V&V Reference Report
L2 ASCDS Version : 8.2.1

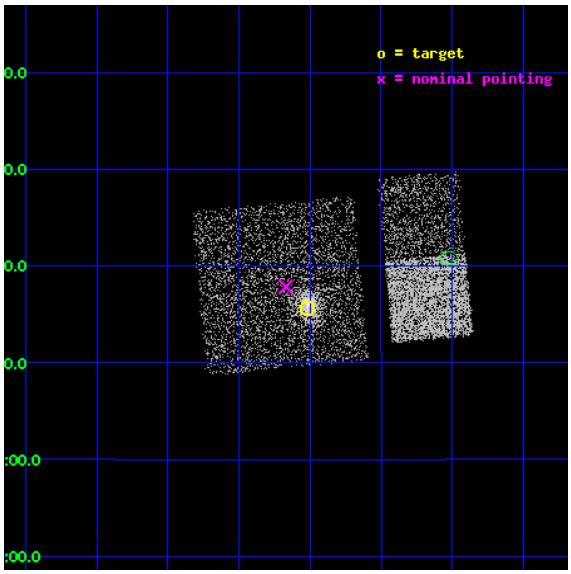
Observation 526 - L2 Version 7
Chandra X-Ray Center

L2 Processing Date : May 17 2011

Contents

1 Front

seq_num	800034	Sequence number
obs_id	526	Observation id
title	DETERMINATION OF H0/Q0	Proposal title
observer	DR. LEON VANSPEYBROECK	Principal investigator
object	RX J0439.0+0715	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	69.755	Observer's specified target RA
dec_targ	7.26	Observer's specified target Dec
ra_nom	69.792552	Nominal RA
dec_nom	7.297429	Nominal Dec
roll_nom	84.634583	Nominal Roll
revision	7	Processing version of data
ontime	1612.800001502	Sum of GTIs [s]
livetime	1592.3777567714	Livetime [s]
ontime0	1612.800001502	Sum of GTIs [s]
ontime1	1612.800001502	Sum of GTIs [s]
ontime2	1612.800001502	Sum of GTIs [s]
ontime3	1612.800001502	Sum of GTIs [s]
ontime6	1612.800001502	Sum of GTIs [s]
ontime7	1612.800001502	Sum of GTIs [s]
l2events	12664	Number of level 2 events

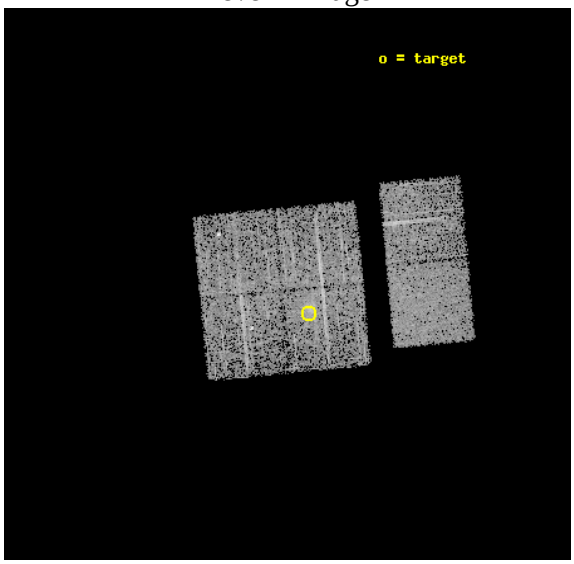


2 OBI

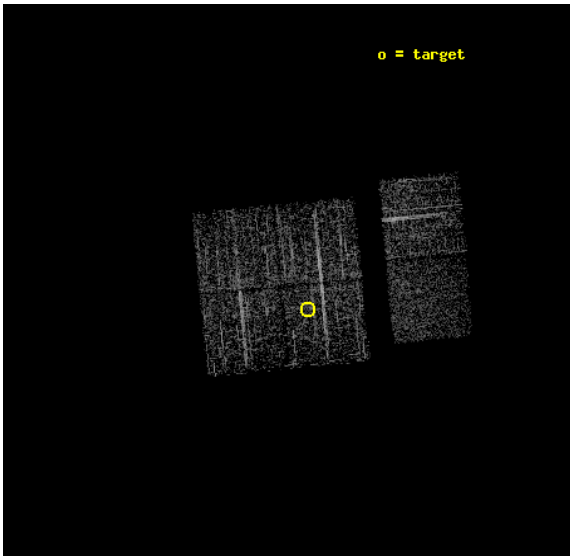
2.1 OBI

2.1.1 Images

Level 1 Image



Level 1 Bad Events



2.1.2 Parameters

obi_num	1	Obi number
ascdsver	8.3.4	ASCDS version number
caldbver	4.4.3	
date	2011-05-17T15:05:13	Date and time of file creation
revision	4	Processing version of data

sched_exp_time	1900.000000	Scheduled observation exposure time
ontime	1612.800001502	Sum of GTIs [s]
ontime0	1612.800001502	Sum of GTIs [s]
ontime1	1612.800001502	Sum of GTIs [s]
ontime2	1612.800001502	Sum of GTIs [s]
ontime3	1612.800001502	Sum of GTIs [s]
ontime6	1612.800001502	Sum of GTIs [s]
ontime7	1612.800001502	Sum of GTIs [s]
l1events	85852	Number of level 1 events

2.1.3 Events

	ccd 0	**ccd 1**	**ccd 2**	**ccd 3**	**ccd 6**	**ccd 7**
level 1 events	13626	13680	14883	14767	13918	14978
rejected events	11761	11725	13487	12307	12420	9234
rejected %	86%	85%	90%	83%	89%	61%

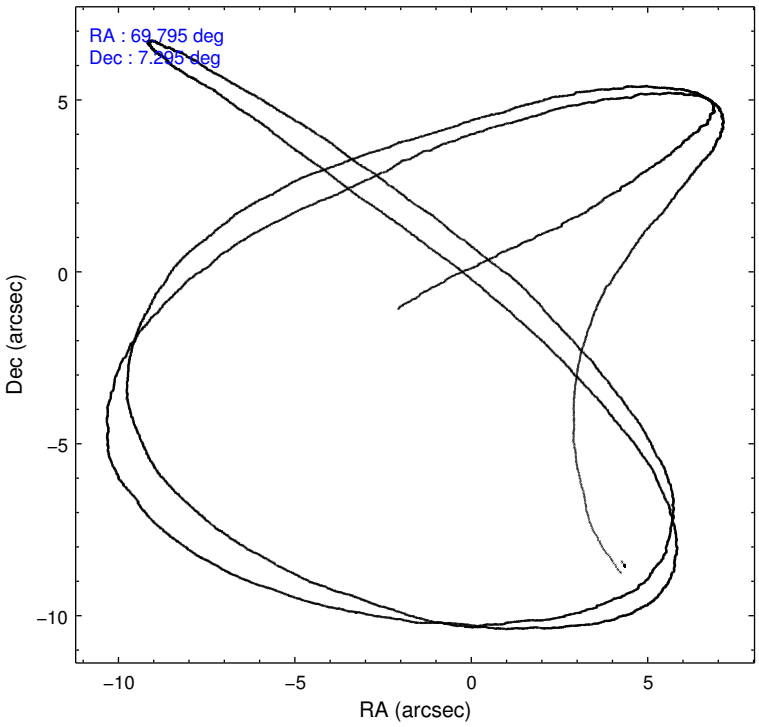
	ccd 0	**ccd 1**	**ccd 2**	**ccd 3**	**ccd 6**	**ccd 7**
grade 0 events	892	847	274	879	280	360
	6%	6%	1%	5%	2%	2%
grade 1 events	3	9	6	6	1	2
	0%	0%	0%	0%	0%	0%
grade 2 events	510	574	526	1016	582	1163
	3%	4%	3%	6%	4%	7%
grade 3 events	79	90	95	102	100	339
	0%	0%	0%	0%	0%	2%
grade 4 events	63	96	97	106	93	303
	0%	0%	0%	0%	0%	2%
grade 5 events	292	312	309	293	345	852
	2%	2%	2%	1%	2%	5%
grade 6 events	328	359	406	367	452	3593
	2%	2%	2%	2%	3%	23%
grade 7 events	11459	11393	13170	11998	12065	8366
	84%	83%	88%	81%	86%	55%

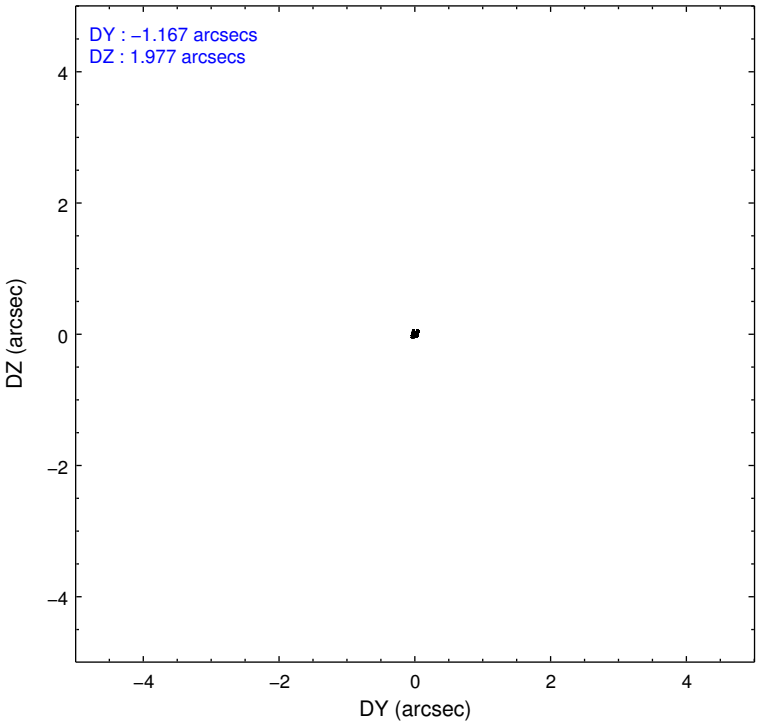
2.2 Compared Parameters

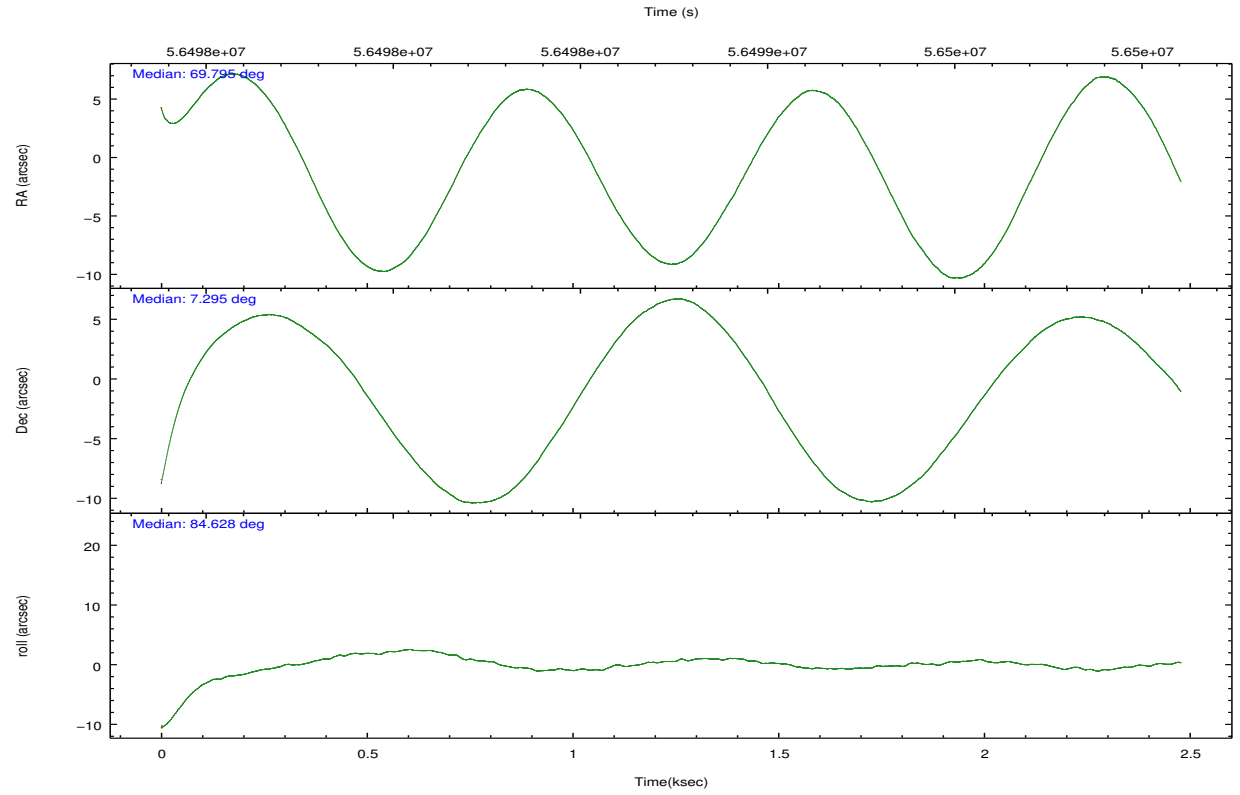
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-012367	ACIS-012367
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
Pointing RA	69.805538	69.79452791830091
Pointing Dec	7.269173	7.294874867091898
Pointing Roll	84.424373	84.63444221729752
SIM focus pos (mm)	-0.782348	-0.7809083437167272
SIM defocus (mm)	0	0.001439871863259334
SIM translation stage pos (mm)	-233.592463	-233.5874344608287
SIM translation stage offset (mm)	0	-0.005018542100998502
Observation start time	56497977.184000	56496690.835221
Observation start date	1999-10-16T21:51:53	1999-10-16T21:31:30
Observation end time	56499877.184000	56499982.62284
Observation end date	1999-10-16T22:23:33	1999-10-16T22:26:22
Read mode	TIMED	TIMED

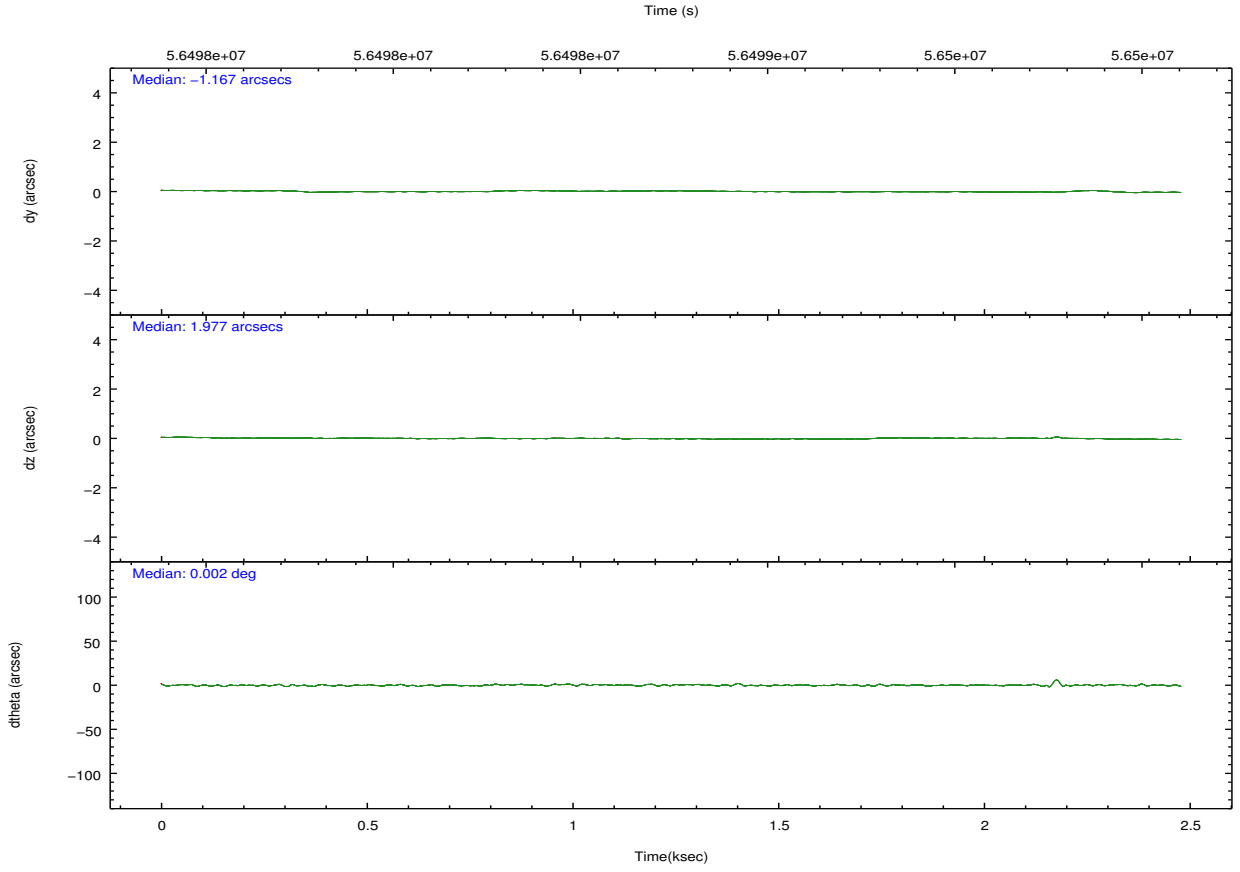
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
Primary exposure time	0.000000	3.2

2.3 Aspect


RA : 69.795 deg
Dec : 7.295 deg
Dec (arcsec)
RA (arcsec)
5
0
−5
−10
−10
−5
0
5


DY : −1.167 arcsecs
DZ : 1.977 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
5.6498e+07
5.6498e+07
5.6498e+07
5.6499e+07
5.65e+07
5.65e+07
Median: 69.795 deg
RA (arcsec)
Median: 7.295 deg
Dec (arcsec)
Median: 84.628 deg
roll (arcsec)
Time(ksec)

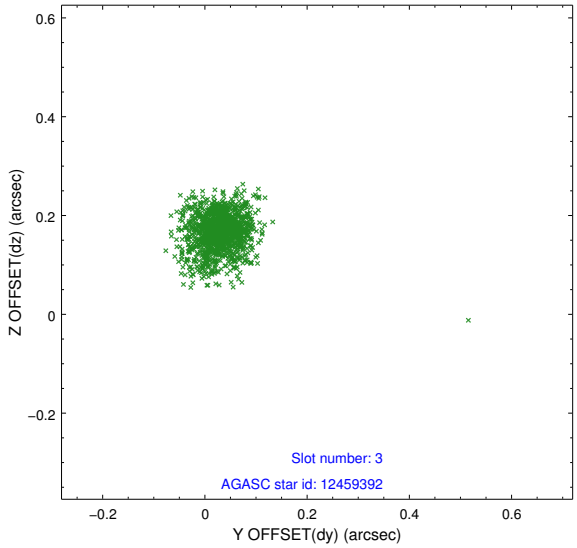

Time (s)
5.6498e+07
5.6498e+07
5.6498e+07
5.6499e+07
5.65e+07
5.65e+07
Median: −1.167 arcsecs
dy (arcsec)
Median: 1.977 arcsecs
dz (arcsec)
Median: 0.002 deg
dtheta (arcsec)
Time(ksec)

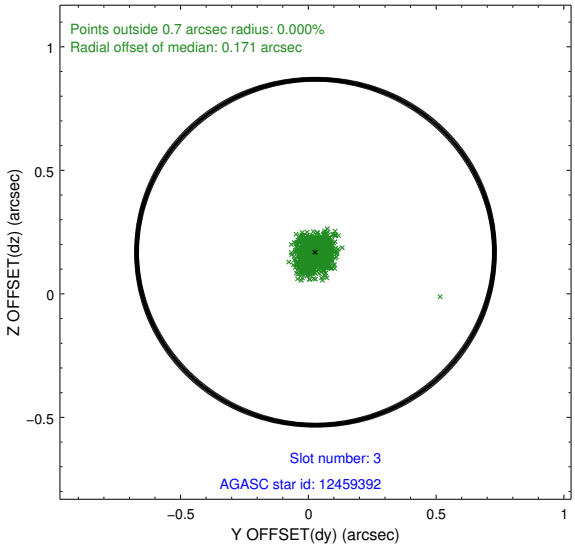
Slot Statistics

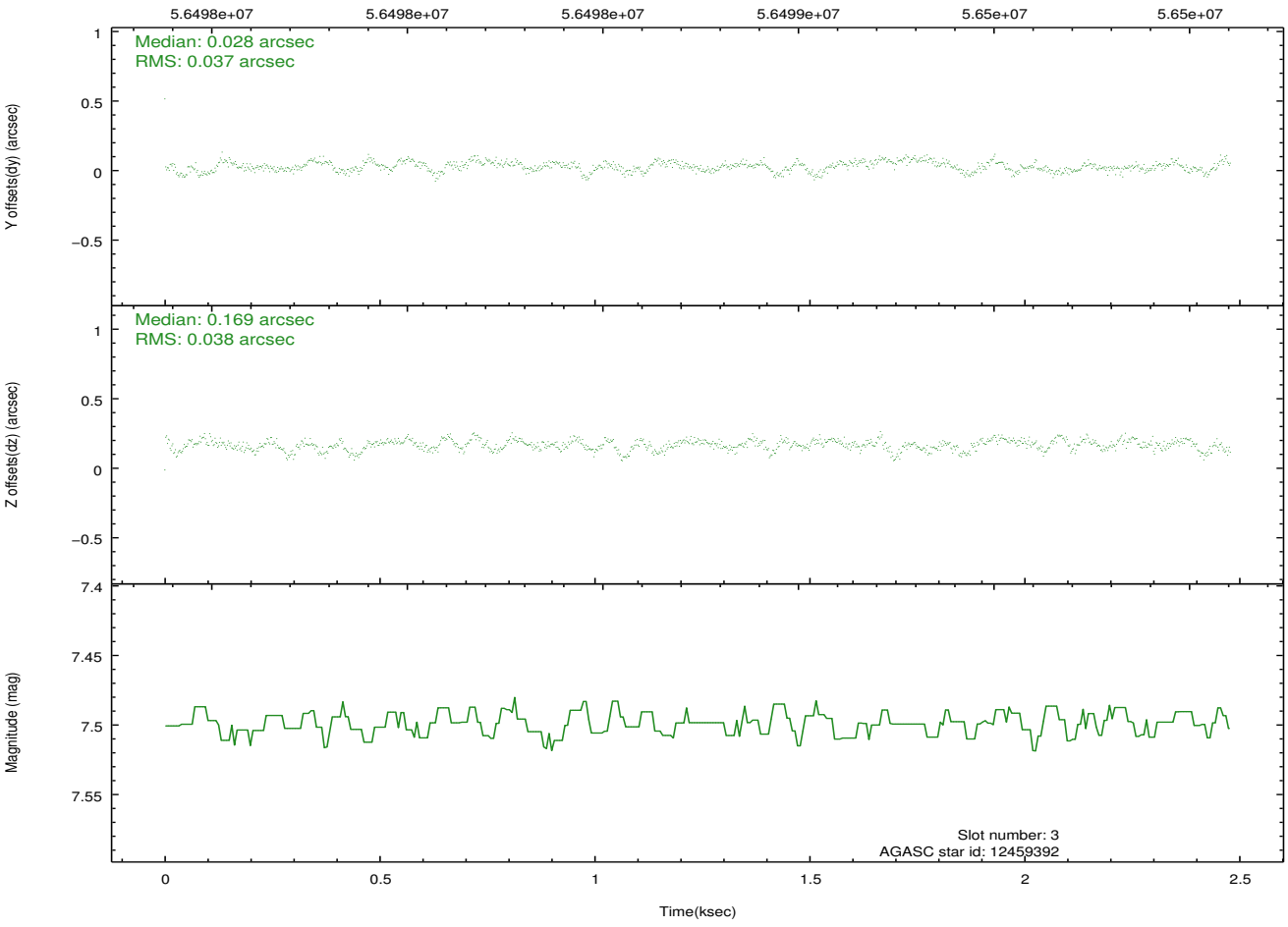
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-2	7.20	1210	-0.048	0.050	0.010	0.017	0.000000	0.000000	-753.21	-831.50
1	FID	ACIS-I-4	7.23	1210	0.097	0.021	0.007	0.012	0.000000	0.000000	2160.57	1073.84
2	FID	ACIS-I-5	7.23	1210	-0.151	-0.002	0.010	0.016	0.000000	0.000000	-1805.42	1073.34
3	GUIDE	12459392	7.50	1210	0.028	0.169	0.053	0.089	70.275390	6.631326	-2120.73	-1893.79
4	GUIDE	89403728	8.63	1210	0.028	0.064	0.057	0.089	69.872880	7.548227	1021.87	-141.35
5	GUIDE	89400656	8.85	1209	-0.102	0.135	0.086	0.141	70.426351	7.827138	2217.26	-2006.52
6	GUIDE	89404128	9.17	1208	-0.116	-0.148	0.084	0.134	69.331288	7.508166	694.63	1768.24
7	GUIDE	12330408	9.20	1209	0.160	-0.219	0.099	0.158	69.191517	6.828920	-1788.40	2033.29

2.4 Star Slots

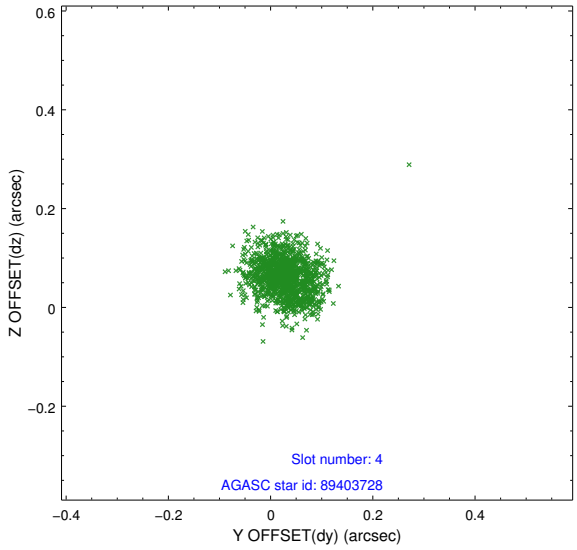
2.4.1 Slot 3

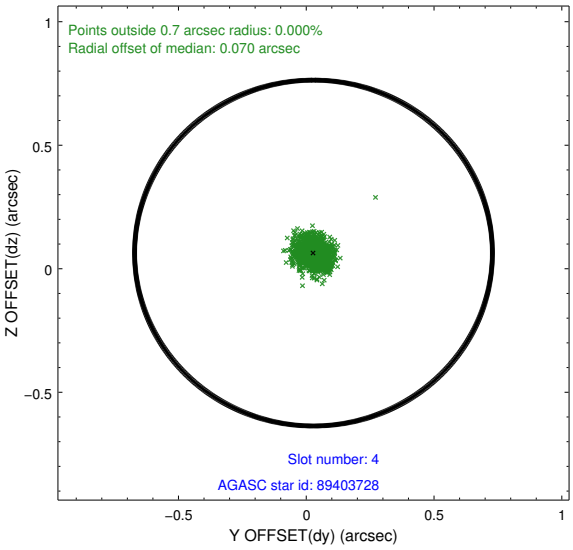


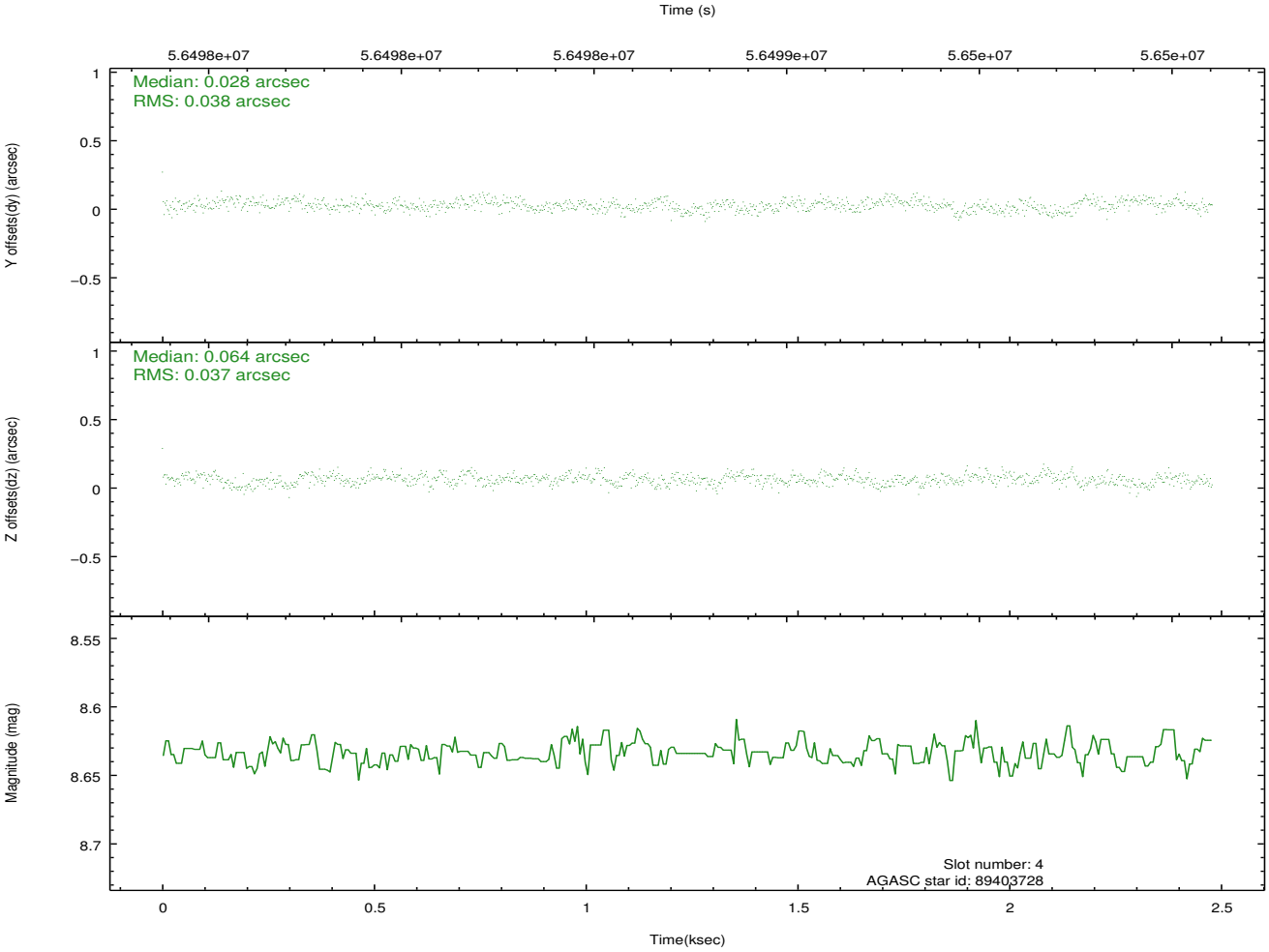




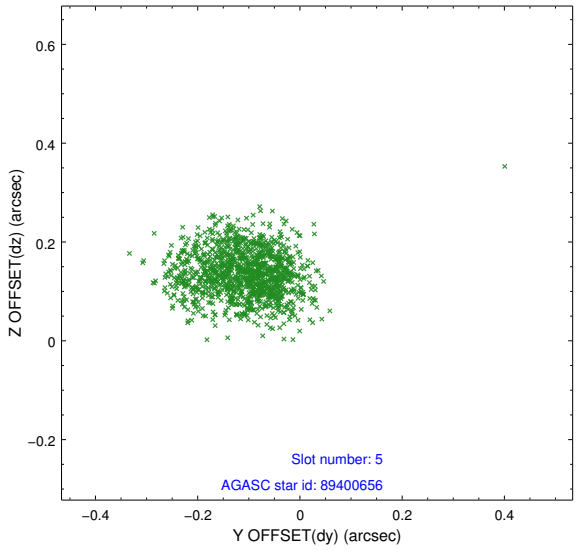
2.4.2 Slot 4

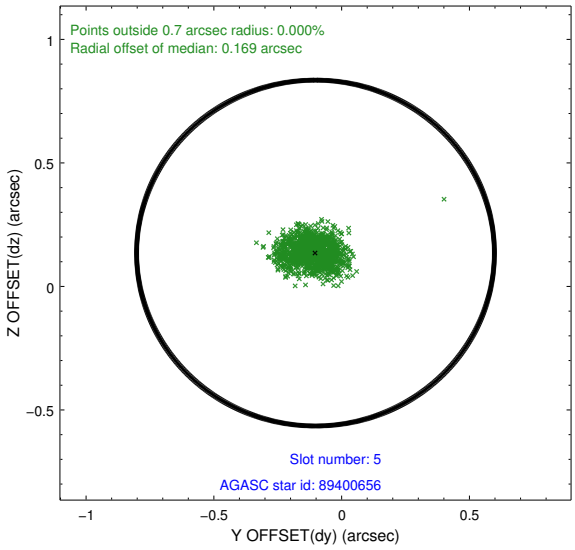

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 89403728

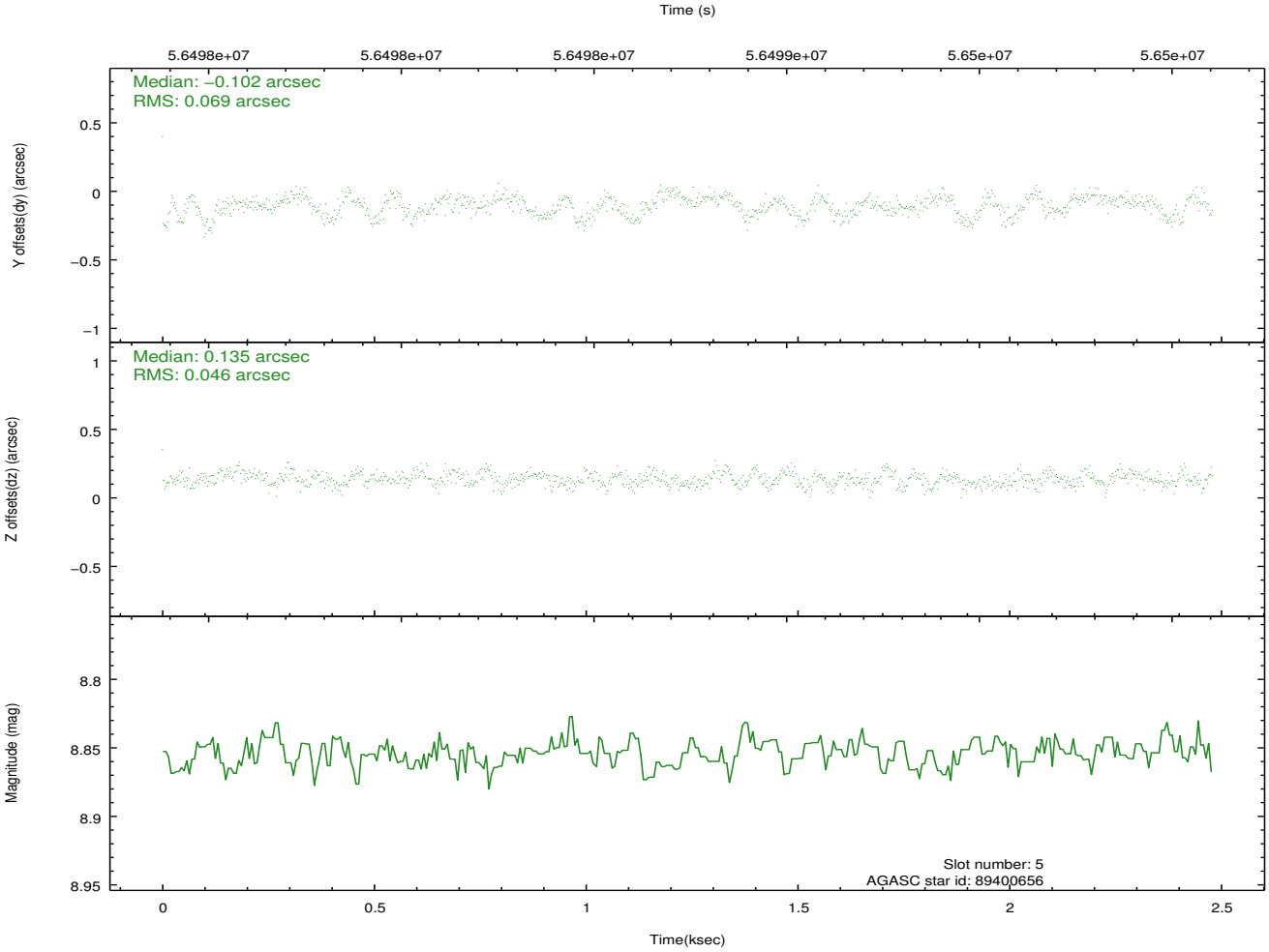

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.070 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 89403728


Time (s)
Median: 0.028 arcsec
RMS: 0.038 arcsec
Y offsets(dy) (arcsec)
Median: 0.064 arcsec
RMS: 0.037 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 89403728
Time(ksec)

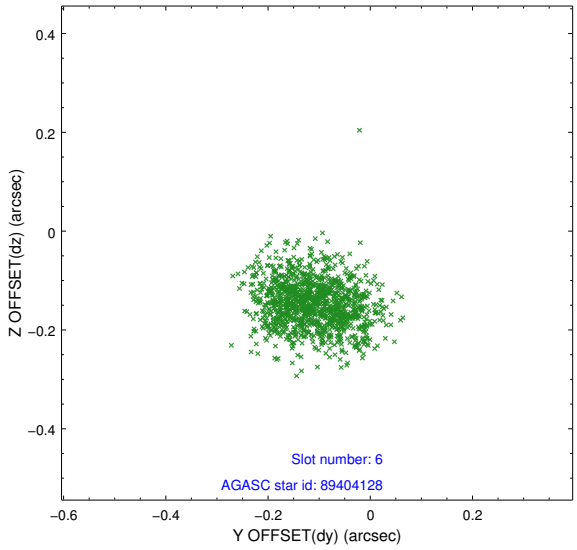
2.4.3 Slot 5

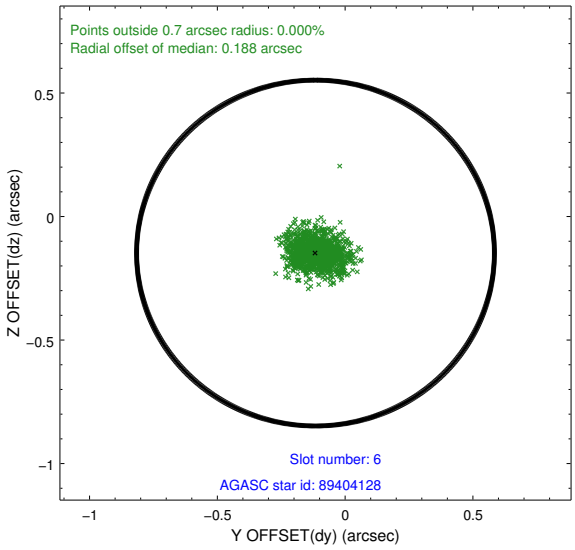

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 89400656

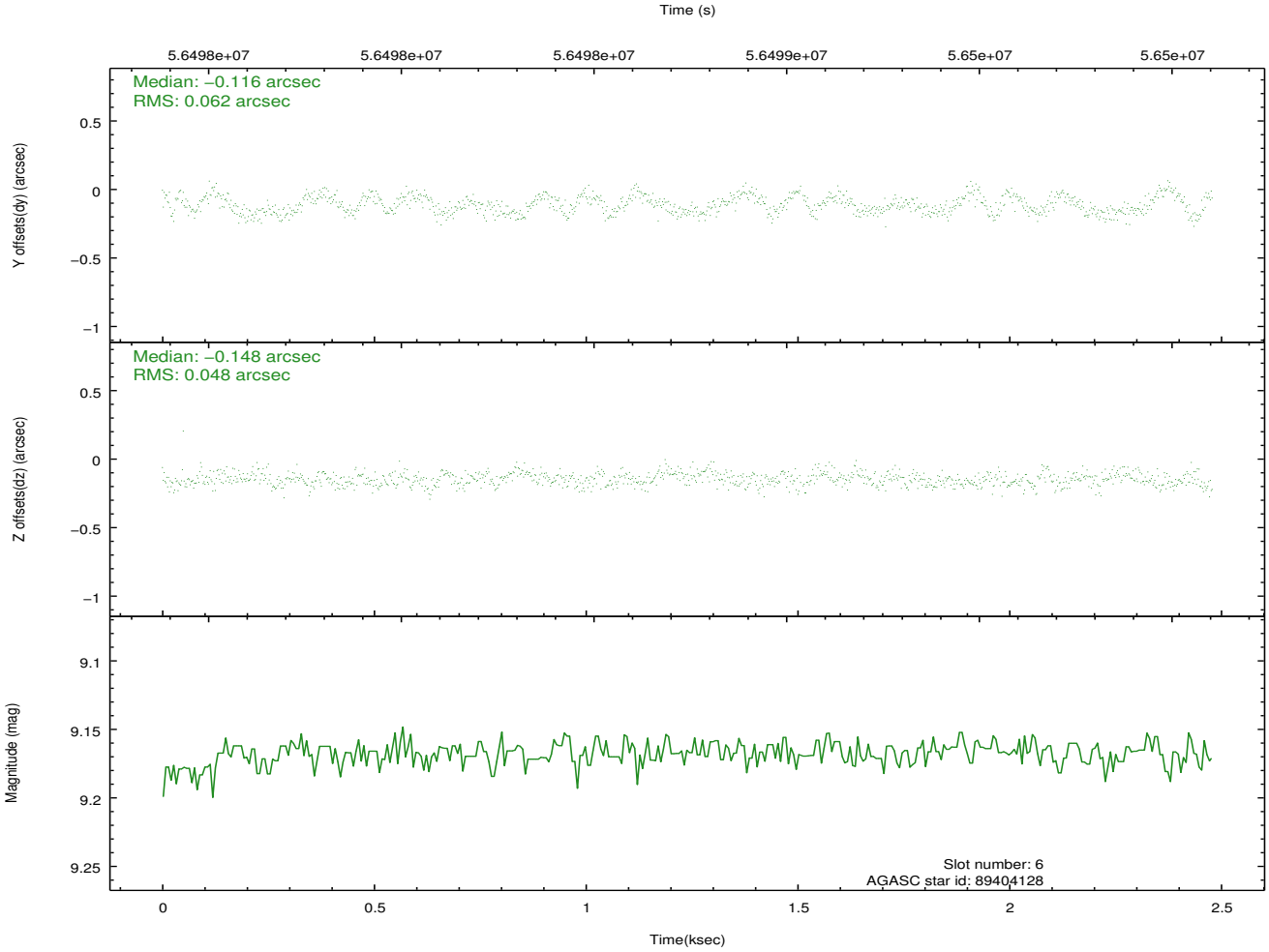

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.169 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 89400656


Time (s)
Median: −0.102 arcsec
RMS: 0.069 arcsec
Y offsets(dy) (arcsec)
Median: 0.135 arcsec
RMS: 0.046 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 89400656
Time(ksec)

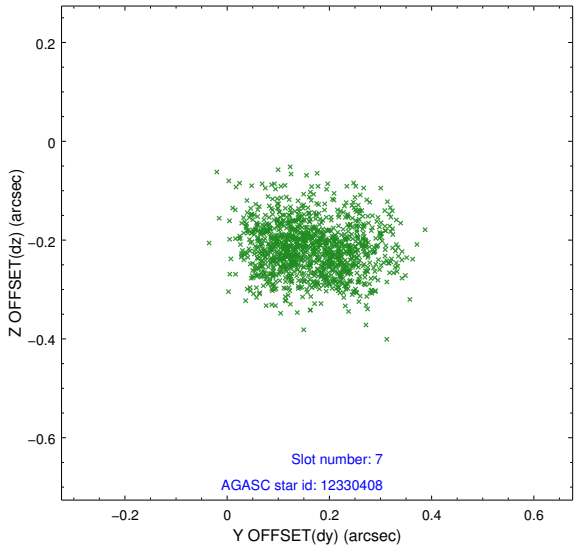
2.4.4 Slot 6

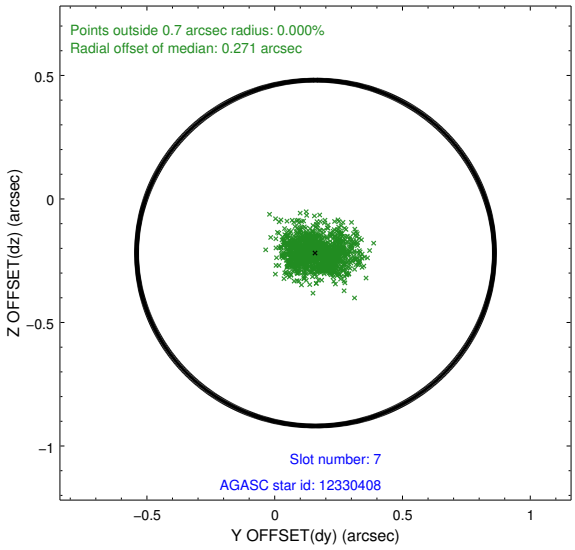

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 89404128

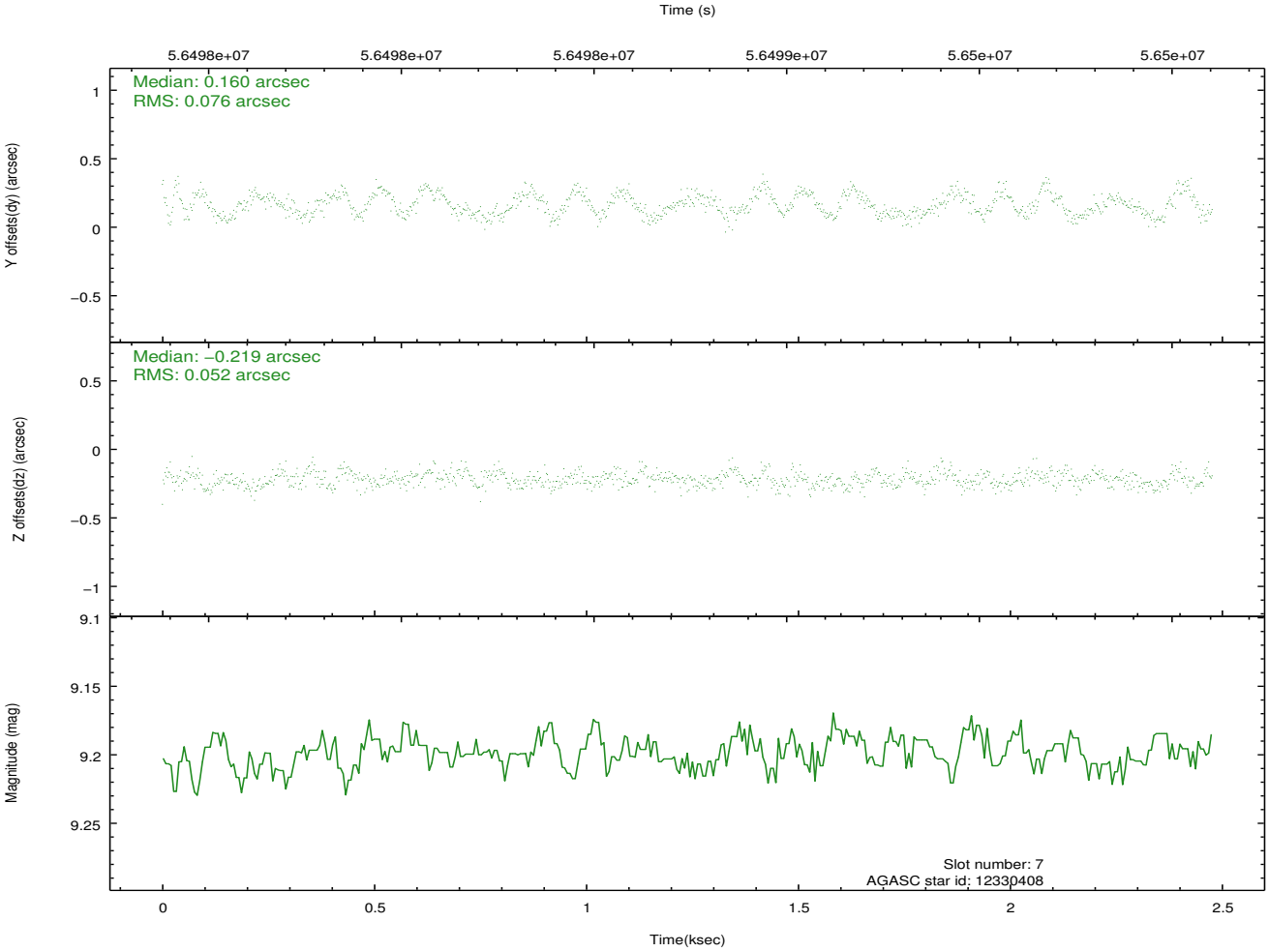

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.188 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 89404128


Time (s)
Median: −0.116 arcsec
RMS: 0.062 arcsec
Y offsets(dy) (arcsec)
Median: −0.148 arcsec
RMS: 0.048 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 89404128
Time(ksec)

2.4.5 Slot 7

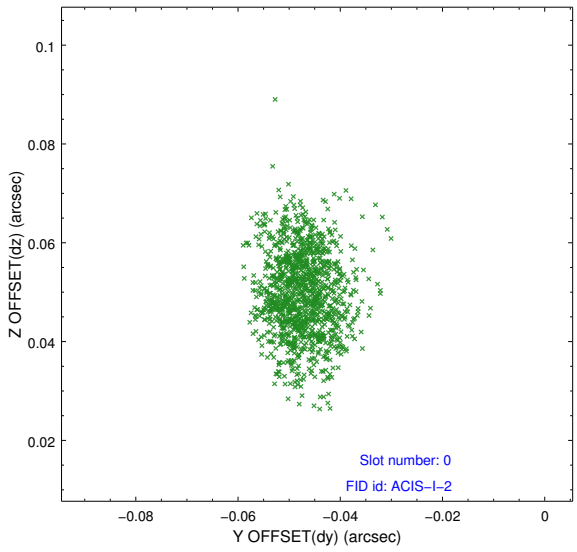

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 12330408

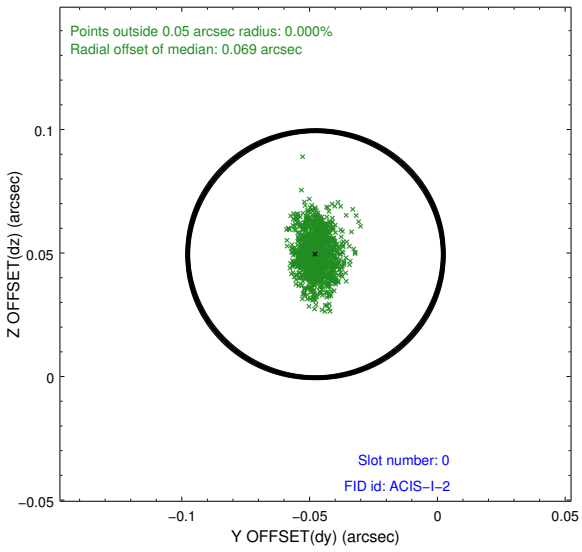

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.271 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 12330408

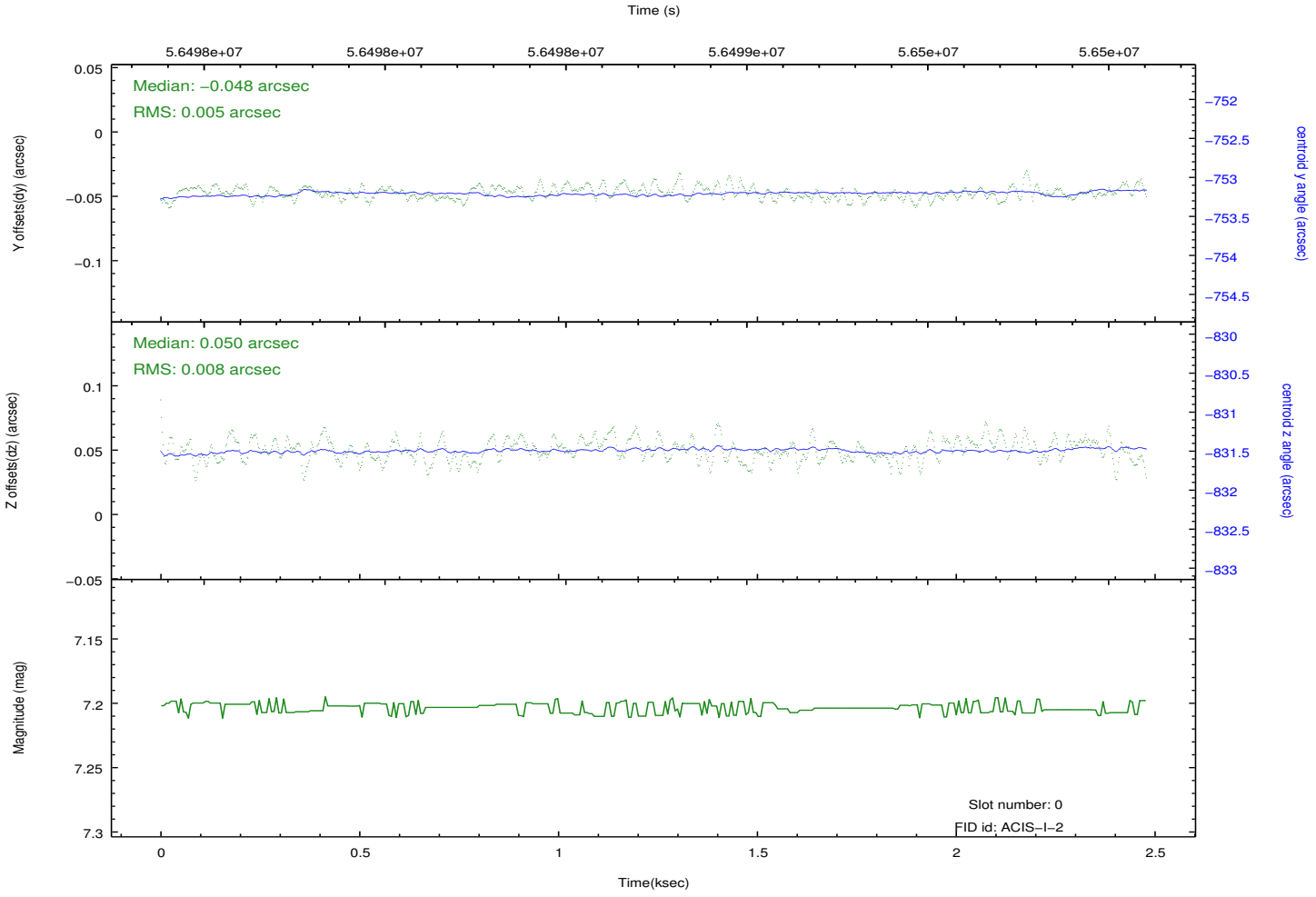

Time (s)
Median: 0.160 arcsec
RMS: 0.076 arcsec
Y offsets(dy) (arcsec)
Median: −0.219 arcsec
RMS: 0.052 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 12330408
Time(ksec)

2.5 FID Slots

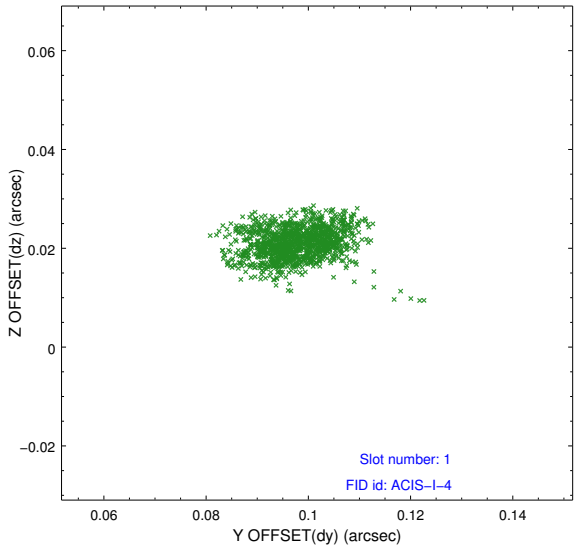
2.5.1 Slot 0

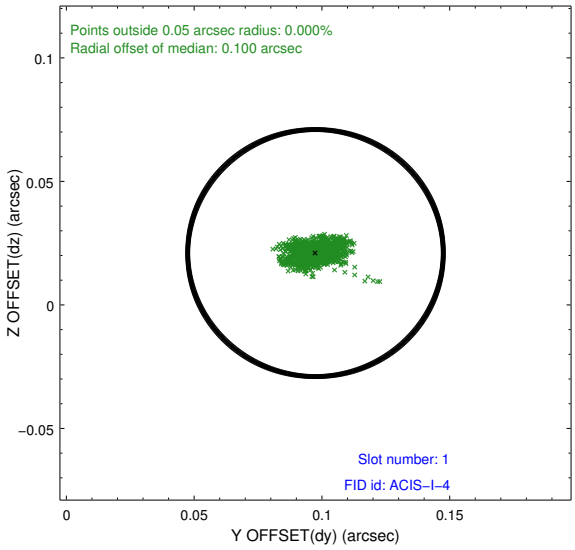


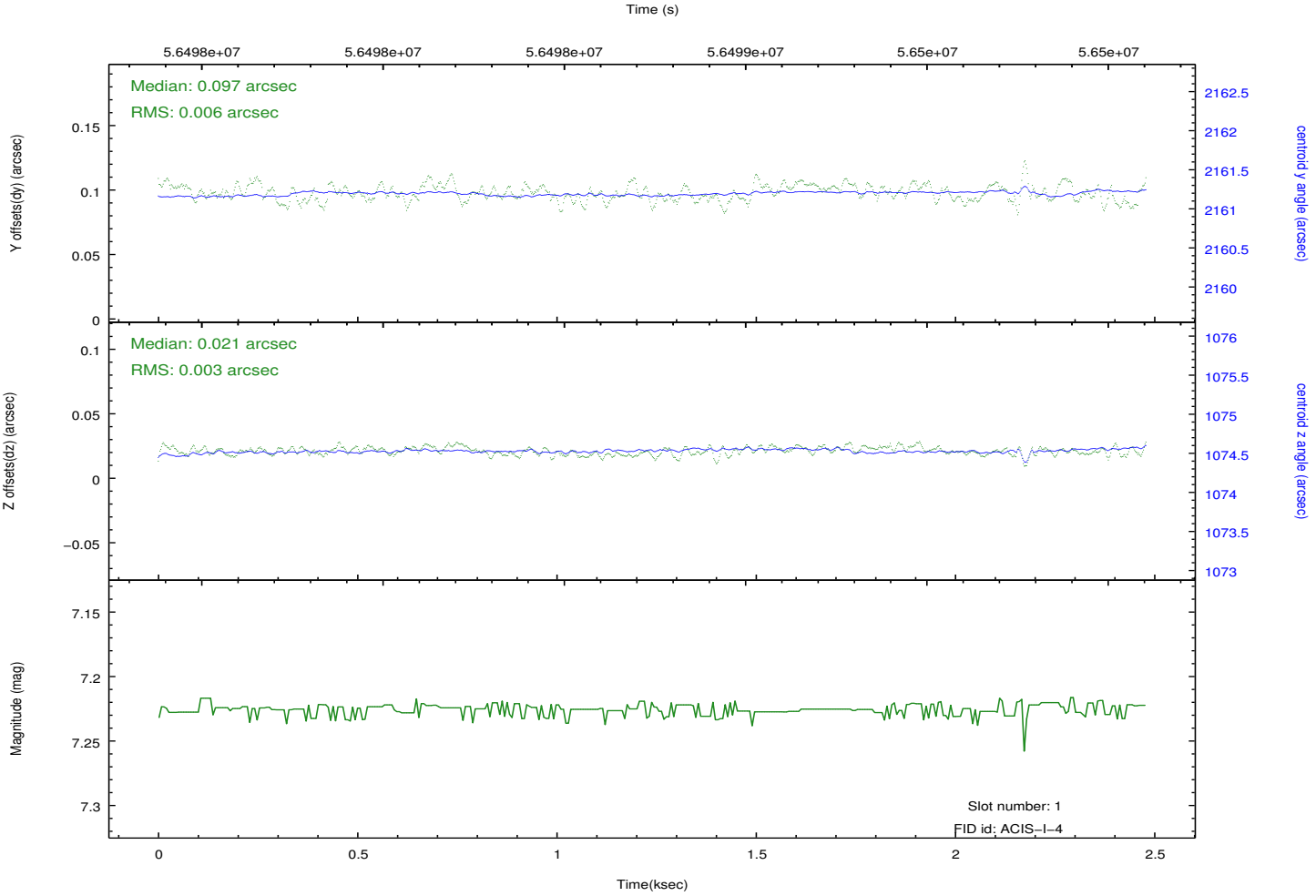




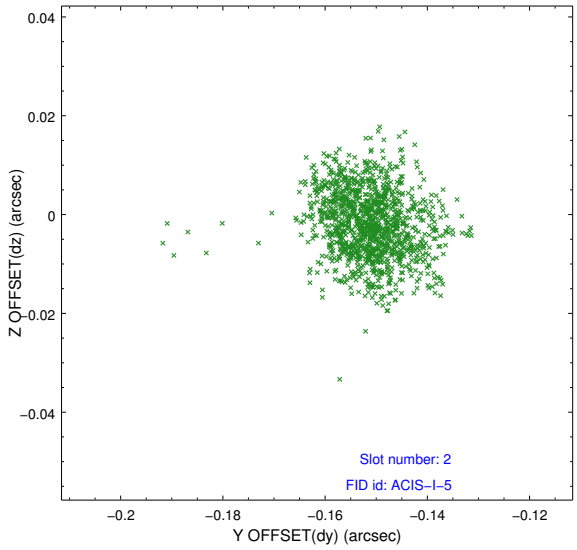
2.5.2 Slot 1

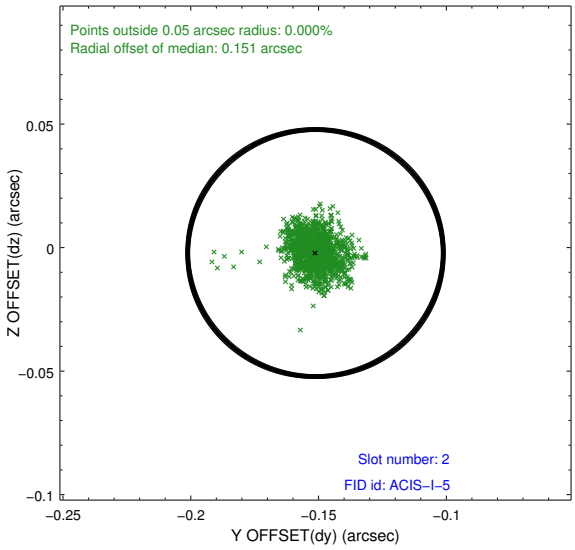

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS–I–4

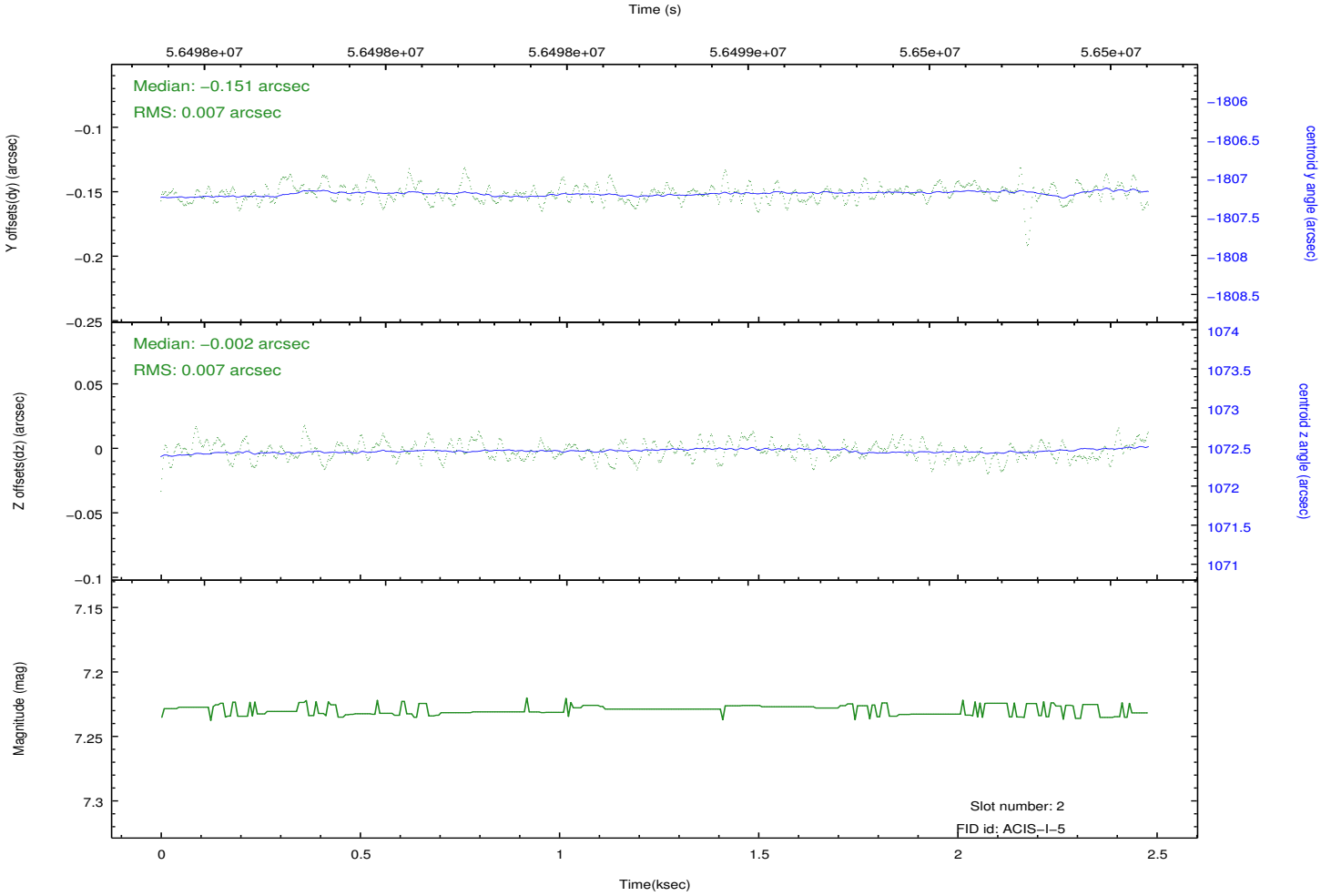

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.100 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS–I–4


Time (s)
Median: 0.097 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.021 arcsec
RMS: 0.003 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: ACIS–I–4
Time(ksec)

2.5.3 Slot 2


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


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.151 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS–I–5


Time (s)
Median: –0.151 arcsec
RMS: 0.007 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: –0.002 arcsec
RMS: 0.007 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: ACIS–I–5
Time(ksec)

3 Point Sources

17.46 arcmin

A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2011.05.18
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.616

A.2 Comments

```
Charge time for this ObsId remains at original value of 1.616 ks,
although
with the current processing the charge time would have been 1.613 ksec.
===
Due to an operational error, the bias files intended for use in this
observation have the wrong FEP/CCD combination. In addition, only 5 of
these bias files are available, while 6 CCDs were turned on for this
observation. Another problem is that the level 0 exposure files had
apparent corruption. These problems have been addressed by modifying
the level 0 exposure files to make them consistent with the data, and by
using manual processing steps to assign the correct bias files to the
correct CCD chip. The missing bias file was replaced with the scaled
version of a nearby appropriate bias file for that chip.
===
The focal plane temperature is approximately -110 C during this
observation. This reprocessing of the data applies no CTI correction
because none is available for this temperature at present.

The ACIS CTI correction has not been calibrated at this temperature,
because it was early in the mission, and ACIS had not yet been lowered
to the standard -119.7 C. Both front and back illuminated chips are
affected. However a T_GAIN correction has been applied to the BI chips
(ACIS-5 and ACIS-7) data included here.

The ACIS spectral response calibration is less accurate at these warmer
temperatures than it is at -119.7 C. Users whose science objectives
depend on the most accurate spectral response (ie: fitting line-rich
spectra) may notice an effect. Users whose science objectives do not
depend on the most accurate spectral response should not notice an
effect.
===
Note: Bias images do not display for the V&V report for this obsid
because of the manual steps taken during the processing to force the
correct bias files to be used for the correct CCD. The bias files have
been independently verified.
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