V&V Reference Report
L2 ASCDS Version : 8.5.1.1

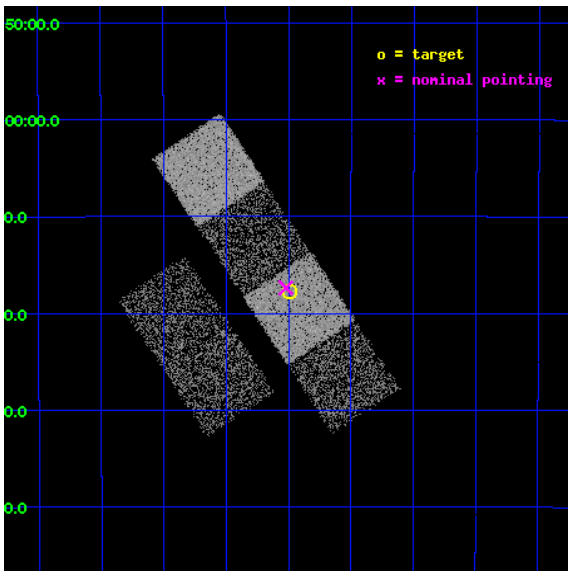
Observation 5391 - L2 Version 4
Chandra X-Ray Center

L2 Processing Date : Mar 7 2013

Contents

1 Front

seq_num	200326	Sequence number
obs_id	5391	Observation id
title	The puzzle of X-ray emission from magnetic stars without convective envelopes	Proposal title
observer	Prof. Jurgen Schmitt	Principal investigator
object	HD 12767	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	31.1225	Observer's specified target RA [deg]
dec_targ	-29.296806	Observer's specified target Dec [deg]
ra_nom	31.130246468627	Nominal RA [deg]
dec_nom	-29.289642148825	Nominal Dec [deg]
roll_nom	56.388227490052	Nominal Roll [deg]
revision	4	Processing version of data
ontime	2959.9999889731	Sum of GTIs [s]
livetime	2922.5186868147	Livetime [s]
ontime2	2959.9999889731	Sum of GTIs [s]
ontime3	2959.9929396808	Sum of GTIs [s]
ontime5	2959.9999889731	Sum of GTIs [s]
ontime6	2959.9999889731	Sum of GTIs [s]
ontime7	2959.9999889731	Sum of GTIs [s]
ontime8	2959.9518997073	Sum of GTIs [s]
l2events	33077	Number of level 2 events

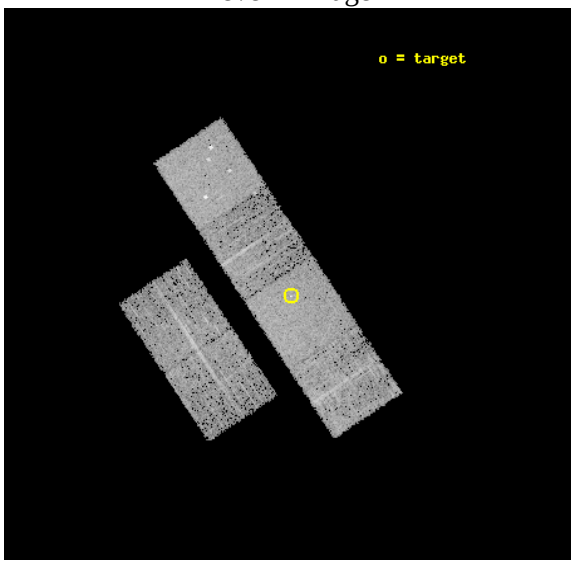


2 OBI

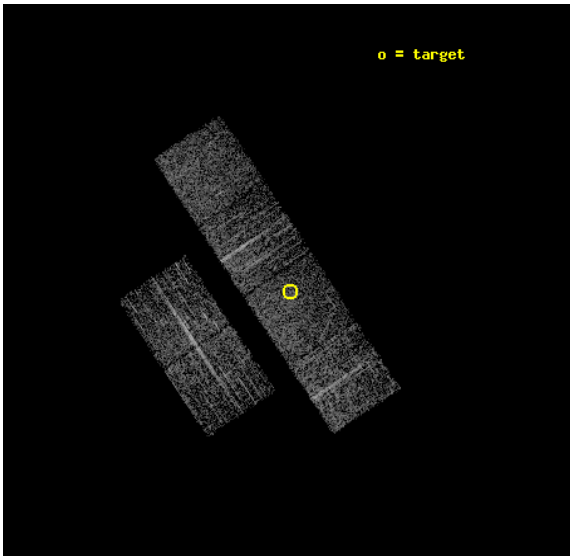
2.1 OBI

2.1.1 Images

Level 1 Image

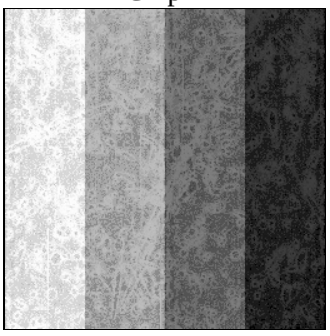


Level 1 Bad Events

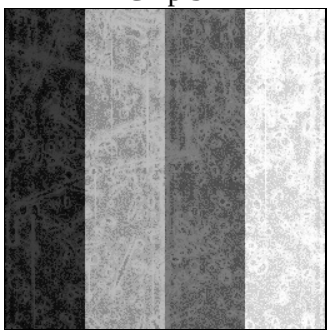


2.1.2 Bias

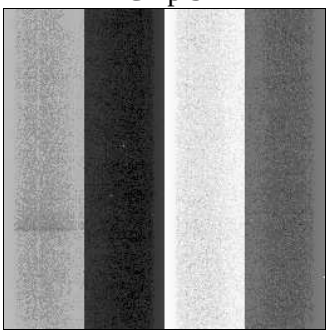
Chip 2



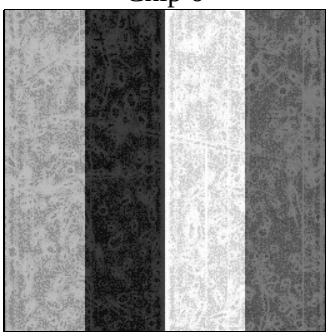
Chip 3



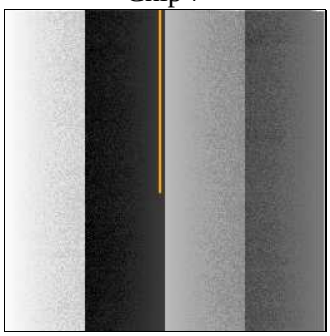
Chip 5



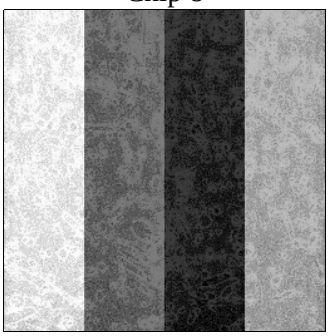
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	8.5.1.1	Processing system revision
caldbver	4.5.6	
date	2013-03-07T12:14:43	Date and time of file creation
revision	4	Processing version of data

sched_exp_time	3000.000000	[s] Scheduled observation exposure time
ontime	2959.9999889731	Sum of GTIs [s]
ontime2	2959.9999889731	Sum of GTIs [s]
ontime3	2959.9929396808	Sum of GTIs [s]
ontime5	2959.9999889731	Sum of GTIs [s]
ontime6	2959.9999889731	Sum of GTIs [s]
ontime7	2959.9999889731	Sum of GTIs [s]
ontime8	2959.9518997073	Sum of GTIs [s]
l1events	140745	Number of level 1 events

2.1.4 Events

	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	19689	18587	30707	19848	27638	24276
rejected events	17246	16191	15974	17349	16015	18749
rejected %	87%	87%	52%	87%	57%	77%

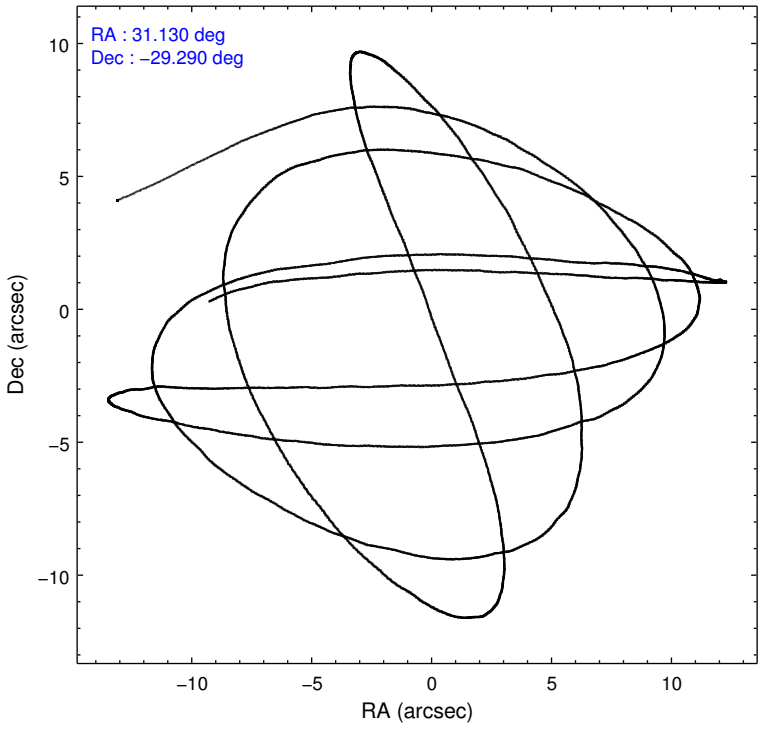
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	1084	1061	2324	970	1109	1824
	5%	5%	7%	4%	4%	7%
grade 1 events	18	12	79	16	24	21
	0%	0%	0%	0%	0%	0%
grade 2 events	521	470	4292	578	2264	1194
	2%	2%	13%	2%	8%	4%
grade 3 events	202	237	513	220	1022	583
	1%	1%	1%	1%	3%	2%
grade 4 events	226	240	517	216	1050	568
	1%	1%	1%	1%	3%	2%
grade 5 events	787	823	2132	899	2583	1185
	3%	4%	6%	4%	9%	4%
grade 6 events	414	393	7124	519	6210	1405
	2%	2%	23%	2%	22%	5%
grade 7 events	16437	15351	13726	16430	13376	17496
	83%	82%	44%	82%	48%	72%

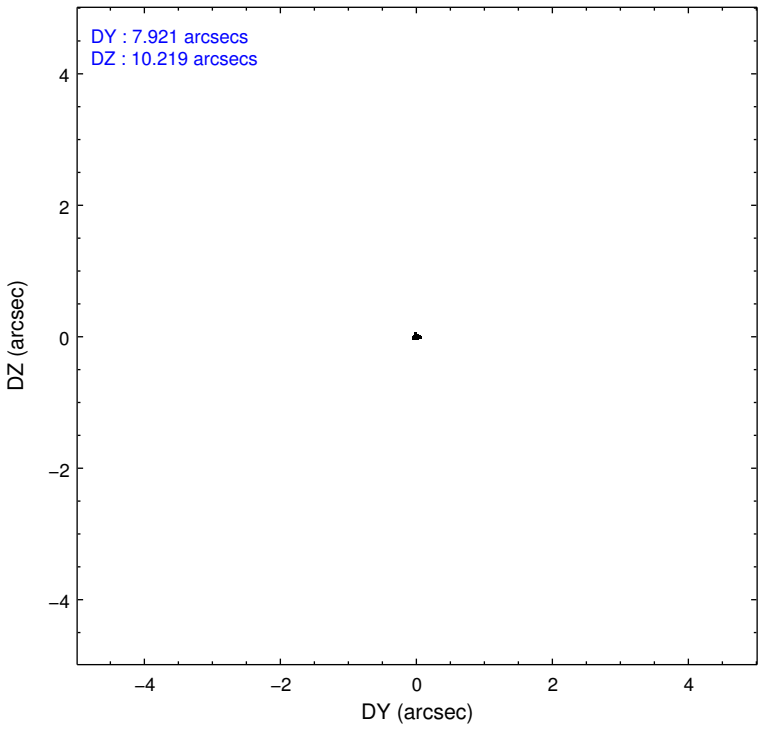
2.2 Compared Parameters

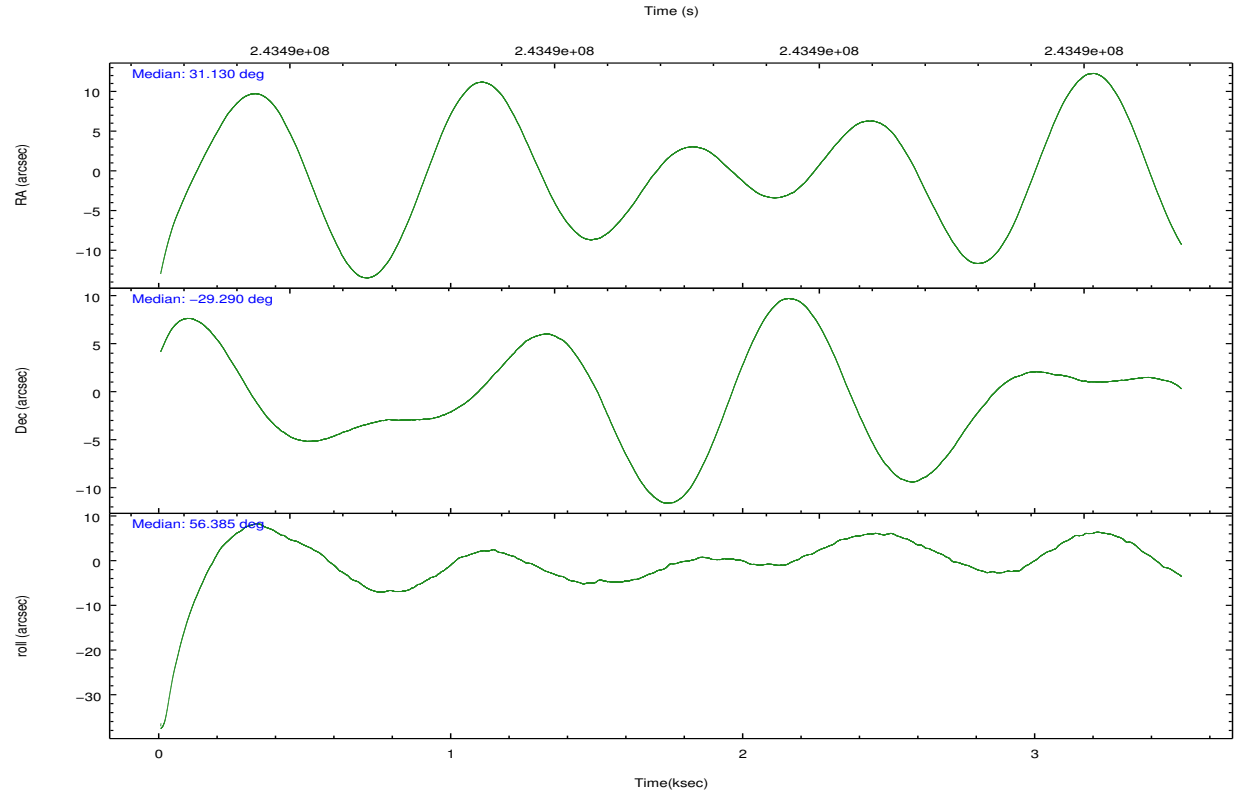
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-235678	ACIS-235678
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	31.128618	31.13024646862705
[deg] Pointing Dec	-29.317017	-29.28964214882531
[deg] Pointing Roll	56.230861	56.38822749005233
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1400660498719
[mm] SIM translation stage offset	0	0.00754346686406393
[s] Observation start time (MET)	243487192.184000	243486075.1018
Observation start date	2005-09-19T03:18:48	2005-09-19T03:01:15
[s] Observation end time (MET)	243490192.184000	243491105.80203
Observation end date	2005-09-19T04:08:48	2005-09-19T04:25:05
Read mode	TIMED	TIMED

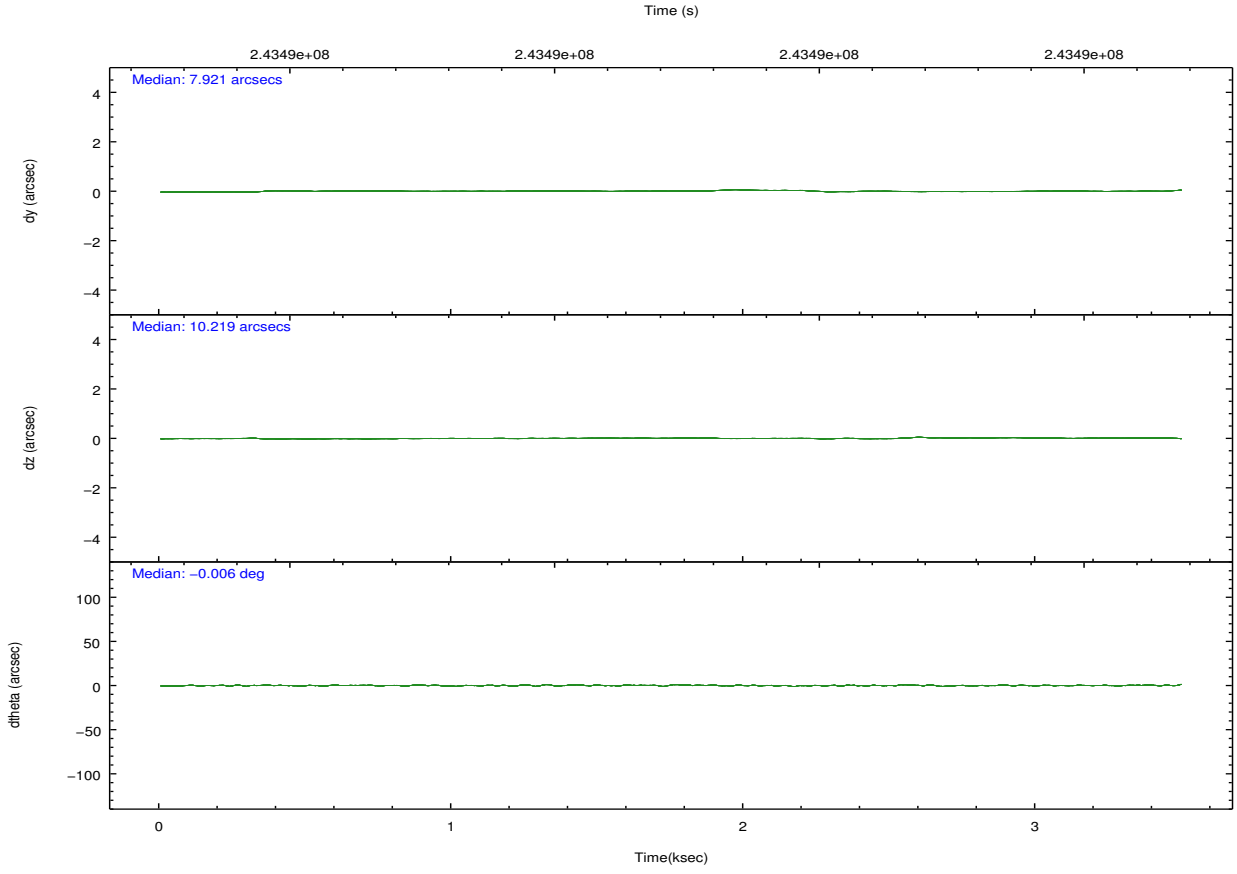
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.2

2.3 Aspect


RA : 31.130 deg
Dec : −29.290 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10
−10
−5
0
5
10


DY : 7.921 arcsecs
DZ : 10.219 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
2.4349e+08
2.4349e+08
2.4349e+08
2.4349e+08
Median: 31.130 deg
RA (arcsec)
Median: −29.290 deg
Dec (arcsec)
Median: 56.385 deg
roll (arcsec)
Time(ksec)

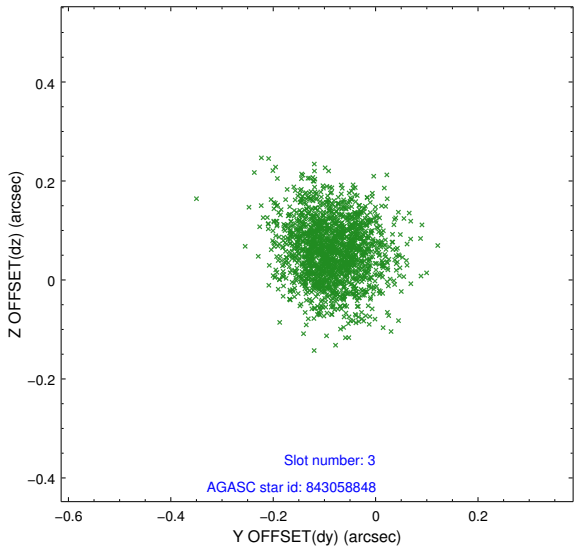

Time (s)
2.4349e+08
2.4349e+08
2.4349e+08
2.4349e+08
Median: 7.921 arcsecs
dy (arcsec)
Median: 10.219 arcsecs
dz (arcsec)
Median: −0.006 deg
dtheta (arcsec)
Time(ksec)

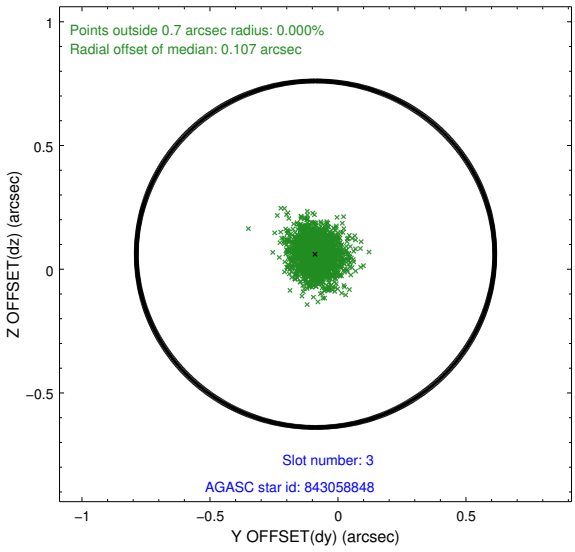
Slot Statistics

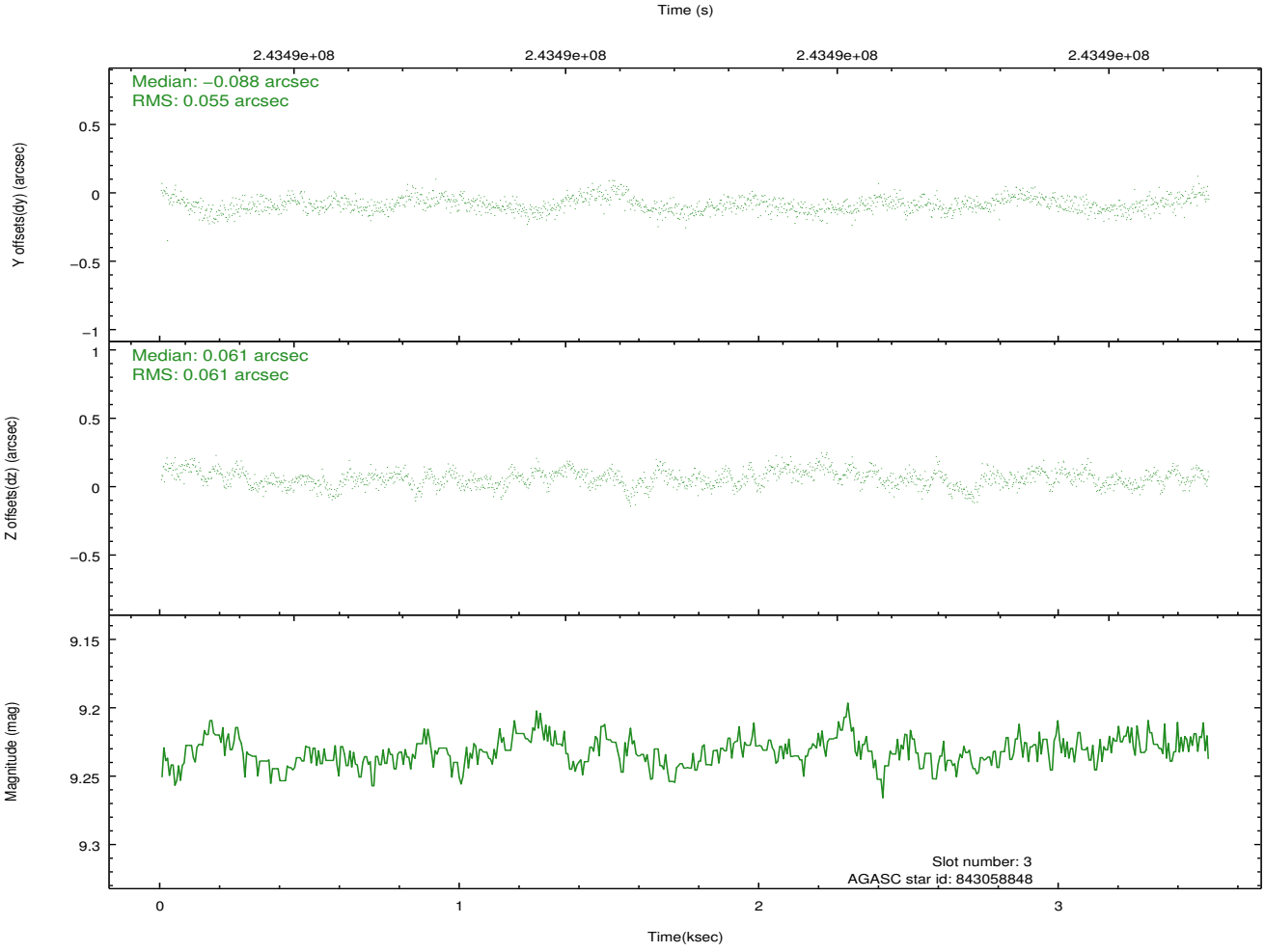
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.19	853	0.045	-0.054	0.006	0.009	0.000000	0.000000	935.40	-1727.15
1	FID	ACIS-S-5	7.24	853	-0.100	0.023	0.006	0.010	0.000000	0.000000	-1812.75	168.60
2	FID	ACIS-S-6	7.36	853	0.033	0.043	0.006	0.011	0.000000	0.000000	398.97	814.64
3	GUIDE	843058848	9.23	1706	-0.088	0.061	0.087	0.141	30.955187	-29.624817	-1223.72	-164.95
4	GUIDE	843059888	6.81	1707	0.043	-0.105	0.076	0.126	30.617770	-29.665638	-1935.65	628.69
5	GUIDE	843061744	9.44	1705	-0.119	-0.016	0.085	0.136	31.544540	-29.226062	994.92	-905.07
6	GUIDE	843061968	9.26	1707	0.223	-0.038	0.087	0.142	30.680996	-29.814180	-2266.51	165.18
7	GUIDE	843062384	9.47	1703	-0.058	0.087	0.124	0.330	31.894459	-29.334171	1276.49	-2036.45

2.4 Star Slots

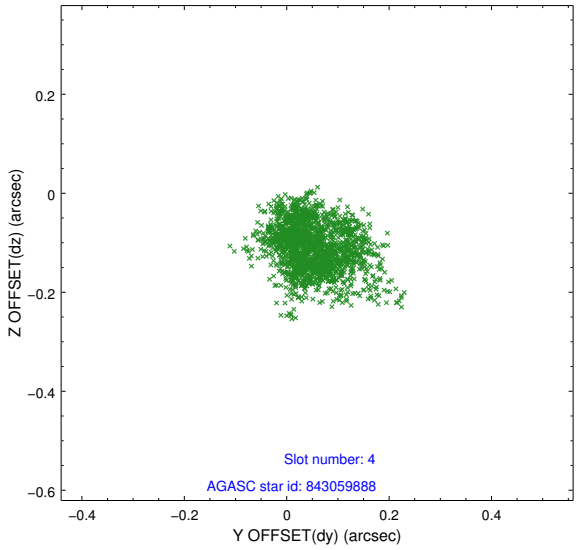
2.4.1 Slot 3

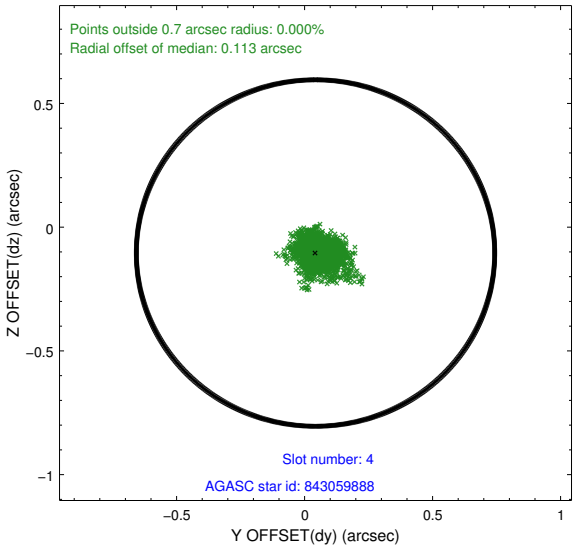


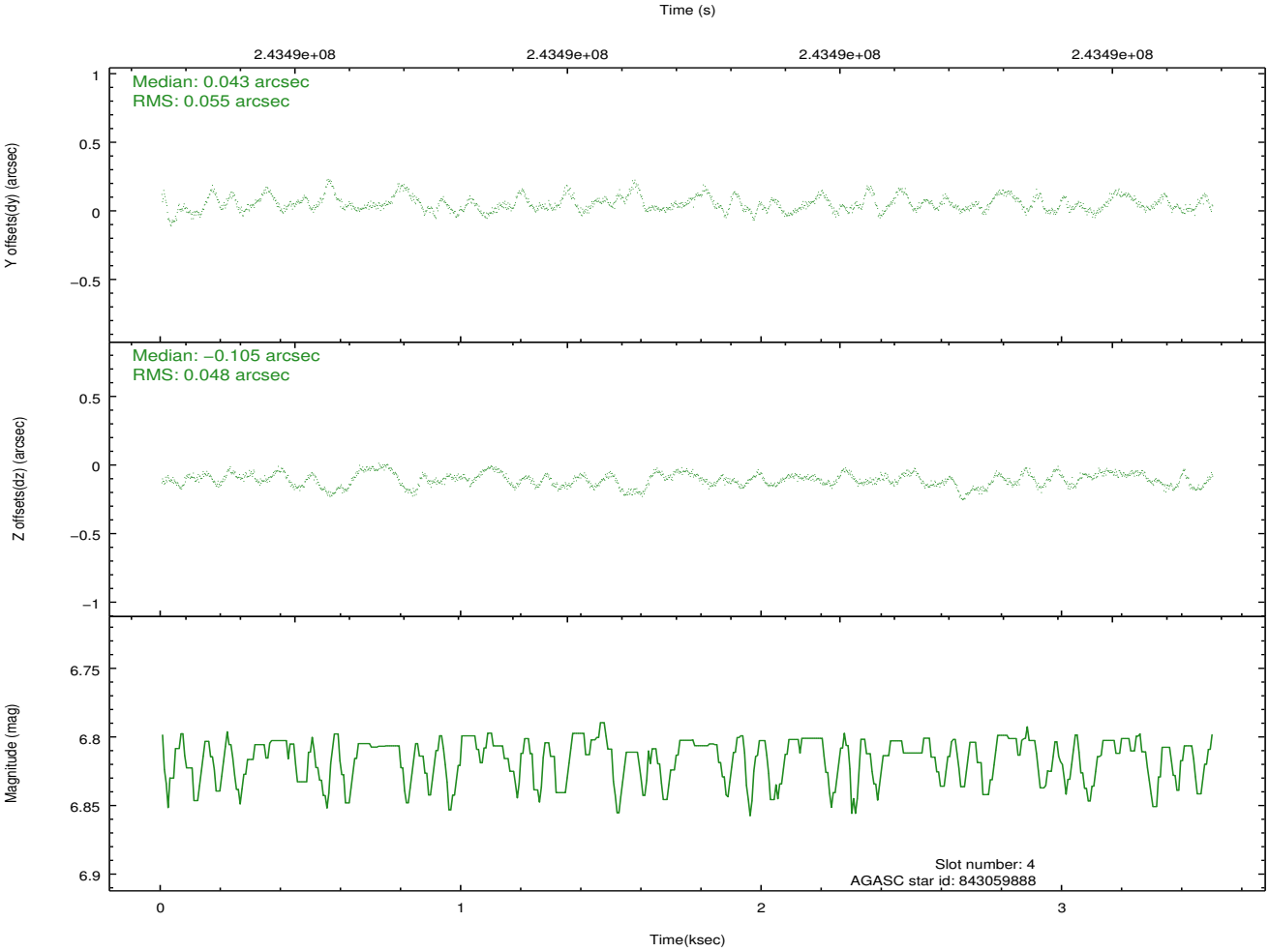




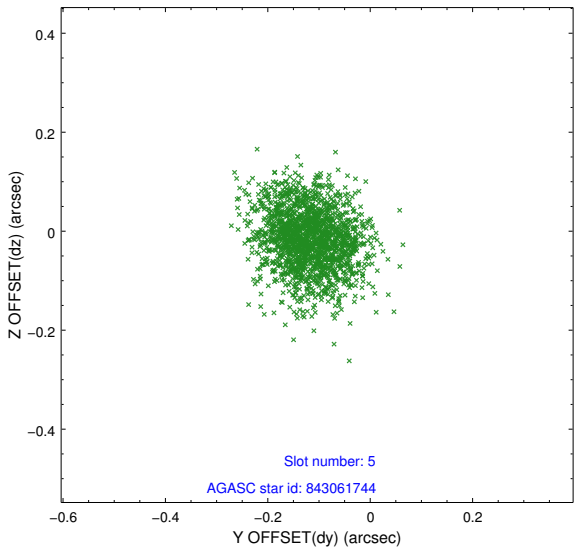
2.4.2 Slot 4

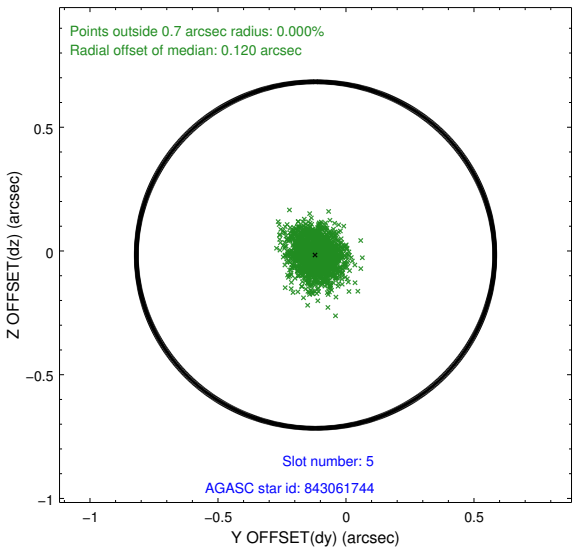

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 843059888

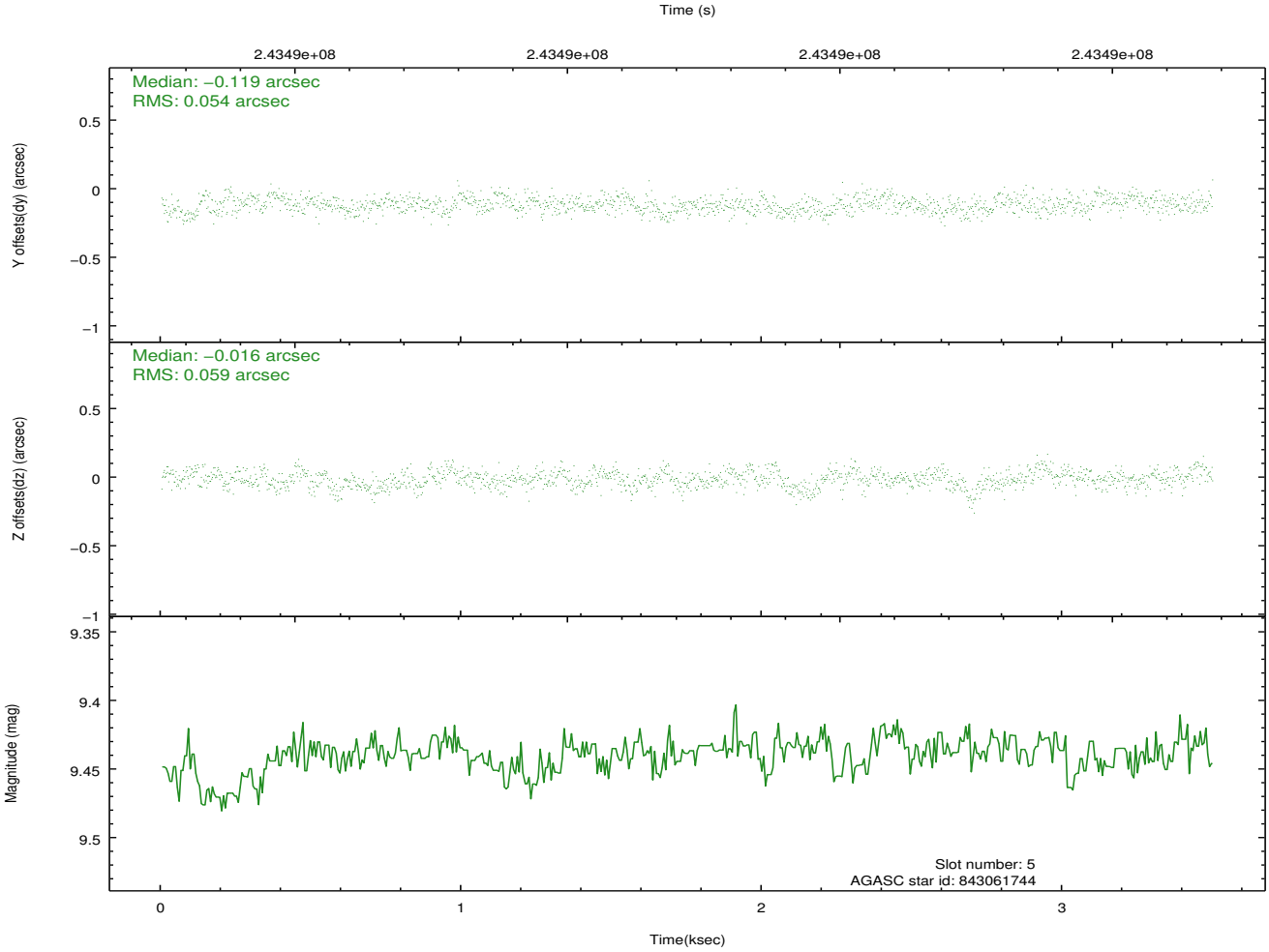

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.113 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 843059888


Time (s)
2.4349e+08
Median: 0.043 arcsec
RMS: 0.055 arcsec
Y offsets(dy) (arcsec)
Median: −0.105 arcsec
RMS: 0.048 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 843059888
Time(ksec)

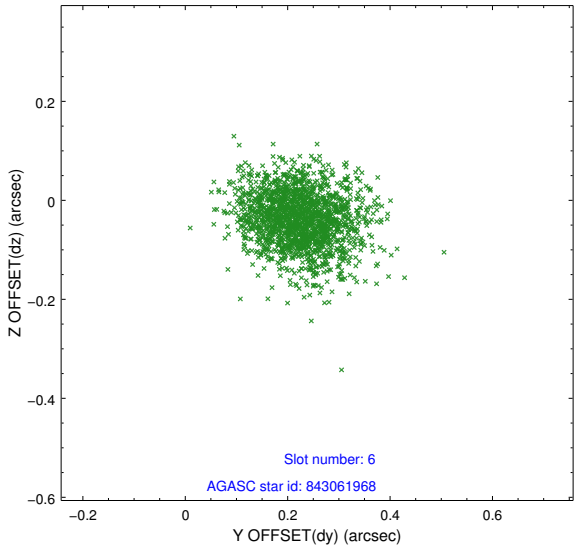
2.4.3 Slot 5

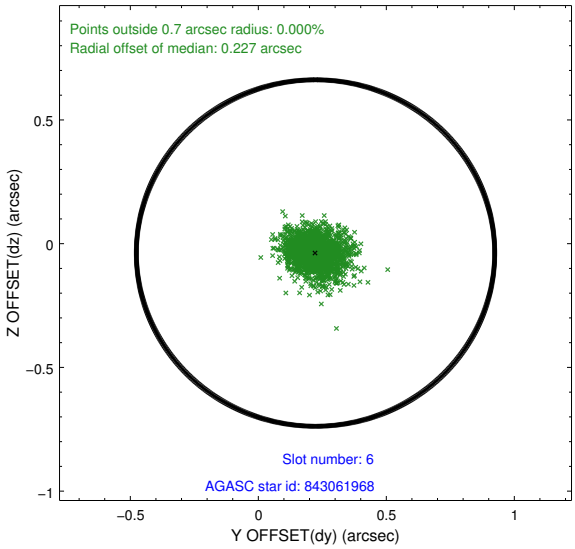

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 843061744

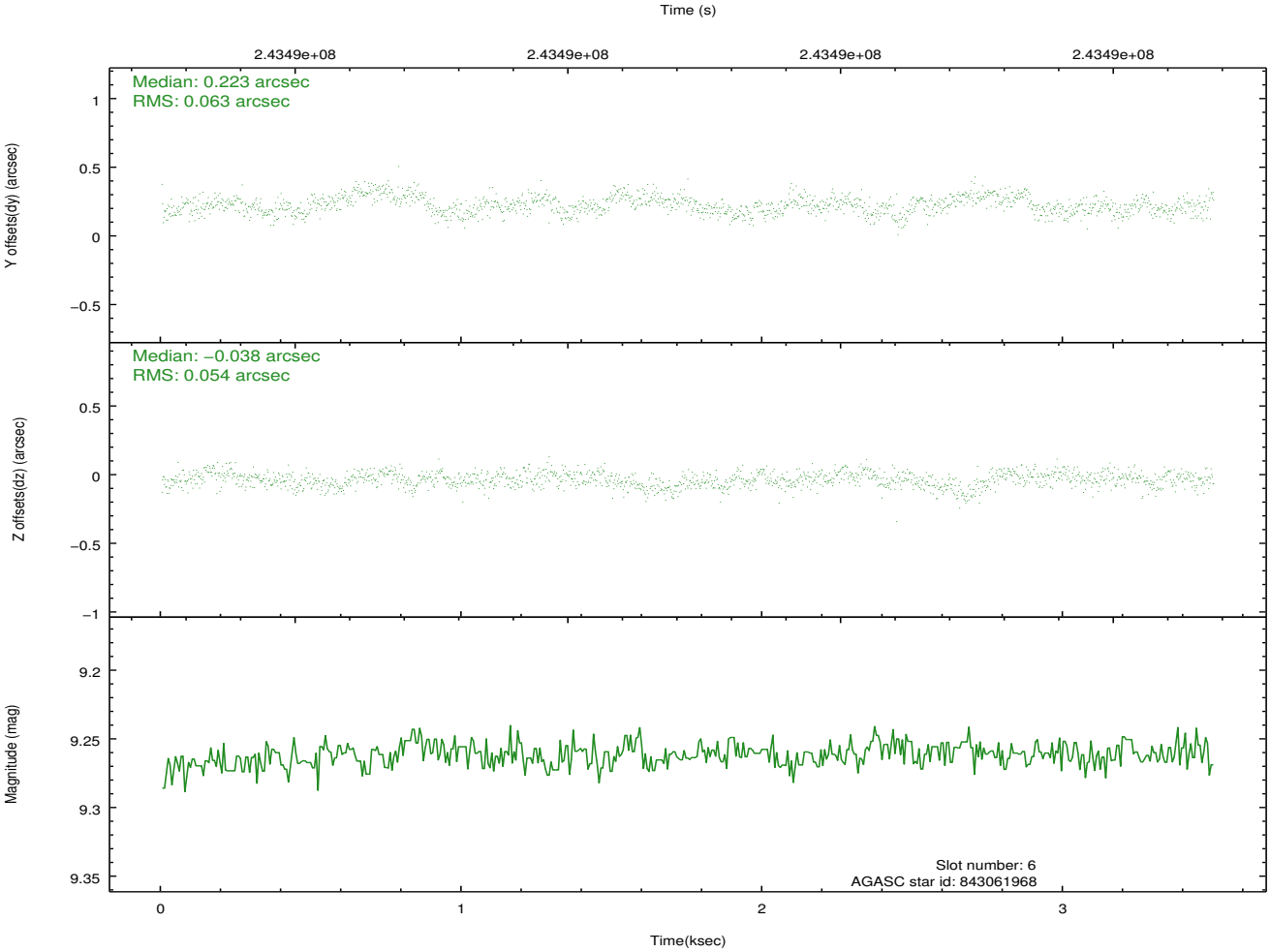

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.120 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 843061744


Time (s)
2.4349e+08
Median: −0.119 arcsec
RMS: 0.054 arcsec
Y offsets(dy) (arcsec)
Median: −0.016 arcsec
RMS: 0.059 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 843061744
Time(ksec)

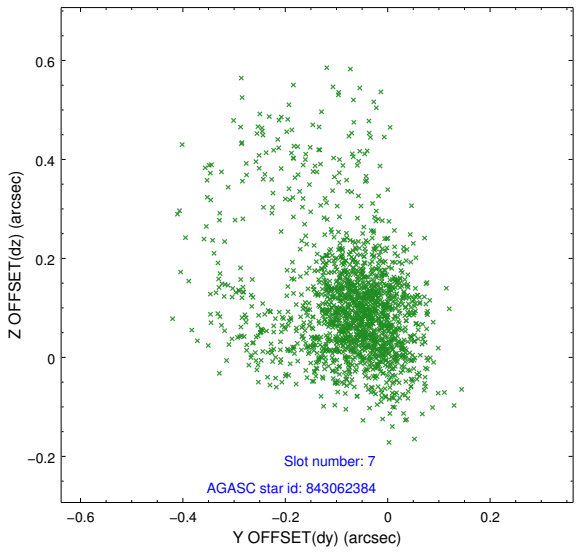
2.4.4 Slot 6

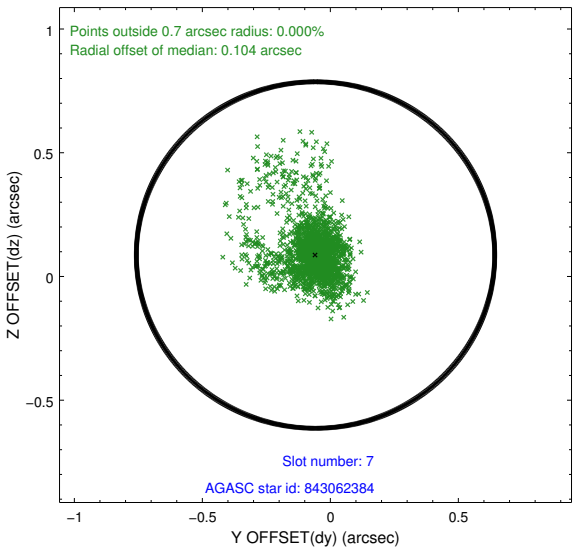

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 843061968

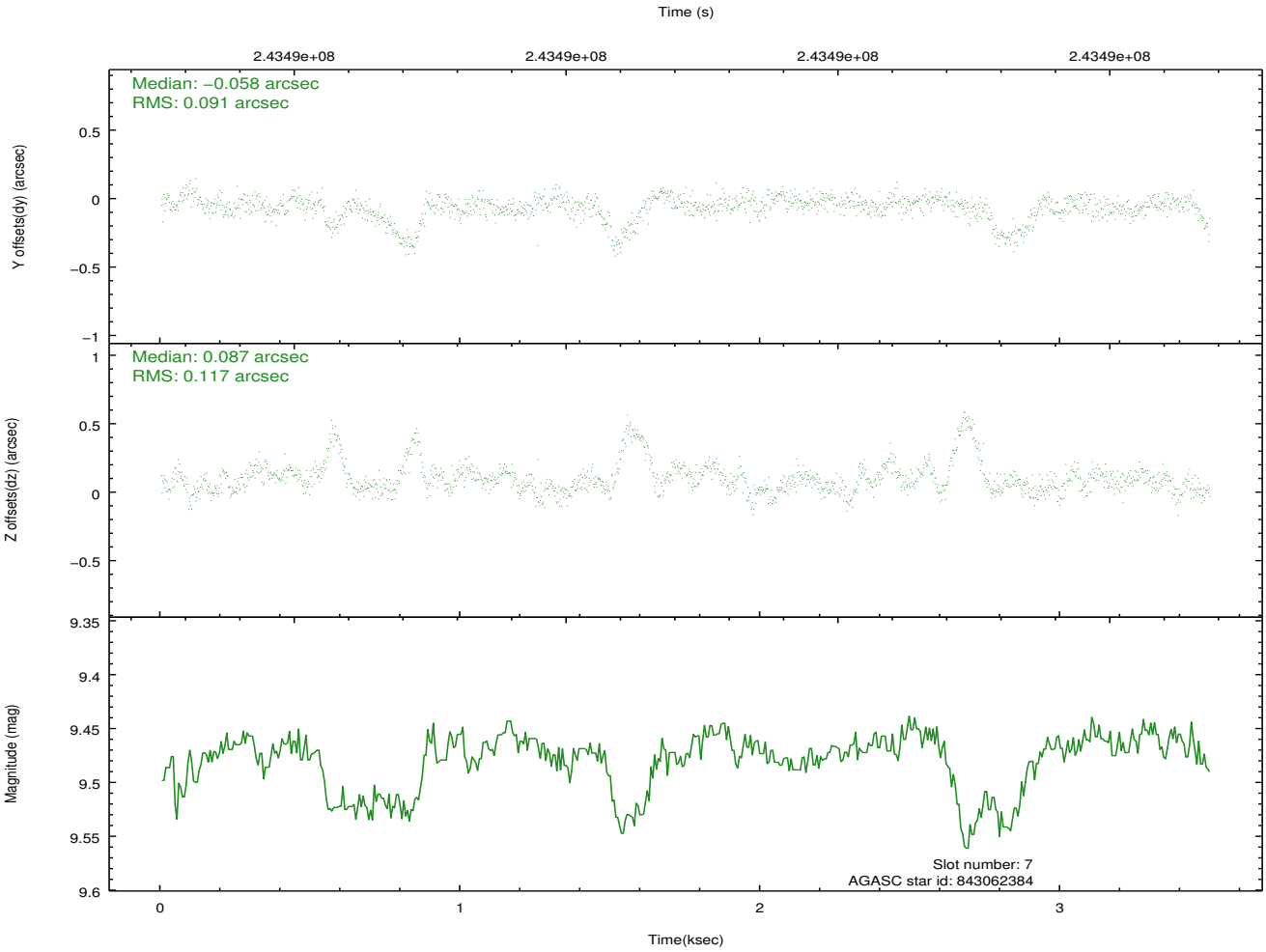

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.227 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 843061968


Time (s)
2.4349e+08
Median: 0.223 arcsec
RMS: 0.063 arcsec
Y offsets(dy) (arcsec)
Median: −0.038 arcsec
RMS: 0.054 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 843061968
Time(ksec)

2.4.5 Slot 7

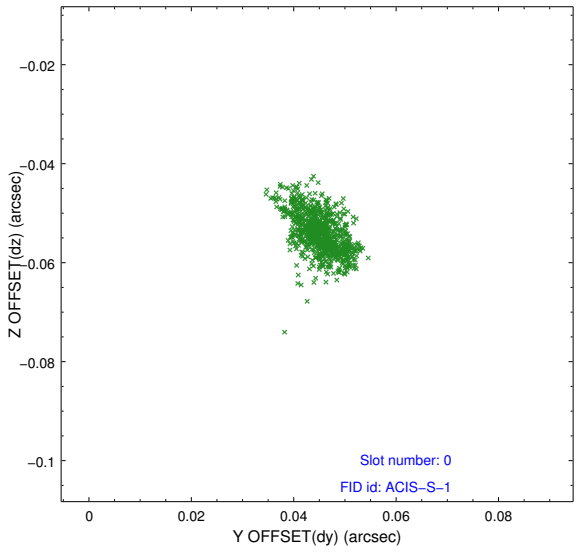

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 843062384

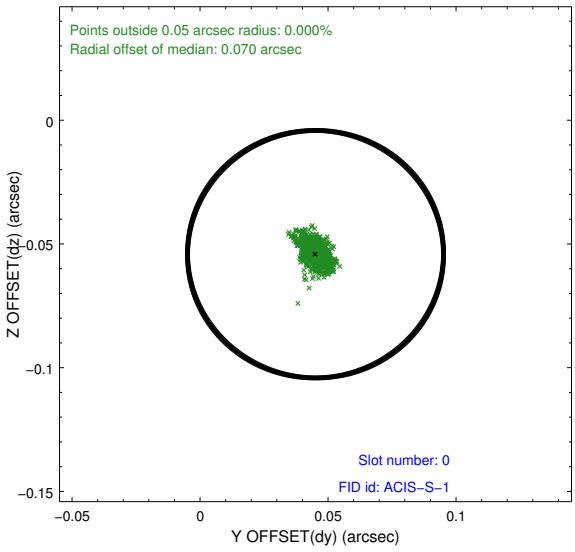

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.104 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 843062384

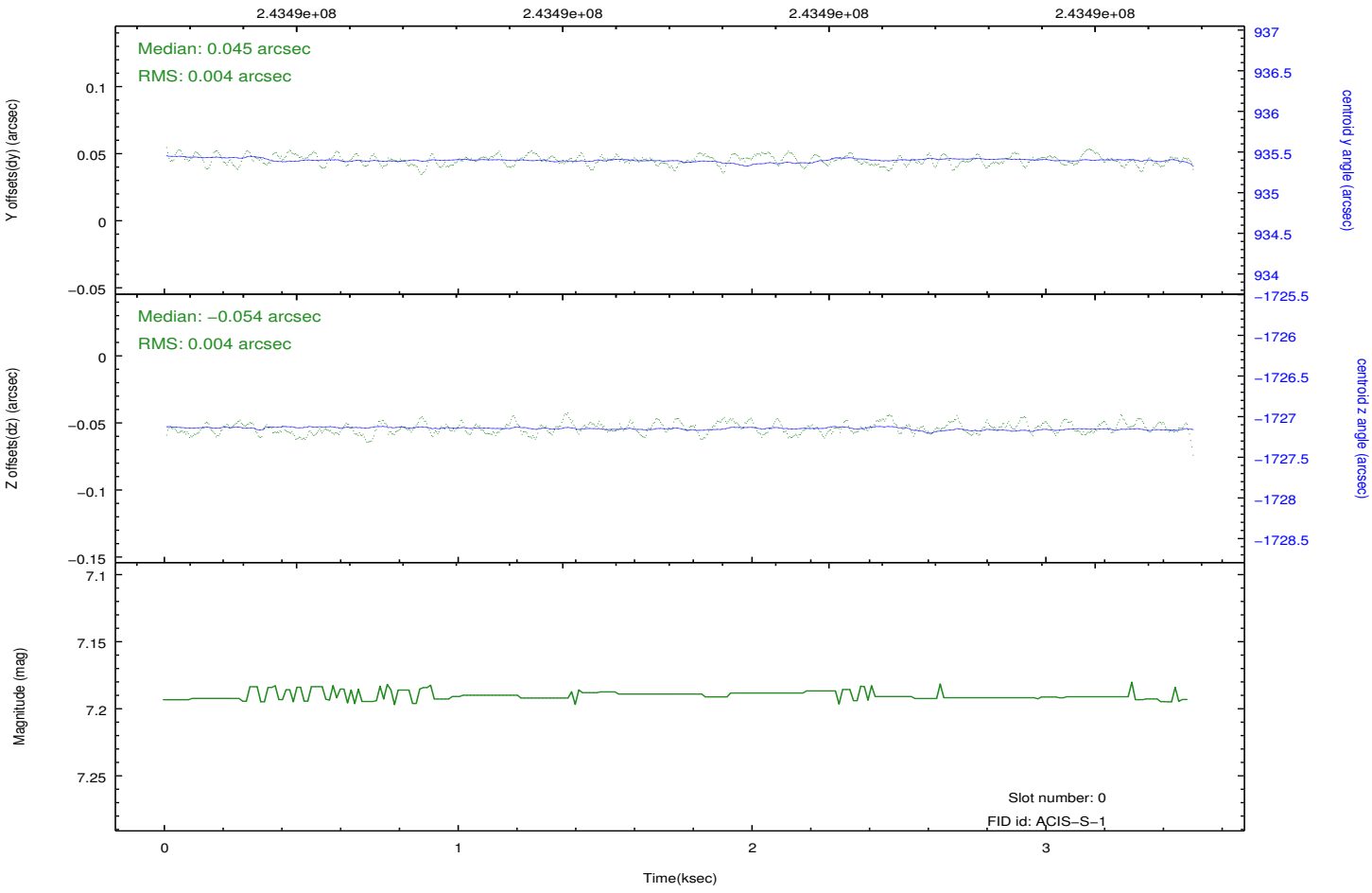

Time (s)
2.4349e+08
Median: −0.058 arcsec
RMS: 0.091 arcsec
Y offsets(dy) (arcsec)
Median: 0.087 arcsec
RMS: 0.117 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 843062384
Time(ksec)

2.5 FID Slots

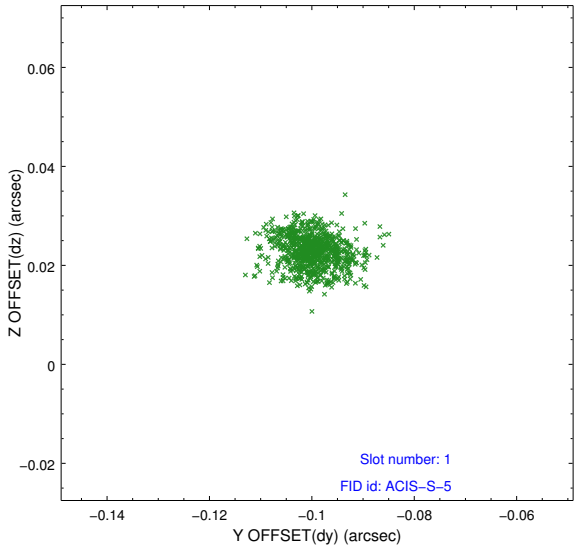
2.5.1 Slot 0

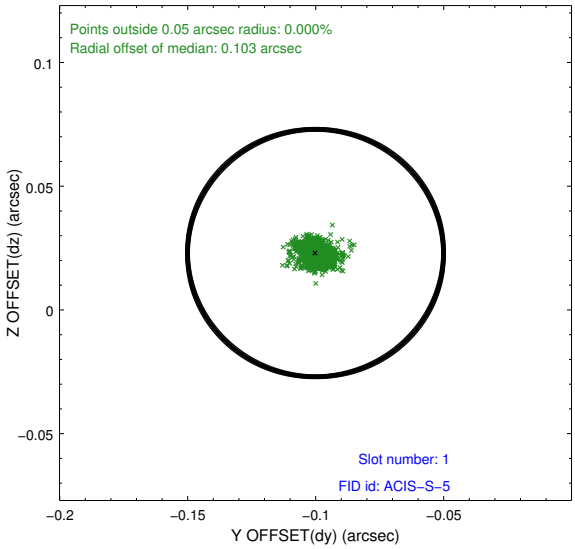


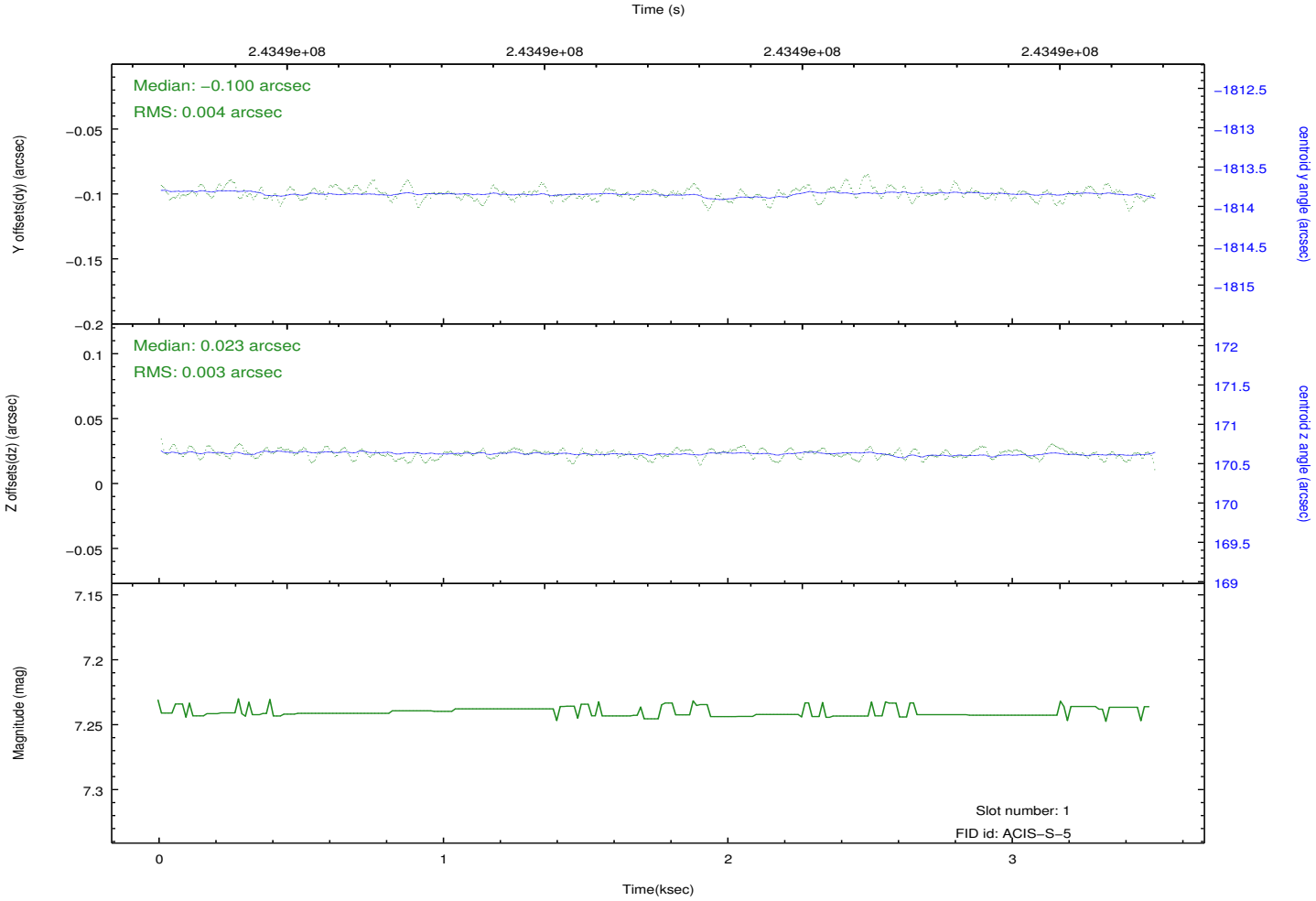




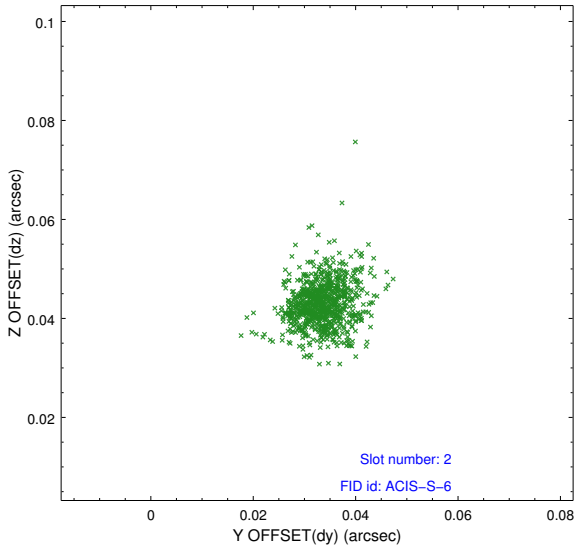
2.5.2 Slot 1

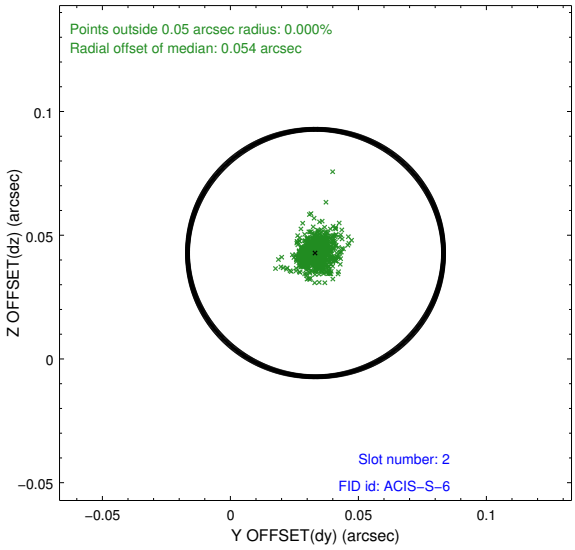

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−5

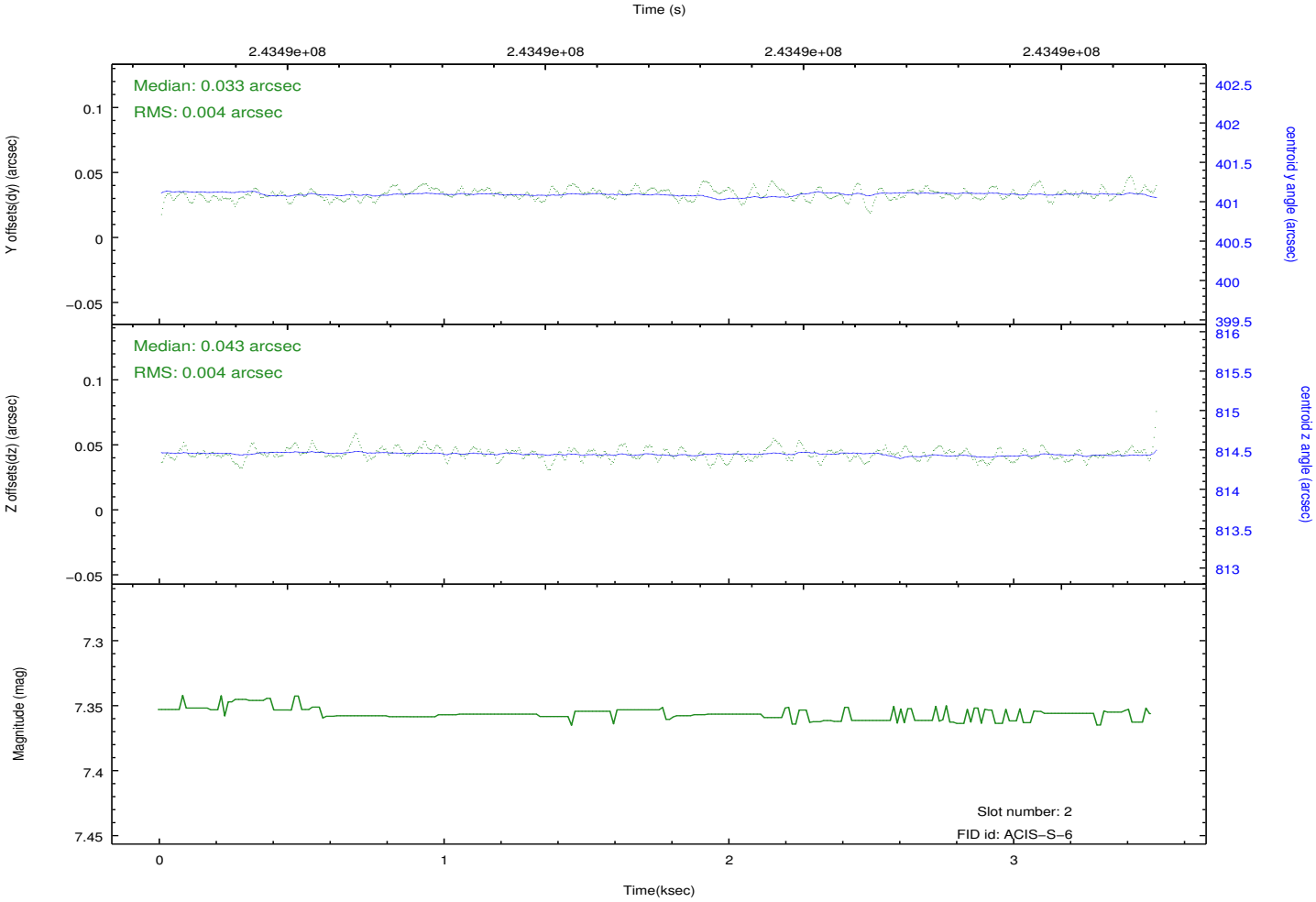

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.103 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−5


Time (s)
Median: −0.100 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.023 arcsec
RMS: 0.003 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: ACIS−S−5
Time(ksec)

2.5.3 Slot 2


Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−6


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.054 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−6


Time (s)
Median: 0.033 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.043 arcsec
RMS: 0.004 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: ACIS−S−6
Time(ksec)

A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2013.03.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	2.959999

A.2 Comments

As a consequence of the DEA-A shutdown anomaly on Sep 15th (DOY258), the reported value of the ACIS FP temperature was ~1.3 degrees warmer than the actual temperature. The value for FP temperature reported in the headers of the Level 2 event file and the Mission Timeline files are incorrect by this amount for this processing. However, the temperature is corrected in the processing in order to obtain the correct temperature for the CTI correction. So the calibrated data are correct. If using the FP temp values in the headers of data files (some CIAO tools require this information), investigators should subtract 1.3 degrees from the reported temperature to determine the true temperature.