V&V Reference Report
L2 ASCDS Version : 8.5.1

Observation 15353 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Nov 30 2014

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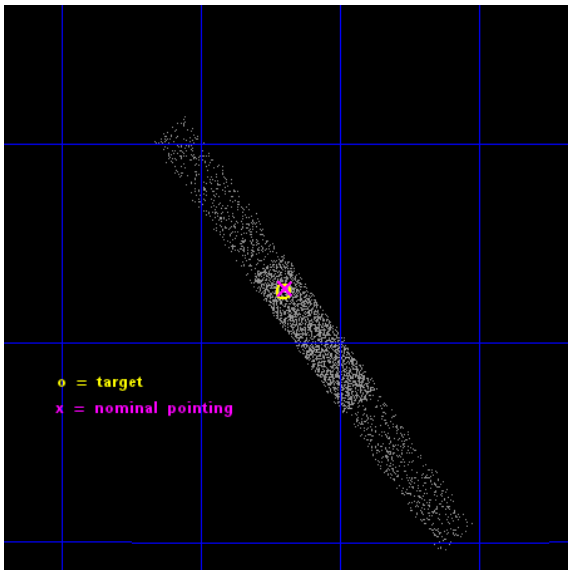
1 Front

seq_num	702913	Sequence number
obs_id	15353	Observation id
title	Clarifying the Nature of Weak-Line Quasars with Chandra Spectroscopy and Snapshots	Proposal title
observer	Professor Gordon Garmire	Principal investigator
object	SDSS J1411+1402	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	212.925	Observer's specified target RA [deg]
dec_targ	14.04275	Observer's specified target Dec [deg]
ra_nom	212.92389527637	Nominal RA [deg]
dec_nom	14.045514419595	Nominal Dec [deg]
roll_nom	53.864498900703	Nominal Roll [deg]
revision	2	Processing version of data
ontime	3547.7999060154	Sum of GTIs [s]
livetime	3393.0756560974	Livetime [s]
ontime6	3547.7999060154	Sum of GTIs [s]
ontime7	3547.7999060154	Sum of GTIs [s]
ontime8	3547.7999060154	Sum of GTIs [s]
l2events	3883	Number of level 2 events

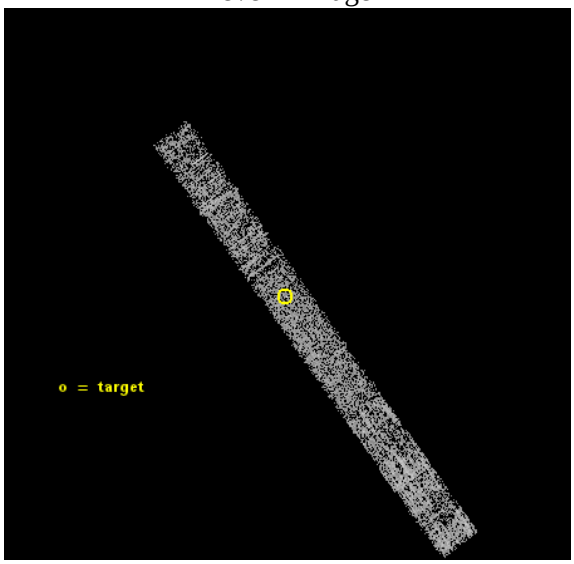


2 OBI

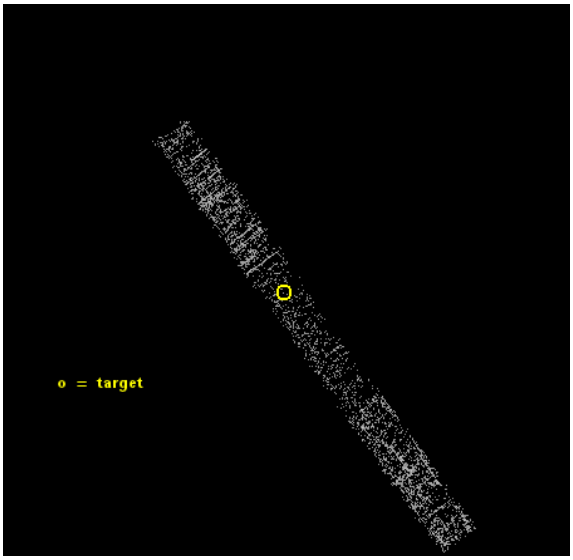
2.1 OBI

2.1.1 Images

Level 1 Image

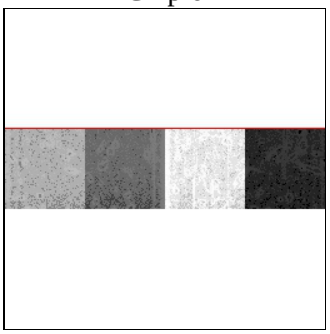


Level 1 Bad Events

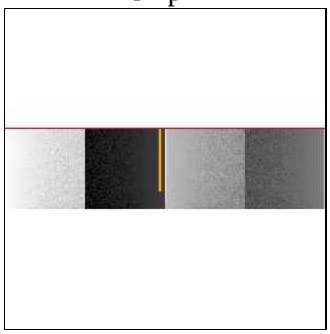


2.1.2 Bias

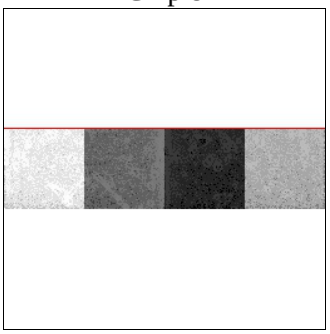
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	10.3	Processing system revision
caldbver	4.6.4	
date	2014-11-30T07:25:54	Date and time of file creation
revision	2	Processing version of data

sched_exp_time	3454.275000	[s] Scheduled observation exposure time
ontime	3547.7999060154	Sum of GTIs [s]
ontime6	3547.7999060154	Sum of GTIs [s]
ontime7	3547.7999060154	Sum of GTIs [s]
ontime8	3547.7999060154	Sum of GTIs [s]
l1events	19507	Number of level 1 events

2.1.4 Events

	ccd 6	**ccd 7**	**ccd 8**
level 1 events	5618	5641	8248
rejected events	4957	2741	5313
rejected %	88%	48%	64%

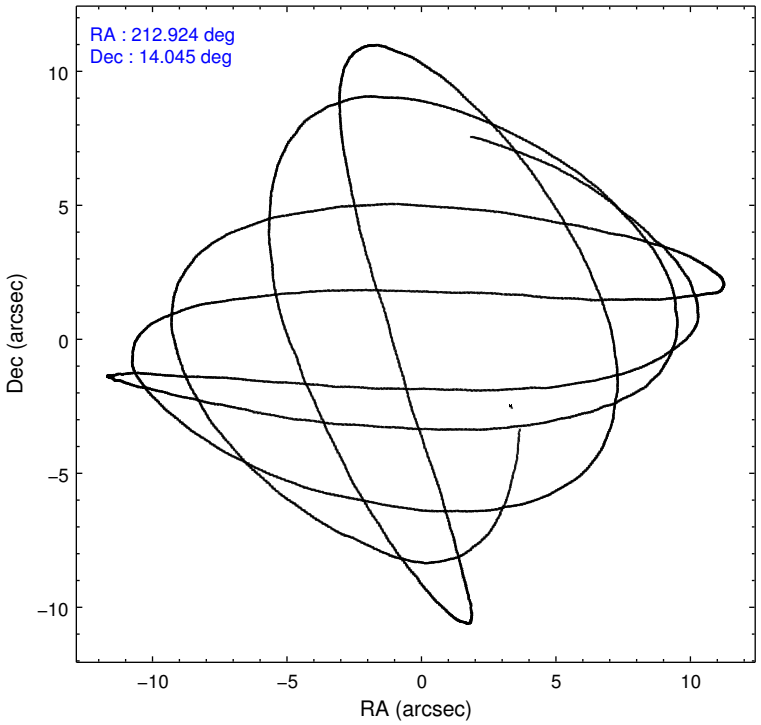
	ccd 6	**ccd 7**	**ccd 8**
grade 0 events	175	373	810
	3%	6%	9%
grade 1 events	0	13	4
	0%	0%	0%
grade 2 events	146	619	605
	2%	10%	7%
grade 3 events	102	329	355
	1%	5%	4%
grade 4 events	100	322	344
	1%	5%	4%
grade 5 events	201	521	314
	3%	9%	3%
grade 6 events	138	1259	821
	2%	22%	9%
grade 7 events	4756	2205	4995
	84%	39%	60%

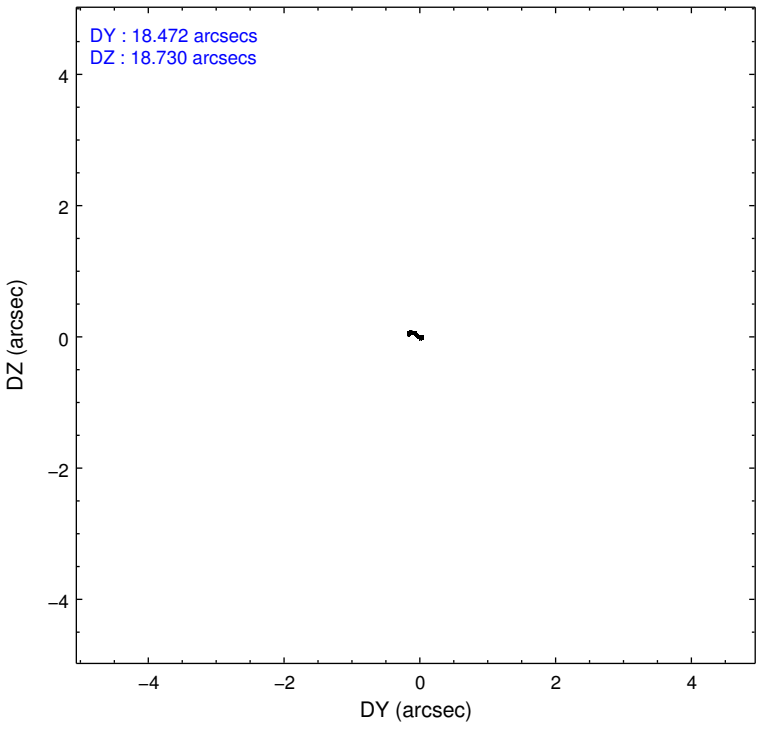
2.2 Compared Parameters

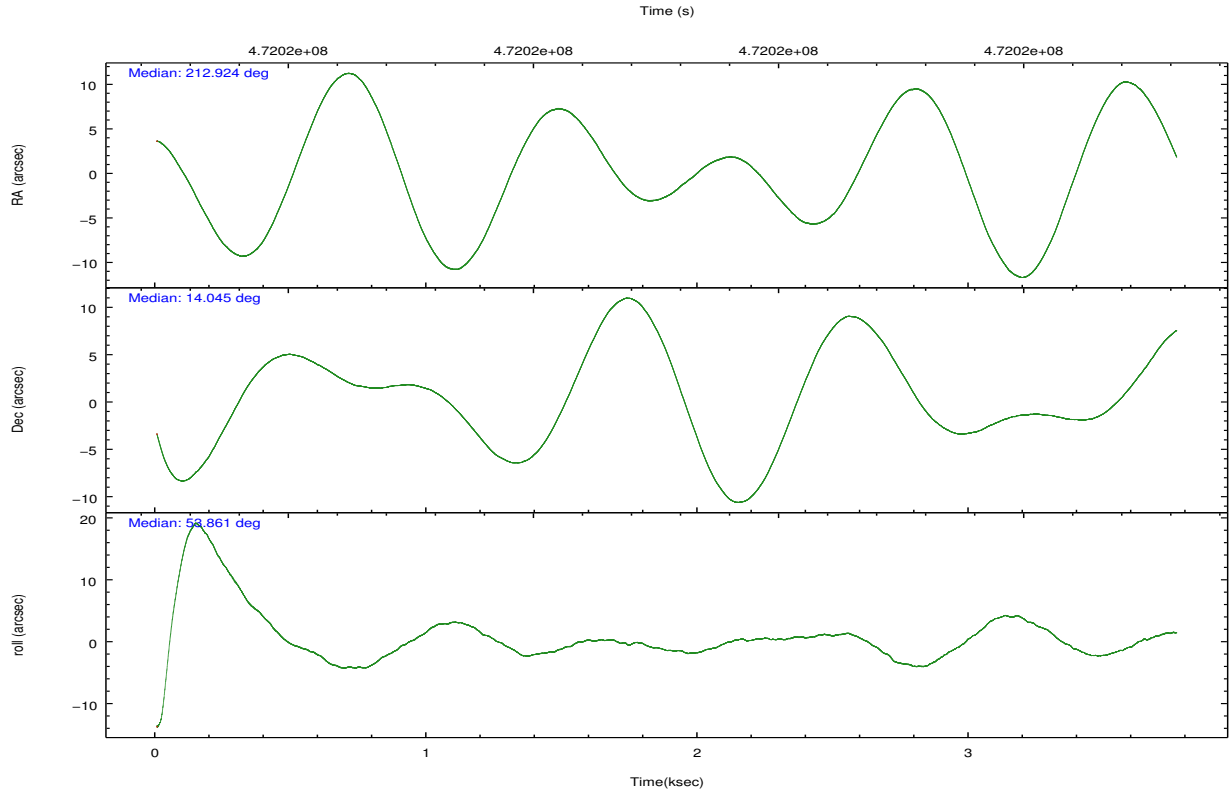
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-678	ACIS-678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	212.921237	212.9238952763736
[deg] Pointing Dec	14.018353	14.04551441959508
[deg] Pointing Roll	53.708641	53.86449890070298
[mm] SIM 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)	472018972.184000	472018276.55513
Observation start date	2012-12-16T04:21:45	2012-12-16T04:11:16
[s] Observation end time (MET)	472022426.184000	472022652.28037
Observation end date	2012-12-16T05:19:19	2012-12-16T05:24:12
Read mode	TIMED	TIMED

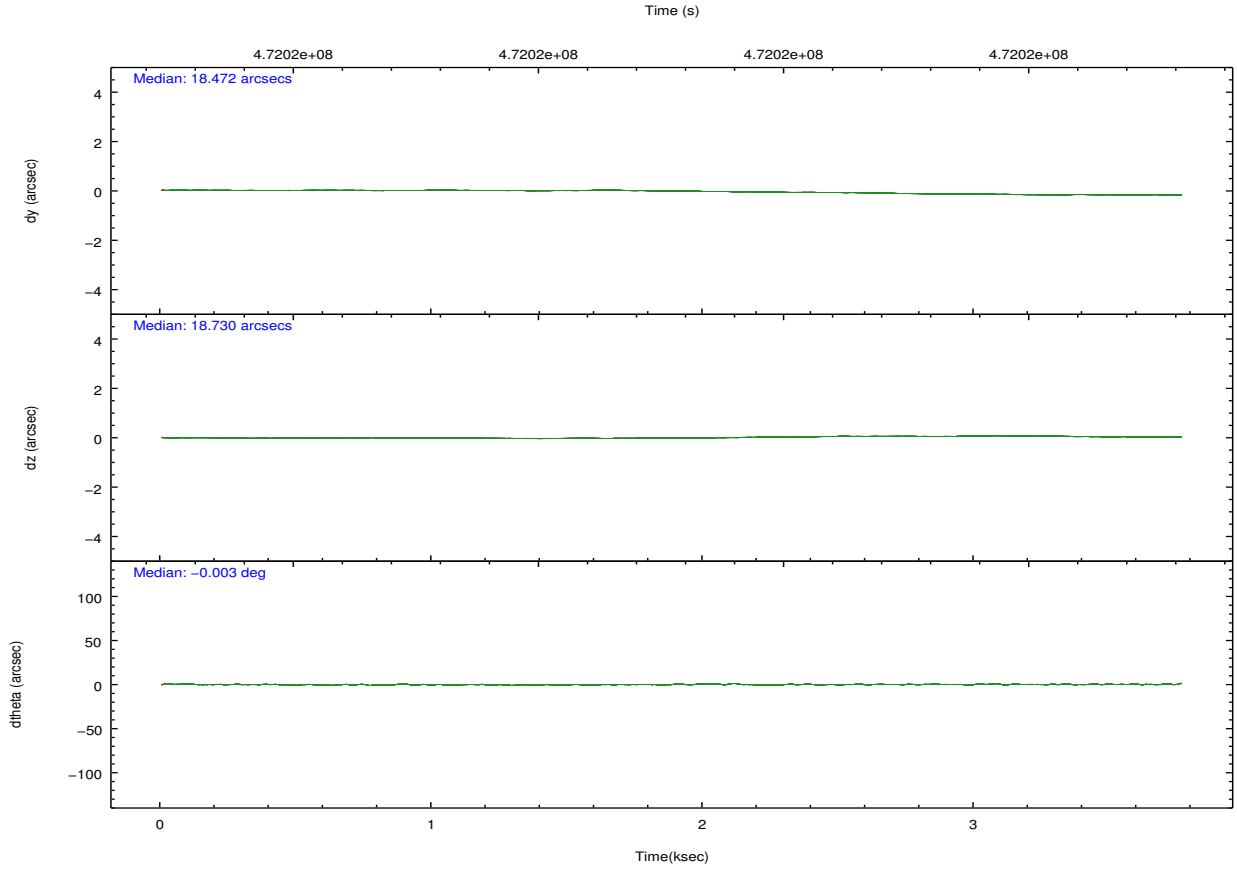
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	CUSTOM	1/4
Subarray start row	385	385
Subarray row count	256	256
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	0.9

2.3 Aspect


RA : 212.924 deg
Dec : 14.045 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10
−10
−5
0
5
10


DY : 18.472 arcsecs
DZ : 18.730 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
4.7202e+08
4.7202e+08
4.7202e+08
4.7202e+08
Median: 212.924 deg
RA (arcsec)
Median: 14.045 deg
Dec (arcsec)
Median: 58.861 deg
roll (arcsec)
Time(ksec)

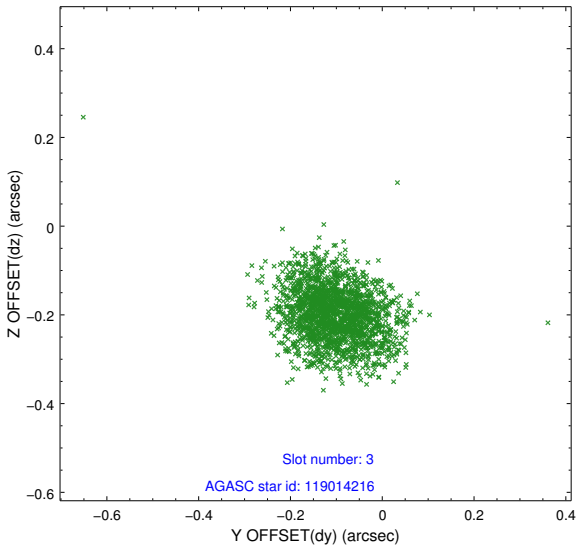

Time (s)
4.7202e+08
4.7202e+08
4.7202e+08
4.7202e+08
Median: 18.472 arcsecs
dy (arcsec)
Median: 18.730 arcsecs
dz (arcsec)
Median: −0.003 deg
dtheta (arcsec)
Time(ksec)

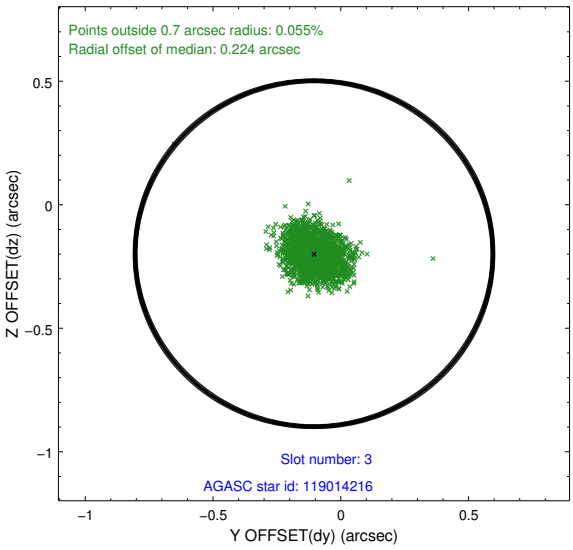
Slot Statistics

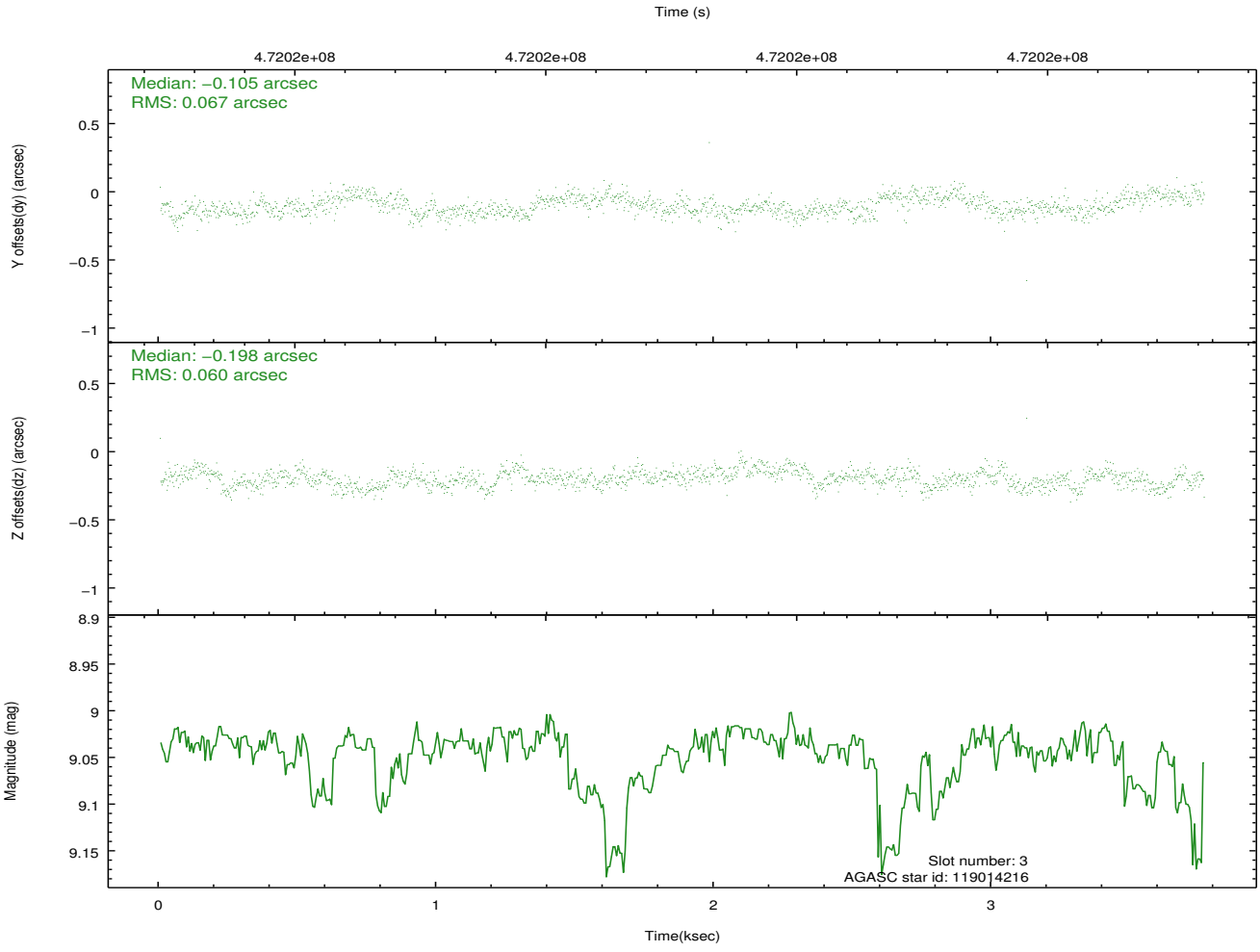
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.94	918	-0.087	-0.031	0.006	0.011	0.000000	0.000000	-771.60	-1740.19
1	FID		ACIS-S-4	7.02	918	0.220	0.050	0.006	0.013	0.000000	0.000000	2141.24	166.60
2	FID		ACIS-S-5	7.05	918	-0.165	-0.010	0.006	0.011	0.000000	0.000000	-1822.37	162.16
3	GUIDE	used	119014216	9.04	1828	-0.105	-0.198	0.095	0.150	213.127822	14.307528	1265.76	36.11
4	GUIDE	used	119018568	8.94	1833	0.057	-0.144	0.121	0.196	212.632455	13.824945	-1156.91	402.59
5	GUIDE	used	119019360	9.51	1831	0.226	0.120	0.142	0.223	212.810413	13.559103	-1561.88	-665.26
6	GUIDE	used	119019616	8.89	1823	-0.059	0.397	0.093	0.148	213.477237	13.654924	97.74	-2340.95
7	GUIDE	used	119020960	9.84	1834	-0.121	-0.175	0.203	0.300	212.571776	14.012557	-738.11	970.95

2.4 Star Slots

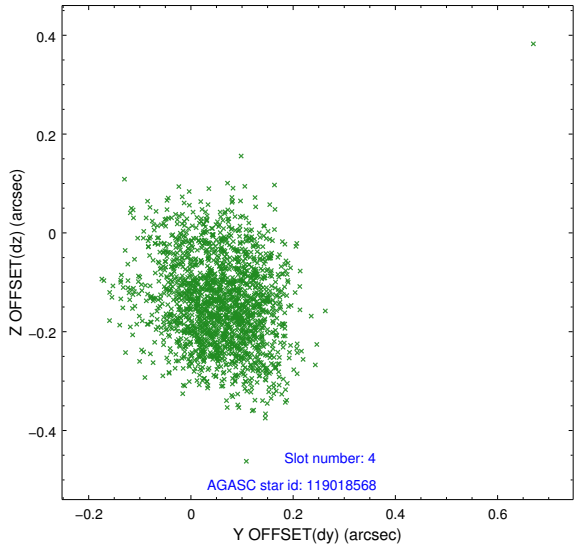
2.4.1 Slot 3

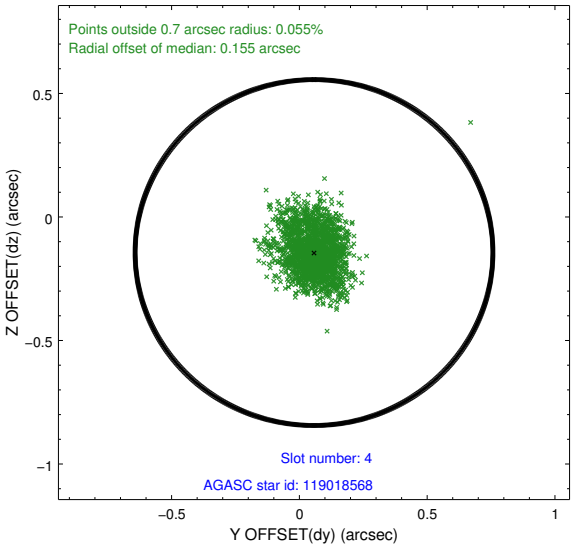


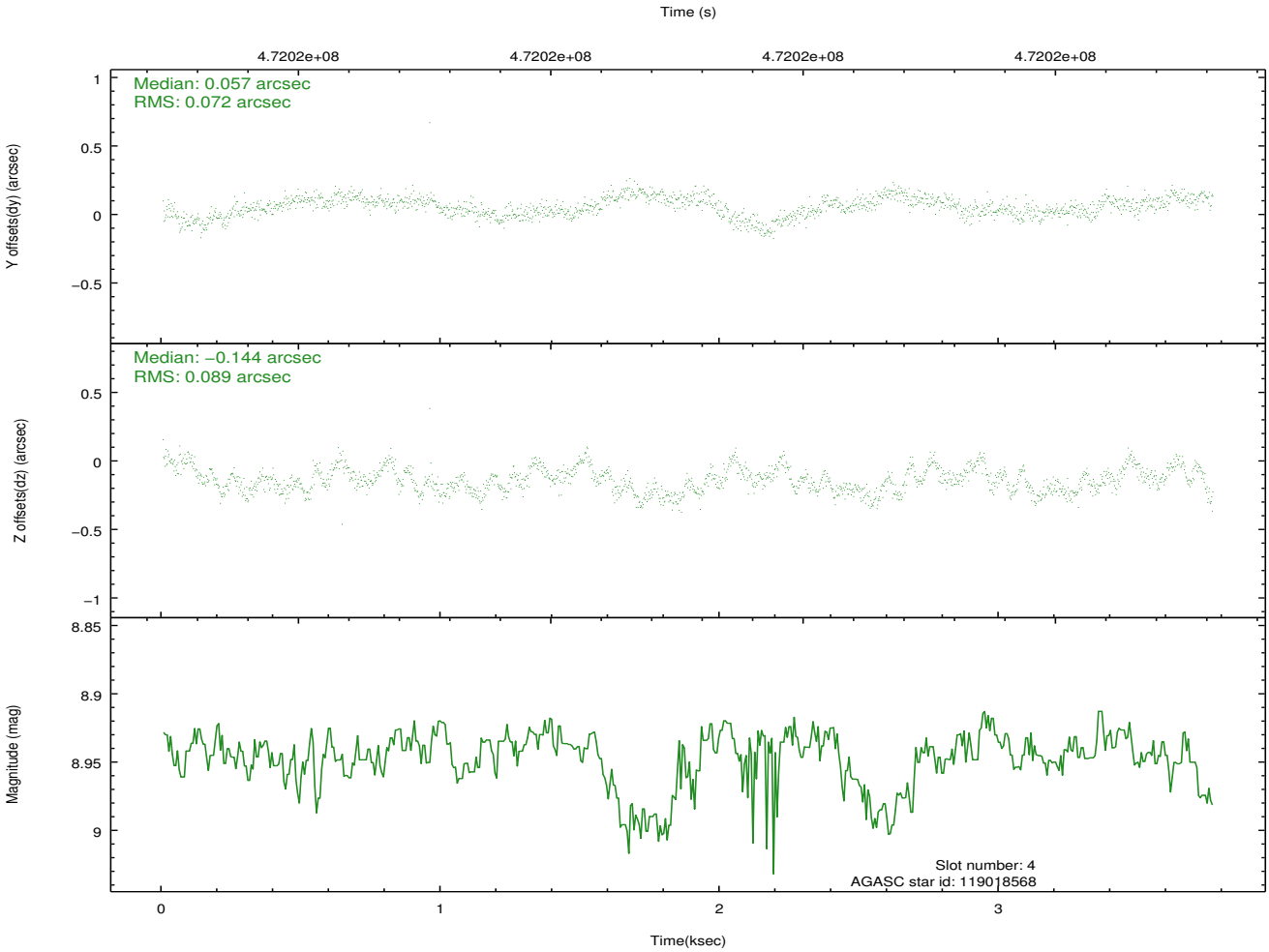




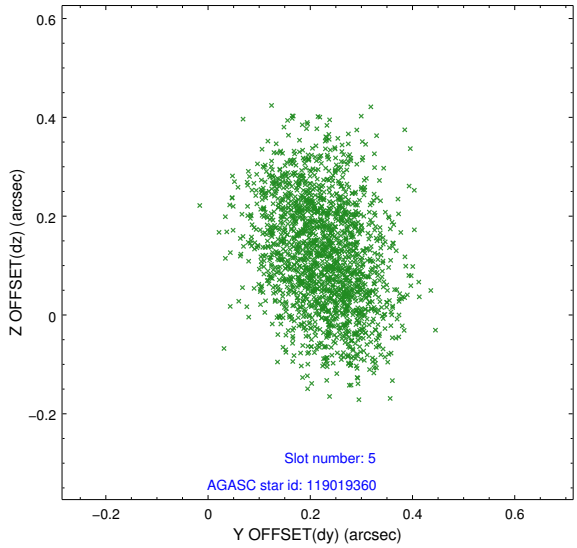
2.4.2 Slot 4

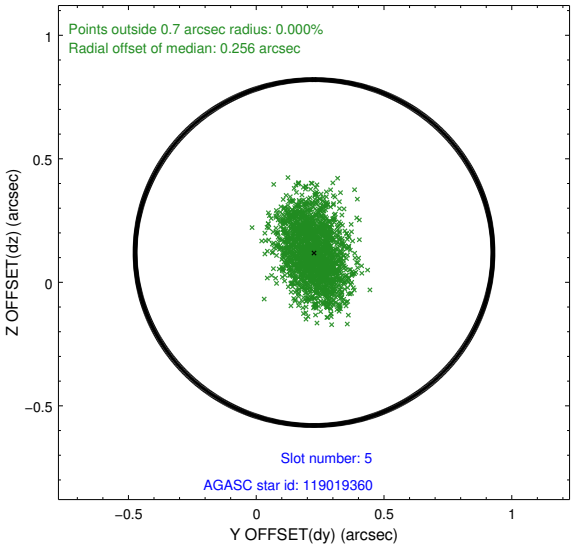

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 119018568

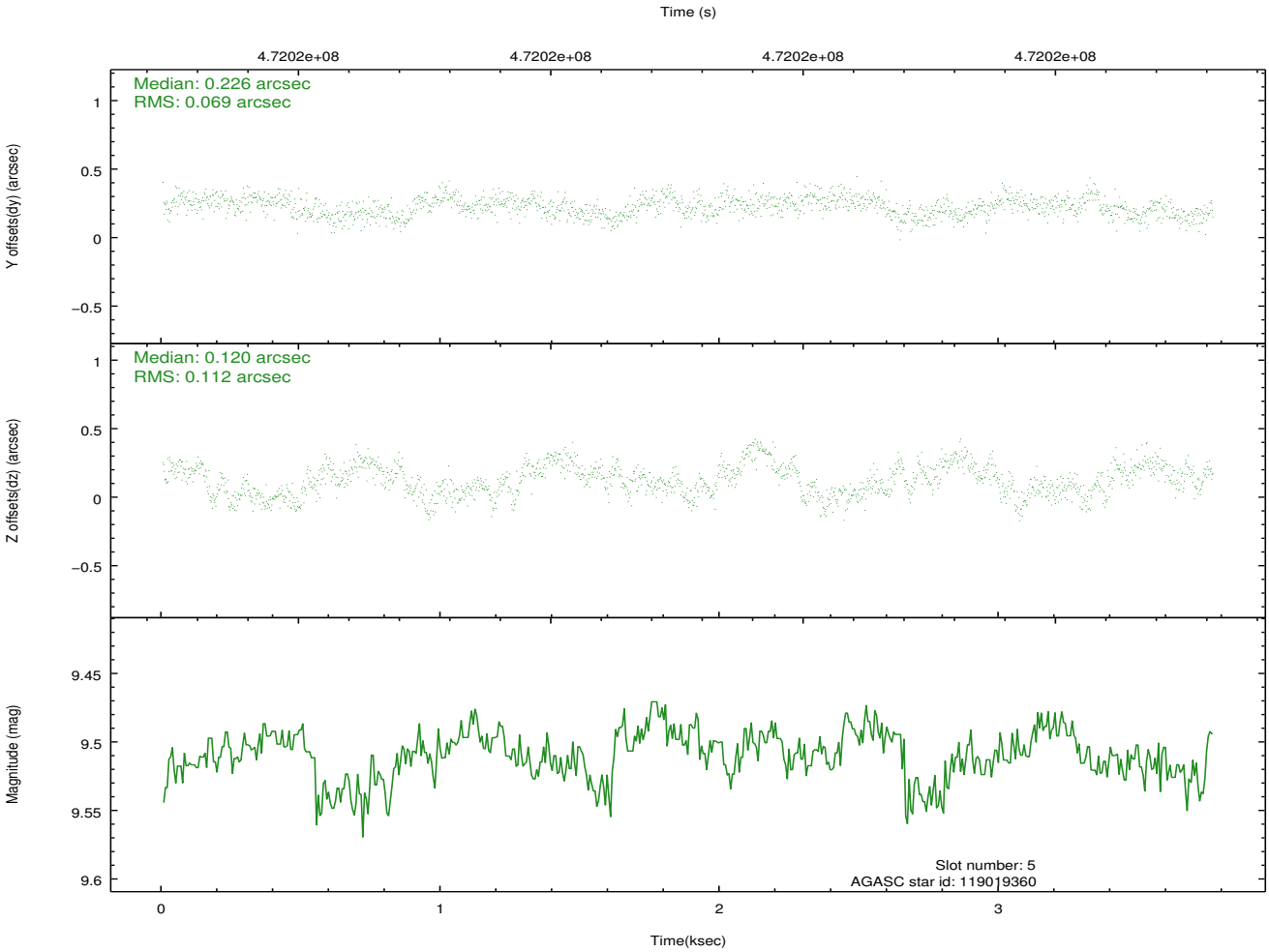

Points outside 0.7 arcsec radius: 0.055%
Radial offset of median: 0.155 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 119018568


Time (s)
4.7202e+08
Median: 0.057 arcsec
RMS: 0.072 arcsec
Y offsets(dy) (arcsec)
Median: −0.144 arcsec
RMS: 0.089 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 119018568
Time(ksec)

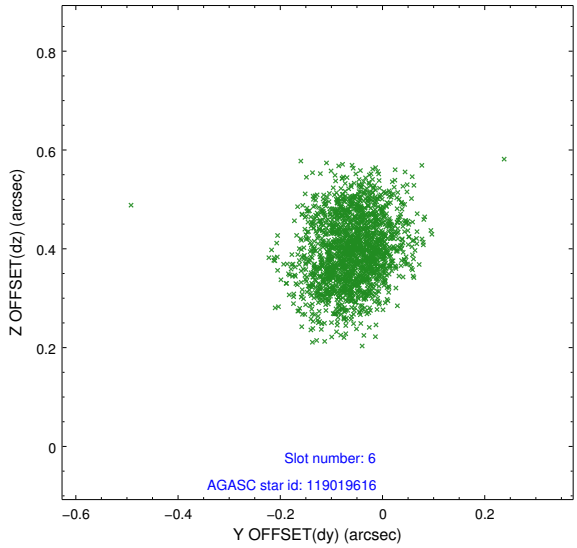
2.4.3 Slot 5

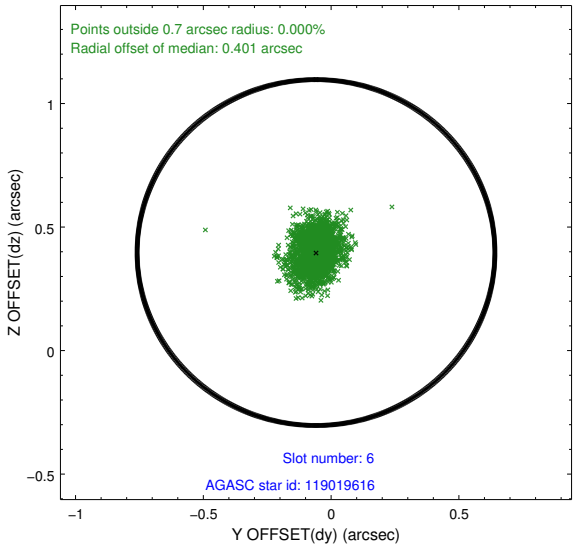

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 119019360

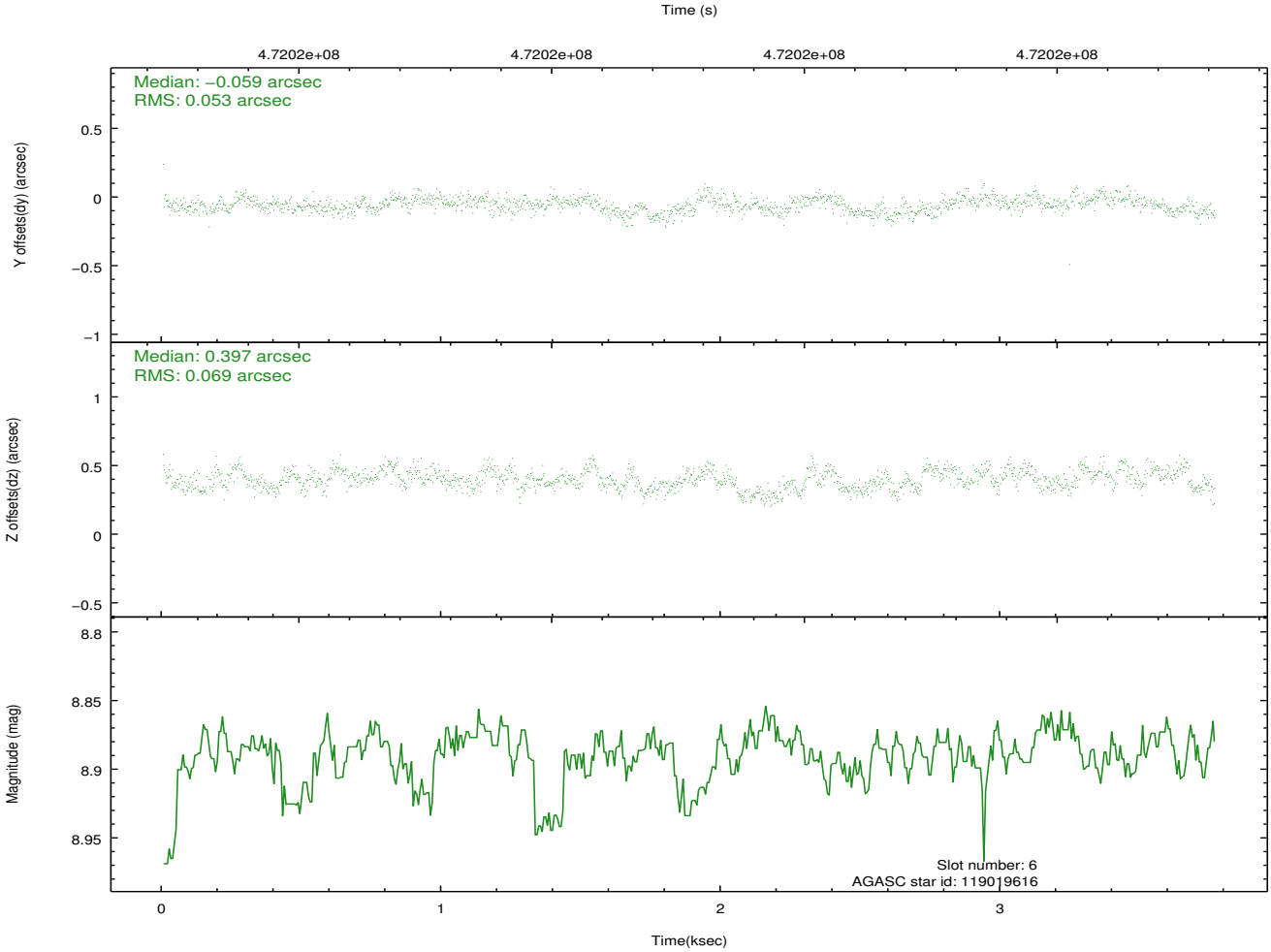

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.256 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 119019360


Time (s)
4.7202e+08
4.7202e+08
4.7202e+08
4.7202e+08
Median: 0.226 arcsec
RMS: 0.069 arcsec
Y offsets(dy) (arcsec)
Median: 0.120 arcsec
RMS: 0.112 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 119019360
Time(ksec)

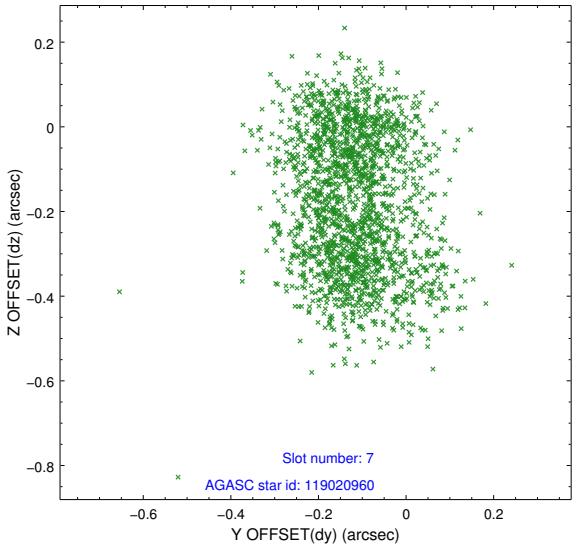
2.4.4 Slot 6

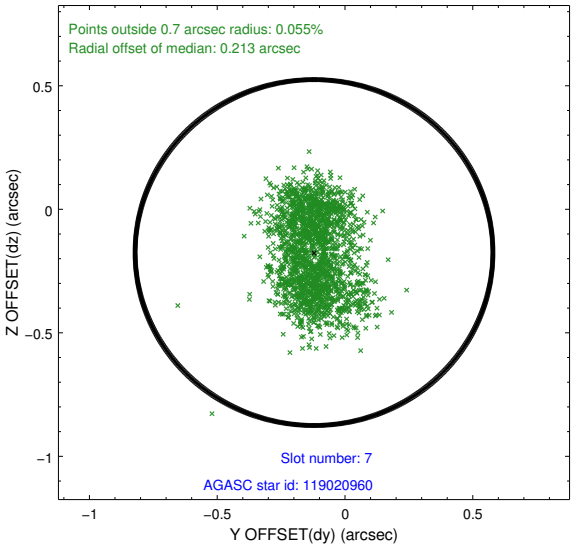

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 119019616

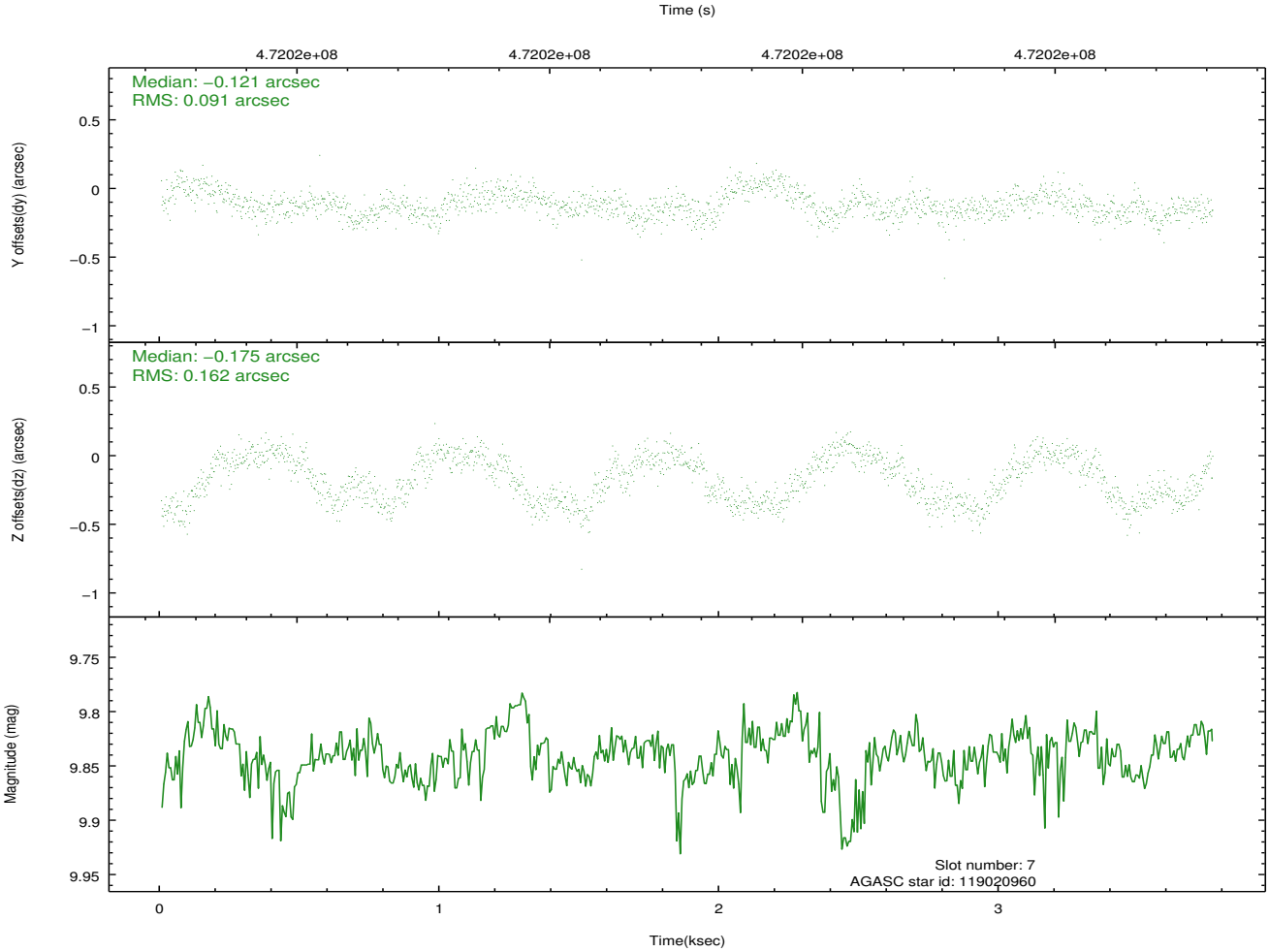

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.401 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 119019616


Time (s)
4.7202e+08
Median: −0.059 arcsec
RMS: 0.053 arcsec
Y offsets(dy) (arcsec)
Median: 0.397 arcsec
RMS: 0.069 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 119019616
Time(ksec)

2.4.5 Slot 7

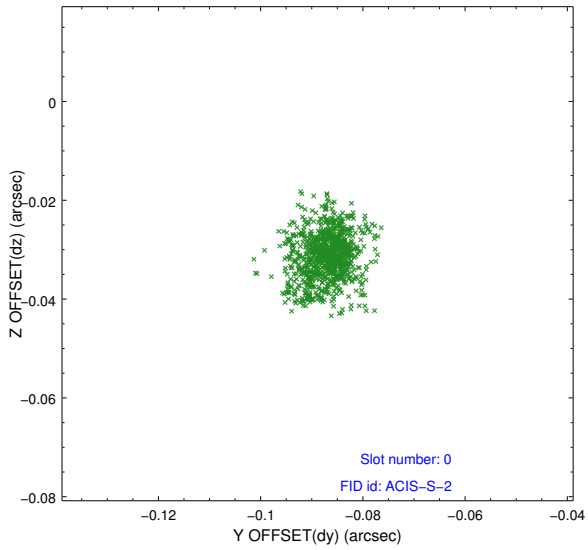

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 119020960

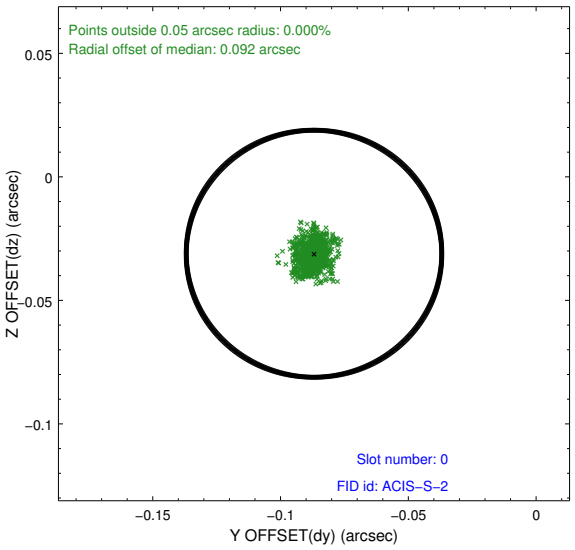

Points outside 0.7 arcsec radius: 0.055%
Radial offset of median: 0.213 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 119020960

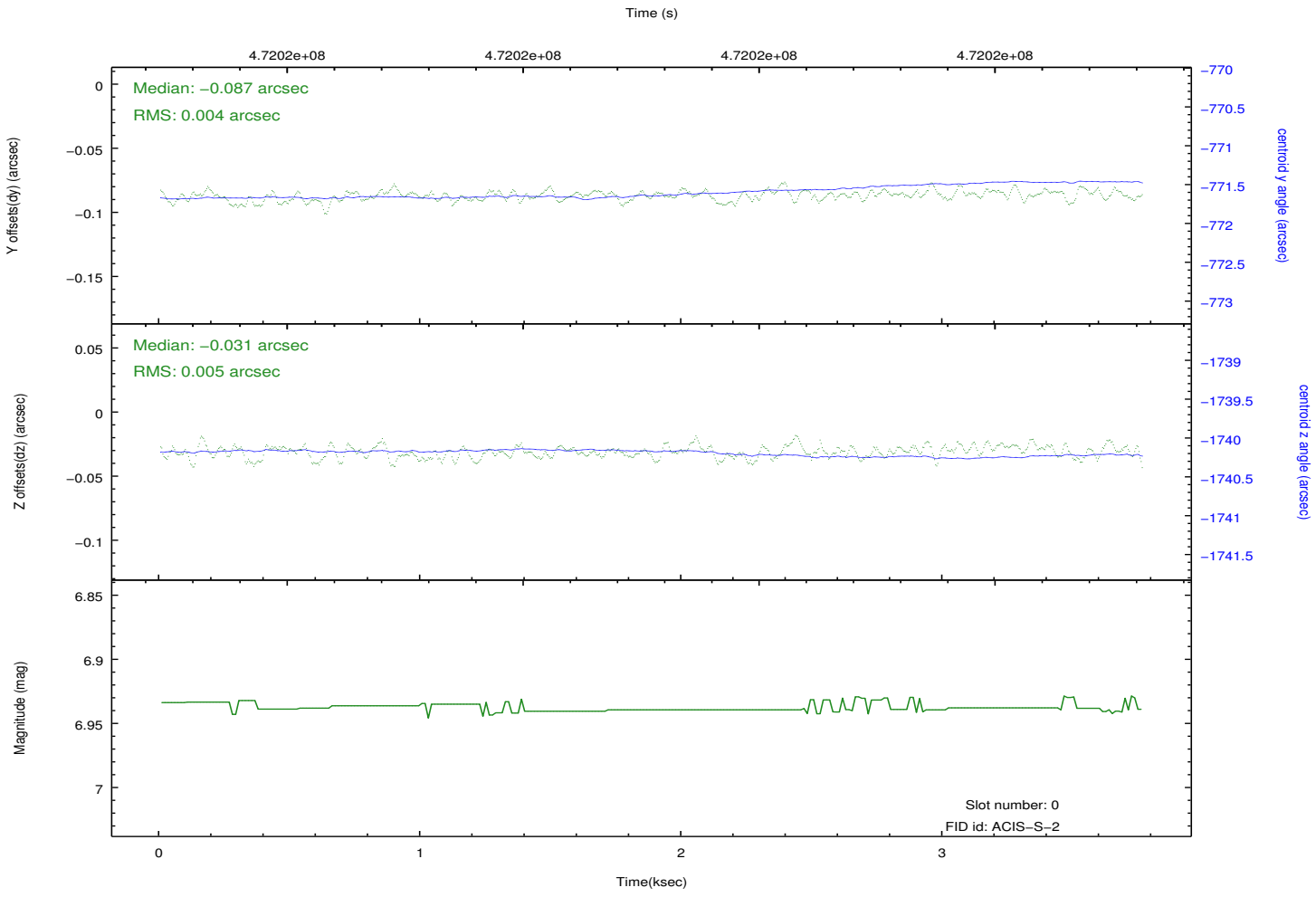

Time (s)
4.7202e+08
Median: −0.121 arcsec
RMS: 0.091 arcsec
Y offsets(dy) (arcsec)
Median: −0.175 arcsec
RMS: 0.162 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 119020960
Time(ksec)

2.5 FID Slots

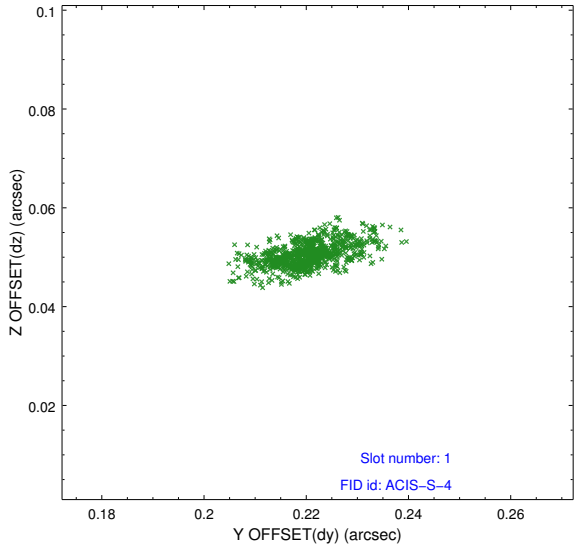
2.5.1 Slot 0

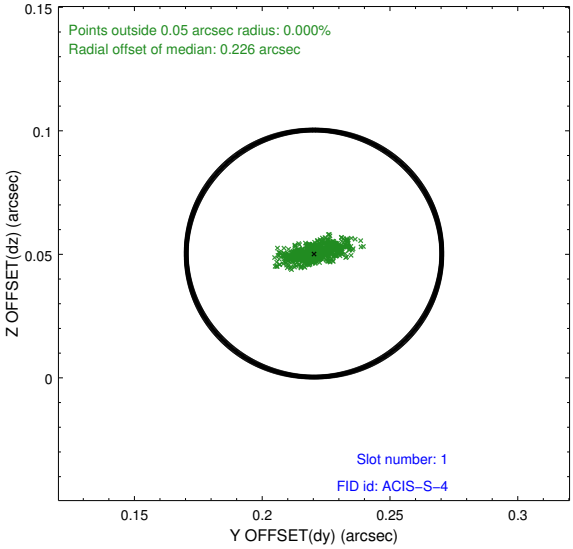


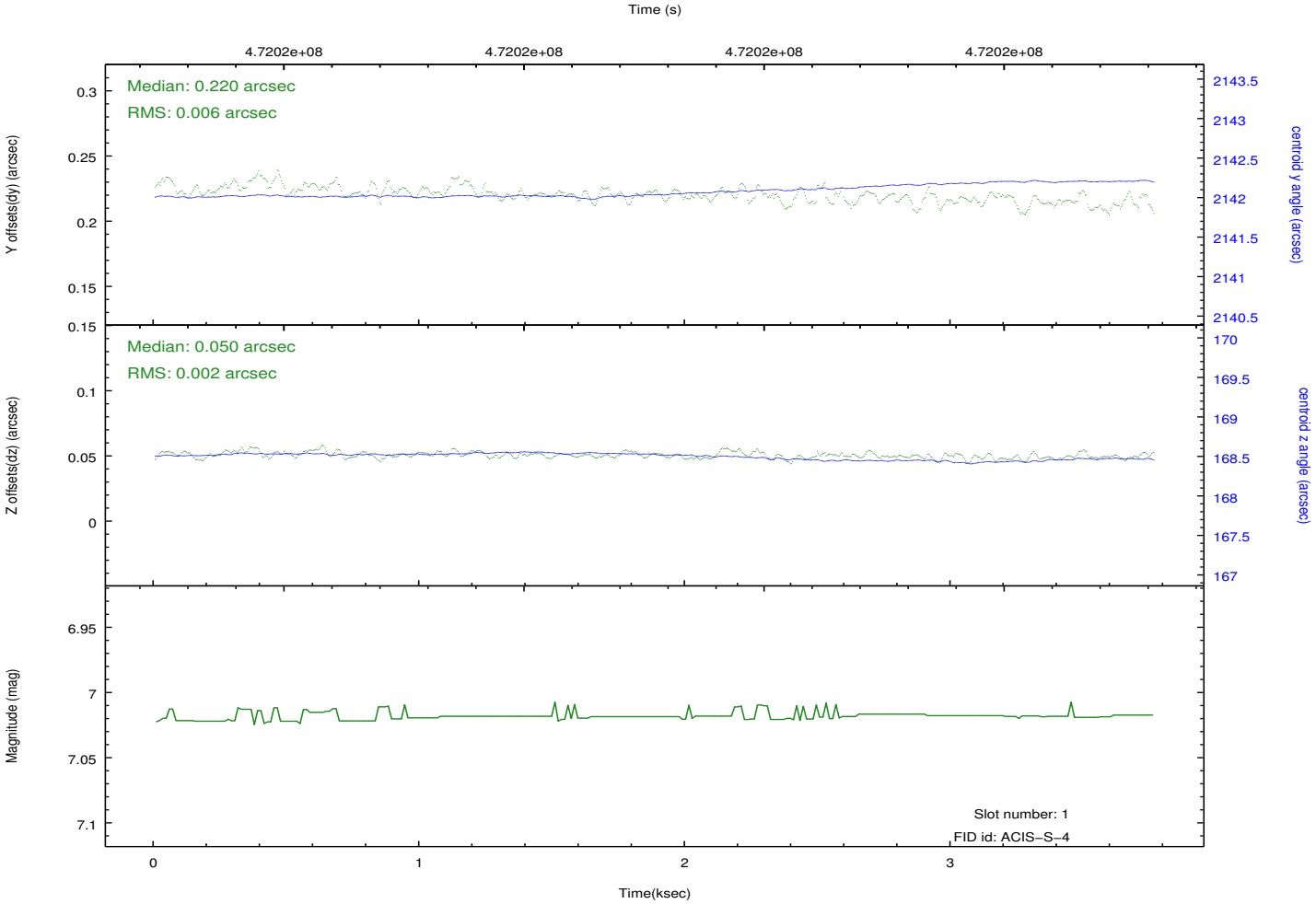




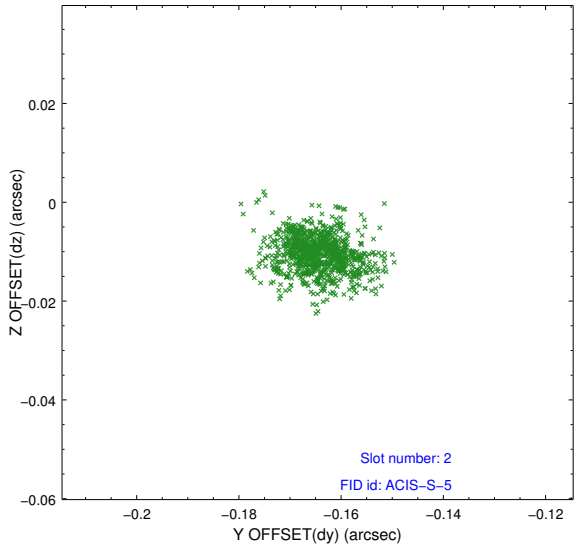
2.5.2 Slot 1

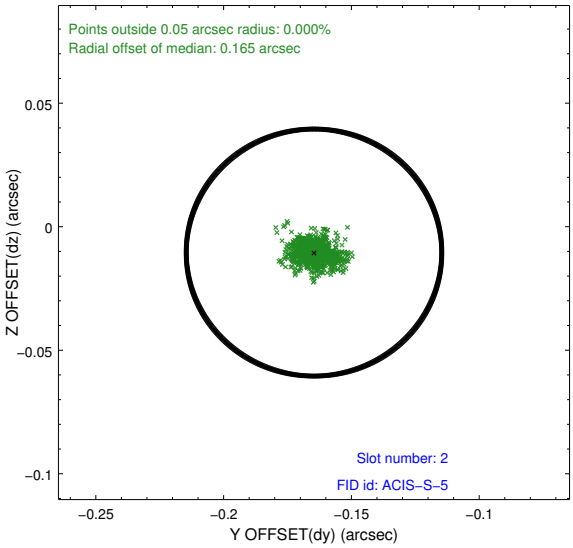

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4

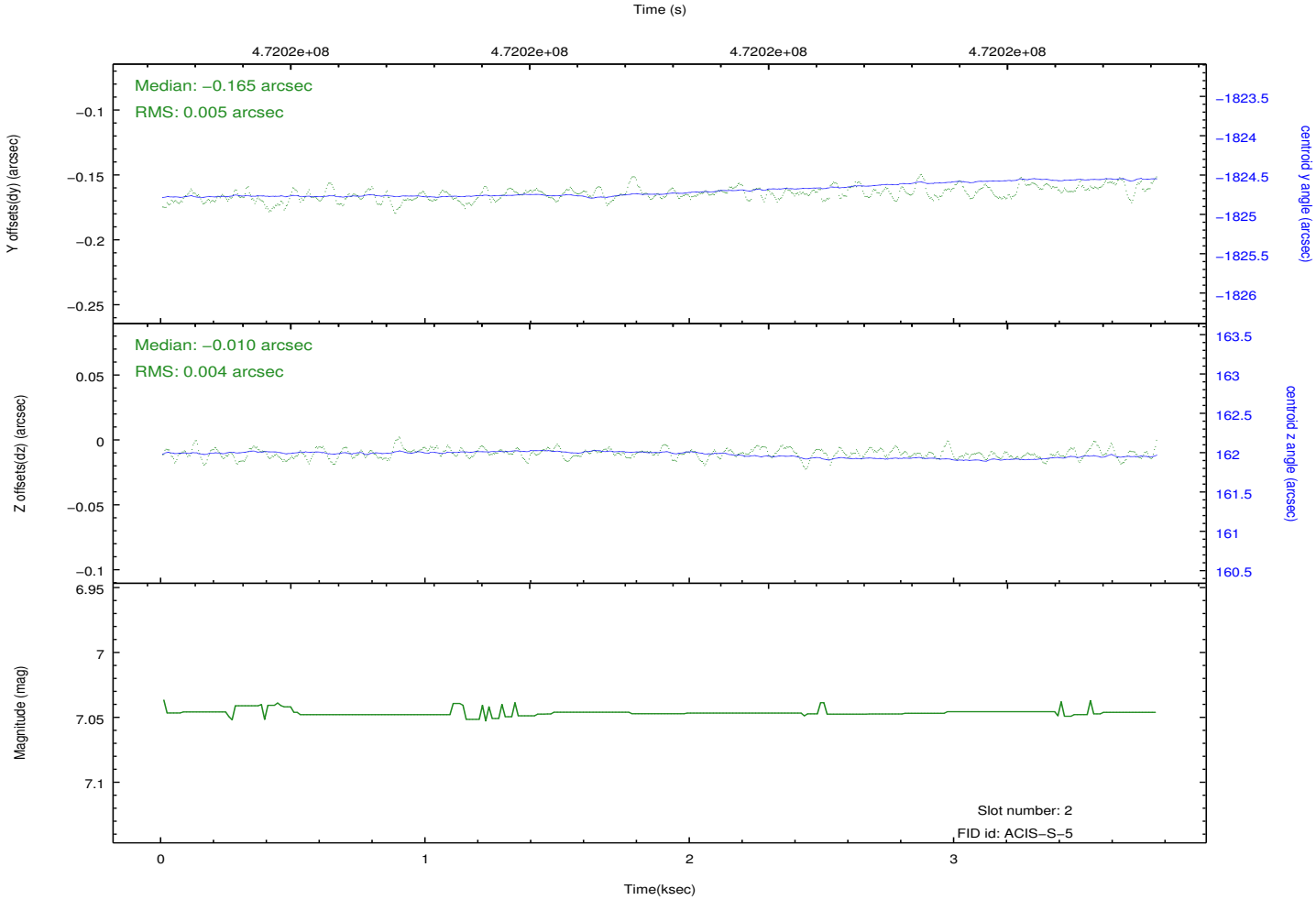

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.226 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4


Time (s)
Median: 0.220 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.050 arcsec
RMS: 0.002 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: 0.165 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−5


Time (s)
Median: −0.165 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.010 arcsec
RMS: 0.004 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	Jen Lauer
V&V Date (YYYY-MM-DD)	2014.12.04
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	3.5477999060154

A.2 Comments

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.