

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 11778 - L2 Version 2  
Chandra X-Ray Center

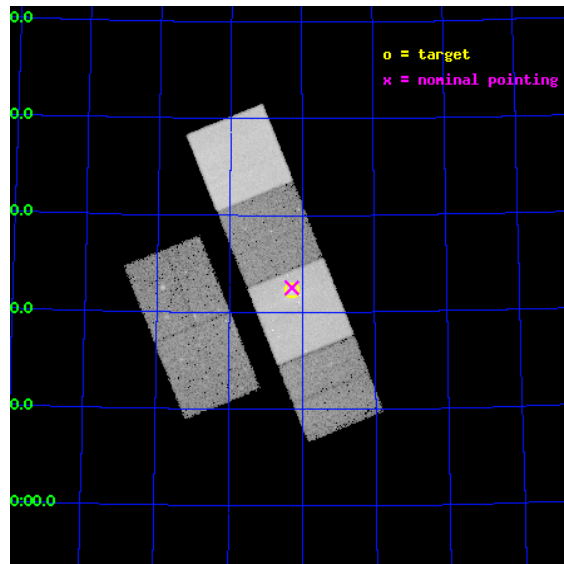
L2 Processing Date : Jul 8 2012

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# 1 Front

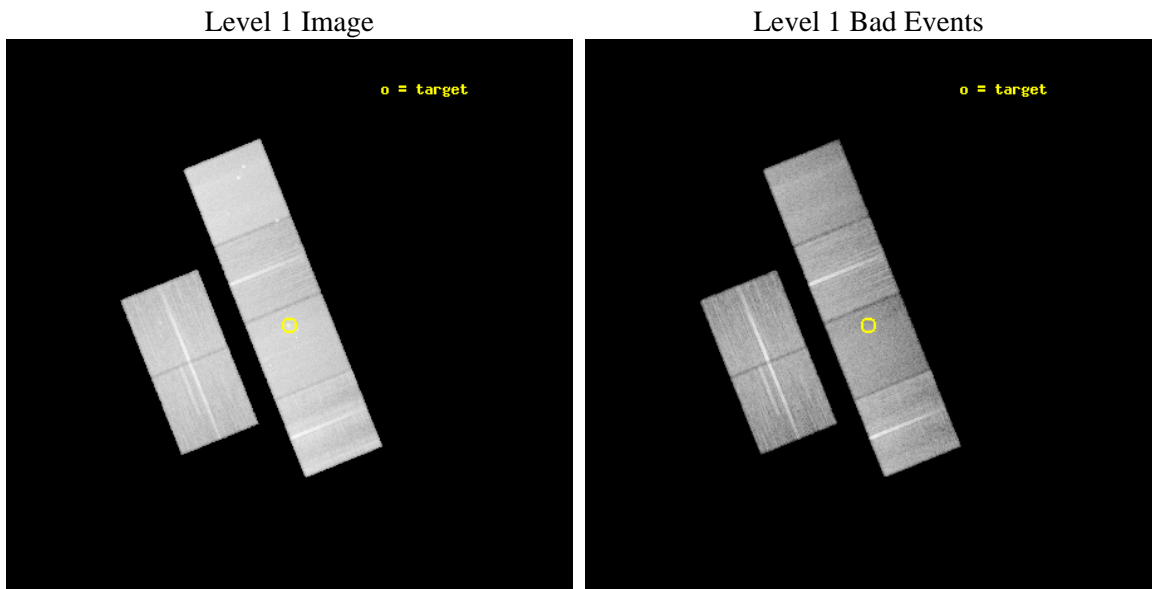
seq_num	900913	Sequence number
obs_id	11778	Observation id
title	COMBH: Chandra Observations of M-sigma Black Holes	Proposal title
observer	Dr. Kayhan Gultekin	Principal investigator
object	NGC4291	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	185.074167	Observer's specified target RA [deg]
dec_targ	75.370889	Observer's specified target Dec [deg]
ra_nom	185.07083602035	Nominal RA [deg]
dec_nom	75.375669263064	Nominal Dec [deg]
roll_nom	68.133434360352	Nominal Roll [deg]
revision	2	Processing version of data
ontime	30159.999887705	Sum of GTIs [s]
livetime	29778.095808955	Livetime [s]
ontime2	30159.999887705	Sum of GTIs [s]
ontime3	30159.999887705	Sum of GTIs [s]
ontime5	30159.999887705	Sum of GTIs [s]
ontime6	30156.758847535	Sum of GTIs [s]
ontime7	30159.999887705	Sum of GTIs [s]
ontime8	30159.999887705	Sum of GTIs [s]
l2events	360049	Number of level 2 events



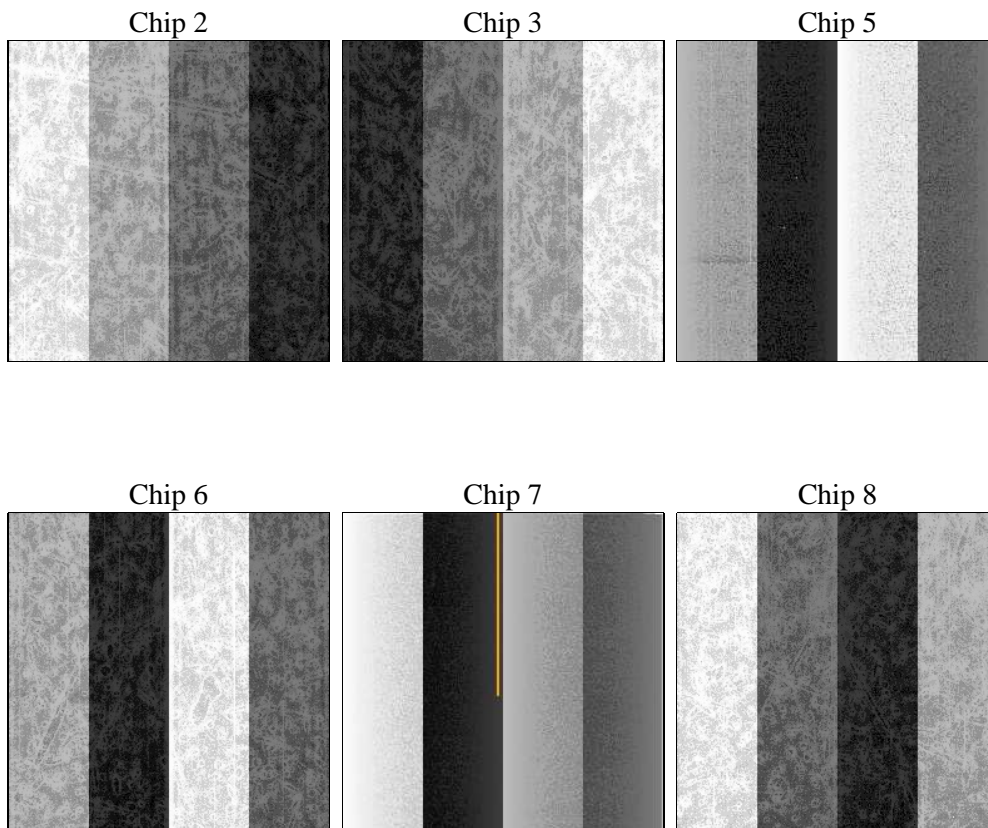
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30116.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	30159.999887705	Sum of GTIs [s]
caldbver	4.5.0	&#160	ontime2	30159.999887705	Sum of GTIs [s]
date	2012-07-08T05:19:27	Date and time of file creation	ontime3	30159.999887705	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	30159.999887705	Sum of GTIs [s]
			ontime6	30156.758847535	Sum of GTIs [s]
			ontime7	30159.999887705	Sum of GTIs [s]
			ontime8	30159.999887705	Sum of GTIs [s]
			l1events	1541473	Number of level 1 events

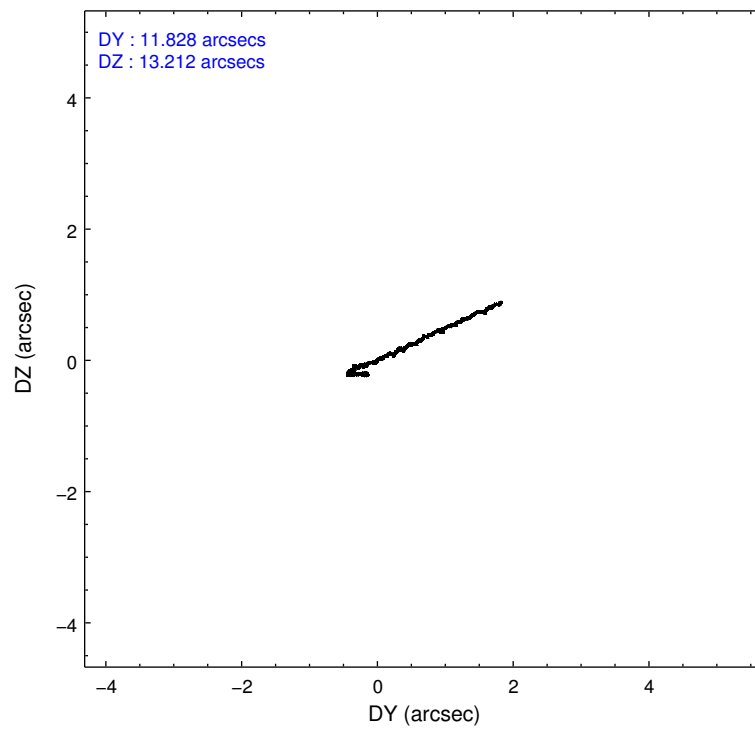
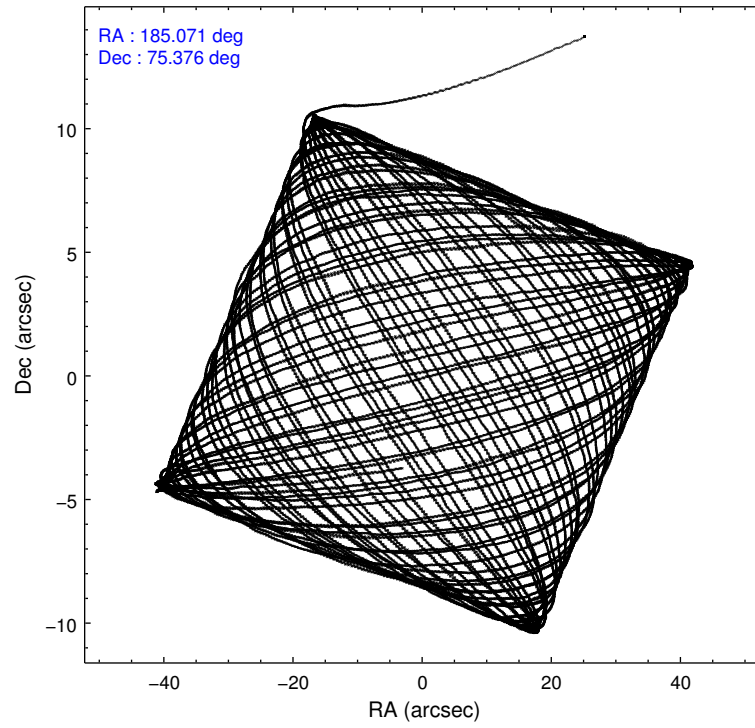
### 2.1.4 Events

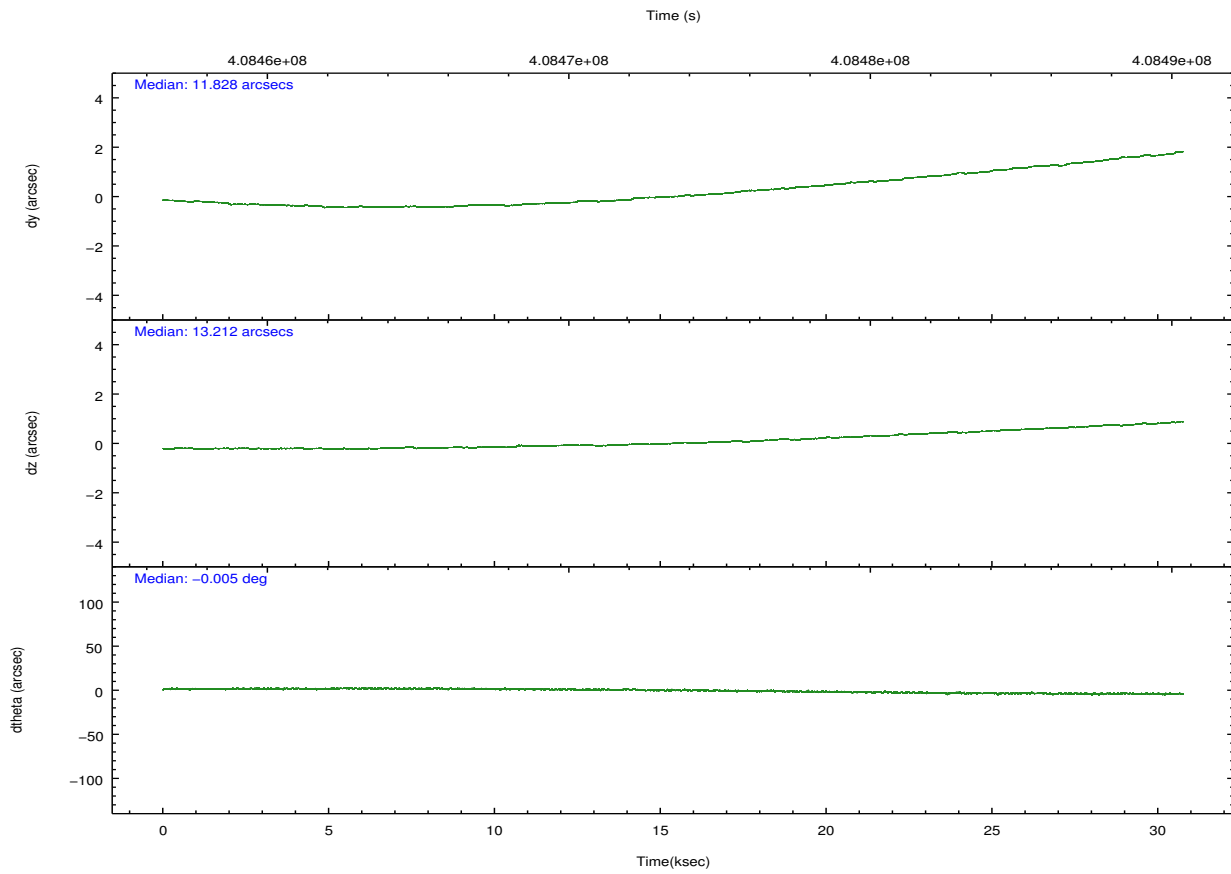
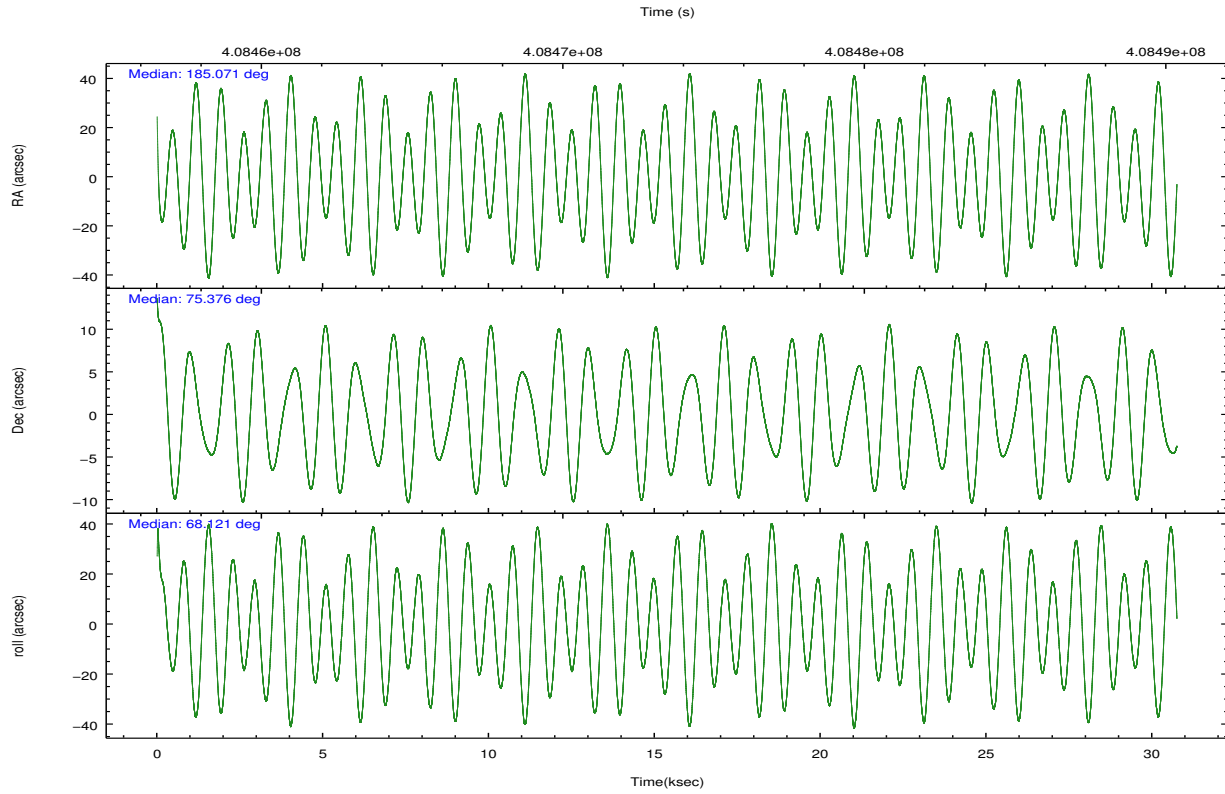
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	226360	208631	325301	227402	274250	279529	grade 0 events	8724	8215	11401	9217	13060	20329
rejected events	202467	186206	168009	202083	148052	208805		3%	3%	3%	4%	4%	7%
rejected %	89%	89%	51%	88%	53%	74%	grade 1 events	132	117	600	105	342	228
								0%	0%	0%	0%	0%	0%
							grade 2 events	5725	4754	48086	5570	26244	17226
								2%	2%	14%	2%	9%	6%
							grade 3 events	2454	2472	6036	2588	11114	7153
								1%	1%	1%	1%	4%	2%
							grade 4 events	2432	2484	5820	2481	11258	6933
								1%	1%	1%	1%	4%	2%
							grade 5 events	8800	9793	24823	9760	27905	14474
								3%	4%	7%	4%	10%	5%
							grade 6 events	4561	4503	85989	5470	64552	19087
								2%	2%	26%	2%	23%	6%
							grade 7 events	193532	176293	142546	192211	119775	194099
								85%	84%	43%	84%	43%	69%

## 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	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	185.087659	185.0708360203493	CCD I2 on	O1	Y
[deg] Pointing Dec	75.348646	75.37566926306425	CCD I3 on	O2	Y
[deg] Pointing Roll	67.960509	68.13343436035215	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	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	Y	Y
[s] Observation start time (MET)	408458724.184000	408457325.76874	CCD S5 on	N	N
Observation start date	2010-12-11T12:44:18	2010-12-11T12:22:05	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	408488840.184000	408489501.5454	On-chip summing requested	N	N
Observation end date	2010-12-11T21:06:14	2010-12-11T21:18:21	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



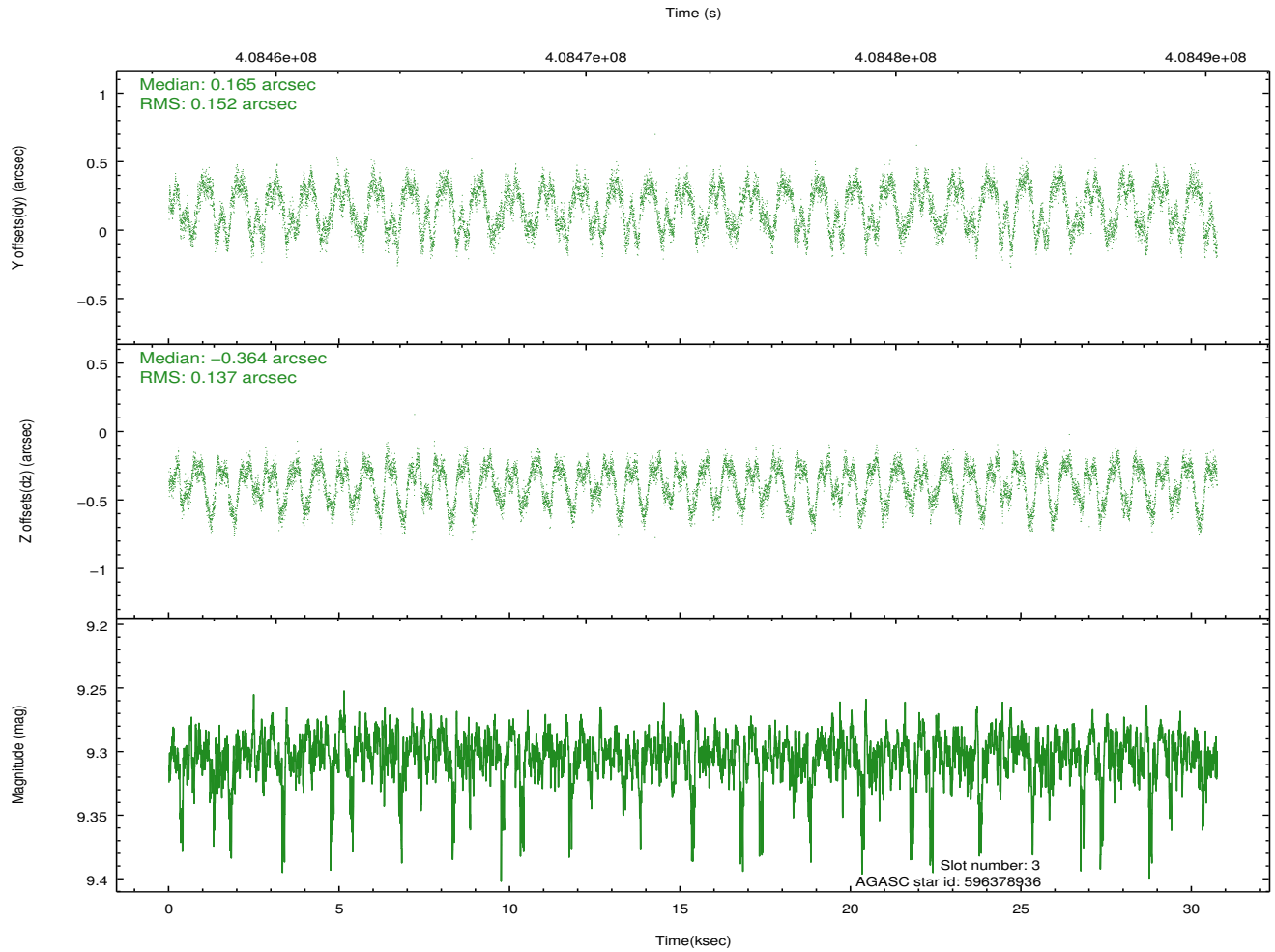
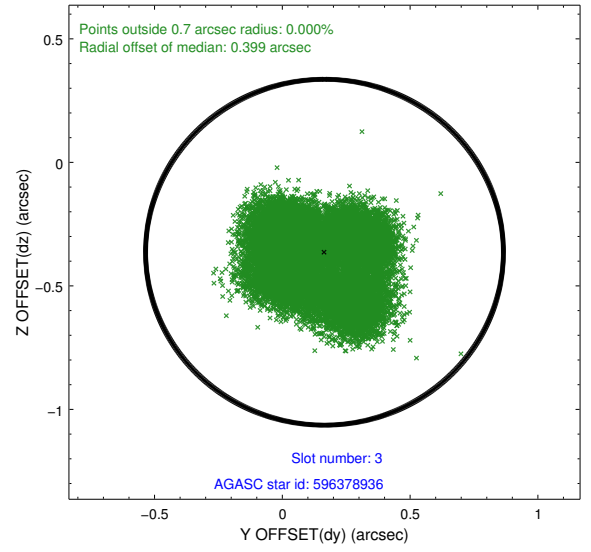
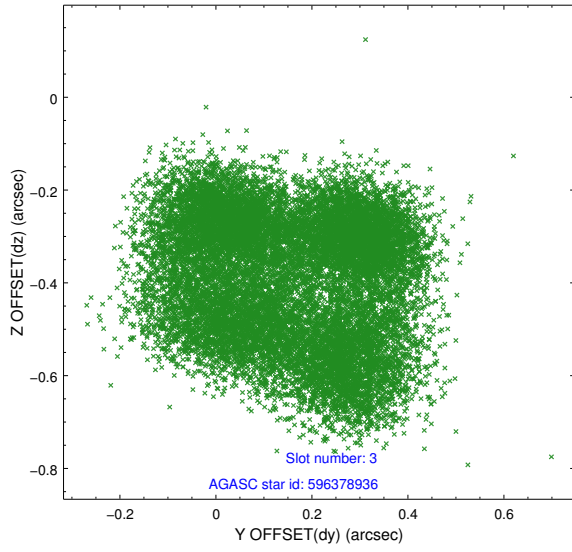


### Slot Statistics

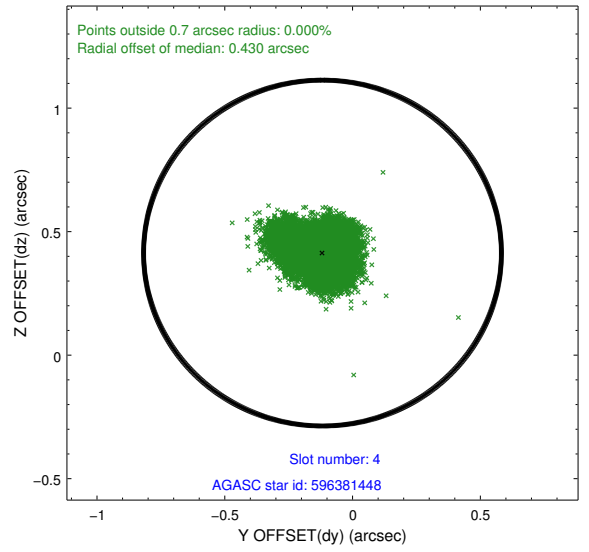
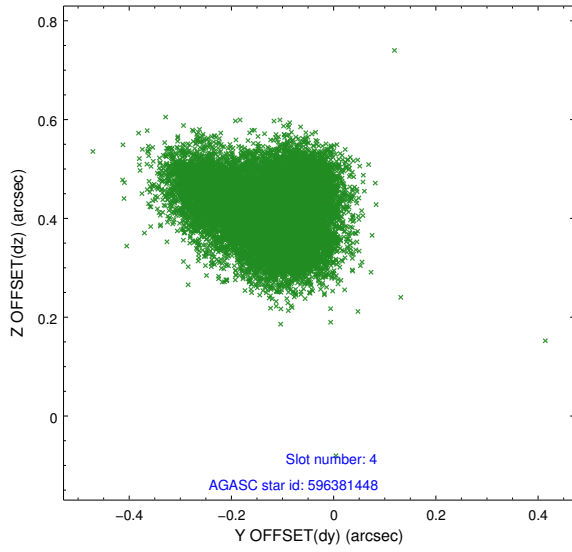
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.11	7500	0.091	-0.050	0.011	0.018	0.000000	0.000000	931.12	-1730.36
1	FID	ACIS-S-5	7.15	7500	-0.140	0.065	0.015	0.036	0.000000	0.000000	-1818.05	167.27
2	FID	ACIS-S-6	7.25	7498	0.027	-0.004	0.012	0.035	0.000000	0.000000	396.57	811.21
3	GUIDE	596378936	9.30	14987	0.165	-0.364	0.225	0.319	185.905753	75.866397	2002.71	34.61
4	GUIDE	596381448	8.91	14994	-0.118	0.413	0.104	0.172	185.933965	75.716074	1513.58	-197.78
5	GUIDE	596390232	7.68	14999	-0.101	0.120	0.105	0.158	186.553365	75.719145	1740.21	-699.36
6	GUIDE	596390528	8.50	14987	0.061	-0.181	0.114	0.177	182.486166	75.447786	-504.31	2333.87
7	GUIDE	596518520	9.73	14978	0.012	0.046	0.167	0.272	188.587021	75.641341	2234.95	-2463.64

## 2.4 Star Slots

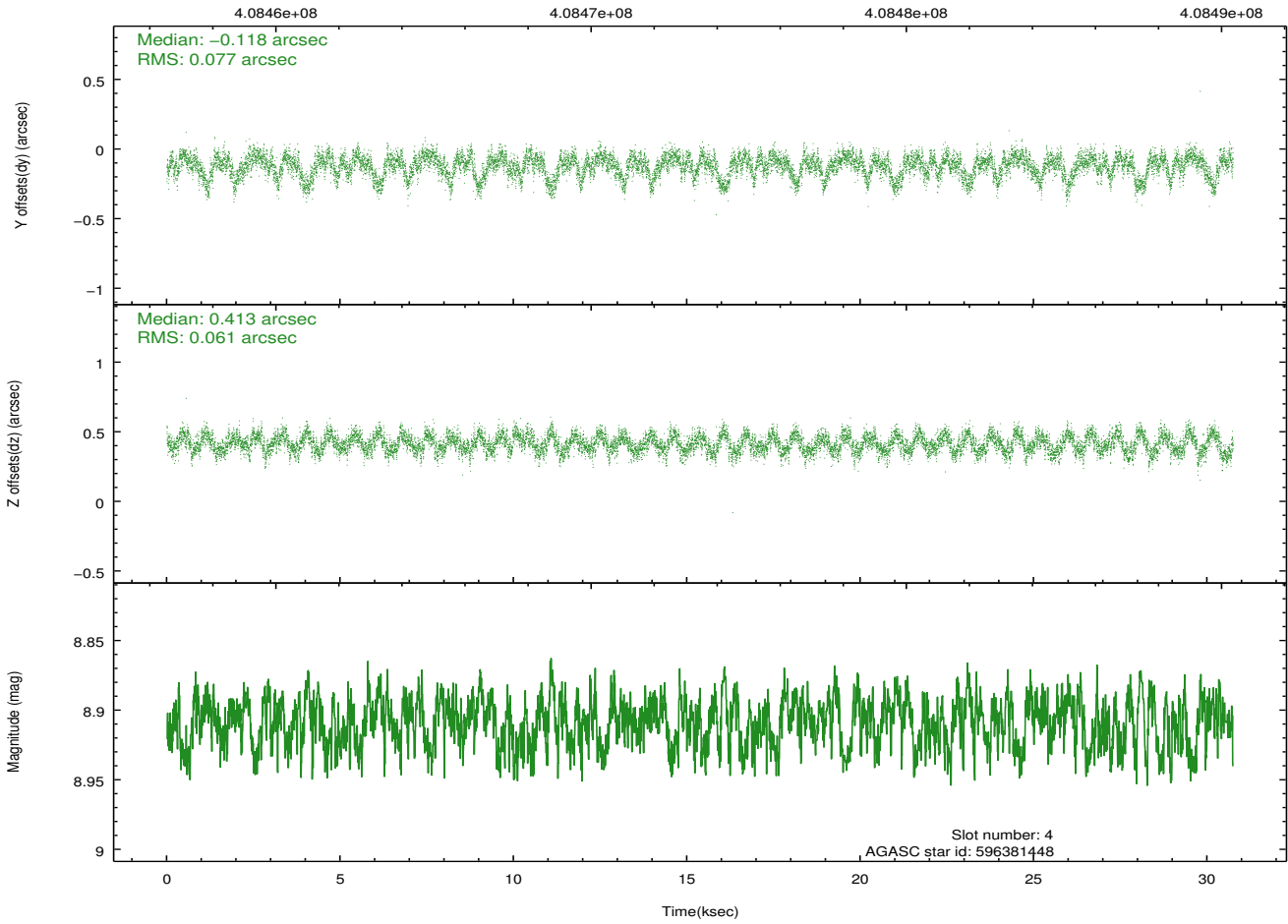
### 2.4.1 Slot 3



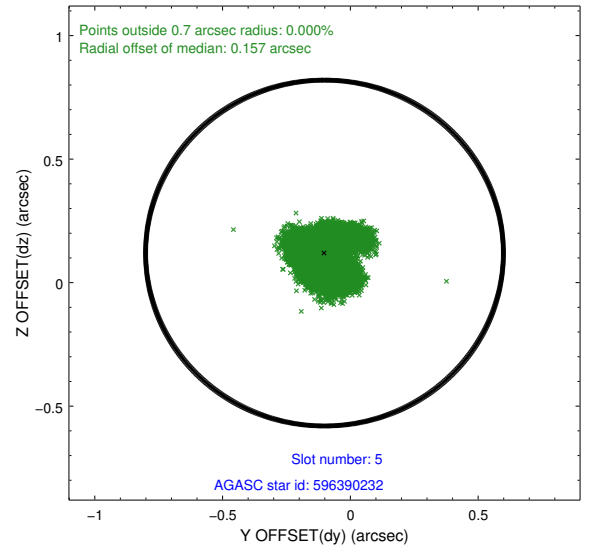
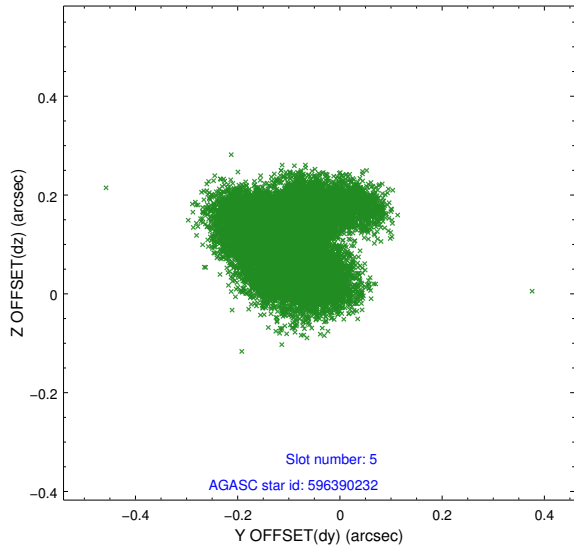
### 2.4.2 Slot 4



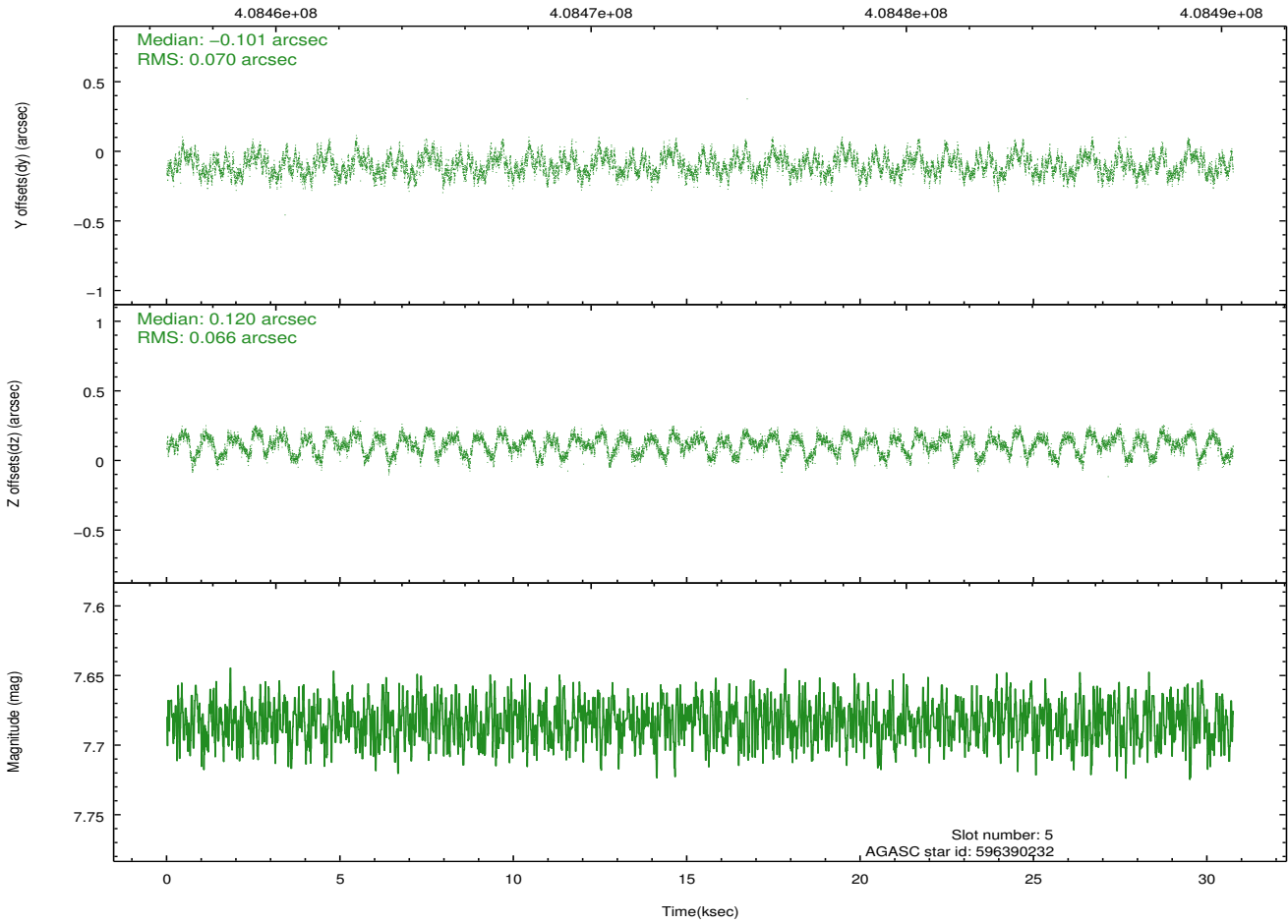
Time (s)



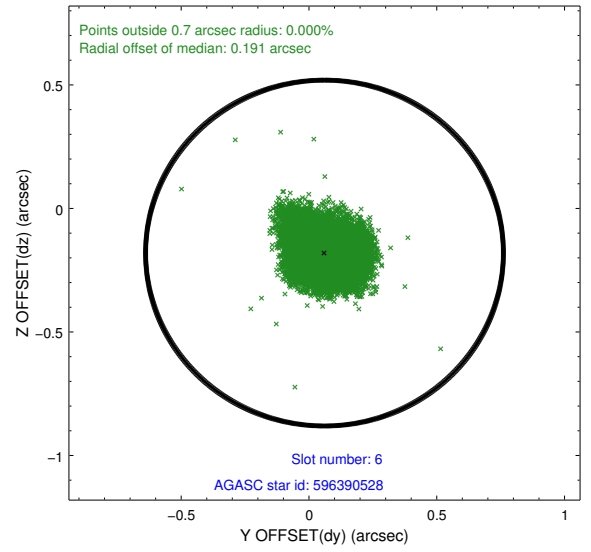
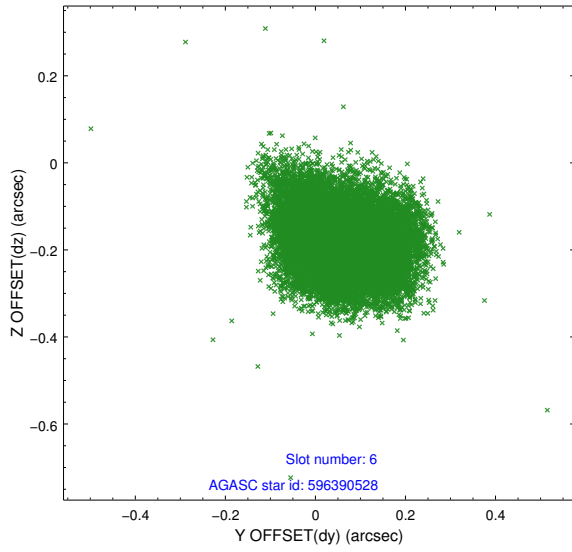
### 2.4.3 Slot 5



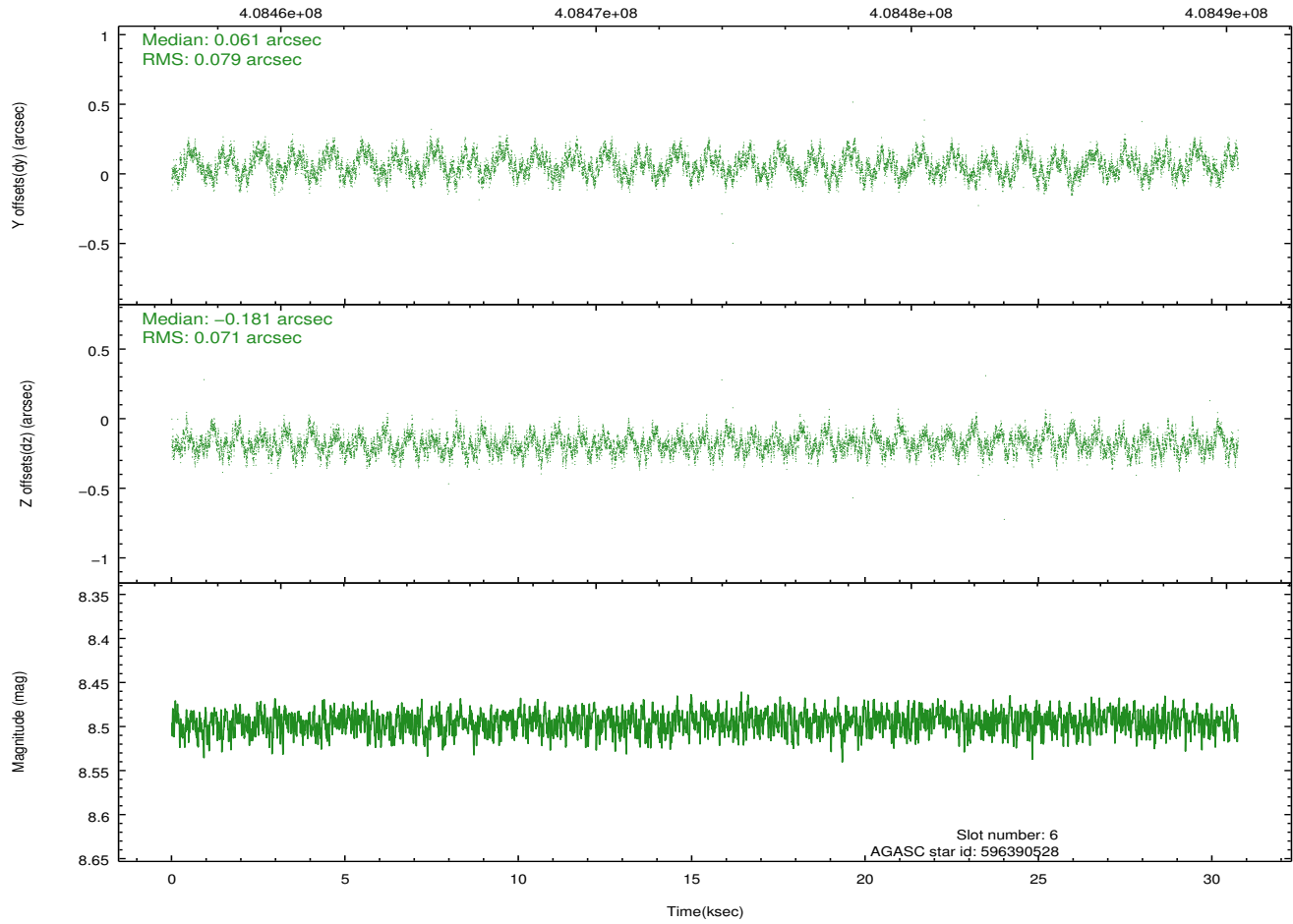
Time (s)



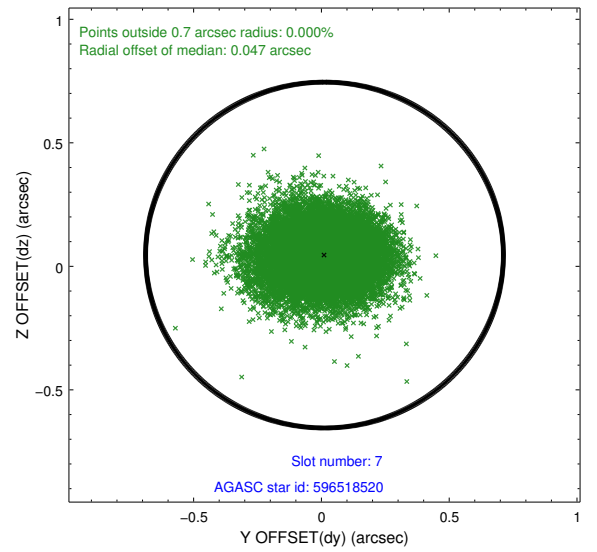
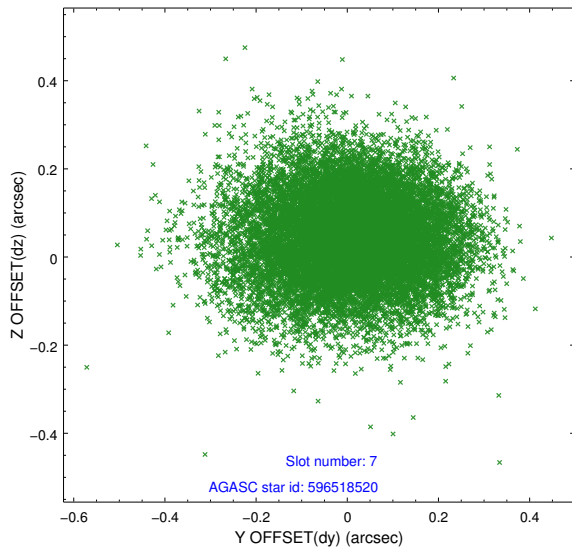
### 2.4.4 Slot 6



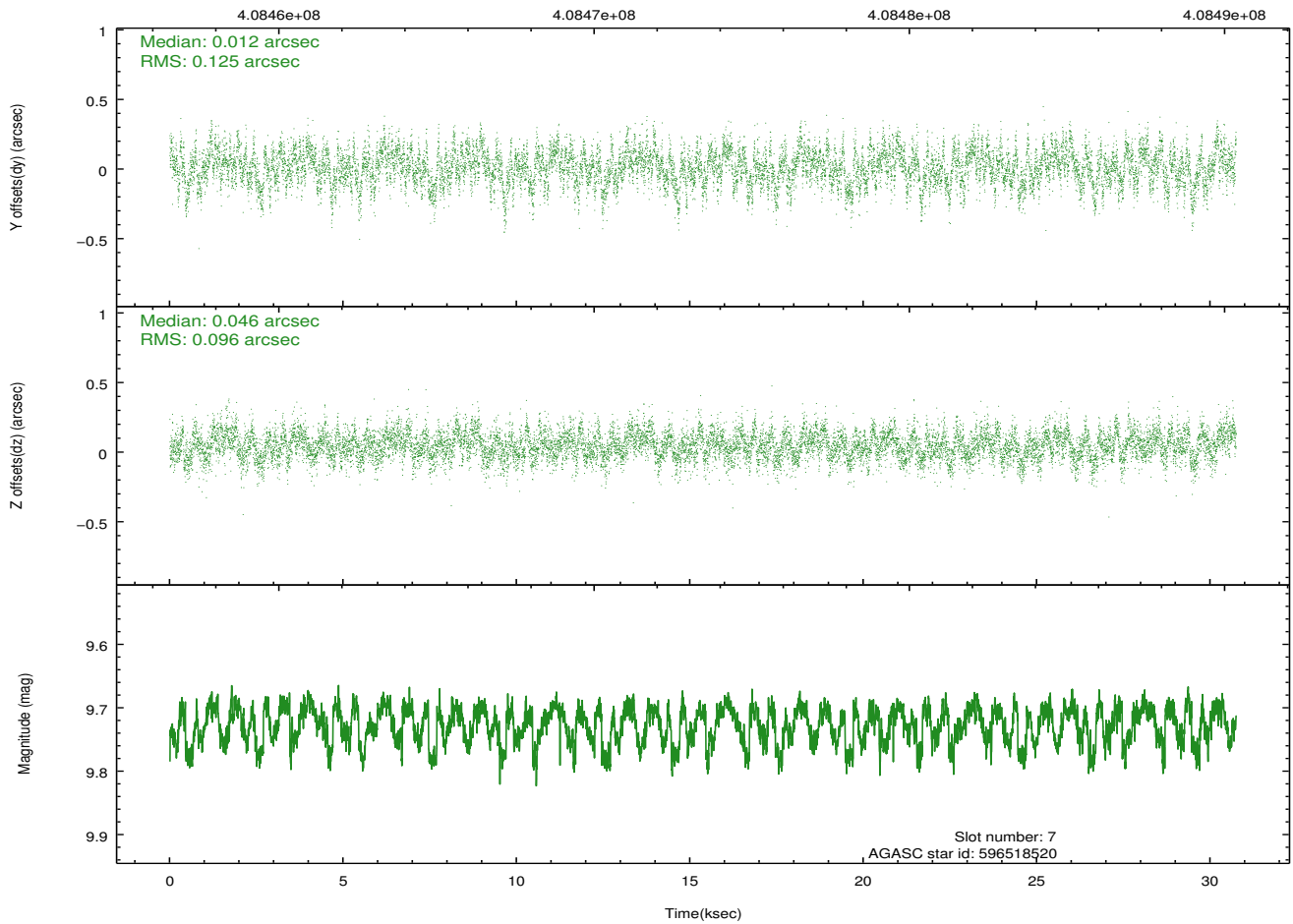
Time (s)



## 2.4.5 Slot 7

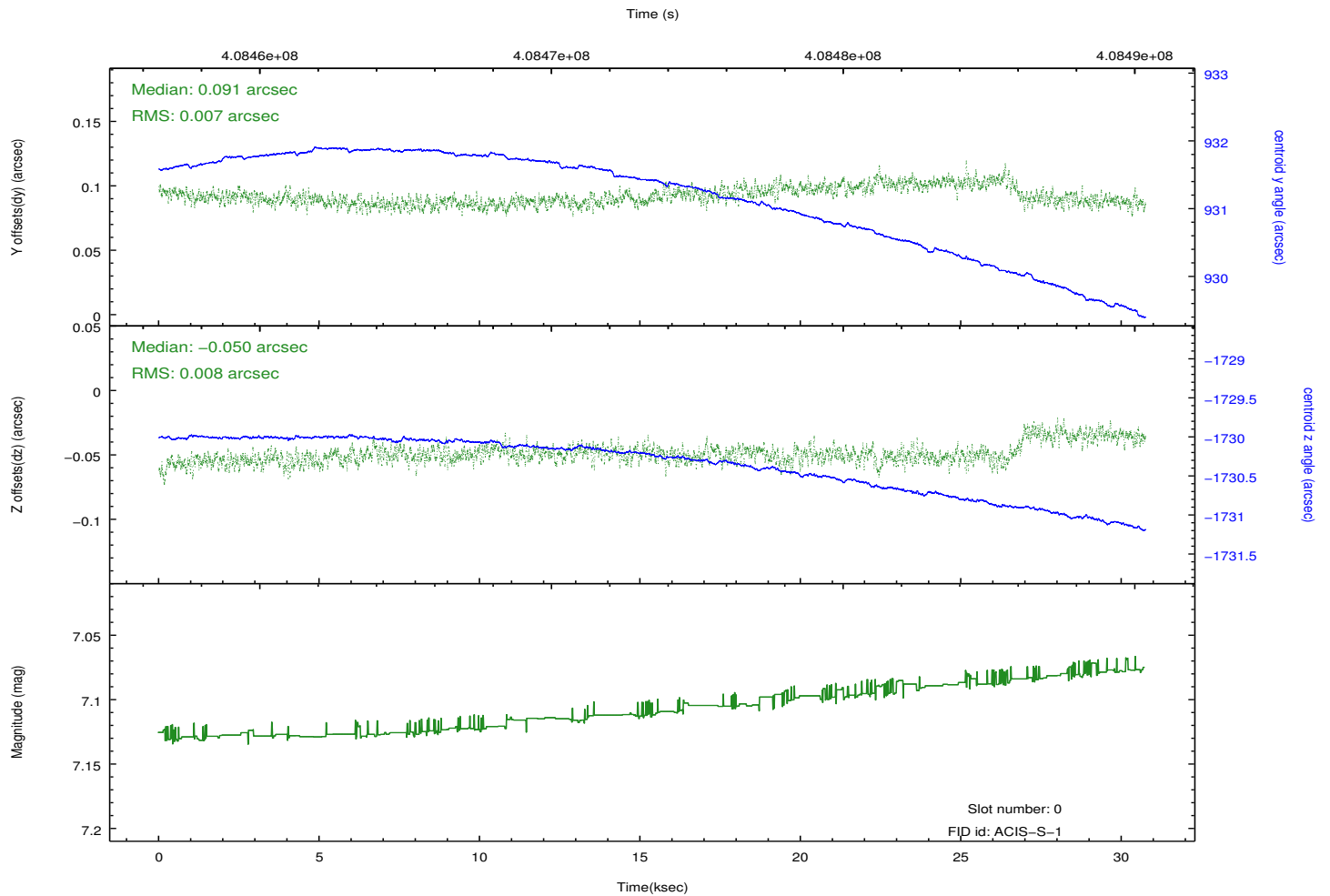
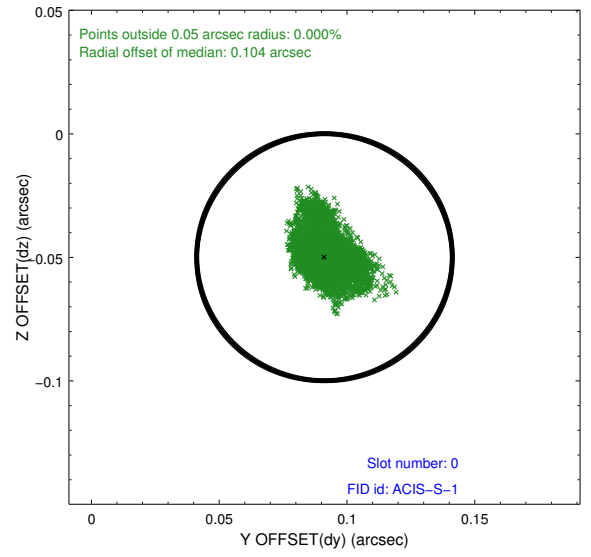
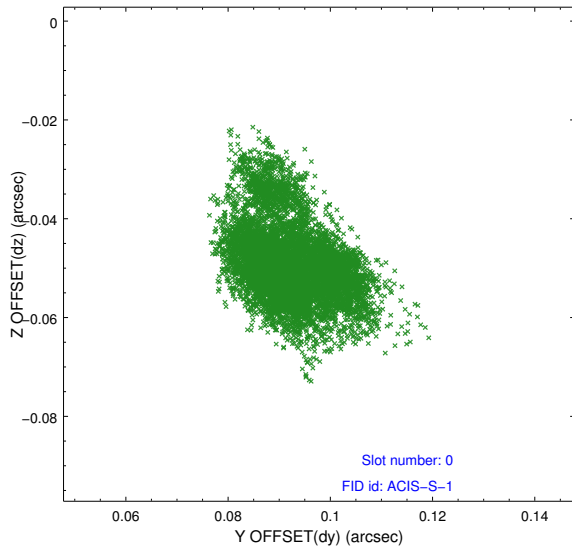


Time (s)

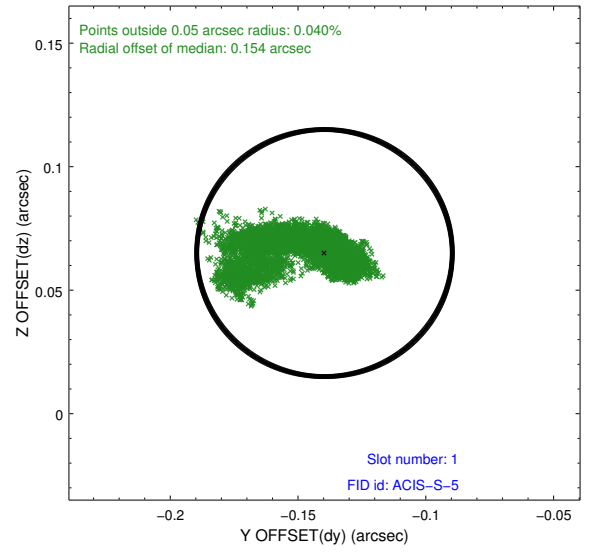
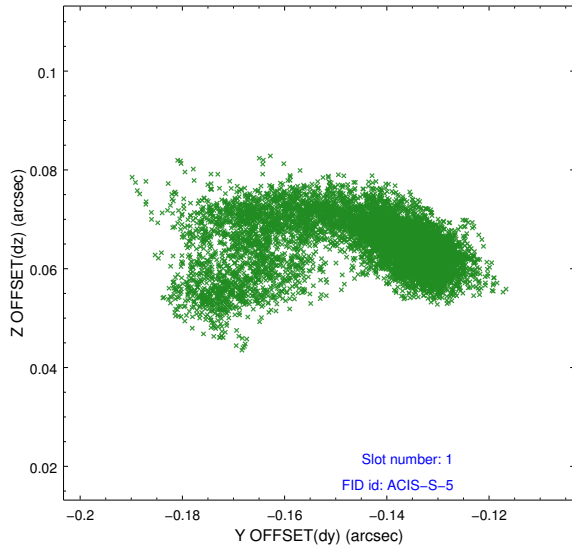


## 2.5 FID Slots

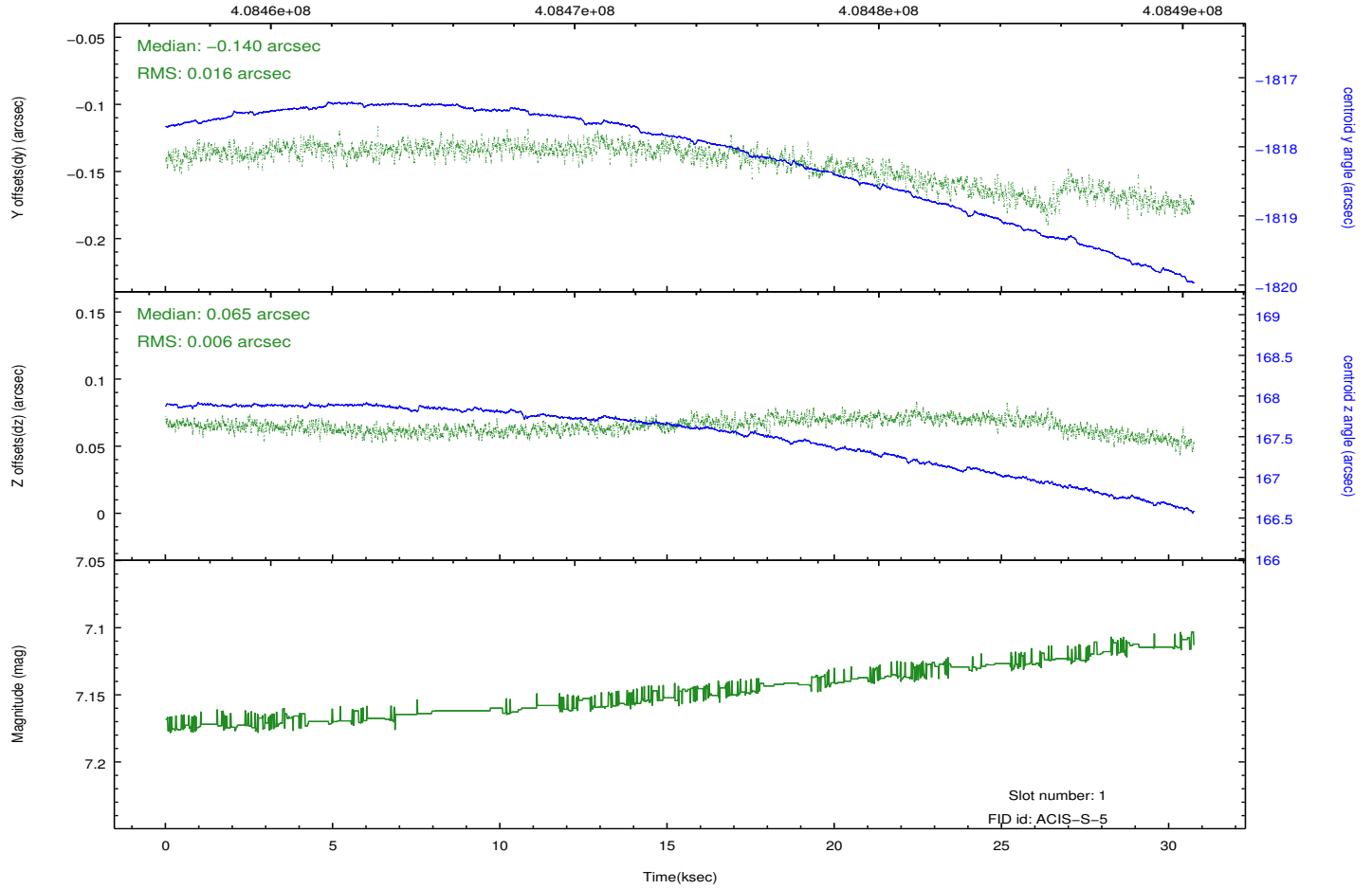
### 2.5.1 Slot 0



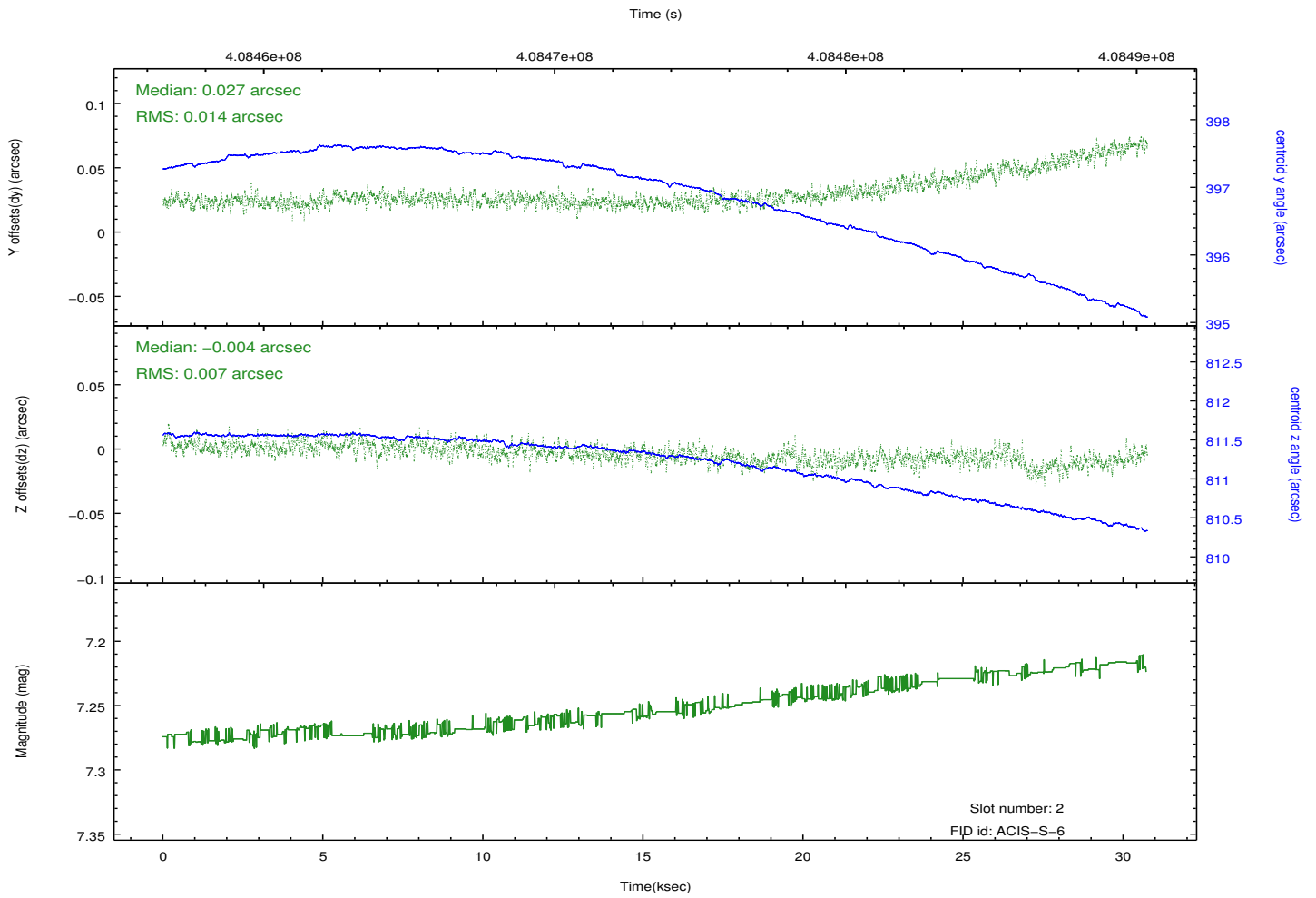
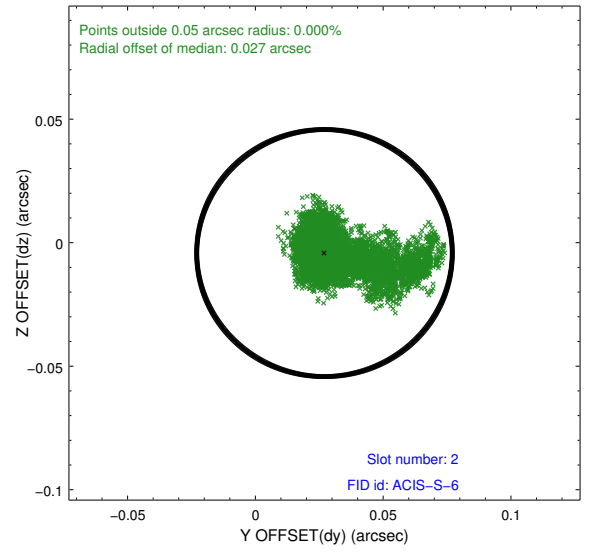
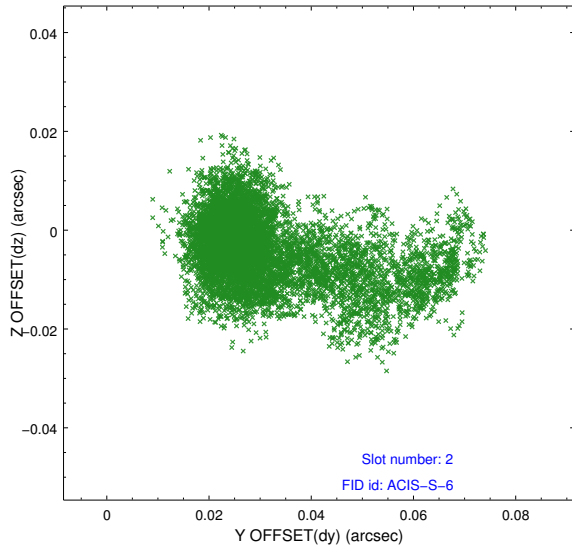
## 2.5.2 Slot 1



Time (s)



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2012.07.17
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.159999887705

## A.2 Comments

Joint proposal with NRAO.