V&V Reference Report
L2 ASCDS Version : 8.5.1.1

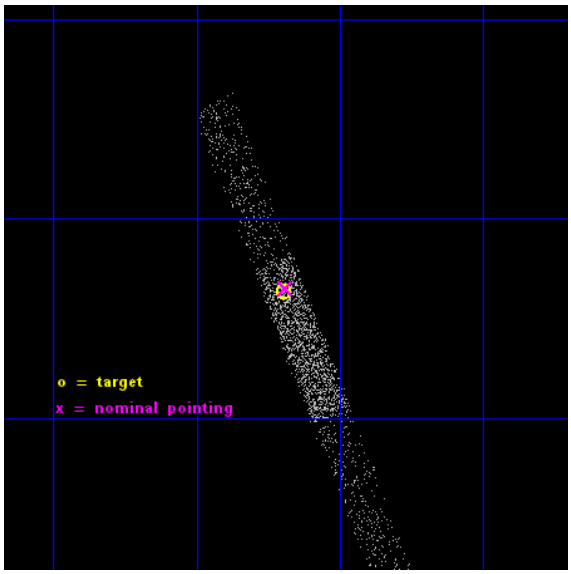
Observation 15355 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Nov 30 2014

Contents

1 Front

seq_num	702915	Sequence number
obs_id	15355	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 J1447-0203	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	221.924167	Observer's specified target RA [deg]
dec_targ	-2.060861	Observer's specified target Dec [deg]
ra_nom	221.92242882473	Nominal RA [deg]
dec_nom	-2.0582660479718	Nominal Dec [deg]
roll_nom	68.298405331814	Nominal Roll [deg]
revision	2	Processing version of data
ontime	2093.0987637639	Sum of GTIs [s]
livetime	2001.8159561629	Livetime [s]
ontime6	2093.0577237606	Sum of GTIs [s]
ontime7	2093.0987637639	Sum of GTIs [s]
ontime8	2093.0166837573	Sum of GTIs [s]
l2events	2256	Number of level 2 events

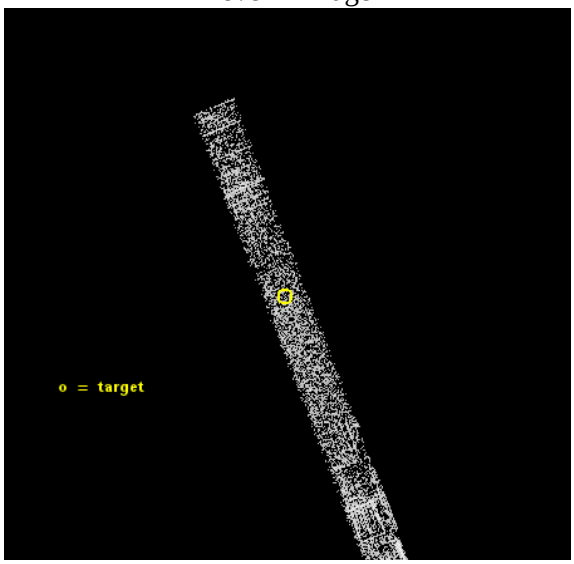


2 OBI

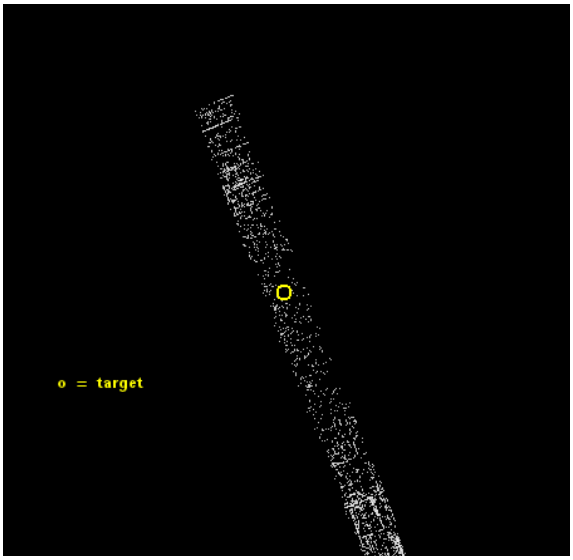
2.1 OBI

2.1.1 Images

Level 1 Image

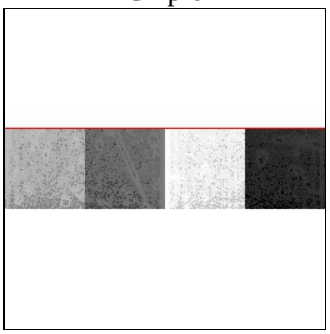


Level 1 Bad Events

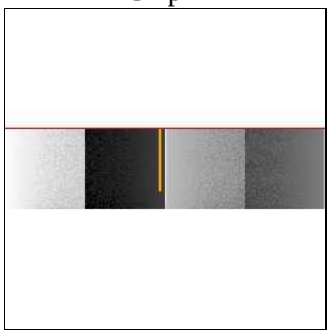


2.1.2 Bias

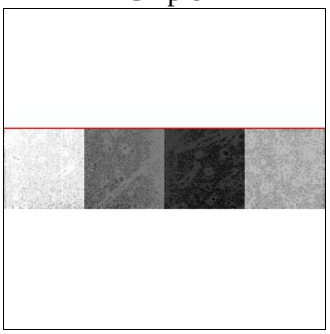
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	10.3	Processing system revision
caldbver	4.6.4	
date	2014-12-01T06:56:28	Date and time of file creation
revision	2	Processing version of data

sched_exp_time	2000.000000	[s] Scheduled observation exposure time
ontime	2093.0987637639	Sum of GTIs [s]
ontime6	2093.0577237606	Sum of GTIs [s]
ontime7	2093.0987637639	Sum of GTIs [s]
ontime8	2093.0166837573	Sum of GTIs [s]
l1events	11807	Number of level 1 events

2.1.4 Events

	ccd 6	**ccd 7**	**ccd 8**
level 1 events	3402	3370	5035
rejected events	2979	1686	3916
rejected %	87%	50%	77%

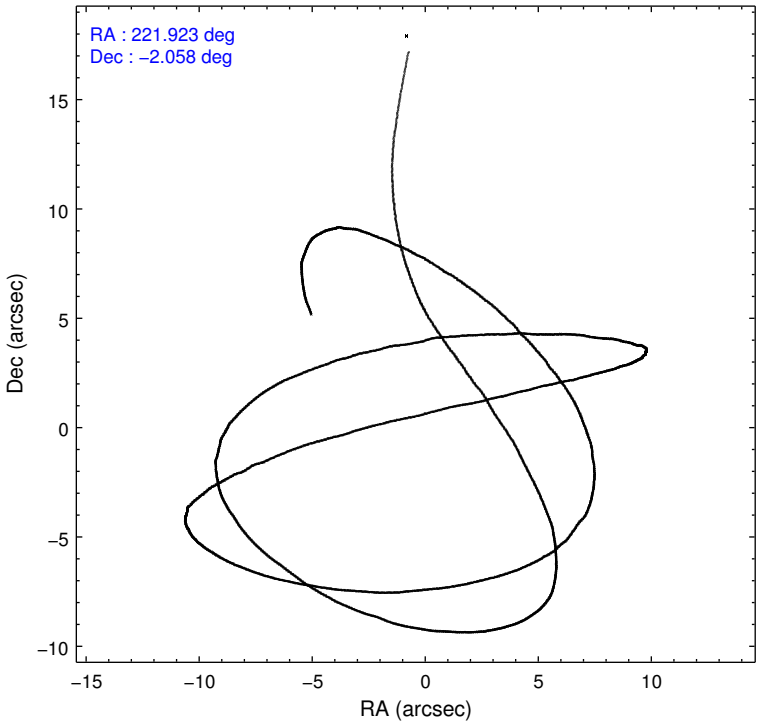
	ccd 6	**ccd 7**	**ccd 8**
grade 0 events	140	192	213
	4%	5%	4%
grade 1 events	0	7	1
	0%	0%	0%
grade 2 events	75	353	312
	2%	10%	6%
grade 3 events	58	179	124
	1%	5%	2%
grade 4 events	74	204	92
	2%	6%	1%
grade 5 events	121	358	192
	3%	10%	3%
grade 6 events	76	758	379
	2%	22%	7%
grade 7 events	2858	1319	3722
	84%	39%	73%

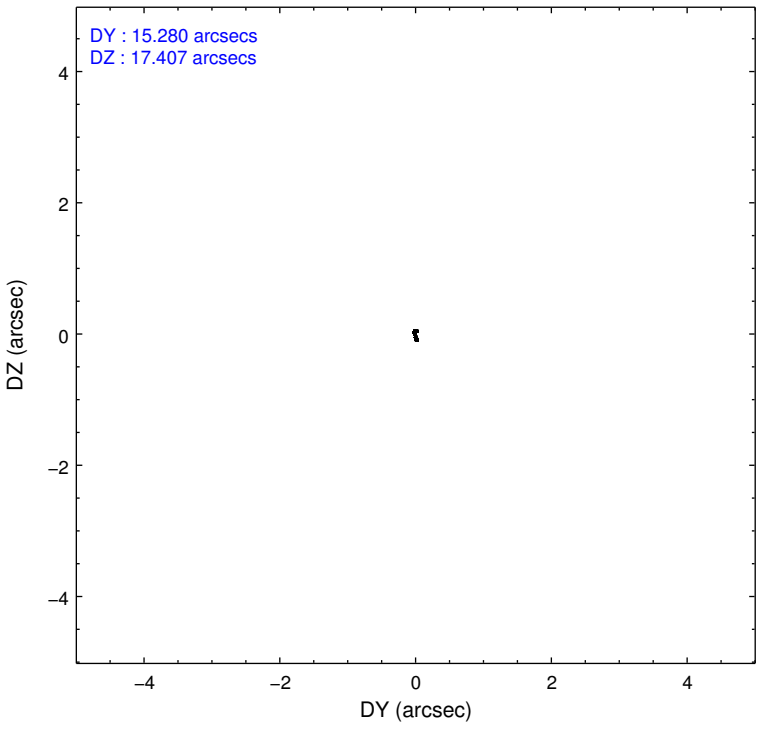
2.2 Compared Parameters

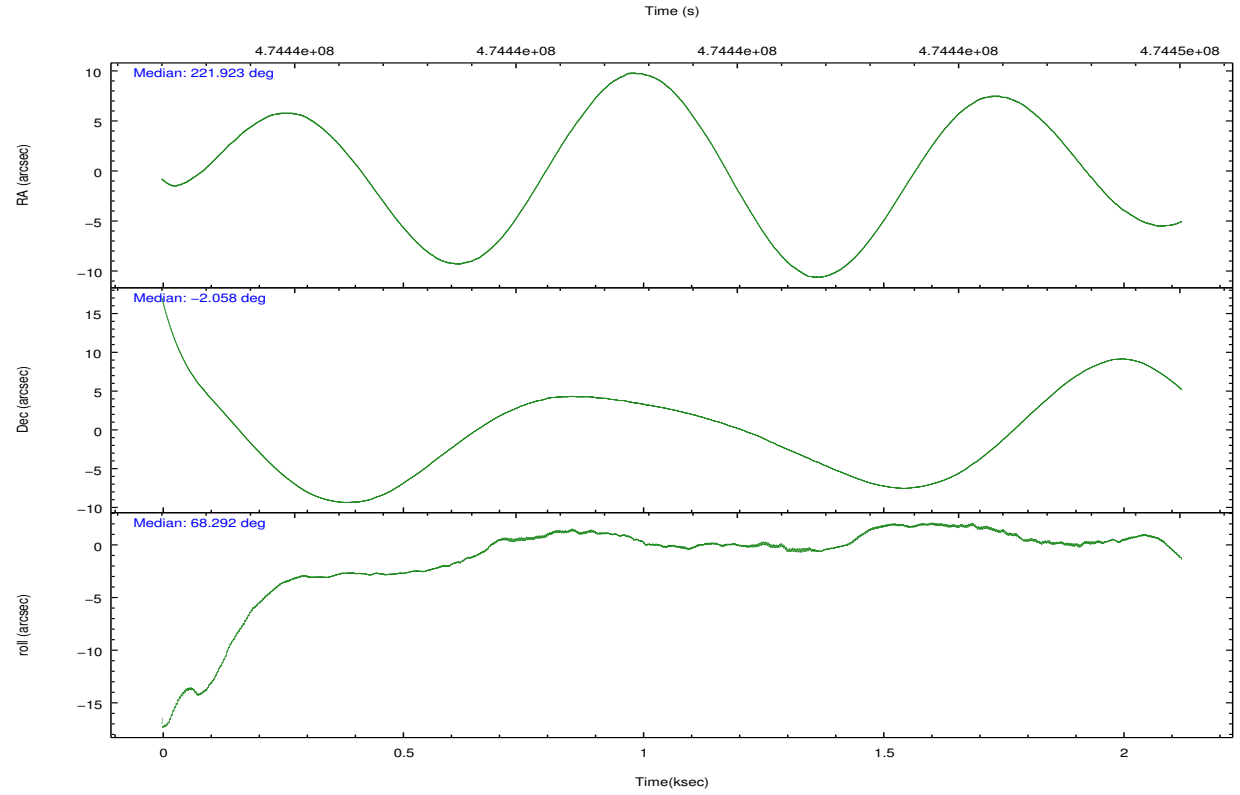
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-678	ACIS-678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	221.926707	221.9224288247287
[deg] Pointing Dec	-2.085405	-2.058266047971786
[deg] Pointing Roll	68.141963	68.29840533181429
[mm] SIM 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)	474443415.184000	474442069.58573
Observation start date	2013-01-13T05:49:08	2013-01-13T05:27:49
[s] Observation end time (MET)	474445415.184000	474446295.66096
Observation end date	2013-01-13T06:22:28	2013-01-13T06:38:15
Read mode	TIMED	TIMED

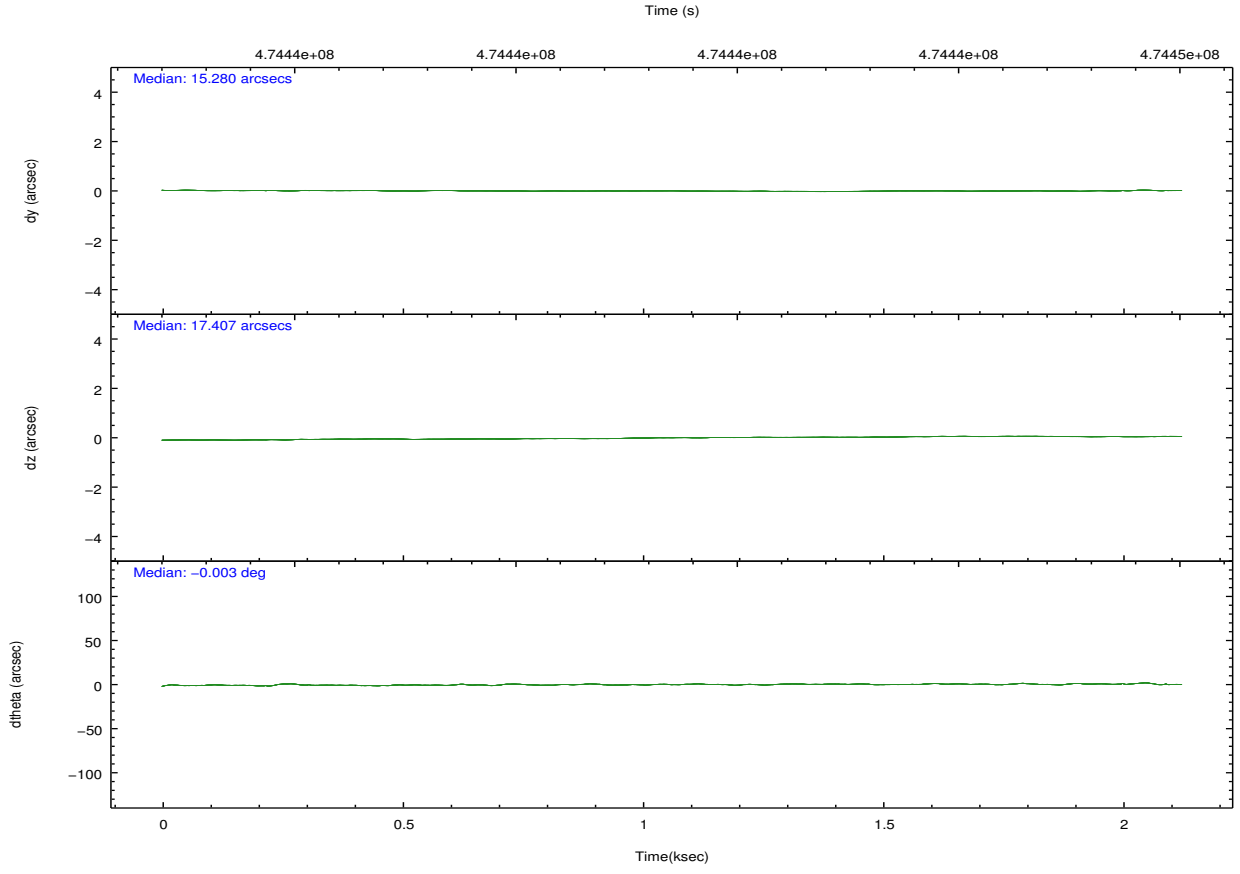
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	CUSTOM	1/4
Subarray start row	385	385
Subarray row count	256	256
Alternating exposures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

2.3 Aspect


RA : 221.923 deg
Dec : −2.058 deg
Dec (arcsec)
RA (arcsec)
15
10
5
0
−5
−10
−15
−10
−5
0
5
10


DY : 15.280 arcsecs
DZ : 17.407 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
4.7444e+08
4.7444e+08
4.7444e+08
4.7444e+08
4.7445e+08
Median: 221.923 deg
RA (arcsec)
Median: −2.058 deg
Dec (arcsec)
Median: 68.292 deg
roll (arcsec)
Time(ksec)

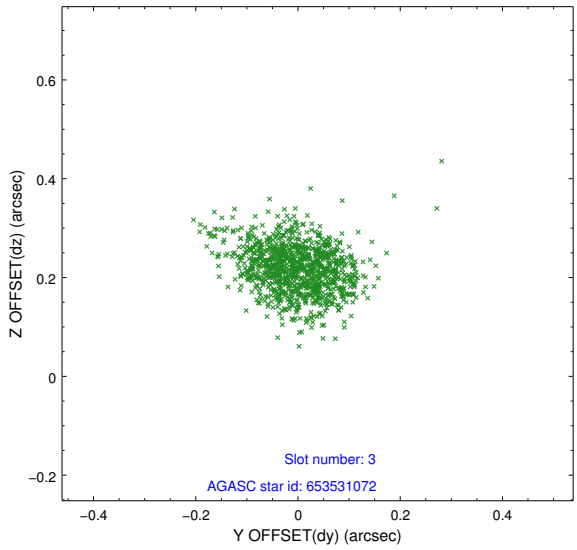

Time (s)
4.7444e+08
4.7444e+08
4.7444e+08
4.7444e+08
4.7445e+08
Median: 15.280 arcsecs
dy (arcsec)
Median: 17.407 arcsecs
dz (arcsec)
Median: −0.003 deg
dtheta (arcsec)
Time(ksec)

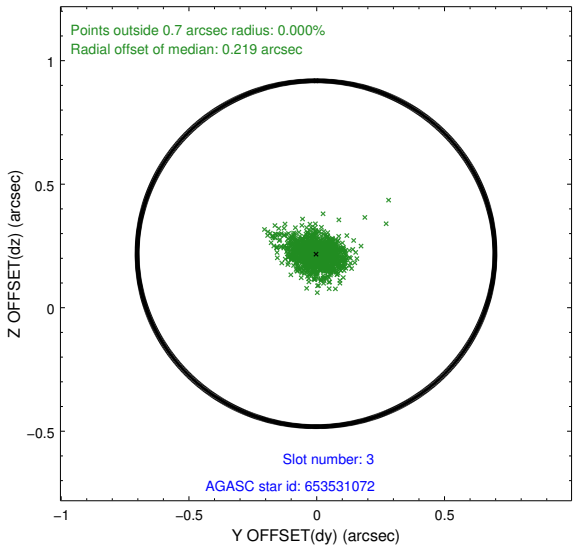
Slot Statistics

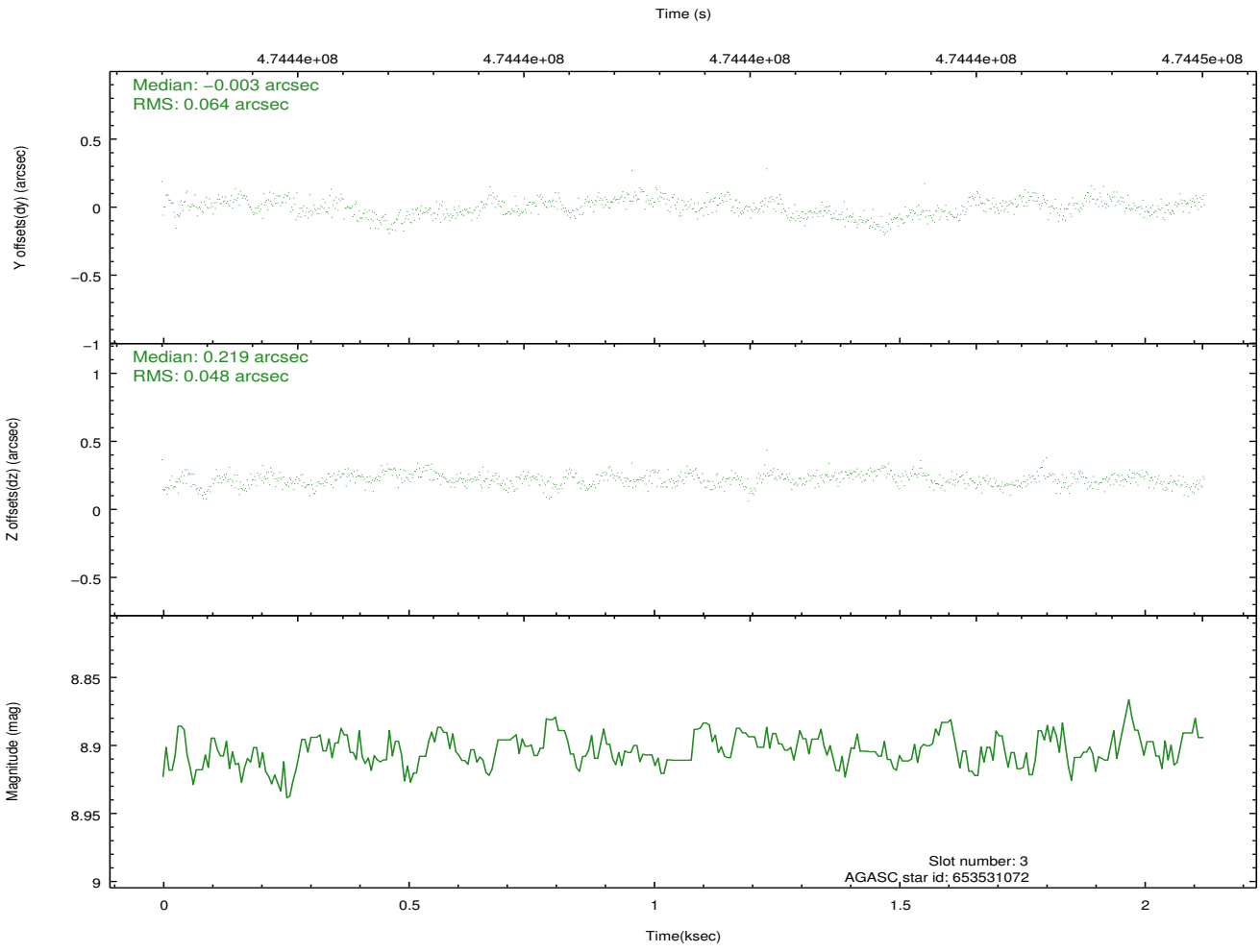
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.93	519	-0.081	-0.015	0.007	0.012	0.000000	0.000000	-768.38	-1738.84
1	FID		ACIS-S-4	7.02	518	0.184	0.043	0.006	0.010	0.000000	0.000000	2143.79	166.44
2	FID		ACIS-S-5	7.04	519	-0.135	-0.019	0.007	0.013	0.000000	0.000000	-1817.30	163.64
3	GUIDE	used	653531072	8.90	1037	-0.003	0.219	0.083	0.140	222.285788	-1.689109	1803.69	-667.61
4	GUIDE	used	653922392	8.92	1034	0.261	-0.112	0.097	0.166	221.226596	-2.285509	-1605.27	2068.04
5	GUIDE	used	654055416	9.60	1021	0.055	0.554	0.129	0.212	222.357051	-2.010291	825.63	-1333.62
6	GUIDE	used	653528032	8.35	1036	-0.192	-0.363	0.068	0.105	221.612728	-1.446923	1712.39	1903.16
7	GUIDE	used	653530832	8.88	1033	-0.109	-0.288	0.119	0.200	221.638203	-1.472740	1661.38	1786.65

2.4 Star Slots

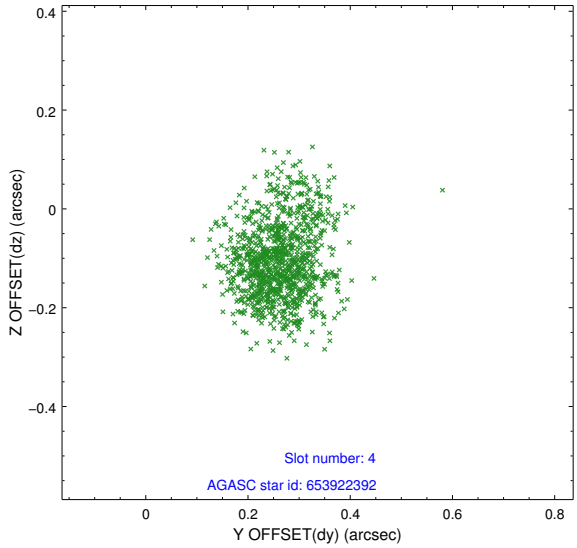
2.4.1 Slot 3

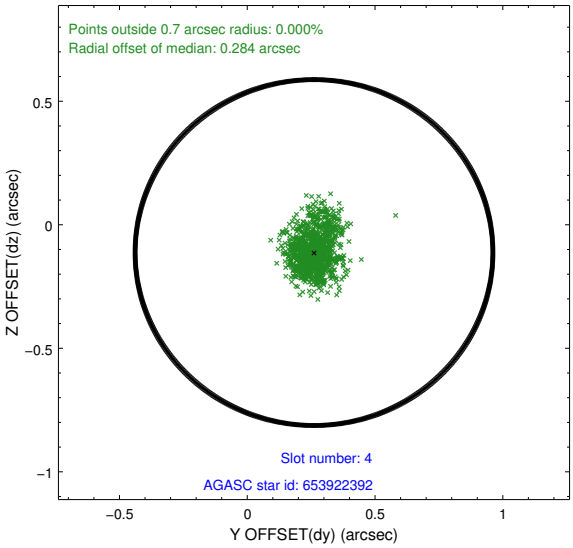


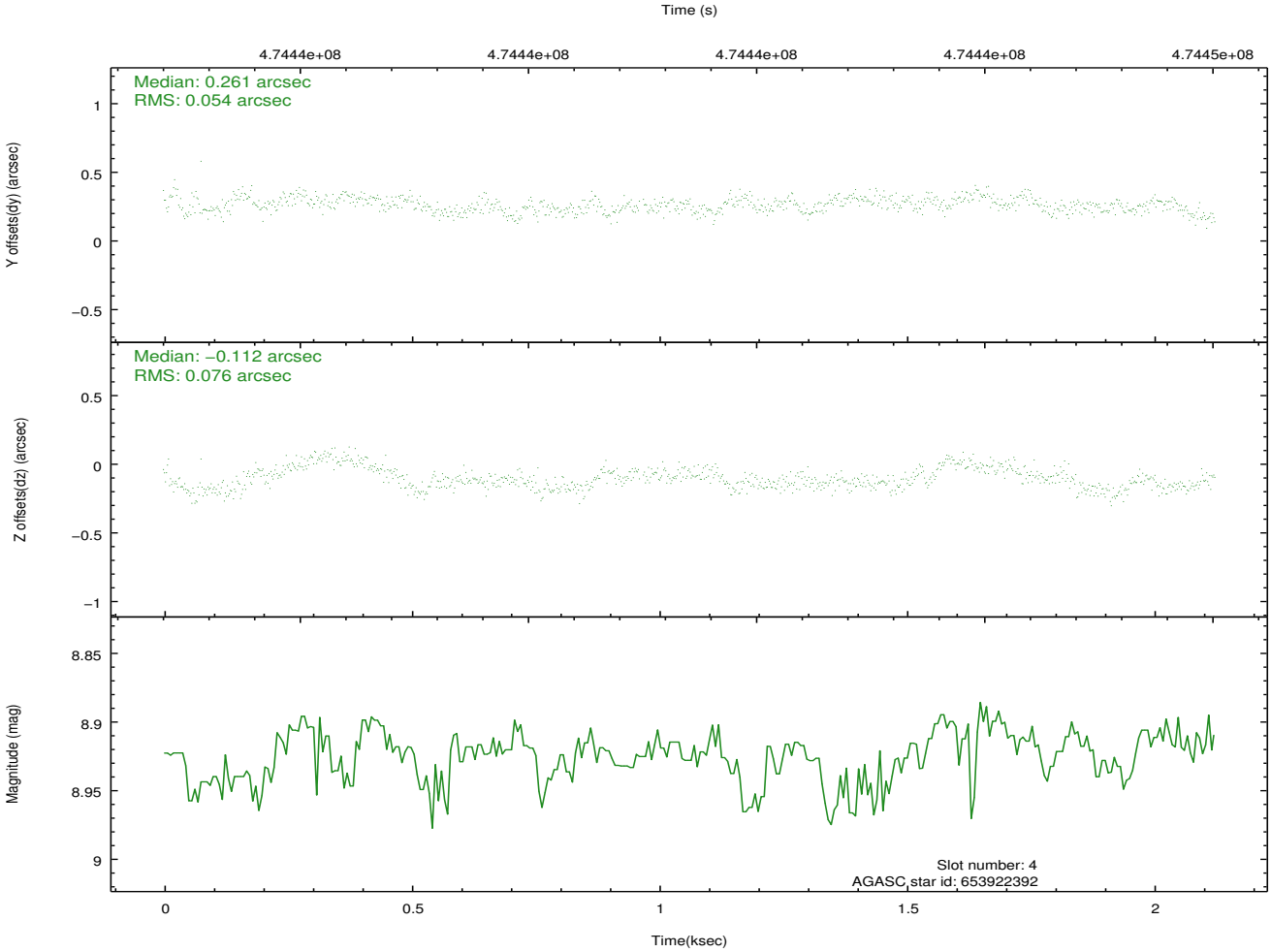




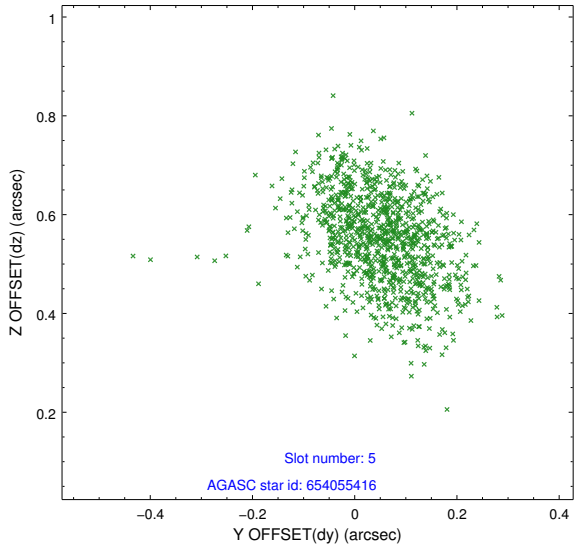
2.4.2 Slot 4

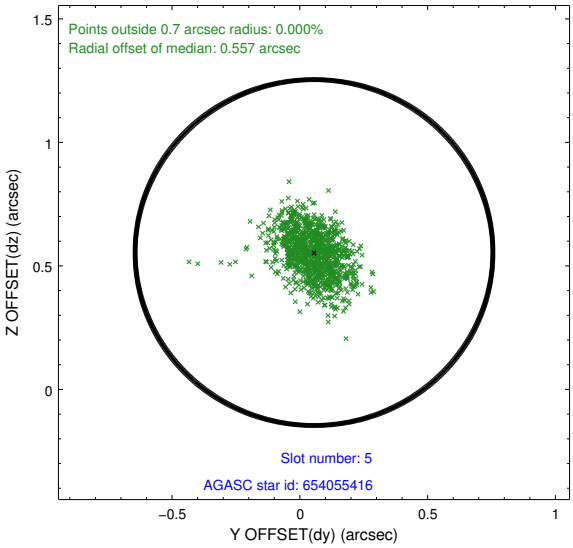

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 653922392

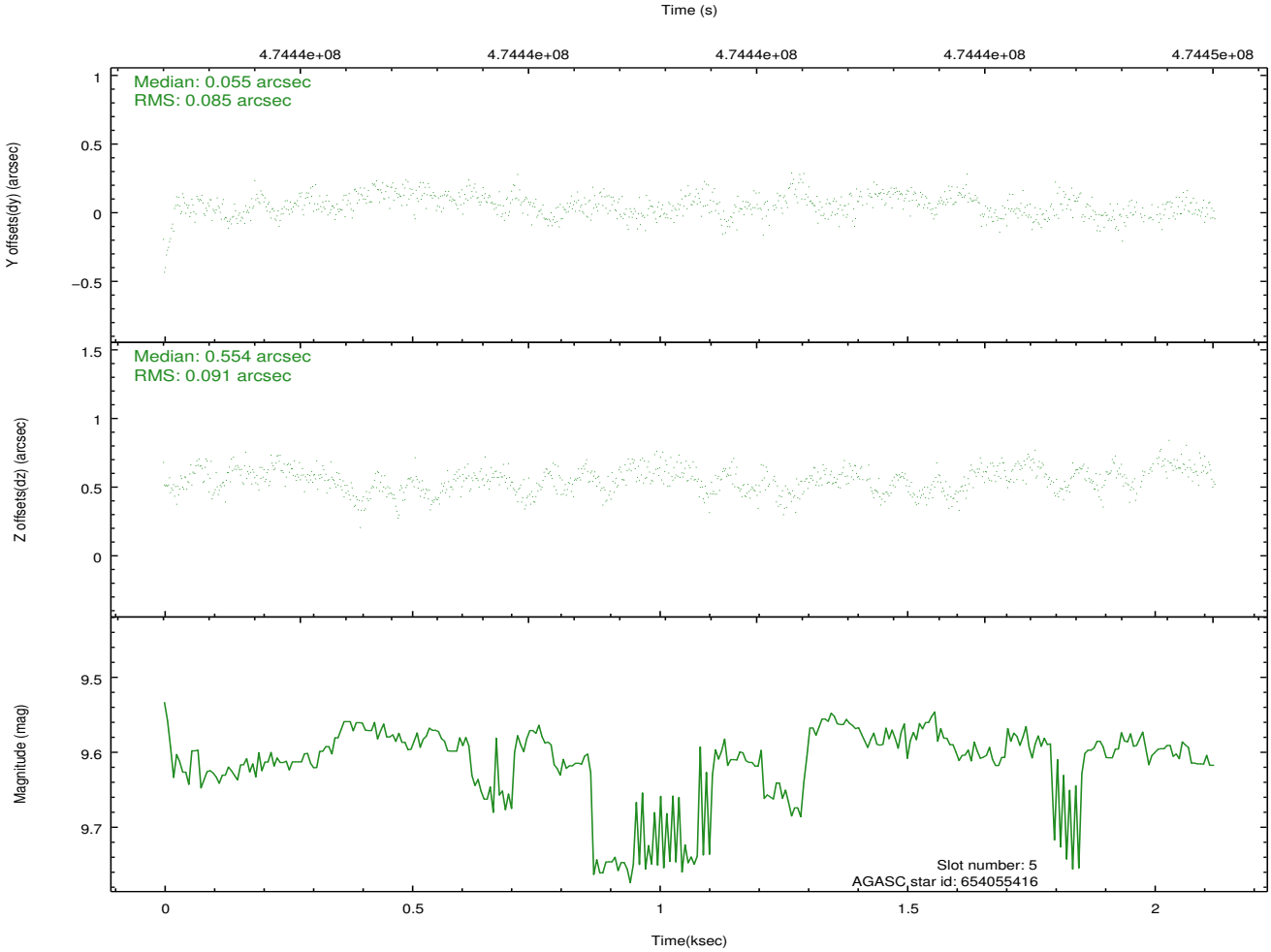

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.284 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 653922392


Time (s)
Median: 0.261 arcsec
RMS: 0.054 arcsec
Y offsets(dy) (arcsec)
Median: −0.112 arcsec
RMS: 0.076 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 653922392
Time(ksec)

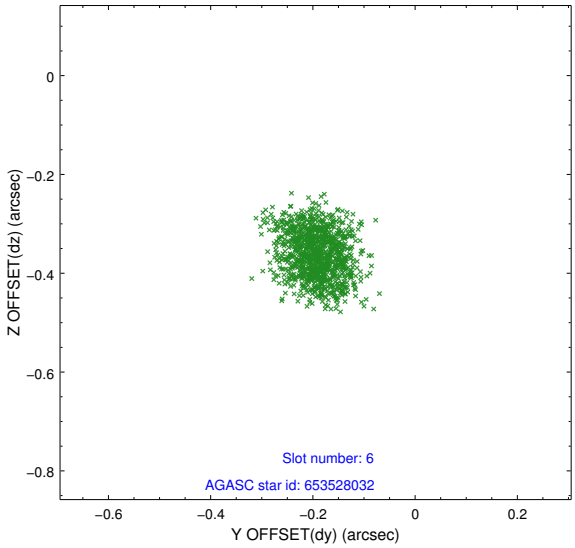
2.4.3 Slot 5

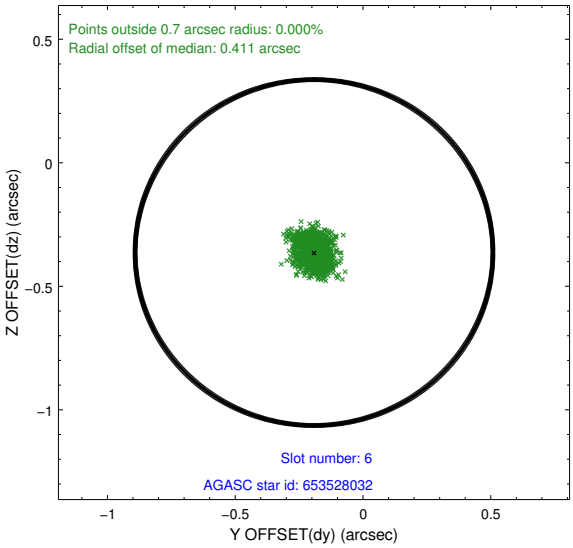

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 654055416

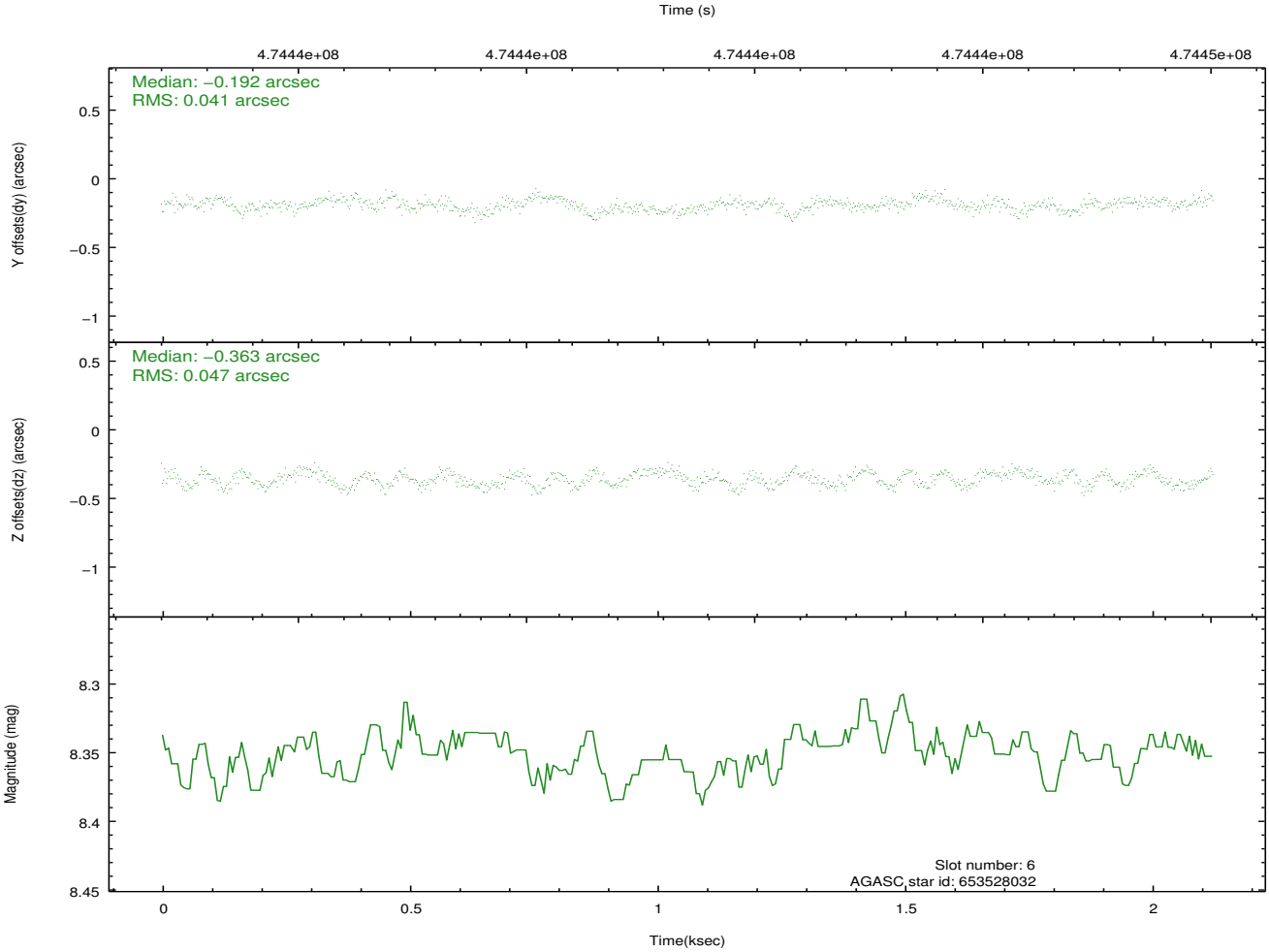

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.557 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 654055416


Time (s)
Median: 0.055 arcsec
RMS: 0.085 arcsec
Y offsets(dy) (arcsec)
Median: 0.554 arcsec
RMS: 0.091 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 654055416
Time(ksec)

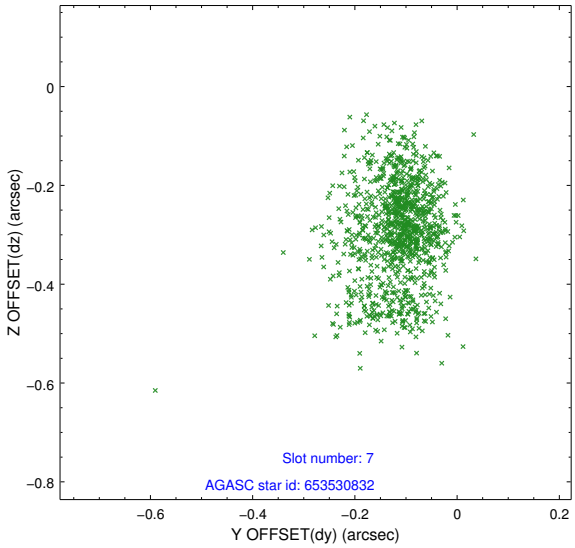
2.4.4 Slot 6

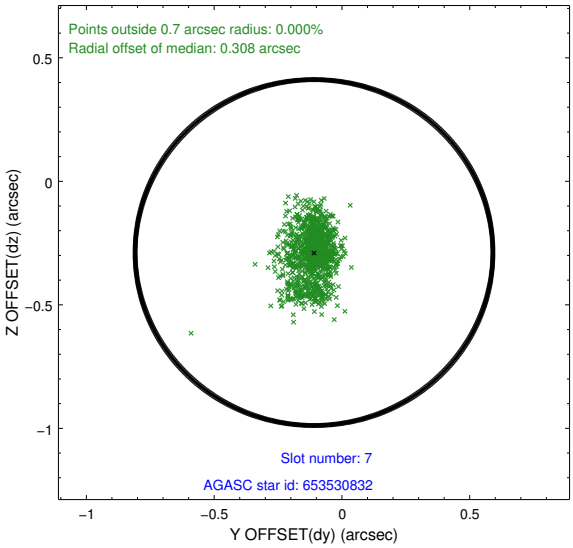

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 653528032

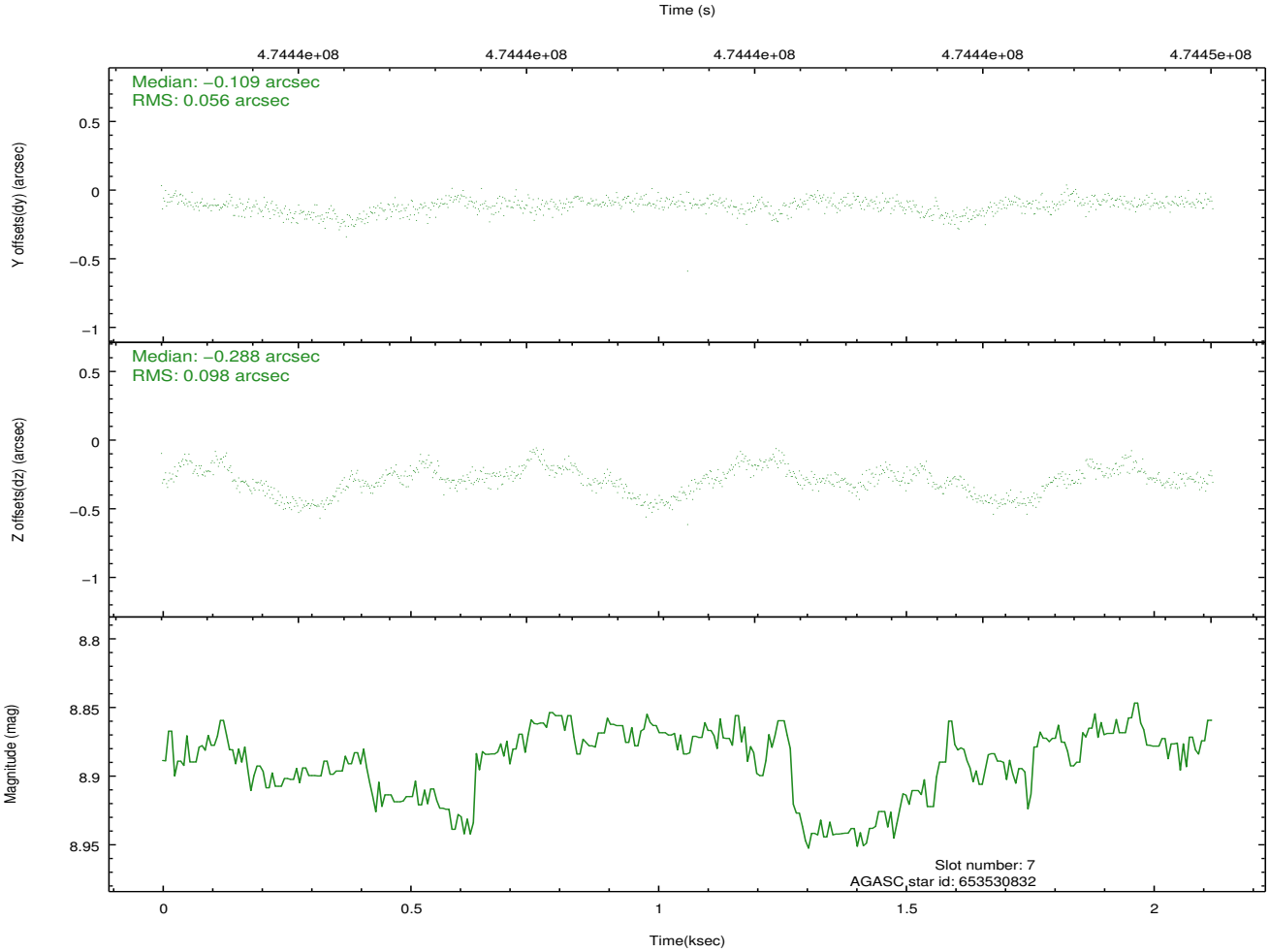

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.411 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 653528032


Time (s)
Median: −0.192 arcsec
RMS: 0.041 arcsec
Y offsets(dy) (arcsec)
Median: −0.363 arcsec
RMS: 0.047 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 653528032
Time(ksec)

2.4.5 Slot 7

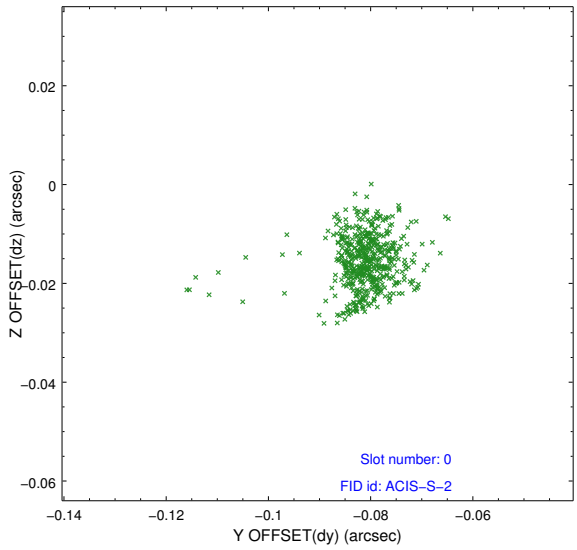

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 653530832

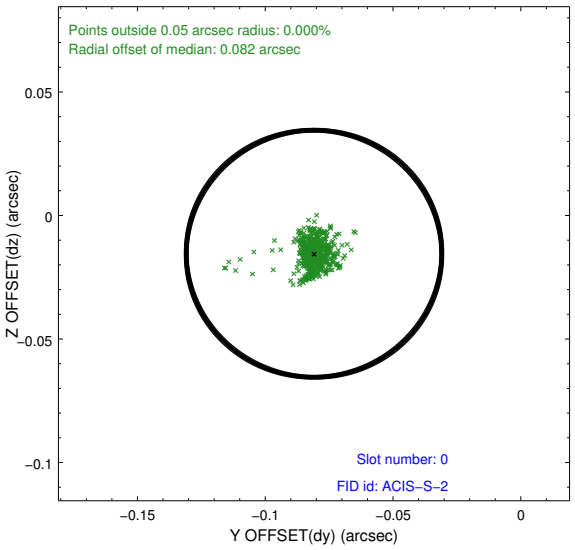

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.308 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 653530832

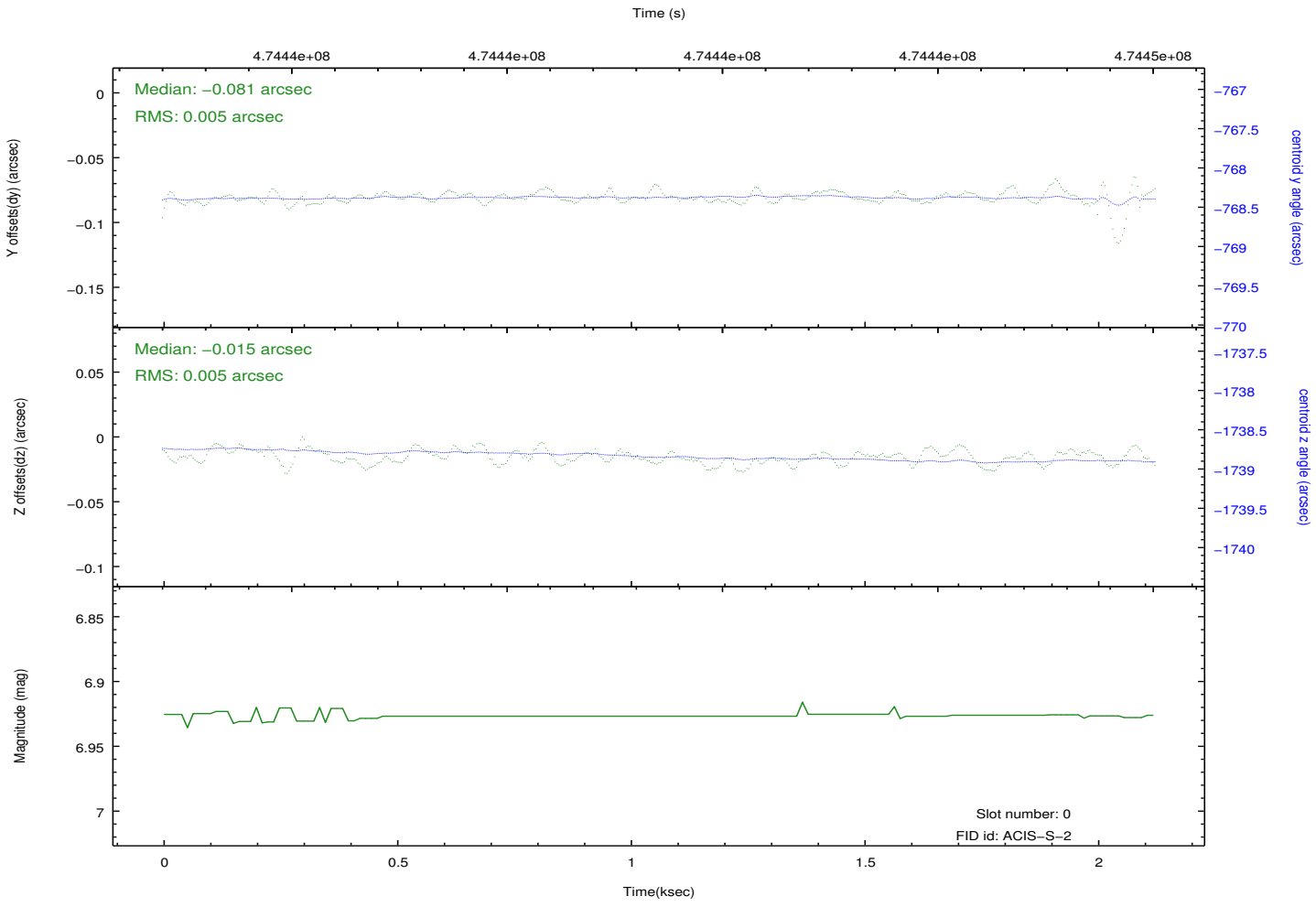

Time (s)
Median: −0.109 arcsec
RMS: 0.056 arcsec
Y offsets(dy) (arcsec)
Median: −0.288 arcsec
RMS: 0.098 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 653530832
Time(ksec)

2.5 FID Slots

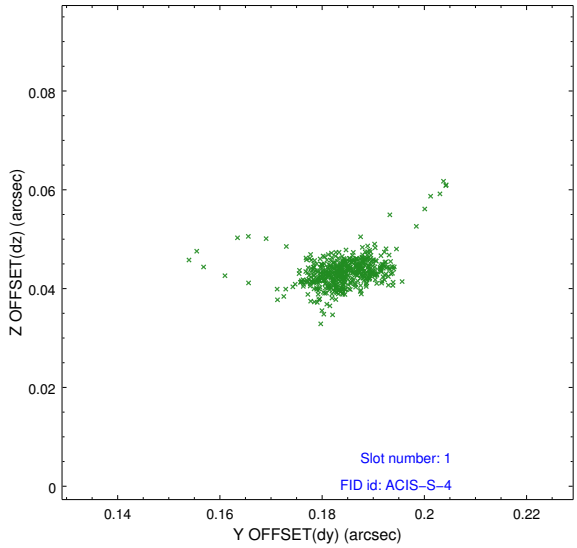
2.5.1 Slot 0

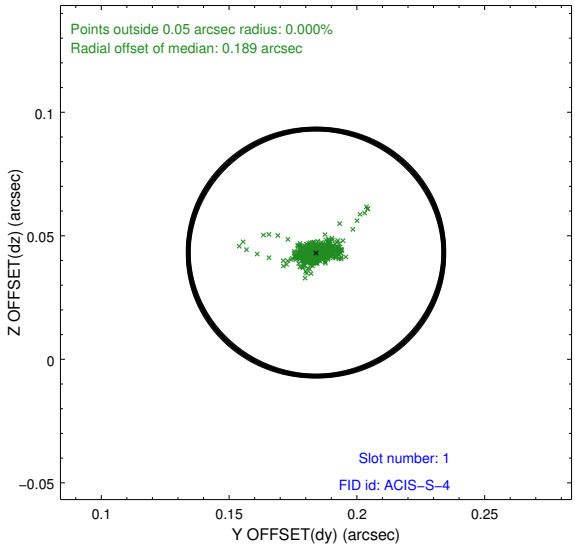


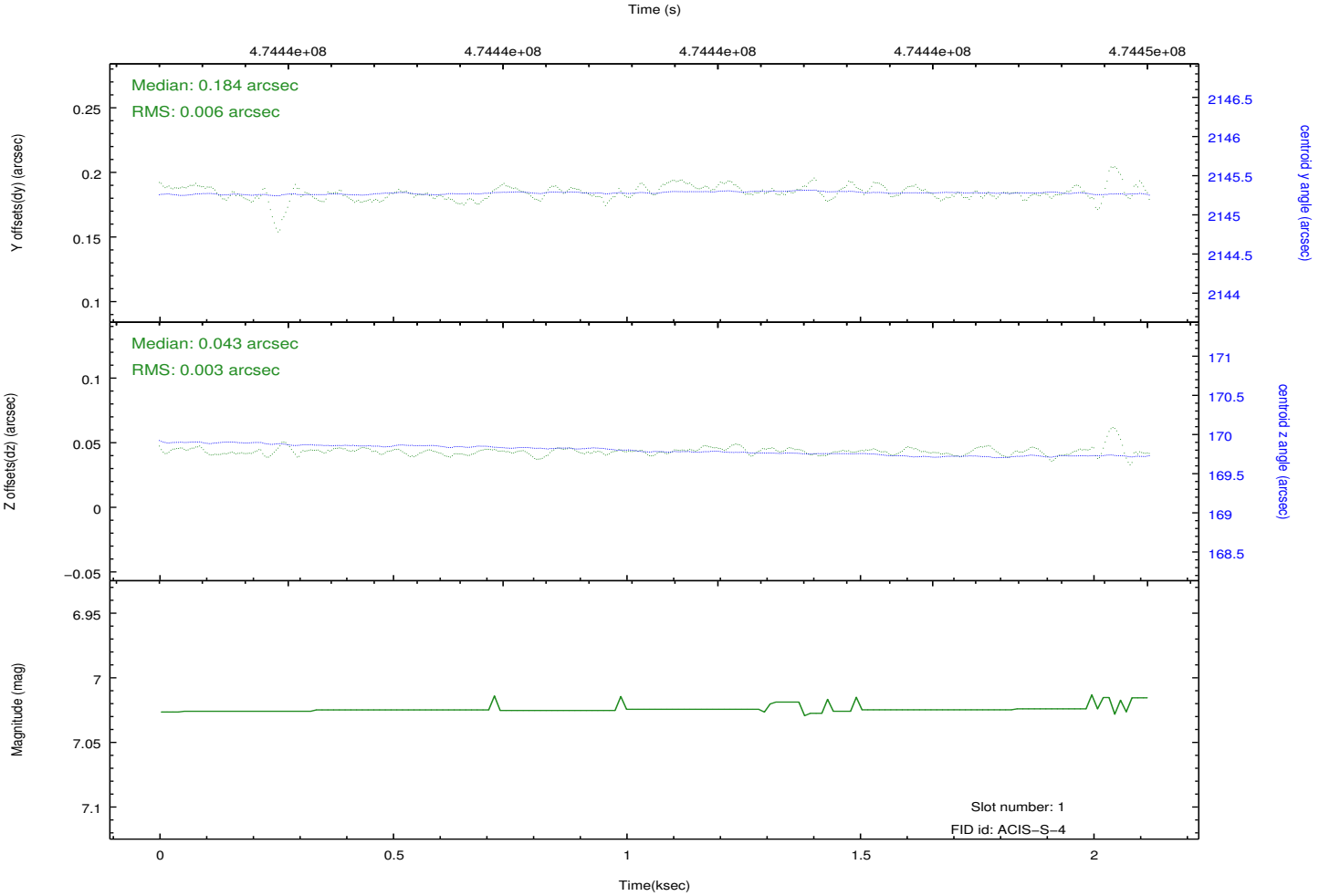




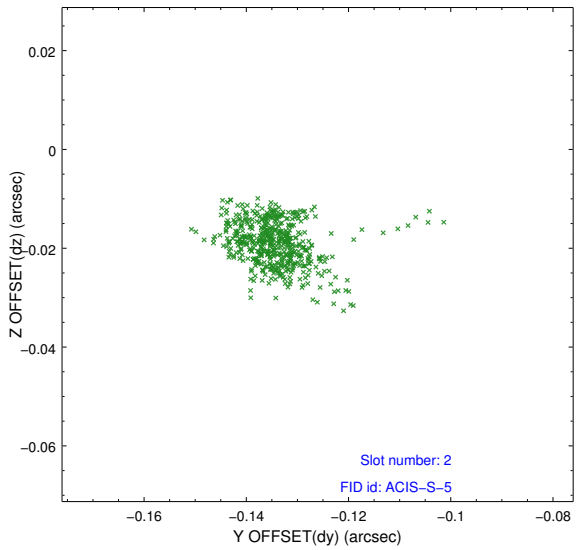
2.5.2 Slot 1

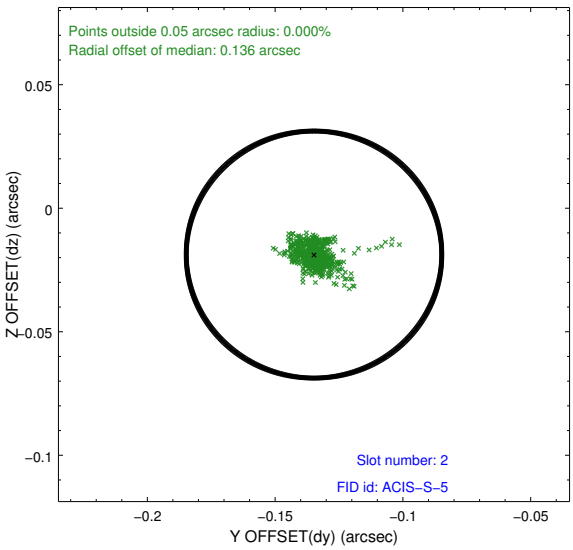

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4

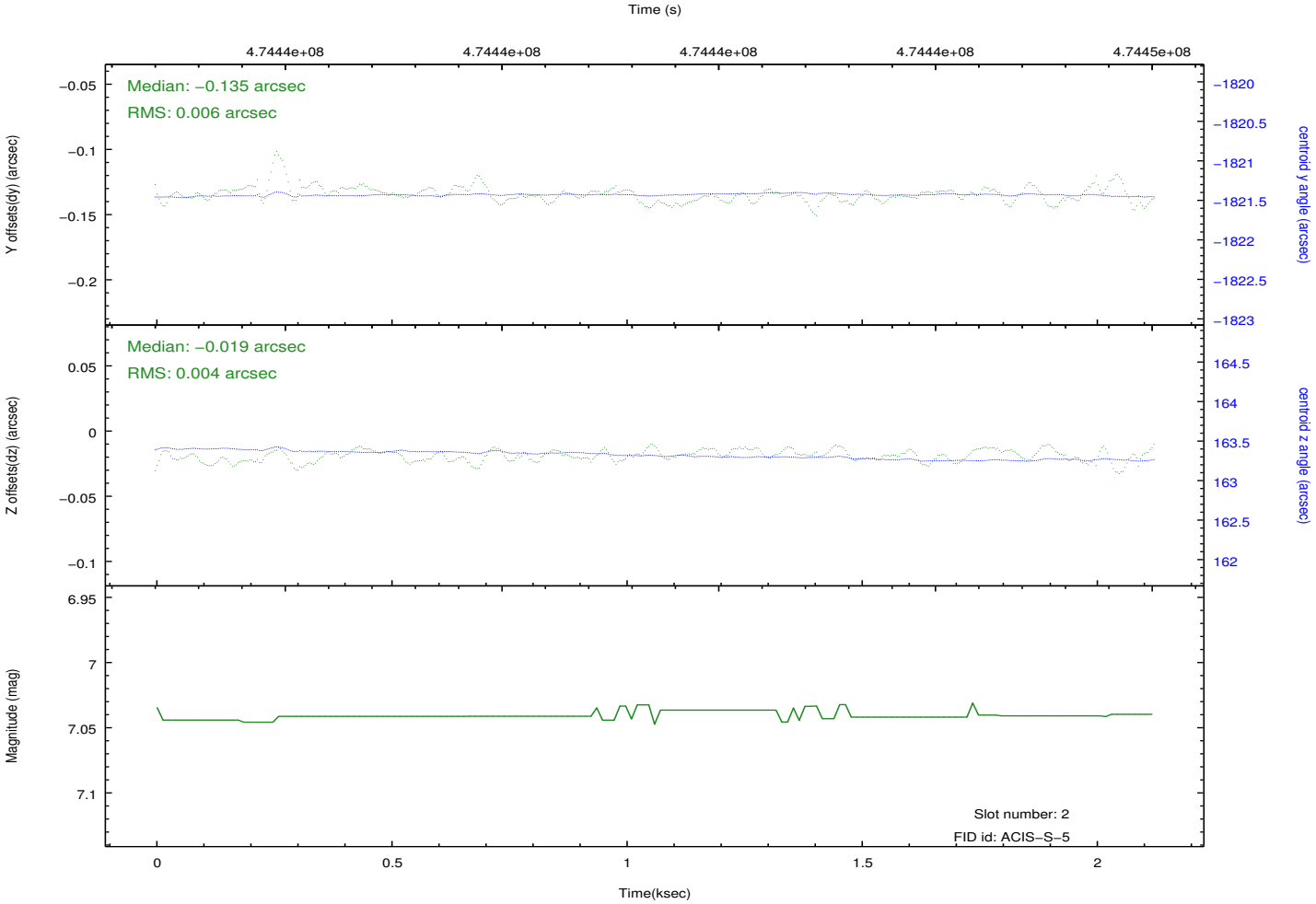

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.189 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4


Time (s)
Median: 0.184 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.043 arcsec
RMS: 0.003 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: 0.136 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−5


Time (s)
Median: −0.135 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
Median: −0.019 arcsec
RMS: 0.004 arcsec
Z offsets(dz) (arcsec)
centroid y angle (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)	2014.12.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	2.0930987637639

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.