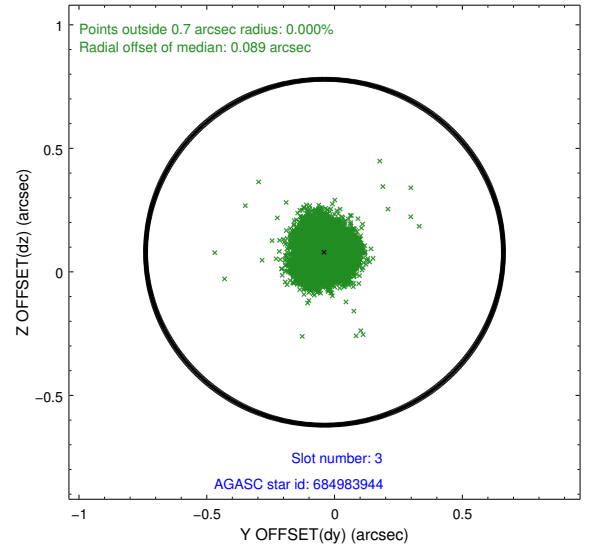
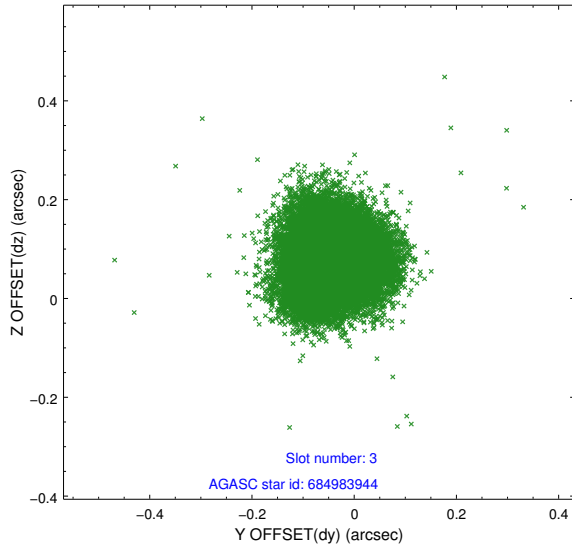


### Slot Statistics

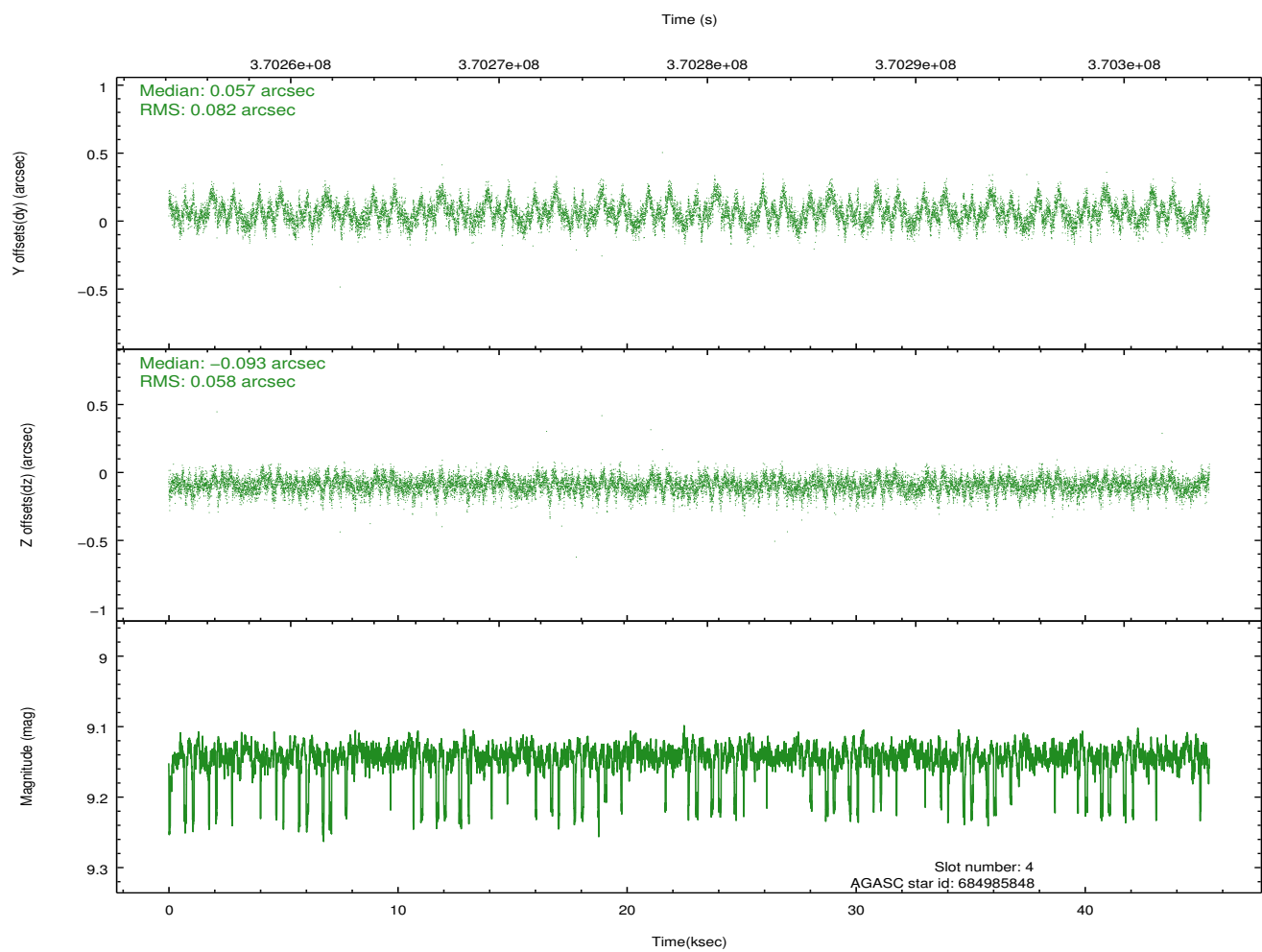
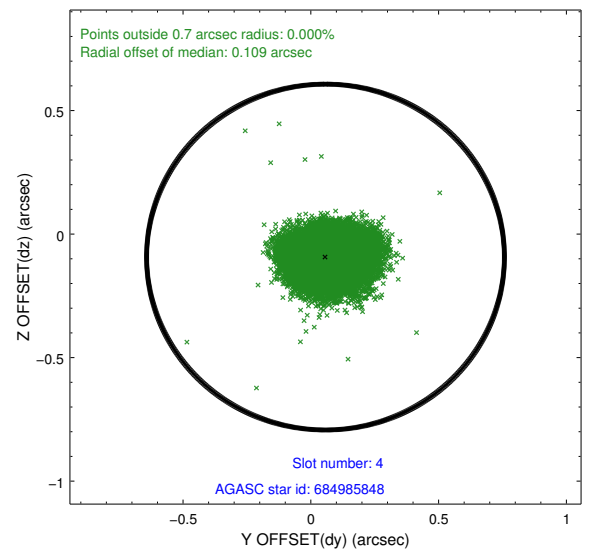
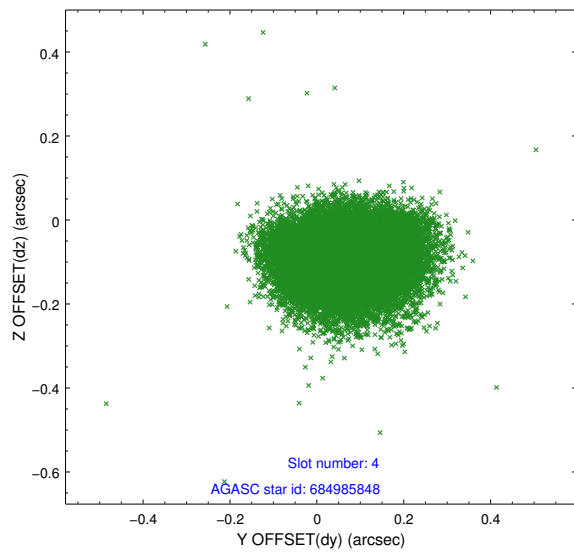
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	6.99	11079	-0.014	0.131	0.026	0.038	0.000000	0.000000	928.82	-1895.86
1	FID	ACIS-S-4	6.96	11080	0.058	-0.045	0.019	0.033	0.000000	0.000000	2146.31	8.08
2	FID	ACIS-S-6	7.20	11081	-0.067	-0.074	0.013	0.021	0.000000	0.000000	394.72	645.43
3	GUIDE	684983944	8.53	22151	-0.039	0.079	0.077	0.123	335.506030	-2.277752	562.63	-1638.82
4	GUIDE	684985848	9.14	21958	0.057	-0.093	0.107	0.175	335.594858	-2.450468	1216.20	-1390.89
5	GUIDE	684990016	8.81	22122	-0.098	-0.038	0.078	0.126	336.074884	-1.446788	-2184.40	726.72
6	GUIDE	684993328	9.43	22134	0.037	0.108	0.103	0.168	335.439993	-1.852822	-984.08	-1705.73
7	GUIDE	685376744	8.85	22149	0.040	-0.055	0.071	0.119	335.746038	-2.583797	1753.38	-902.94

## 2.4 Star Slots

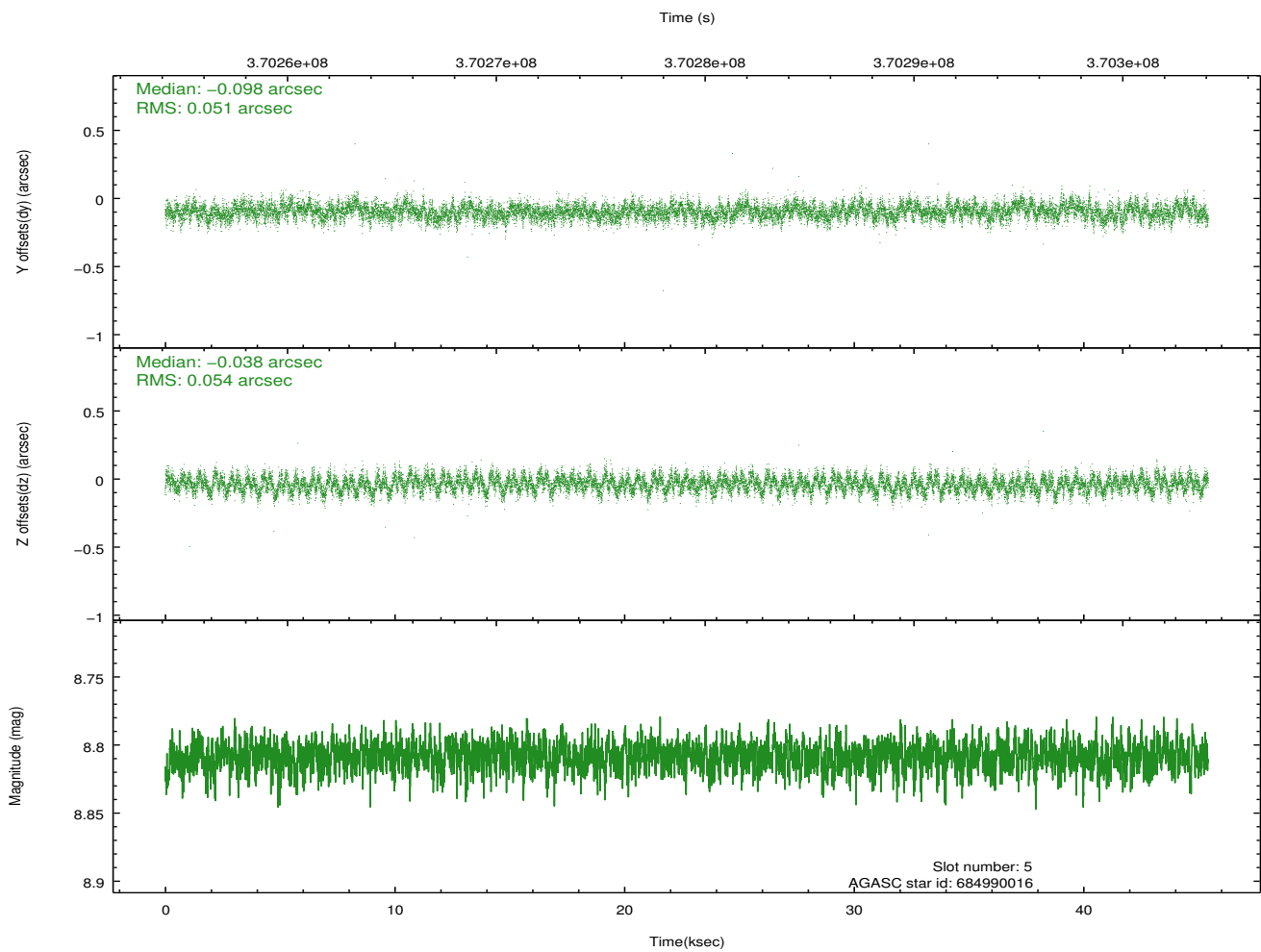
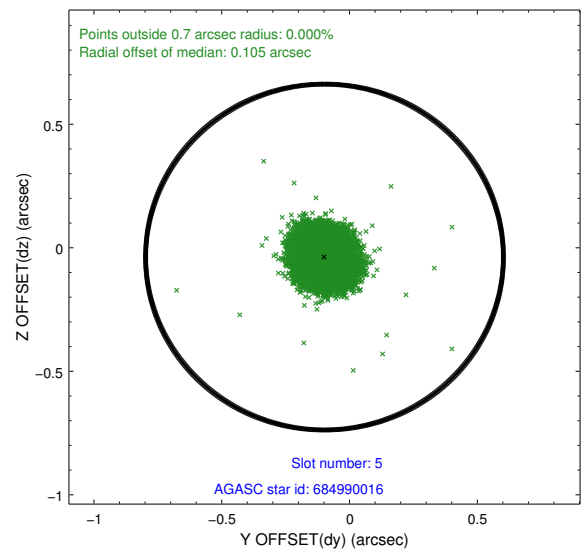
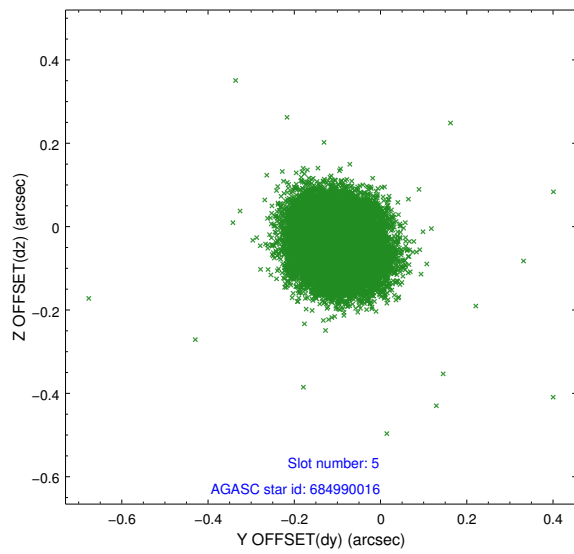
### 2.4.1 Slot 3



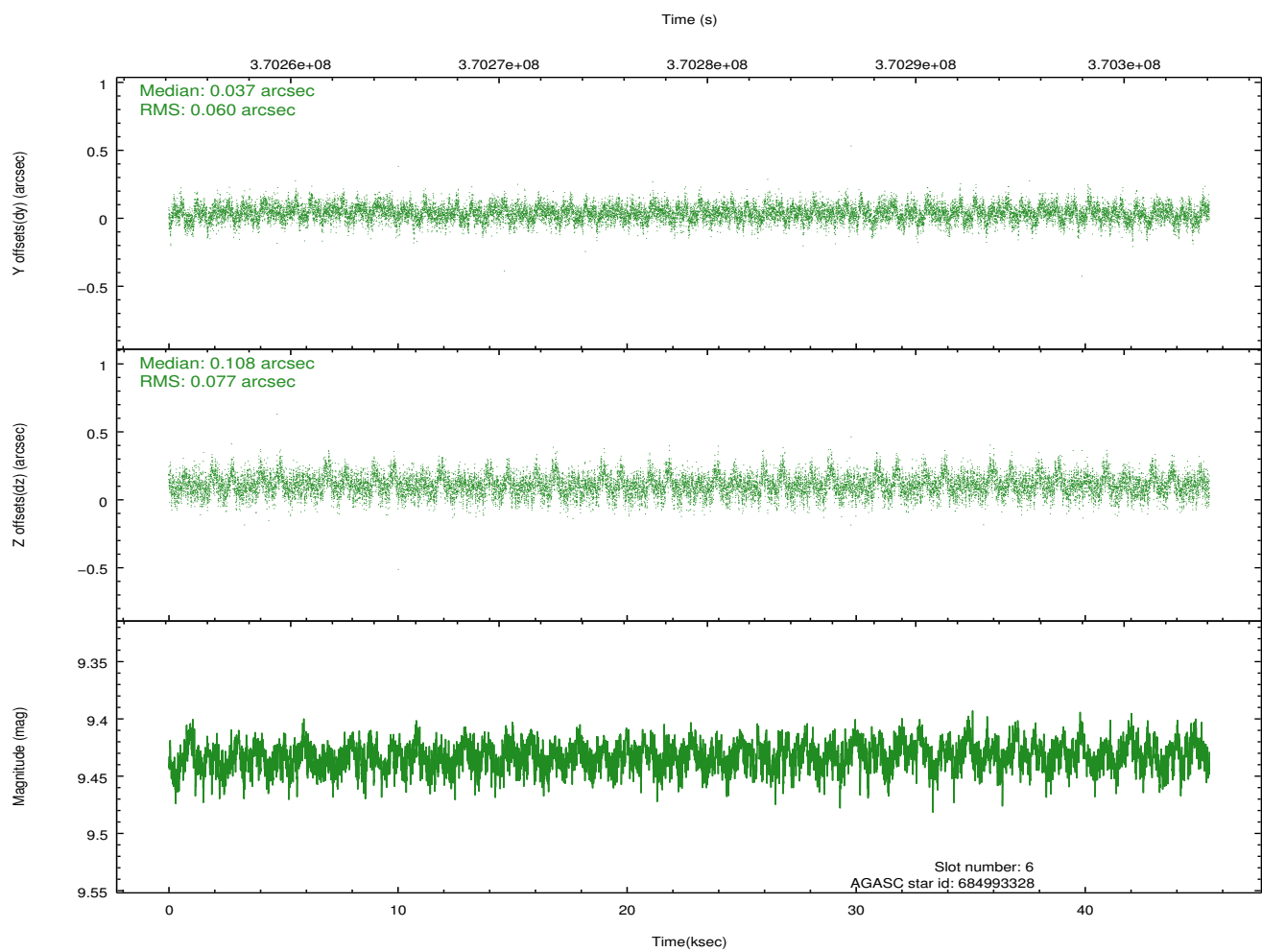
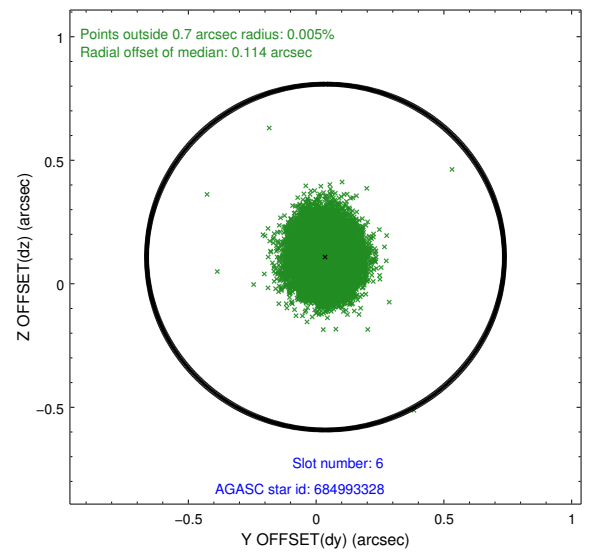
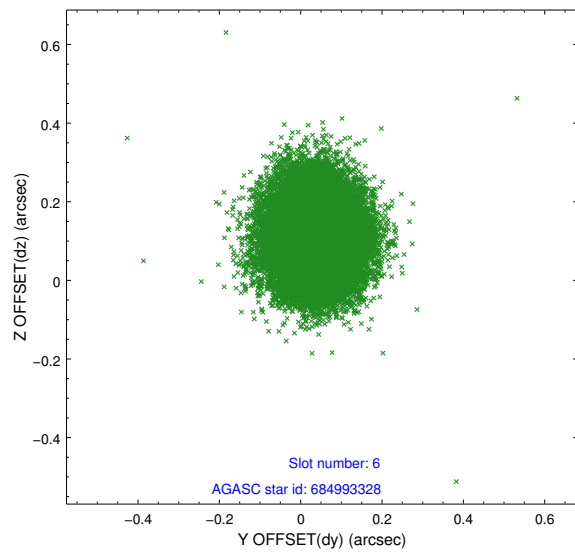
## 2.4.2 Slot 4



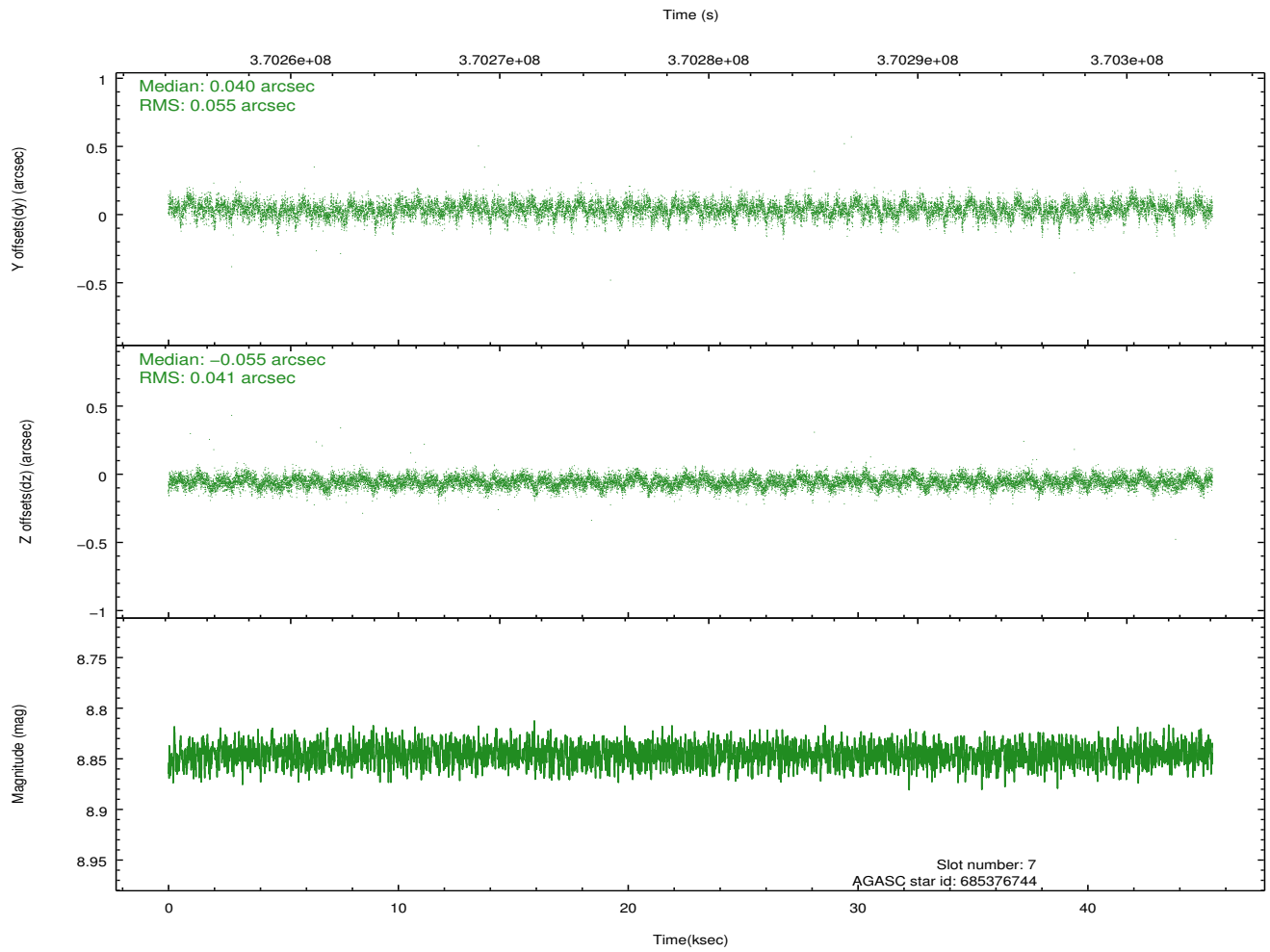
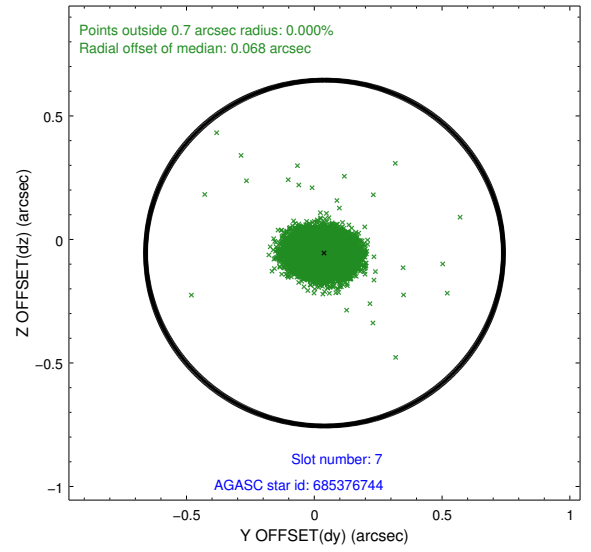
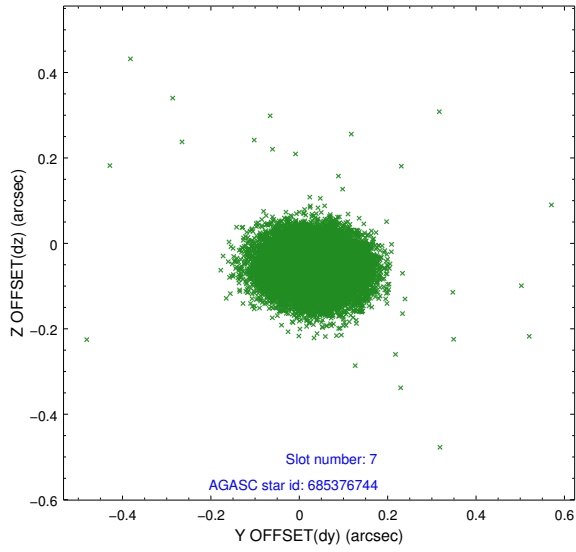
### 2.4.3 Slot 5



## 2.4.4 Slot 6

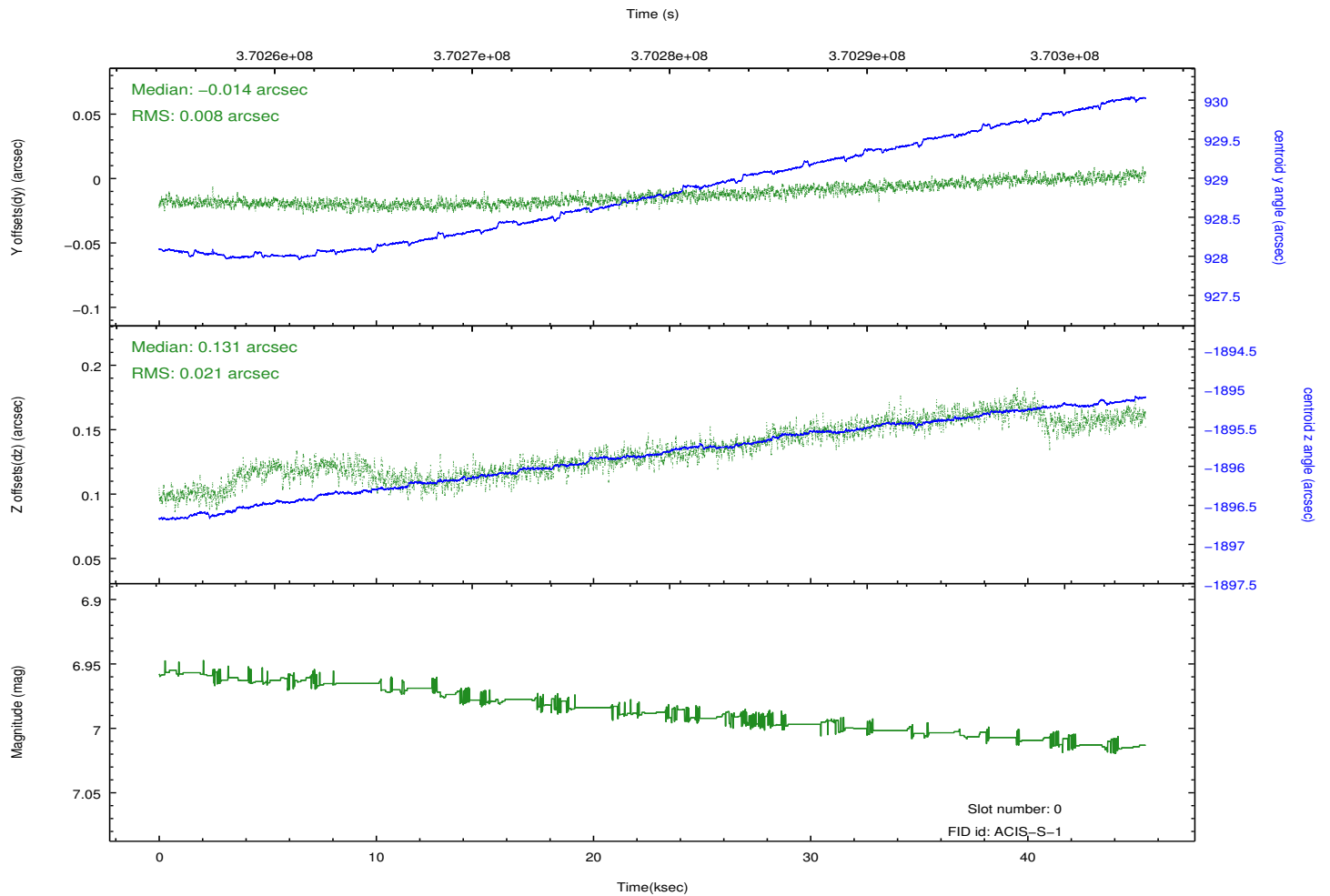
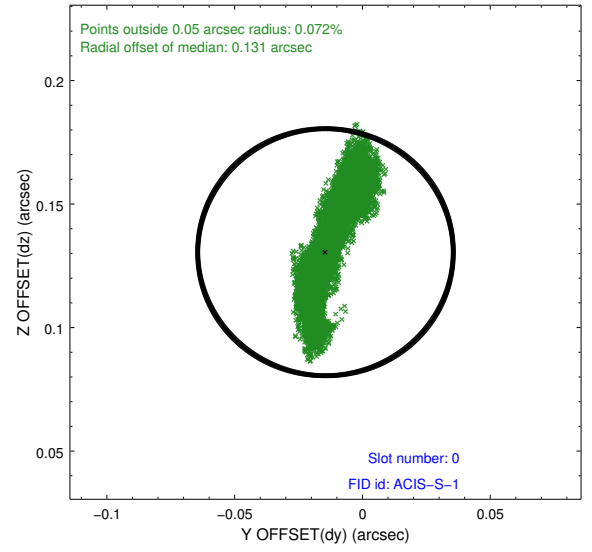
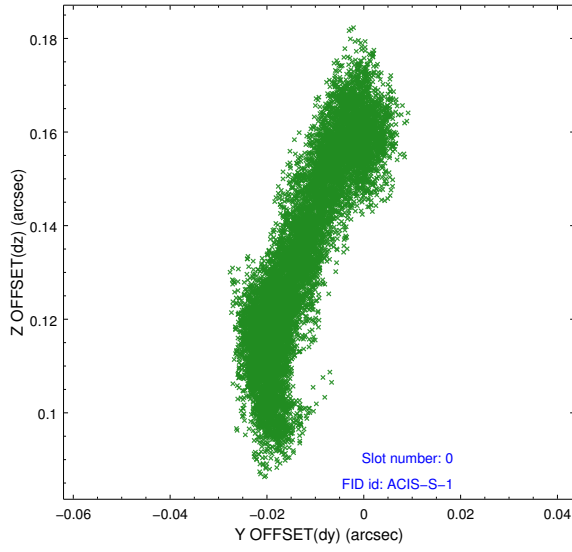


### 2.4.5 Slot 7

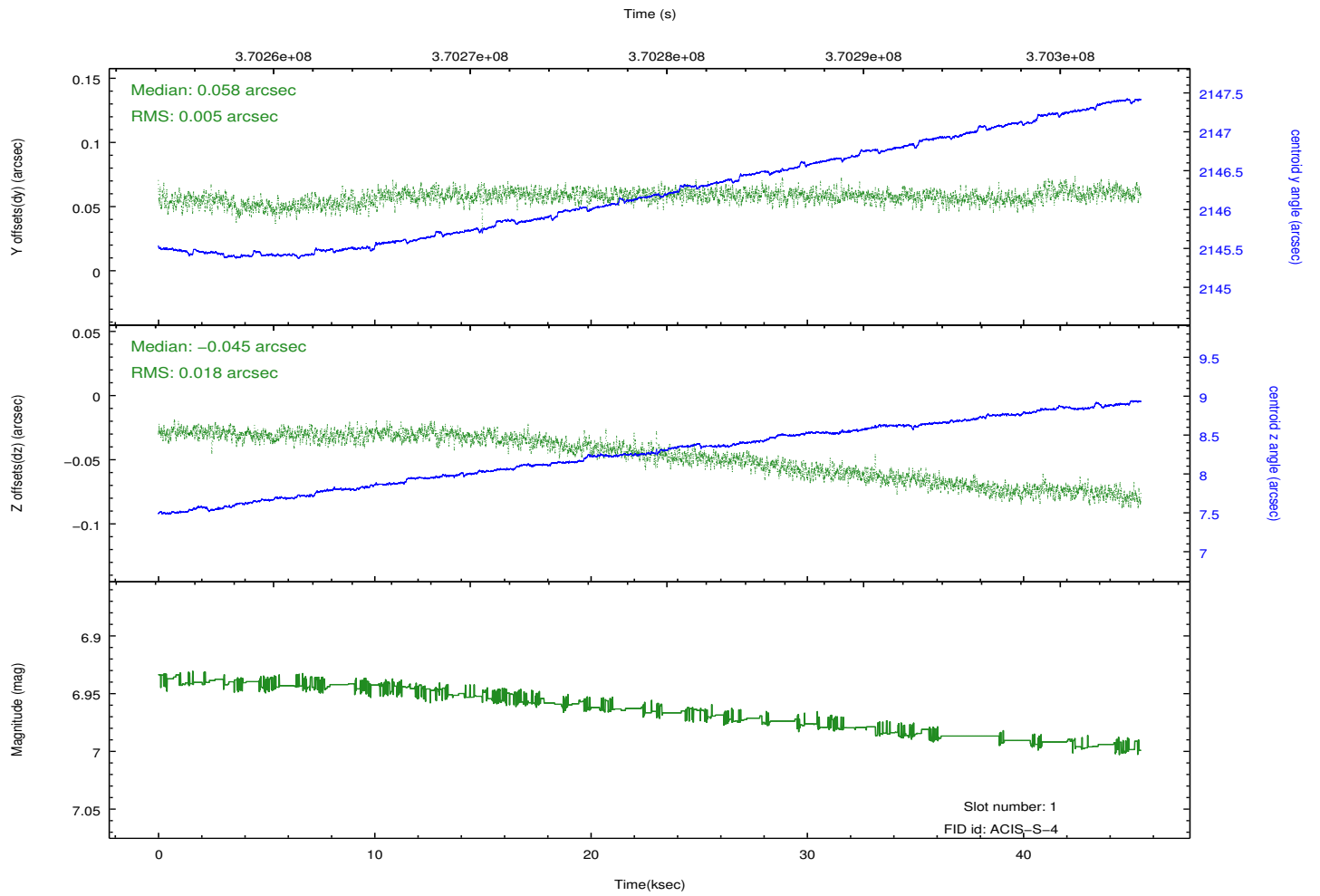
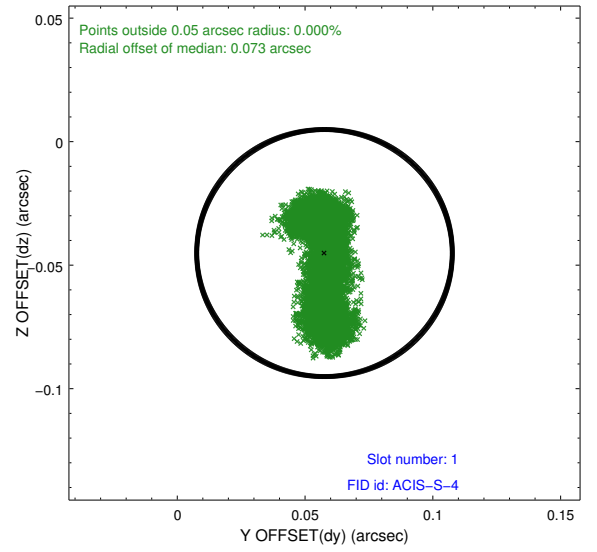
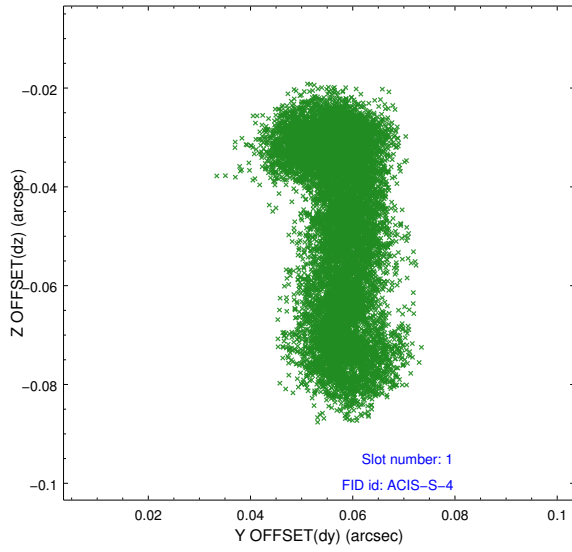


## 2.5 FID Slots

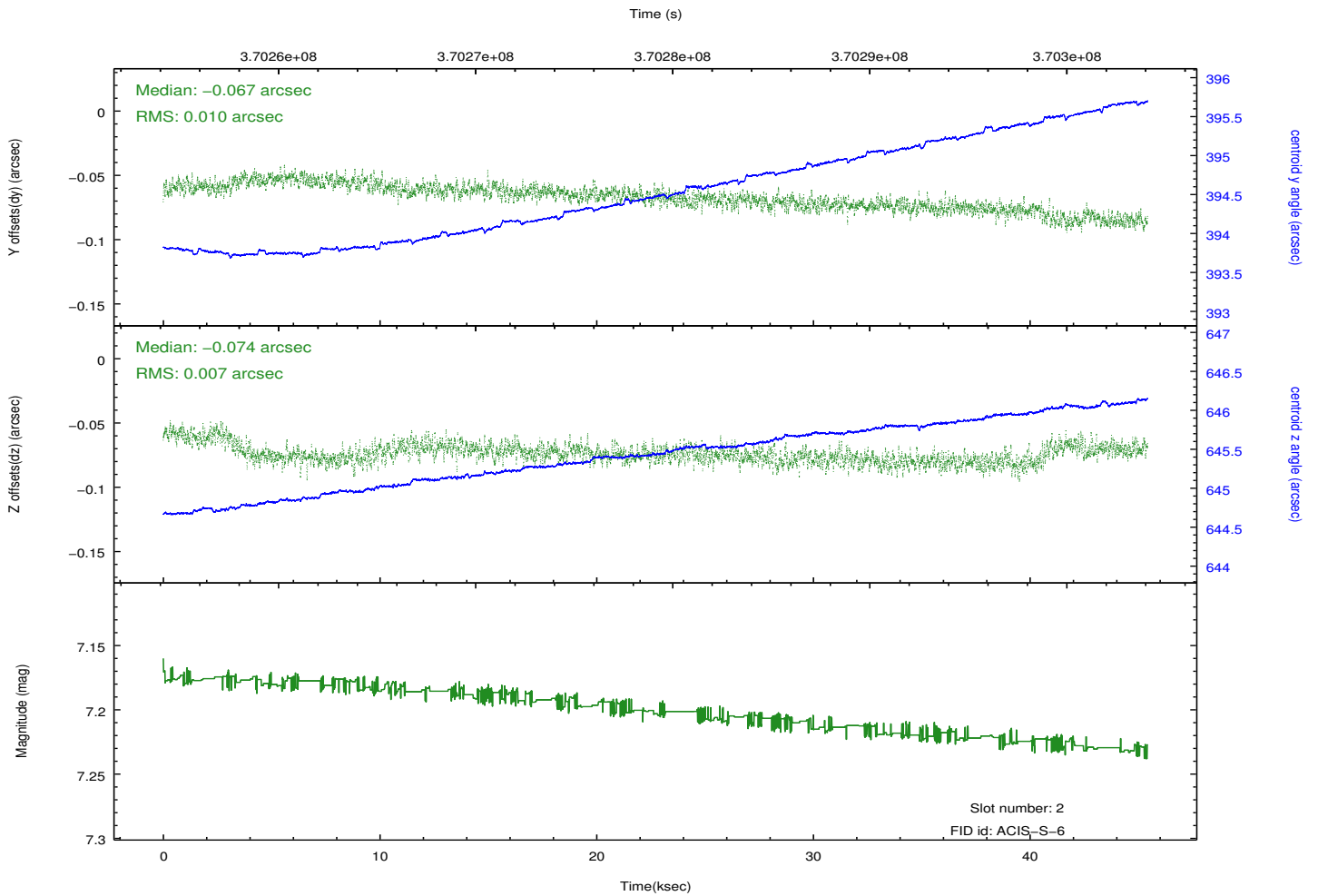
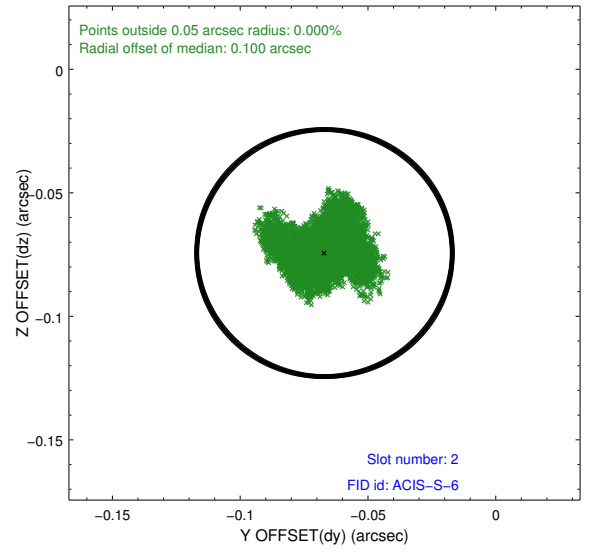
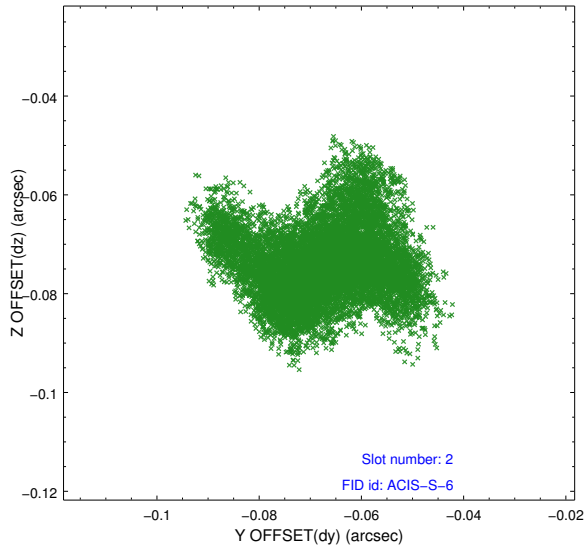
### 2.5.1 Slot 0



## 2.5.2 Slot 1

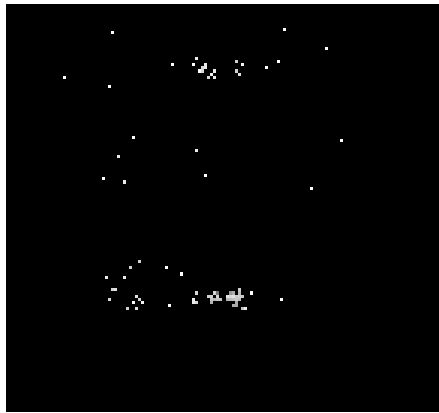


### 2.5.3 Slot 2

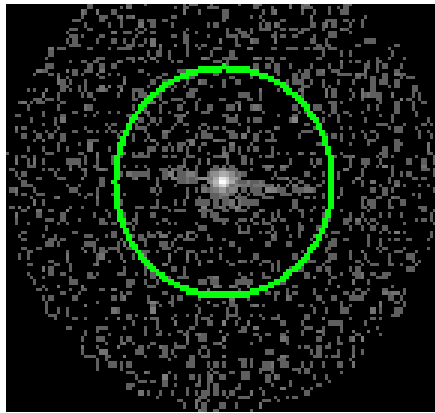


### 3 Gratings

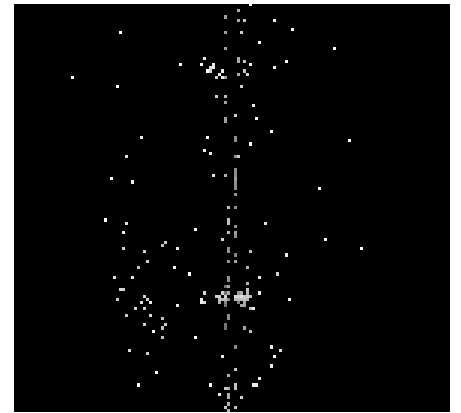
#### 3.1 LETG Arm



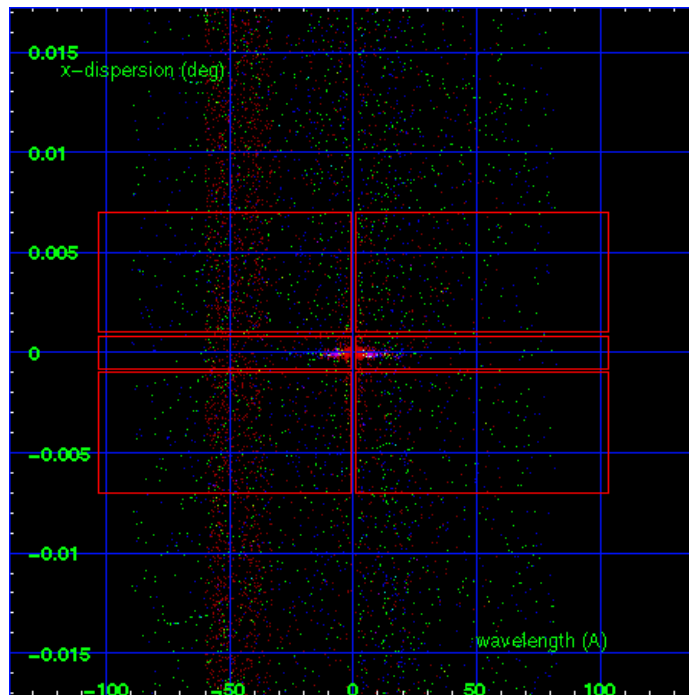
LETG Order Sort 123



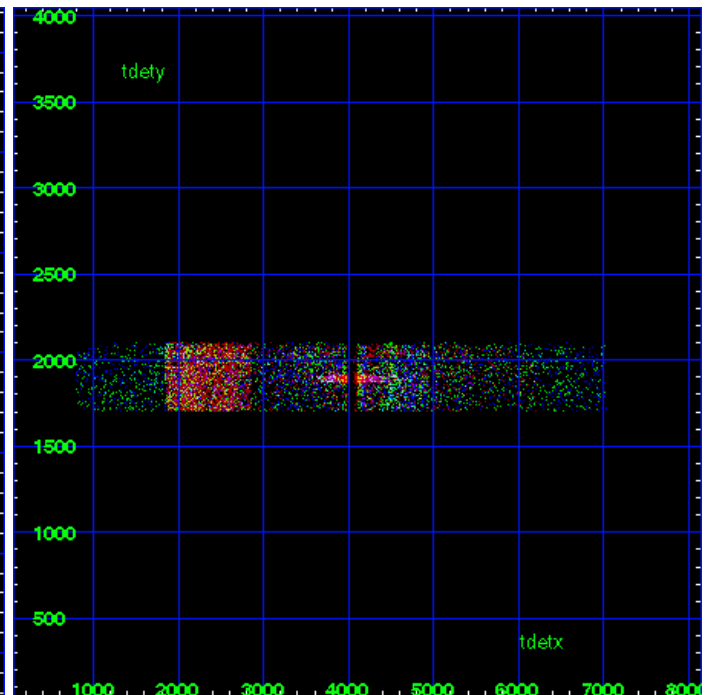
LETG Zero Order



LETG Order Sort ALL

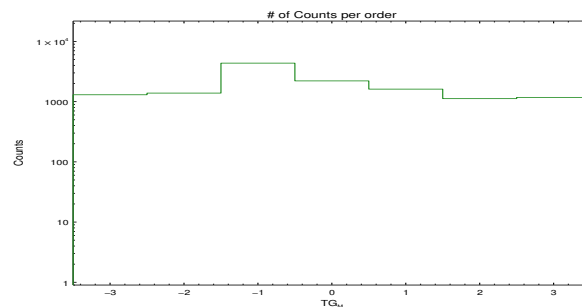


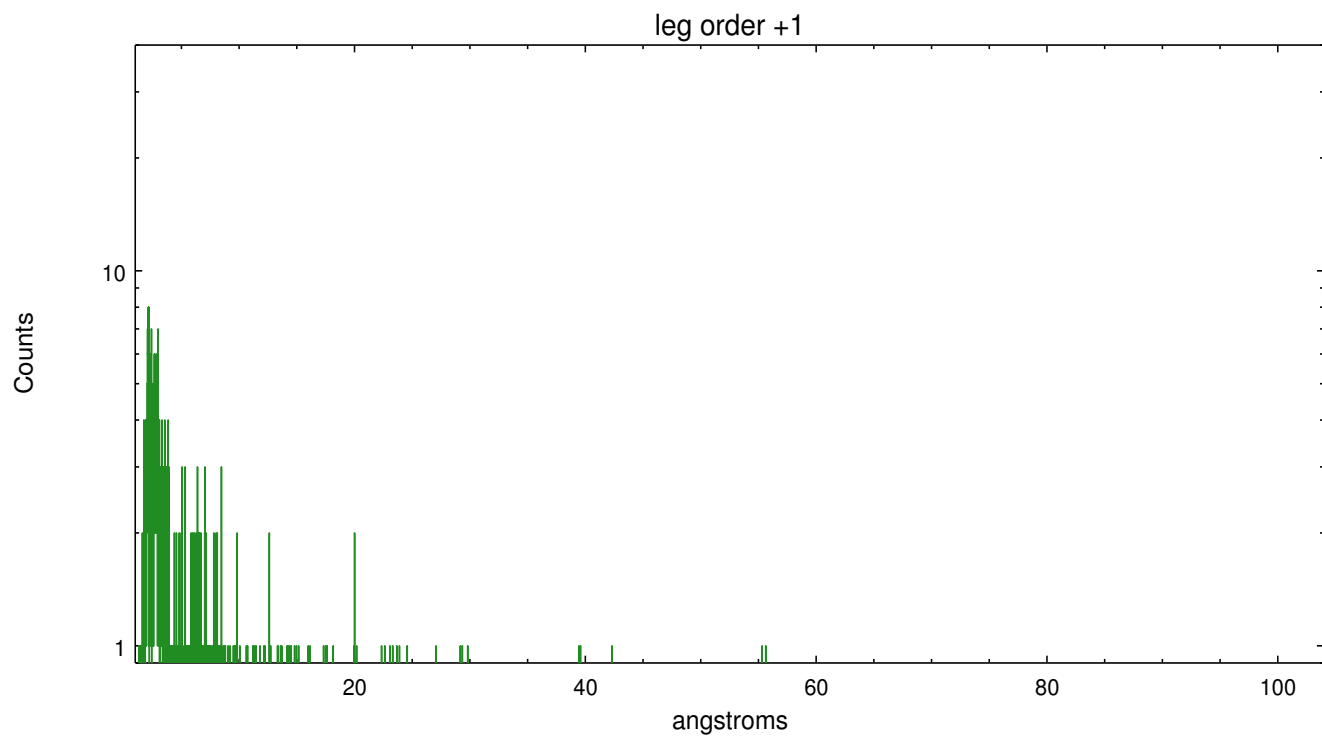
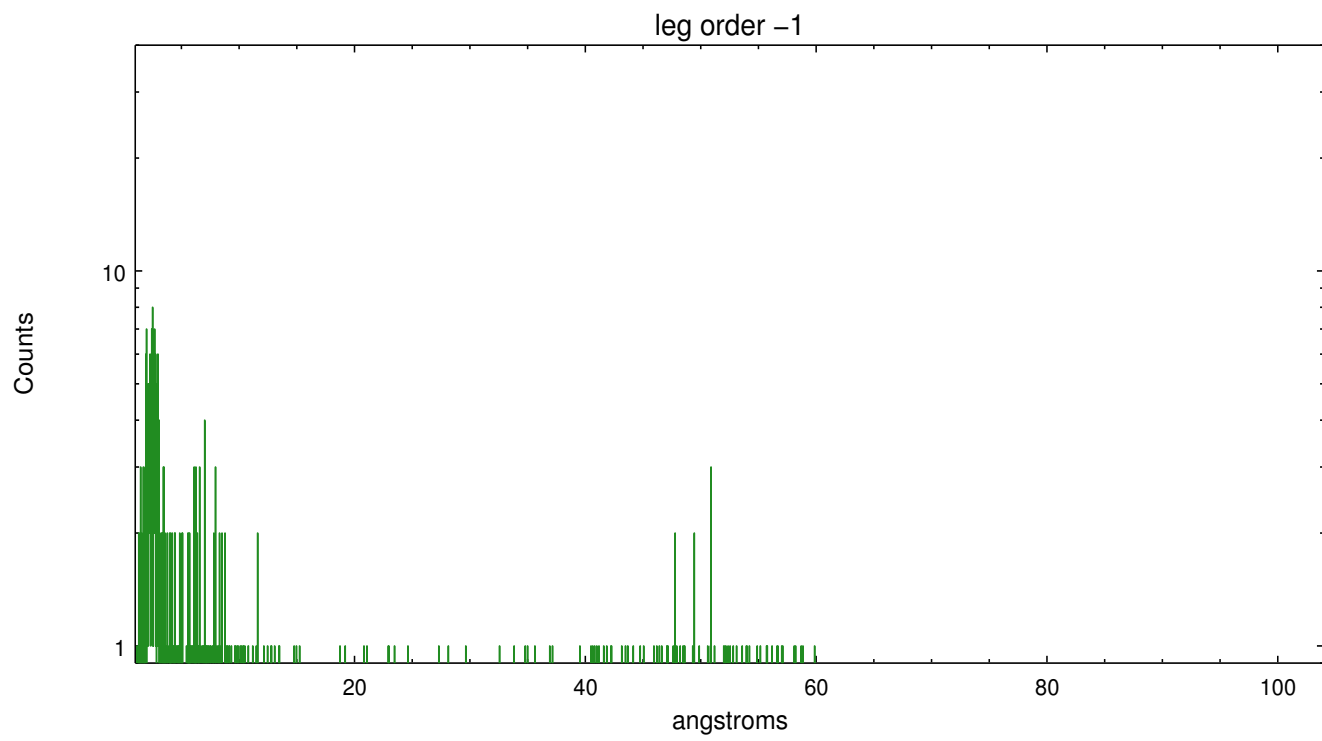
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1301	1386	4359	2211	1613	1122	1176





# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.06.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	43.945599836349

## A.2 Comments

Gain and CTI correction are not well calibrated on CCD\_ID 5 (ACIS-S1). Default order sorting can clip some regions, particularly longward of 30A (first order). User-specified custom processing parameters may be required in `tg_resolve_events` (`osipfile=None`, `osort_lo`, `osort_hi ~0.5`) though this can allow more zeroth order background at short wavelengths.