V&V Reference Report
L2 ASCDS Version : 8.4.3

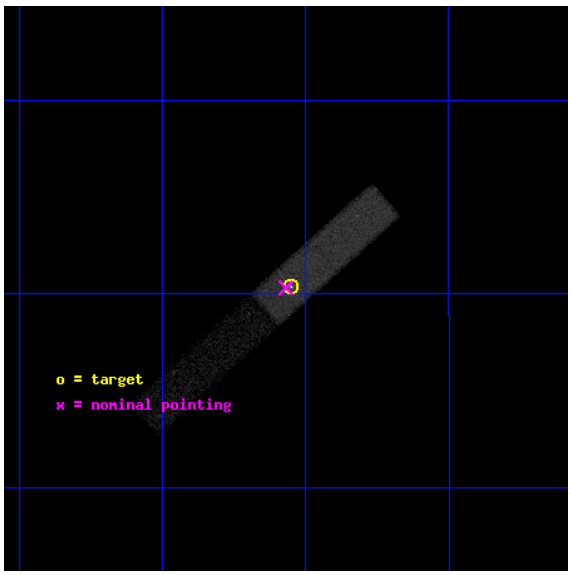
Observation 12383 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Feb 1 2012

Contents

1 Front

seq_num	200717	Sequence number
obs_id	12383	Observation id
title	The origin of the X-ray emission from the enigmatic multiple system HBC 515	Proposal title
observer	Dr. Giuseppe Sacco	Principal investigator
object	HBC 515	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	88.5125	Observer's specified target RA [deg]
dec_targ	1.67275	Observer's specified target Dec [deg]
ra_nom	88.517260799135	Nominal RA [deg]
dec_nom	1.6718918082652	Nominal Dec [deg]
roll_nom	318.15581513537	Nominal Roll [deg]
revision	2	Processing version of data
ontime	30076.196085572	Sum of GTIs [s]
livetime	28764.533364166	Livetime [s]
ontime6	30076.155045569	Sum of GTIs [s]
ontime7	30076.196085572	Sum of GTIs [s]
l2events	54206	Number of level 2 events

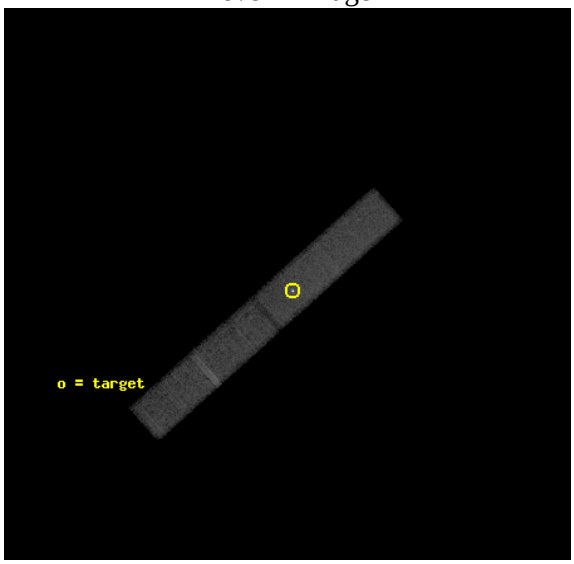


2 OBI

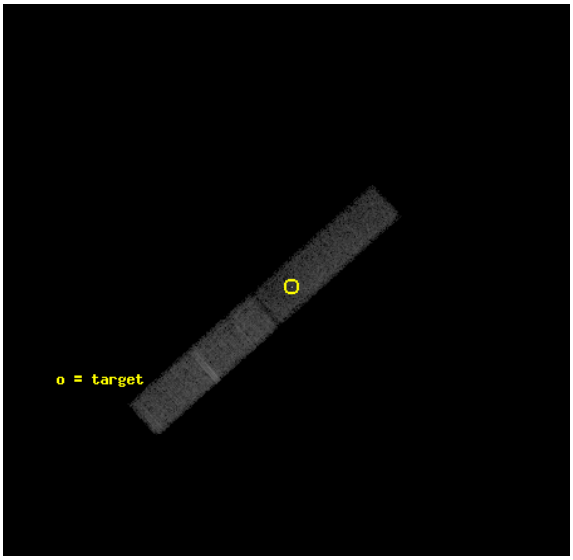
2.1 OBI

2.1.1 Images

Level 1 Image

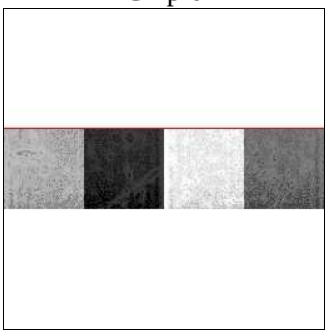


Level 1 Bad Events

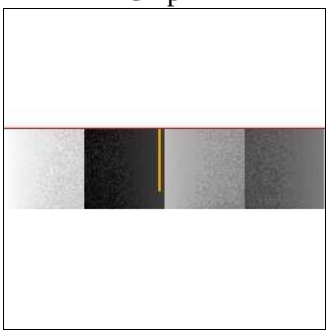


2.1.2 Bias

Chip 6



Chip 7



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	8.4.3	Processing system revision
caldbver	4.4.7	
date	2012-02-01T09:41:13	Date and time of file creation
revision	2	Processing version of data

sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ontime	30076.196085572	Sum of GTIs [s]
ontime6	30076.155045569	Sum of GTIs [s]
ontime7	30076.196085572	Sum of GTIs [s]
l1events	148608	Number of level 1 events

2.1.4 Events

	ccd 6	**ccd 7**
level 1 events	62279	86329
rejected events	55058	36901
rejected %	88%	42%

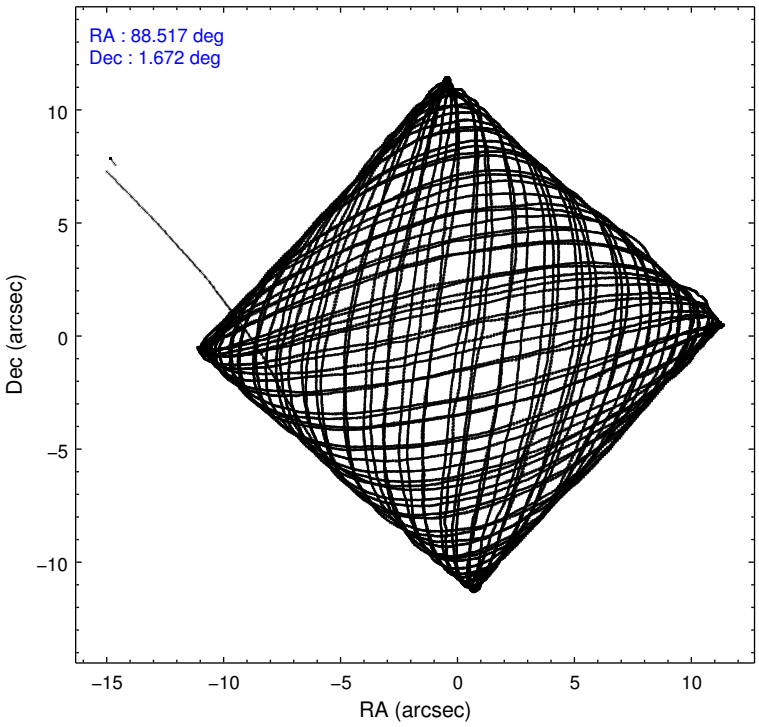
	ccd 6	**ccd 7**
grade 0 events	2135	7518
	3%	8%
grade 1 events	24	307
	0%	0%
grade 2 events	1372	11224
	2%	13%
grade 3 events	1167	5626
	1%	6%
grade 4 events	1122	5539
	1%	6%
grade 5 events	2517	8138
	4%	9%
grade 6 events	1425	19521
	2%	22%
grade 7 events	52517	28456
	84%	32%

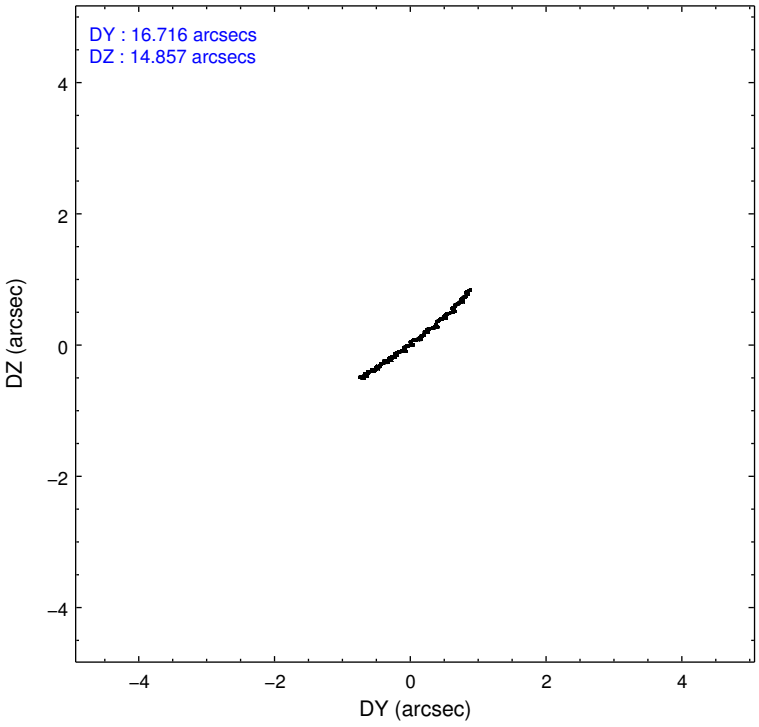
2.2 Compared Parameters

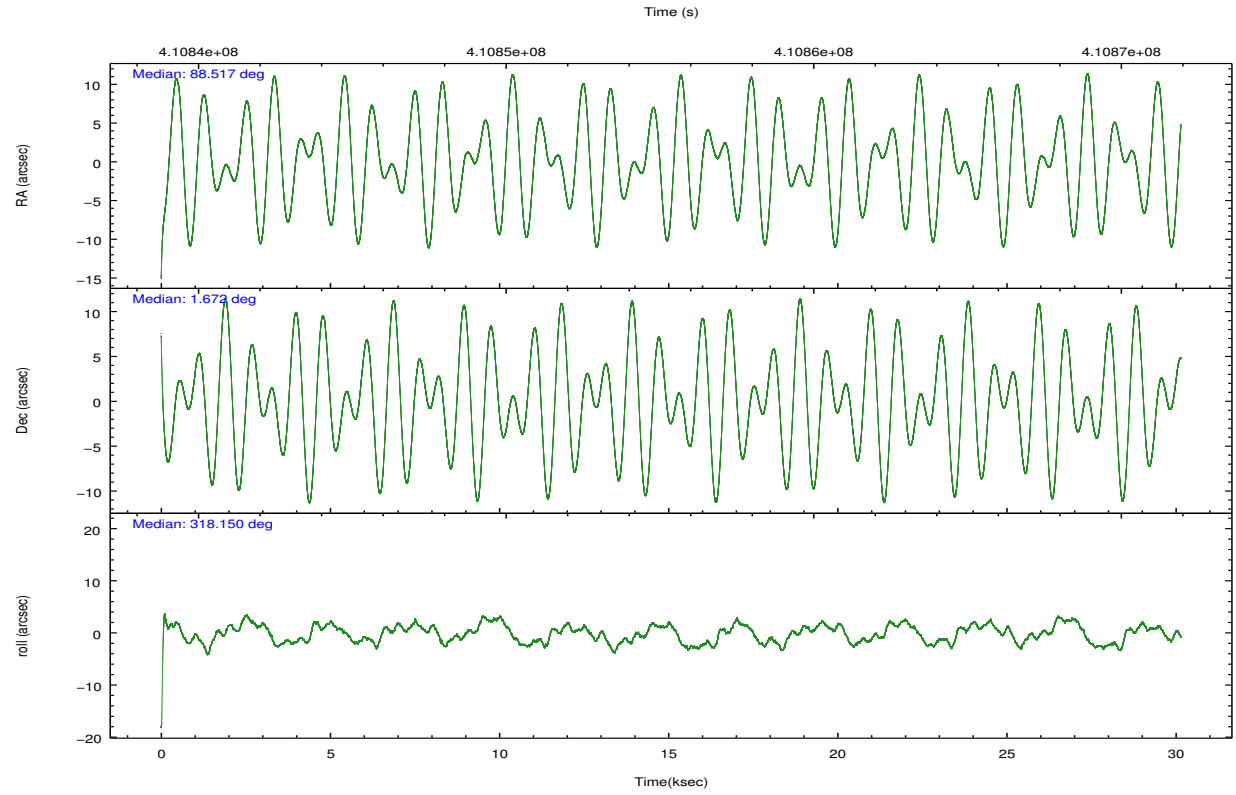
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-67	ACIS-67
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	88.490430	88.51726079913537
[deg] Pointing Dec	1.677140	1.671891808265227
[deg] Pointing Roll	317.999984	318.1558151353682
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1425803651734
[mm] SIM translation stage offset	0	0.01005778216563158
[s] Observation start time (MET)	410840431.184000	410838742.72917
Observation start date	2011-01-08T02:19:25	2011-01-08T01:52:22
[s] Observation end time (MET)	410870431.184000	410871743.11838
Observation end date	2011-01-08T10:39:25	2011-01-08T11:02:23
Read mode	TIMED	TIMED

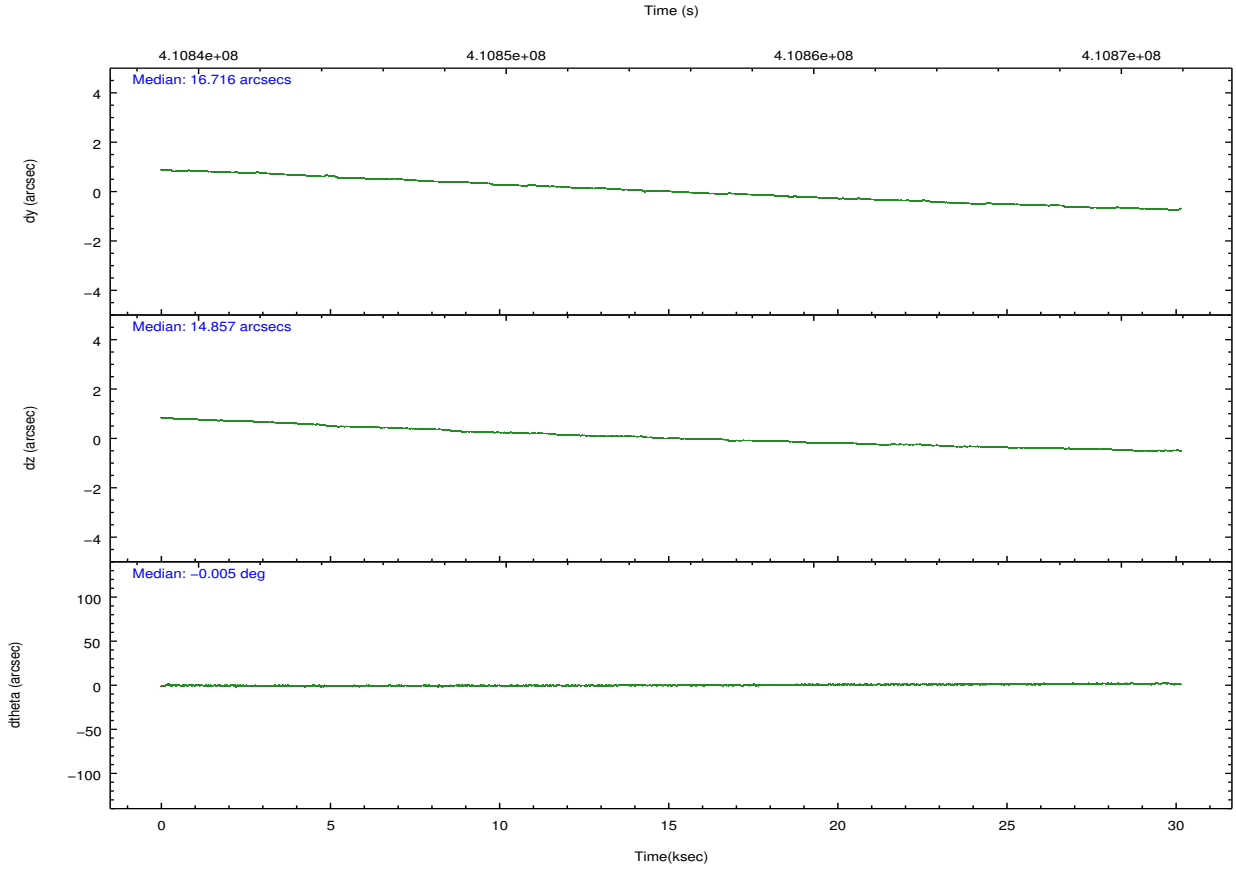
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	N	N
CCD I3 on	N	N
CCD S0 on	N	N
CCD S1 on	N	N
CCD S2 on	O1	Y
CCD S3 on	Y	Y
CCD S4 on	N	N
CCD S5 on	N	N
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	CUSTOM	1/4
Subarray start row	385	385
Subarray row count	256	256
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	0.9

2.3 Aspect


RA : 88.517 deg
Dec : 1.672 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10
−15
−10
−5
0
5
10


DY : 16.716 arcsecs
DZ : 14.857 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
4.1084e+08
4.1085e+08
4.1086e+08
4.1087e+08
Median: 88.517 deg
RA (arcsec)
Median: 1.672 deg
Dec (arcsec)
Median: 318.150 deg
roll (arcsec)
Time(ksec)

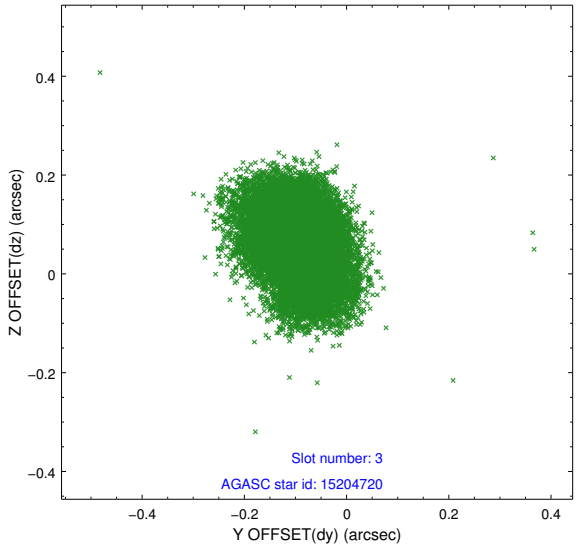

Time (s)
4.1084e+08
4.1085e+08
4.1086e+08
4.1087e+08
Median: 16.716 arcsecs
dy (arcsec)
Median: 14.857 arcsecs
dz (arcsec)
Median: −0.005 deg
dtheta (arcsec)
Time(ksec)

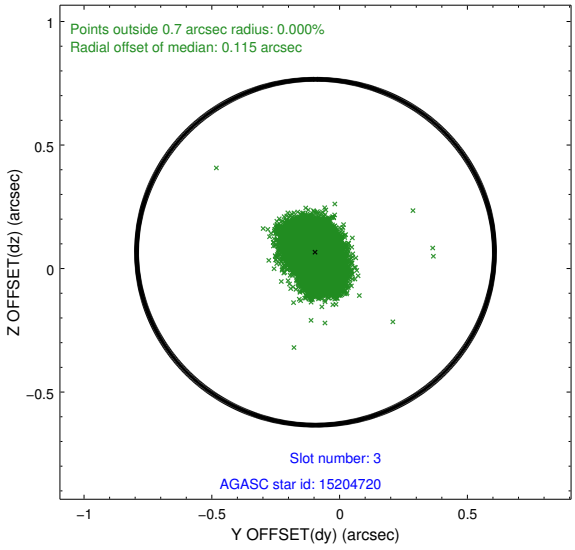
Slot Statistics

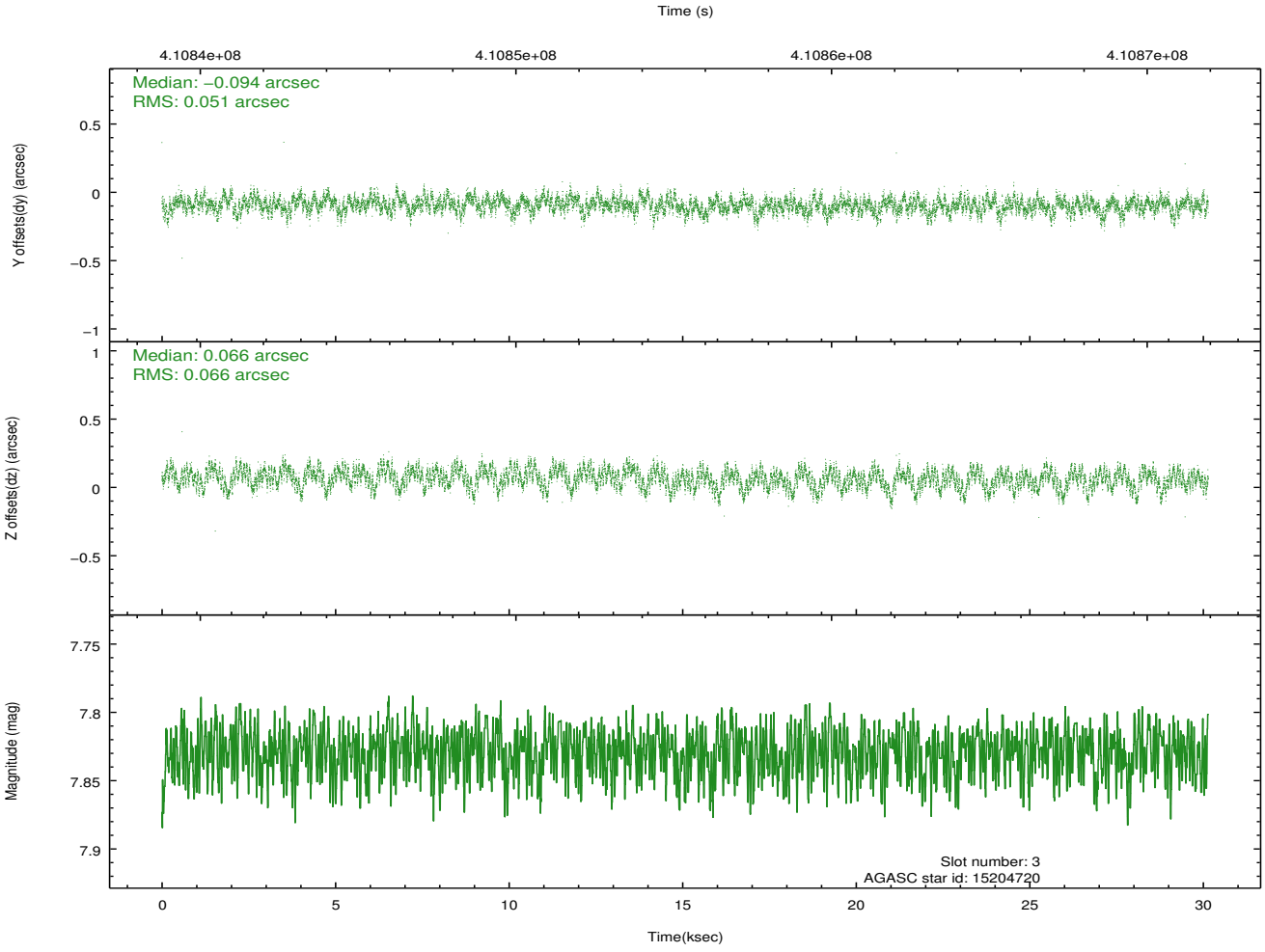
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.93	7354	-0.097	-0.030	0.015	0.022	0.000000	0.000000	-769.84	-1736.28
1	FID	ACIS-S-4	7.01	7354	0.190	0.054	0.009	0.017	0.000000	0.000000	2143.67	172.23
2	FID	ACIS-S-5	7.04	7354	-0.124	-0.017	0.014	0.023	0.000000	0.000000	-1822.64	165.88
3	GUIDE	15204720	7.83	14701	-0.094	0.066	0.089	0.145	87.659960	1.699694	-2275.20	-1938.76
4	GUIDE	15336416	8.43	14691	0.155	0.016	0.063	0.101	88.187959	1.222667	286.21	-1944.06
5	GUIDE	15341264	8.79	14637	-0.129	-0.084	0.087	0.139	89.072920	1.864727	1105.75	1904.56
6	GUIDE	15863752	9.53	14679	0.016	-0.015	0.134	0.206	88.977328	1.991300	545.17	2013.11
7	GUIDE	15859896	9.64	14680	0.054	0.025	0.112	0.180	88.375095	2.157661	-1465.72	1008.31

2.4 Star Slots

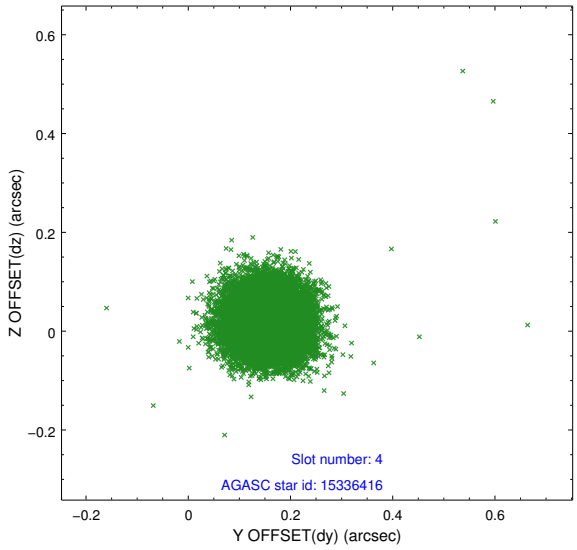
2.4.1 Slot 3

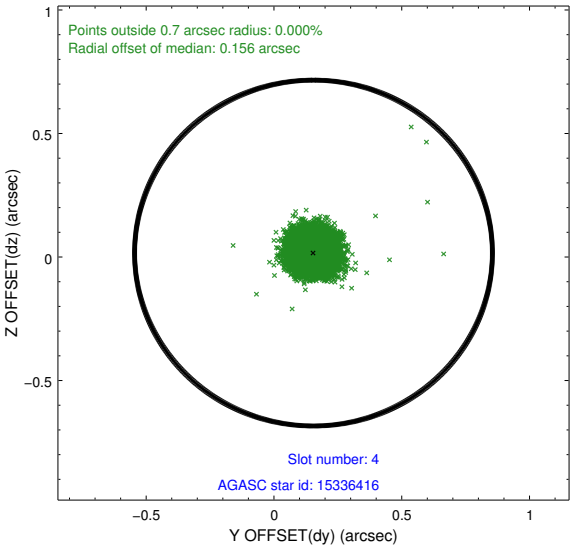


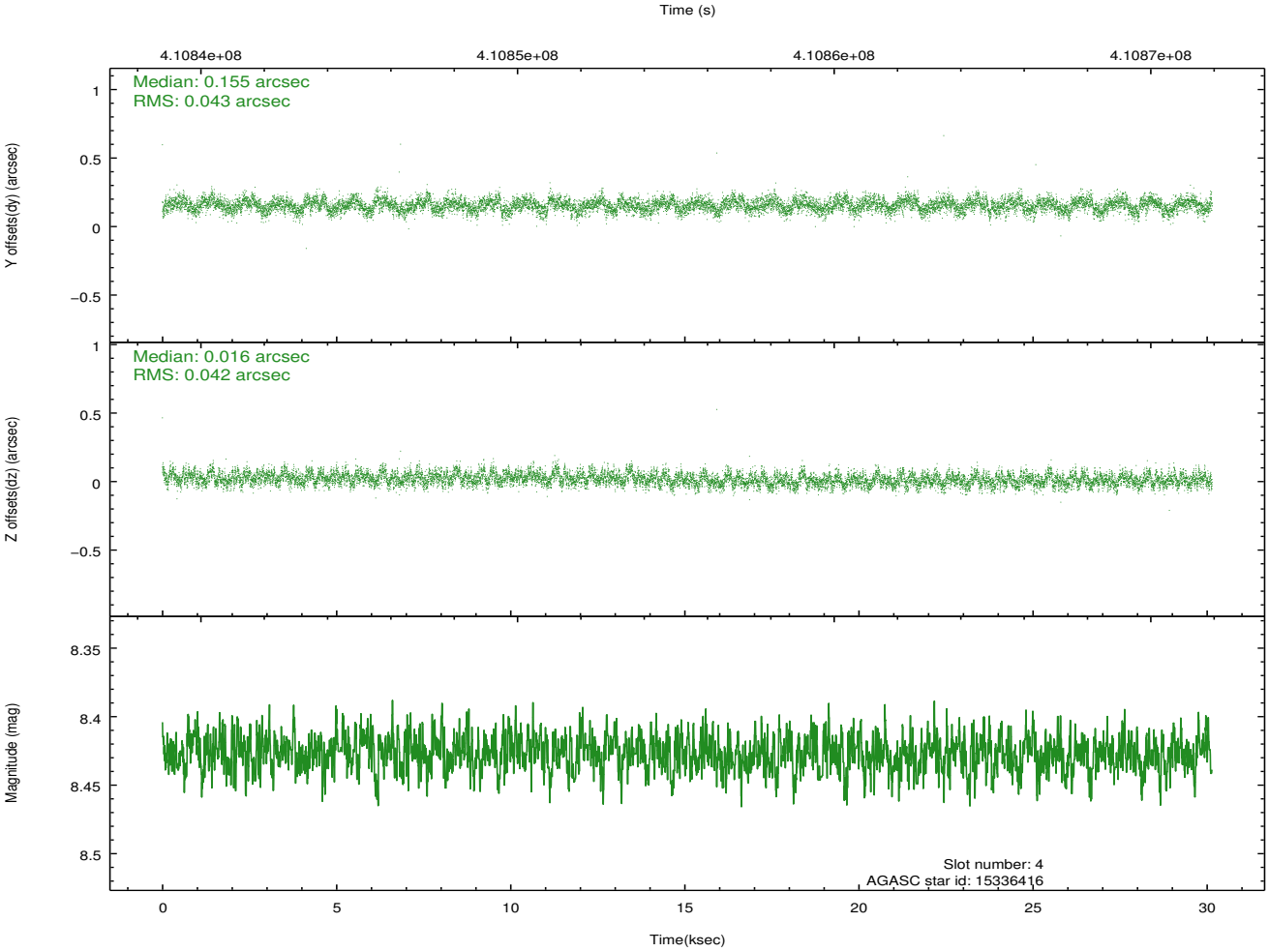




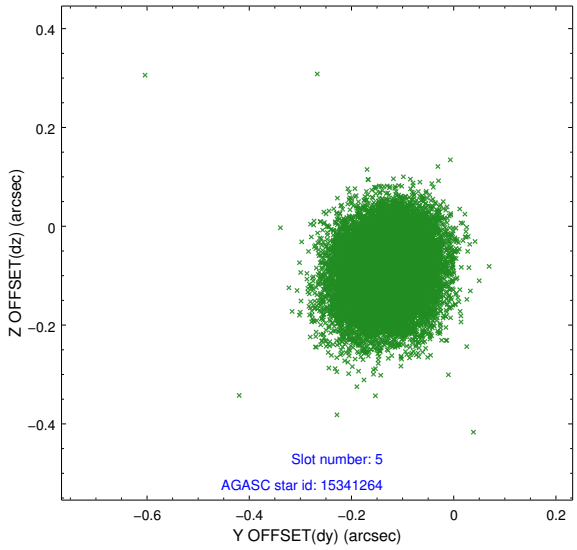
2.4.2 Slot 4

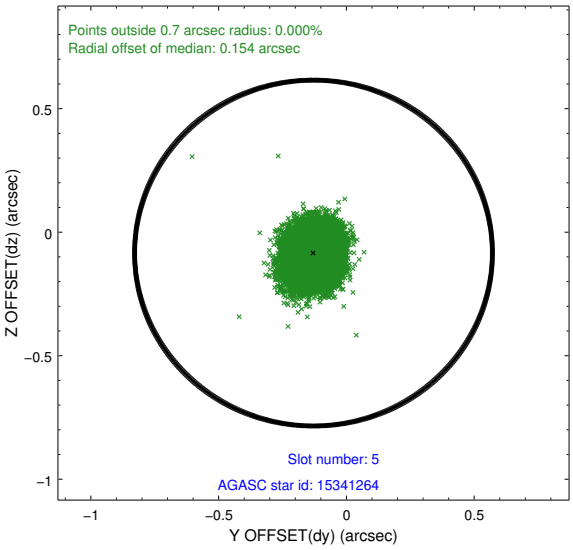

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 15336416

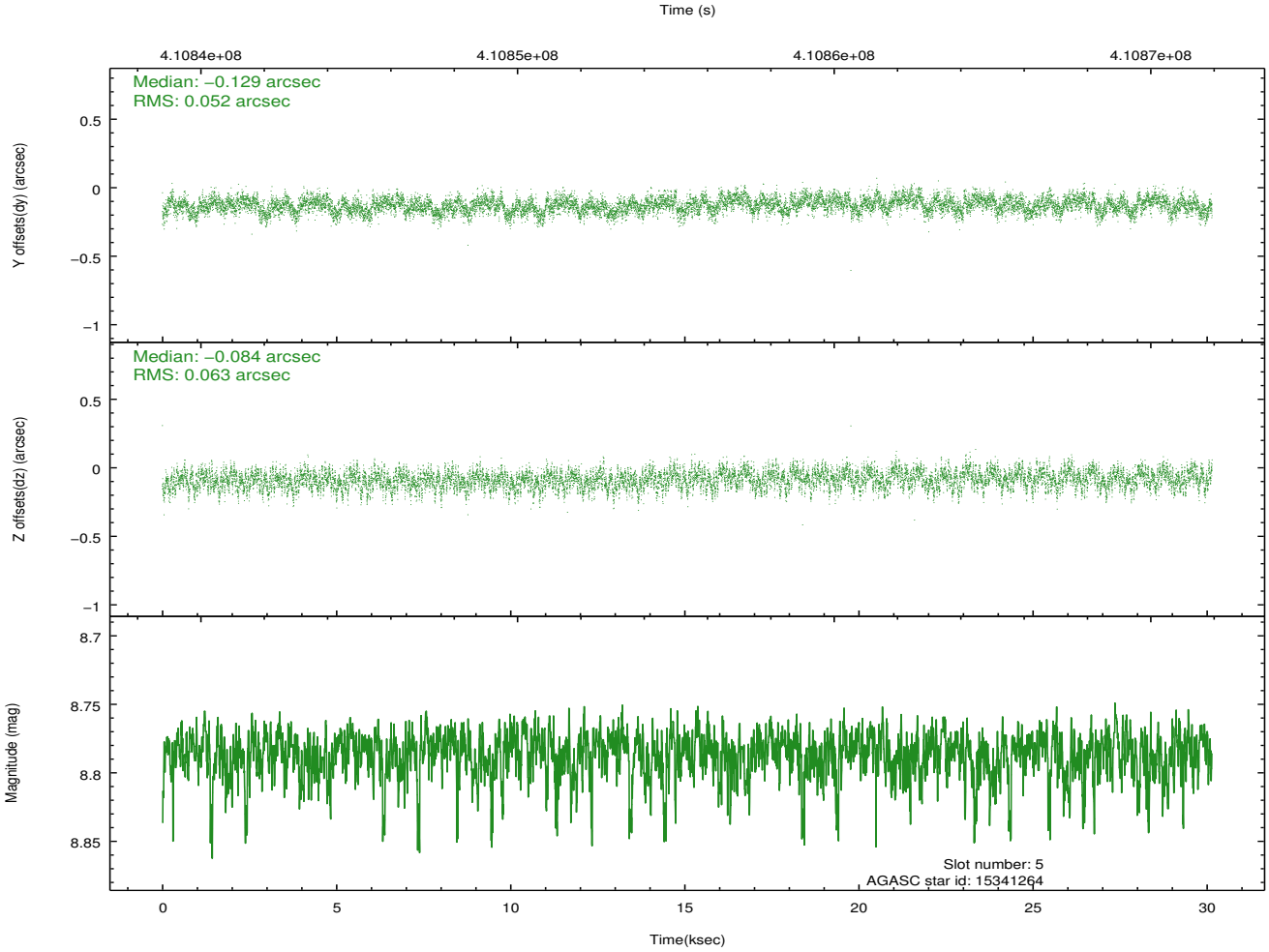

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.156 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 15336416


Time (s)
Median: 0.155 arcsec
RMS: 0.043 arcsec
Y offsets(dy) (arcsec)
Median: 0.016 arcsec
RMS: 0.042 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 15336416
Time(ksec)

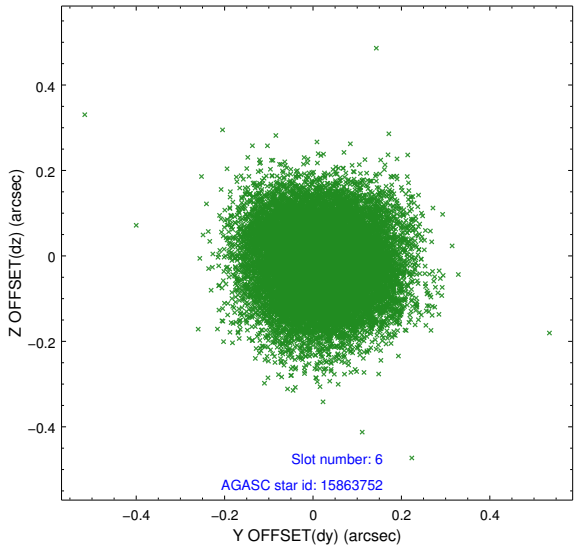
2.4.3 Slot 5

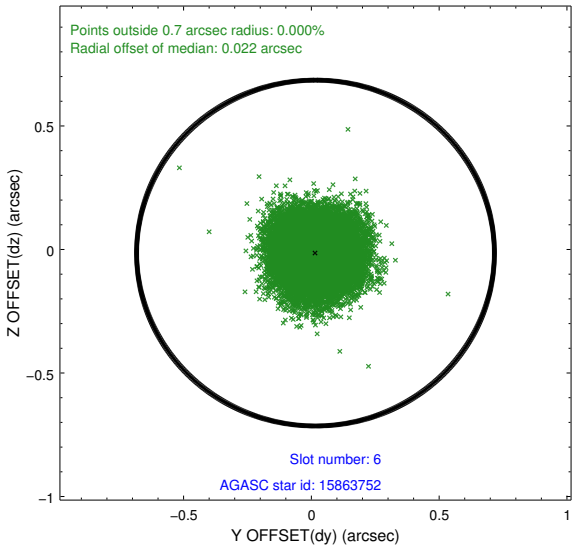

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 15341264

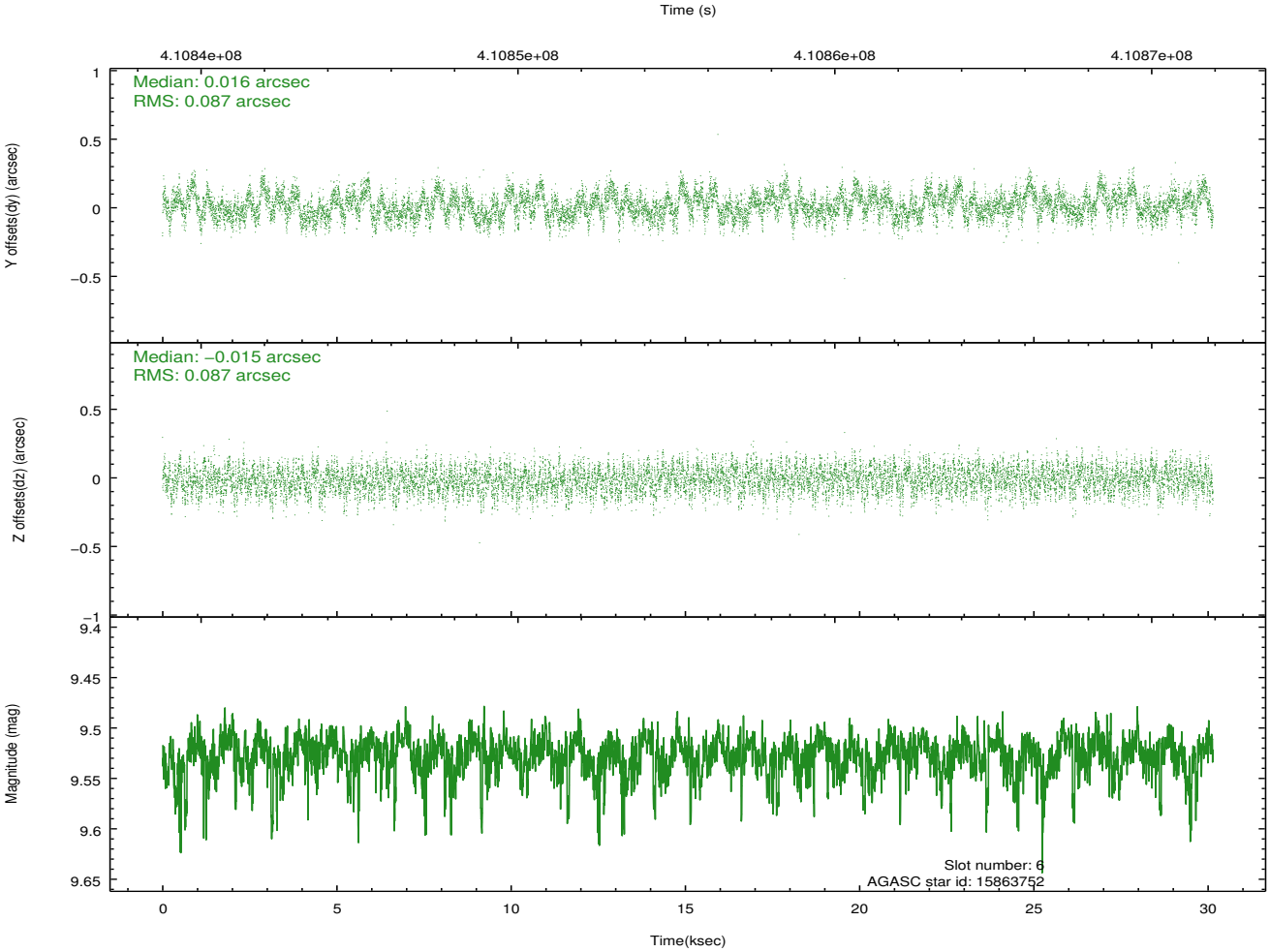

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.154 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 15341264


Time (s)
Median: −0.129 arcsec
RMS: 0.052 arcsec
Y offsets(dy) (arcsec)
Median: −0.084 arcsec
RMS: 0.063 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 15341264
Time(ksec)

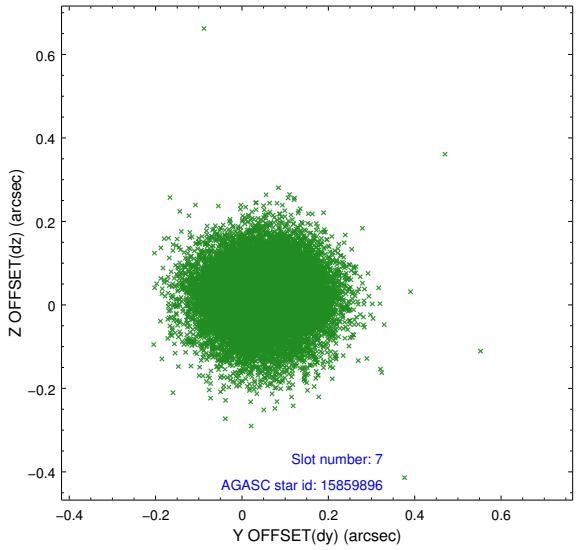
2.4.4 Slot 6

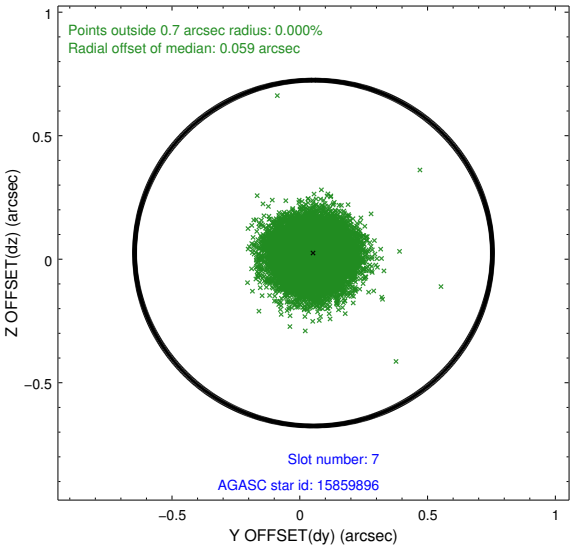

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 15863752

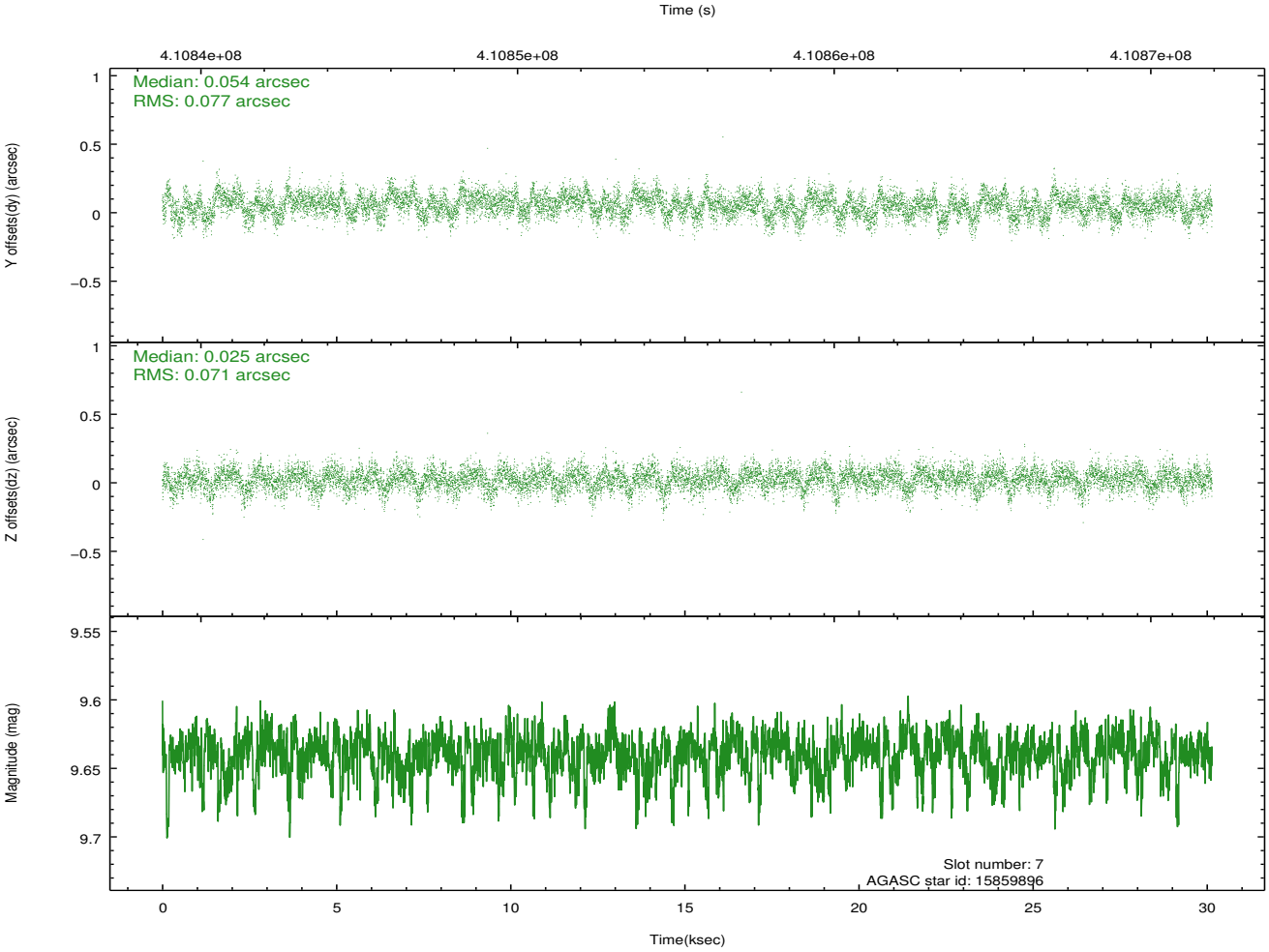

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.022 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 15863752


Time (s)
Median: 0.016 arcsec
RMS: 0.087 arcsec
Y offsets(dy) (arcsec)
Median: −0.015 arcsec
RMS: 0.087 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 15863752
Time(ksec)

2.4.5 Slot 7

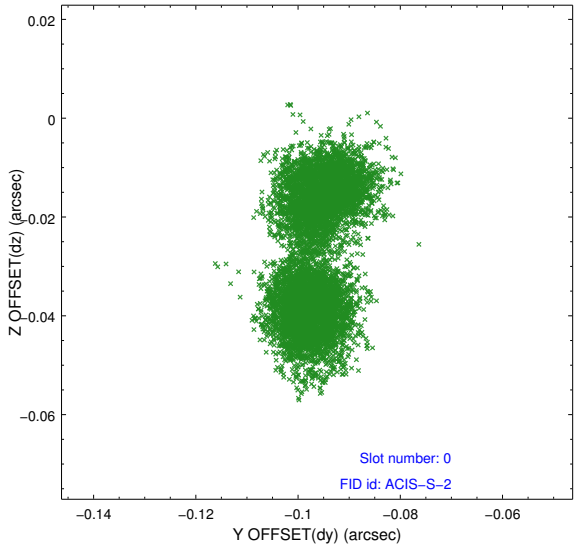

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 15859896

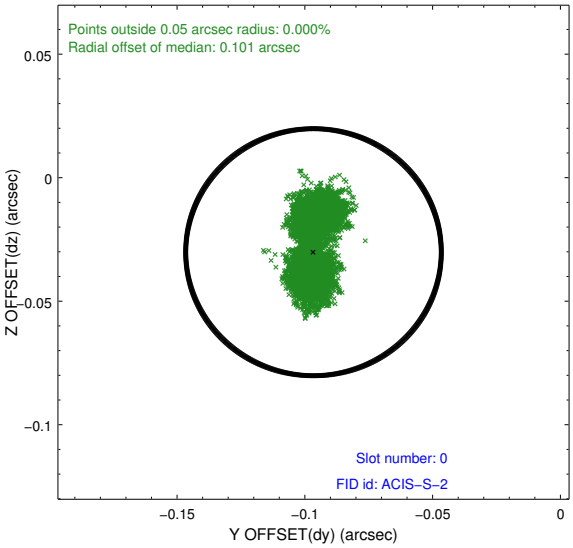

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.059 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 15859896

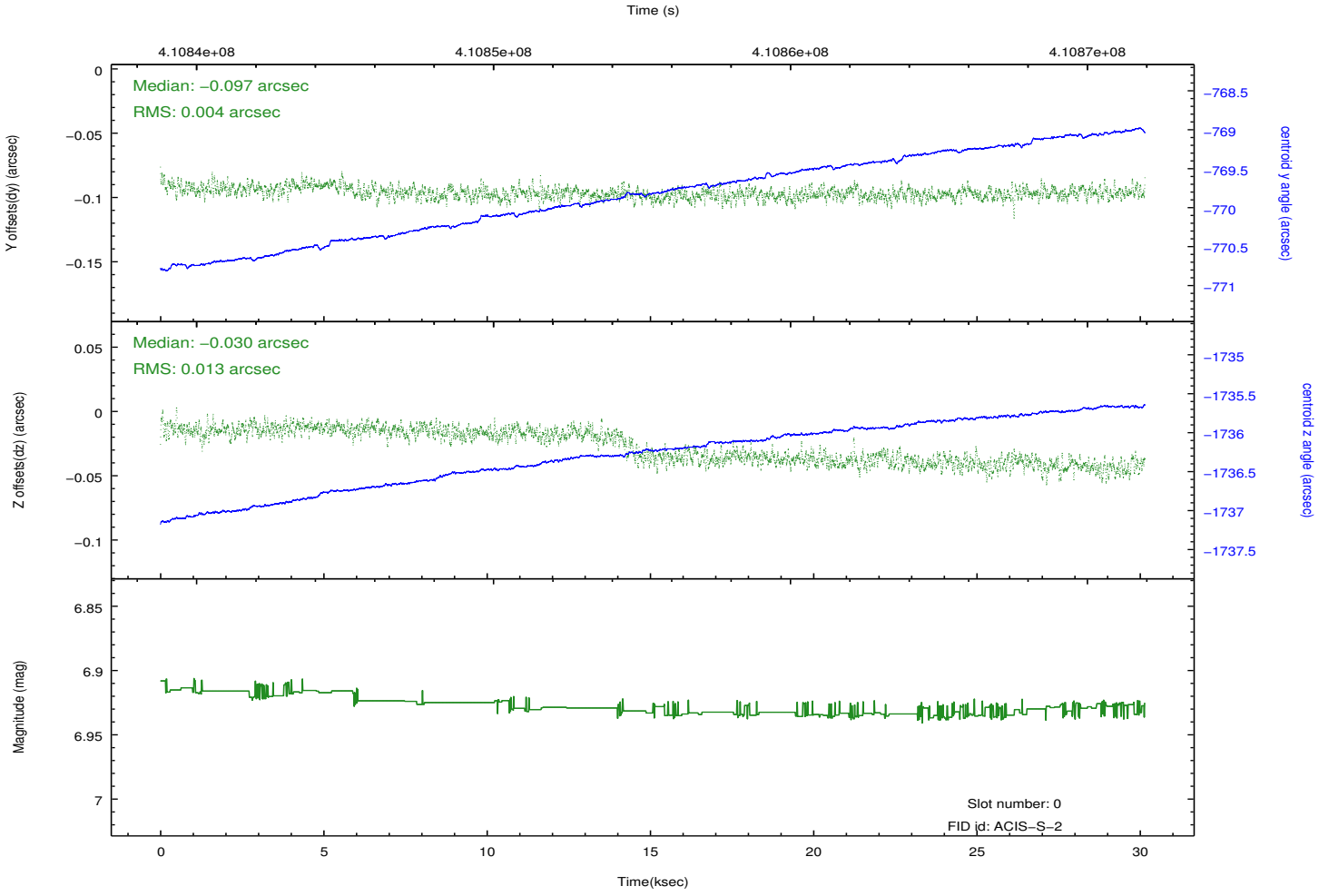

Time (s)
Median: 0.054 arcsec
RMS: 0.077 arcsec
Y offsets(dy) (arcsec)
Median: 0.025 arcsec
RMS: 0.071 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 15859896
Time(ksec)

2.5 FID Slots

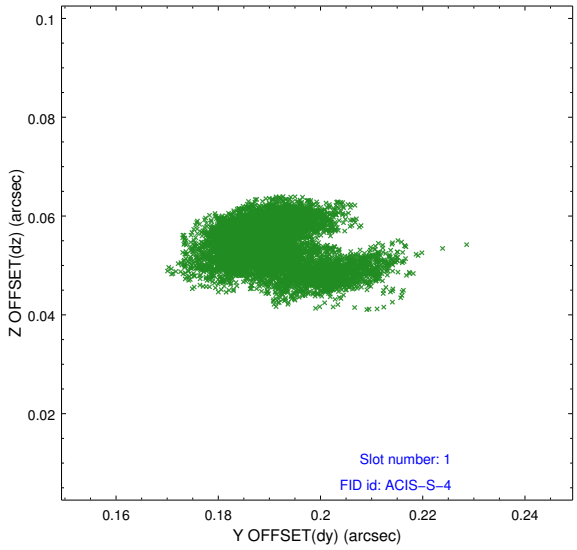
2.5.1 Slot 0

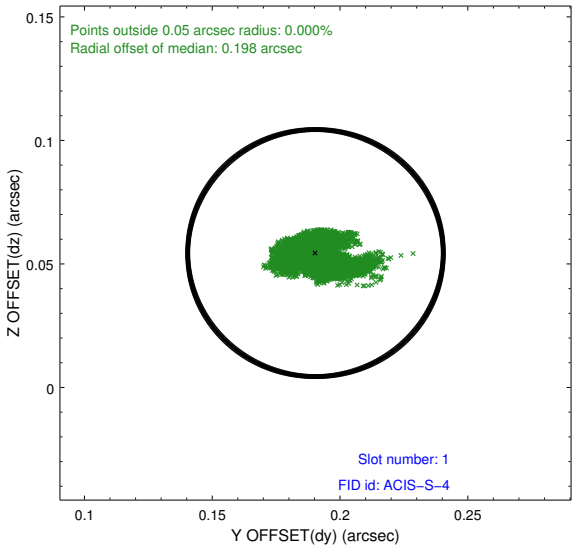


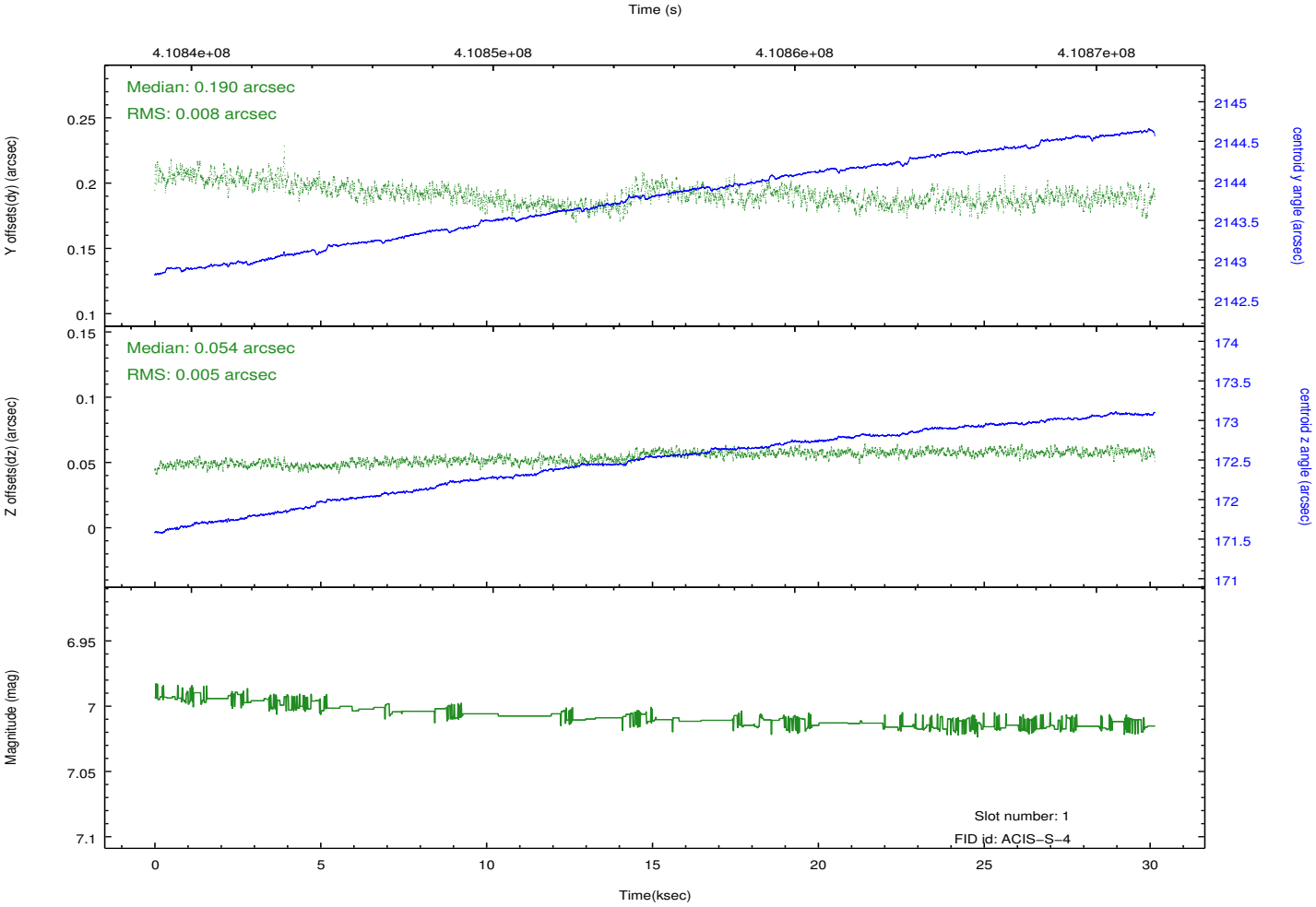




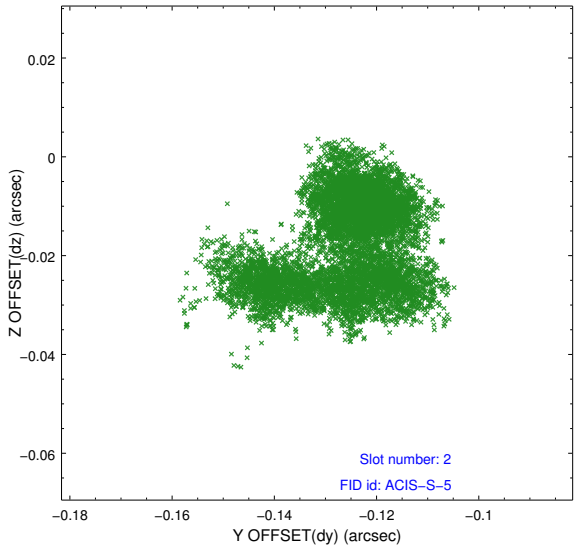
2.5.2 Slot 1

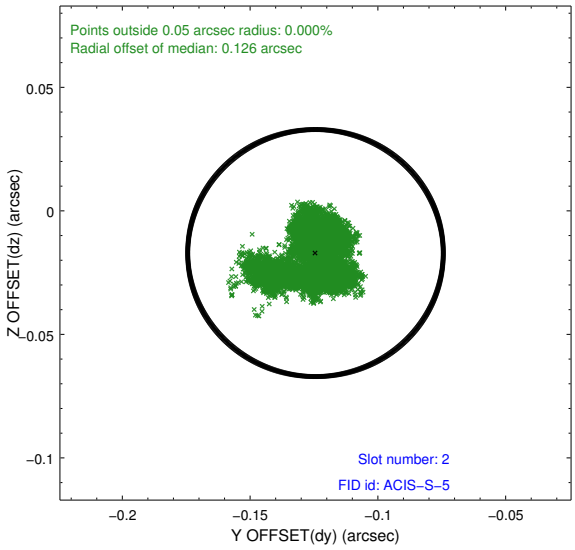

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4

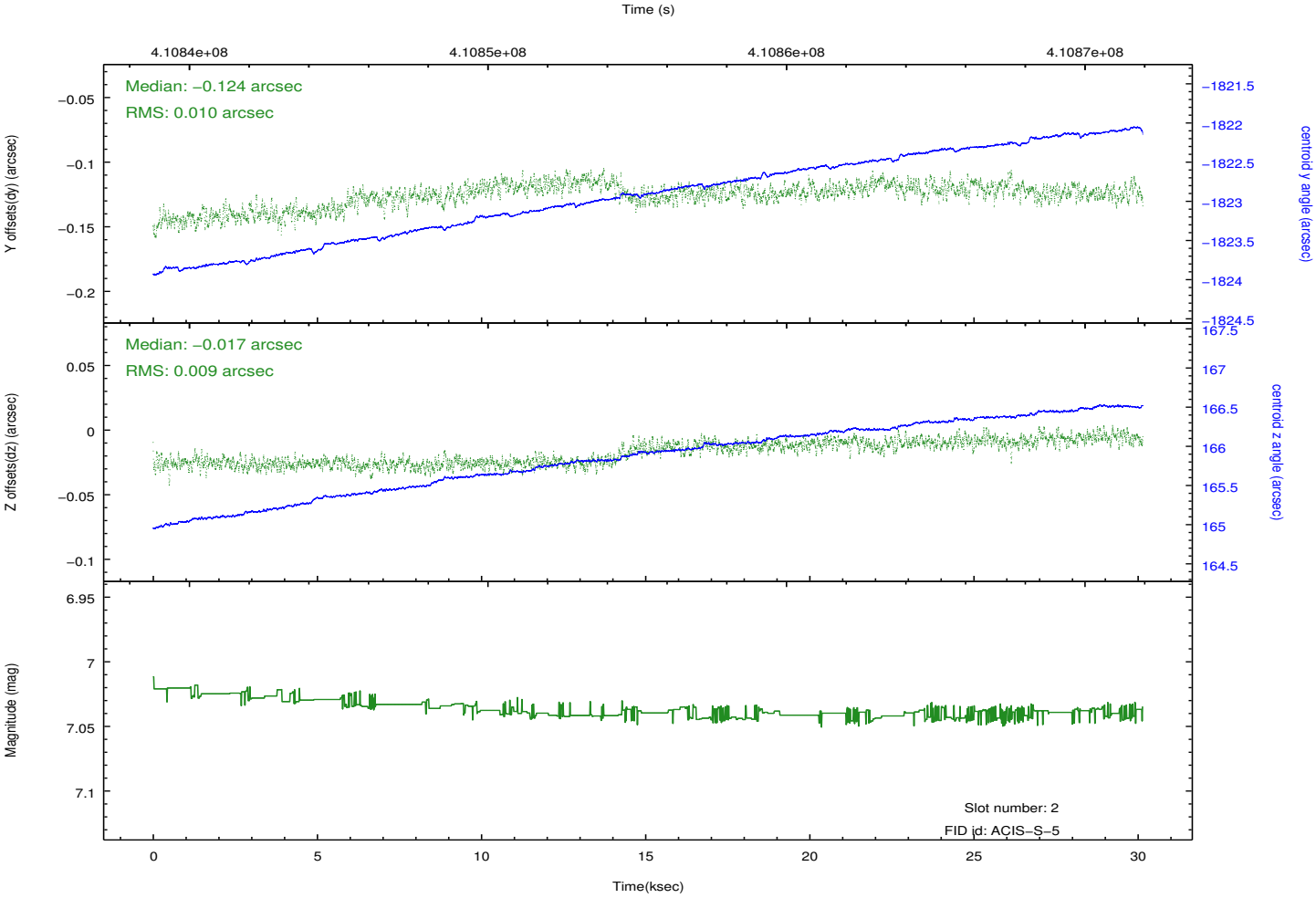

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.198 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4


Time (s)
Median: 0.190 arcsec
RMS: 0.008 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.054 arcsec
RMS: 0.005 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: ACIS−S−4
Time(ksec)

2.5.3 Slot 2


Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−5


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.126 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−5


Time (s)
Median: −0.124 arcsec
RMS: 0.010 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.017 arcsec
RMS: 0.009 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: ACIS−S−5
Time(ksec)

A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2012.02.01
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.076196083963

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.