V&V Reference Report
L2 ASCDS Version : 10

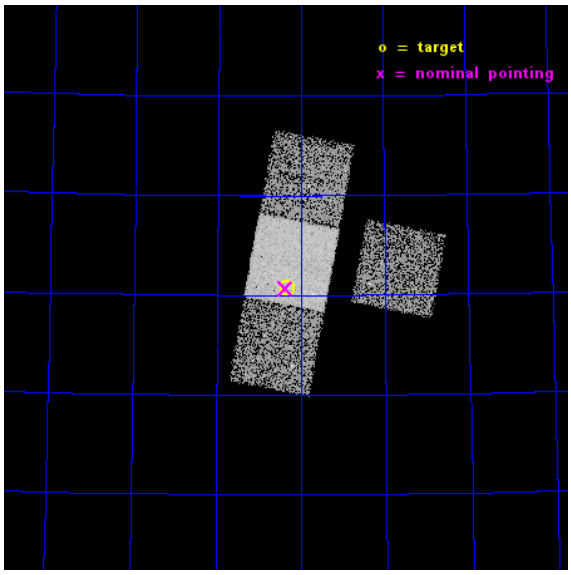
Observation 15005 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Dec 4 2014

Contents

1 Front

seq_num	702813	Sequence number
obs_id	15005	Observation id
title	The Herschel Legacy of powerful 3C radio galaxies and quasars II: observing Proposal.	Proposal title
observer	Dr Joanna Kuraszkiewicz	Principal investigator
object	3C268.1	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	180.084167	Observer's specified target RA [deg]
dec_targ	73.012639	Observer's specified target Dec [deg]
ra_nom	180.09359745815	Nominal RA [deg]
dec_nom	73.011522266306	Nominal Dec [deg]
roll_nom	280.66690515298	Nominal Roll [deg]
revision	2	Processing version of data
ontime	10074.083082199	Sum of GTIs [s]
livetime	9942.4577702981	Livetime [s]
ontime3	10074.001002192	Sum of GTIs [s]
ontime6	10074.042042196	Sum of GTIs [s]
ontime7	10074.083082199	Sum of GTIs [s]
ontime8	10073.959962189	Sum of GTIs [s]
l2events	43358	Number of level 2 events

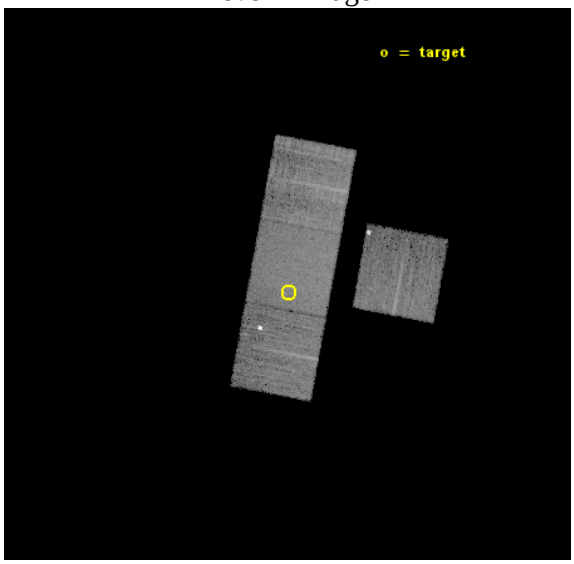


2 OBI

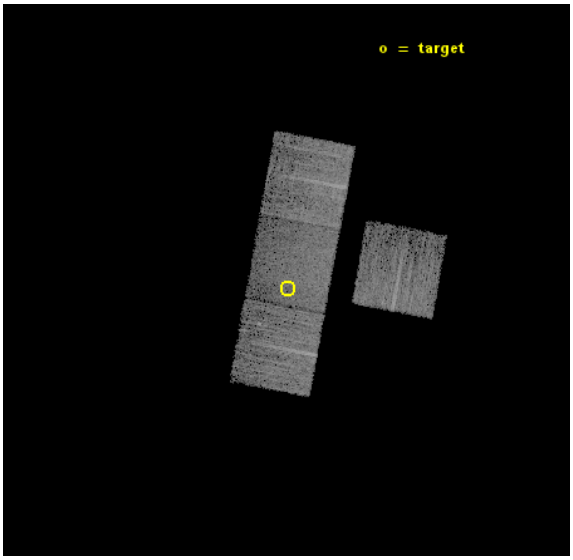
2.1 OBI

2.1.1 Images

Level 1 Image

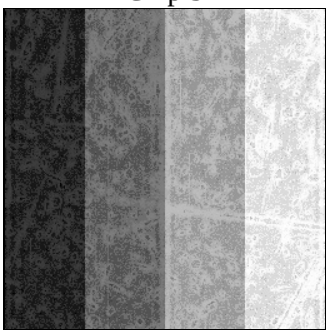


Level 1 Bad Events

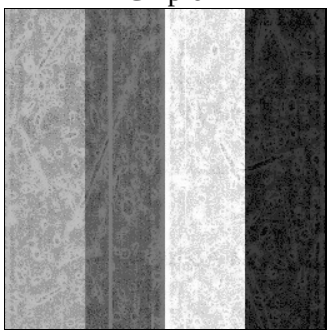


2.1.2 Bias

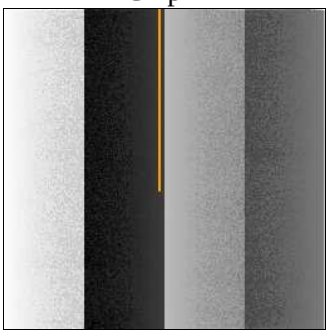
Chip 3



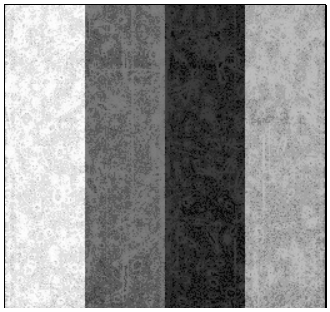
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	10.3	Processing system revision
caldbver	4.6.4	
date	2014-12-04T09:51:16	Date and time of file creation
revision	2	Processing version of data

sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ontime	10074.083082199	Sum of GTIs [s]
ontime3	10074.001002192	Sum of GTIs [s]
ontime6	10074.042042196	Sum of GTIs [s]
ontime7	10074.083082199	Sum of GTIs [s]
ontime8	10073.959962189	Sum of GTIs [s]
l1events	235477	Number of level 1 events

2.1.4 Events

	ccd 3	**ccd 6**	**ccd 7**	**ccd 8**
level 1 events	49020	56728	65192	64537
rejected events	40688	43724	37022	47974
rejected %	83%	77%	56%	74%

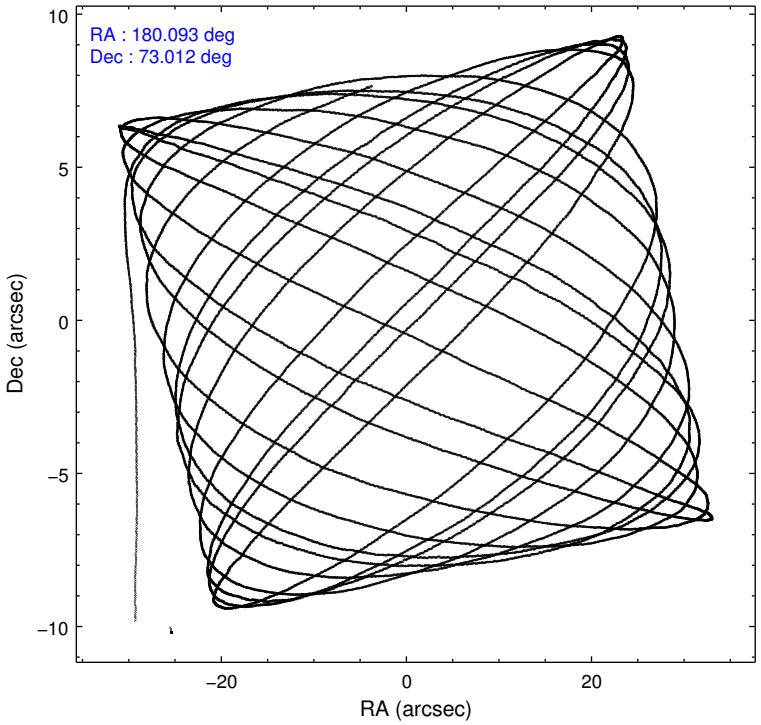
	ccd 3	**ccd 6**	**ccd 7**	**ccd 8**
grade 0 events	4922	2390	2511	4482
	10%	4%	3%	6%
grade 1 events	30	29	74	43
	0%	0%	0%	0%
grade 2 events	1170	7985	5732	4028
	2%	14%	8%	6%
grade 3 events	569	572	2293	1716
	1%	1%	3%	2%
grade 4 events	540	578	2247	1660
	1%	1%	3%	2%
grade 5 events	2559	2474	6595	3647
	5%	4%	10%	5%
grade 6 events	1137	1488	15400	4683
	2%	2%	23%	7%
grade 7 events	38093	41212	30340	44278
	77%	72%	46%	68%

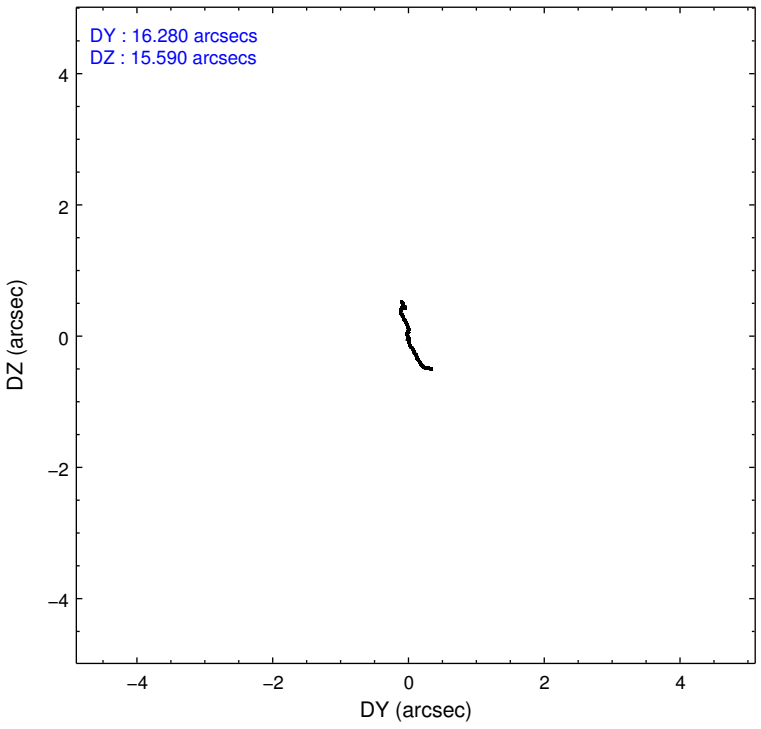
2.2 Compared Parameters

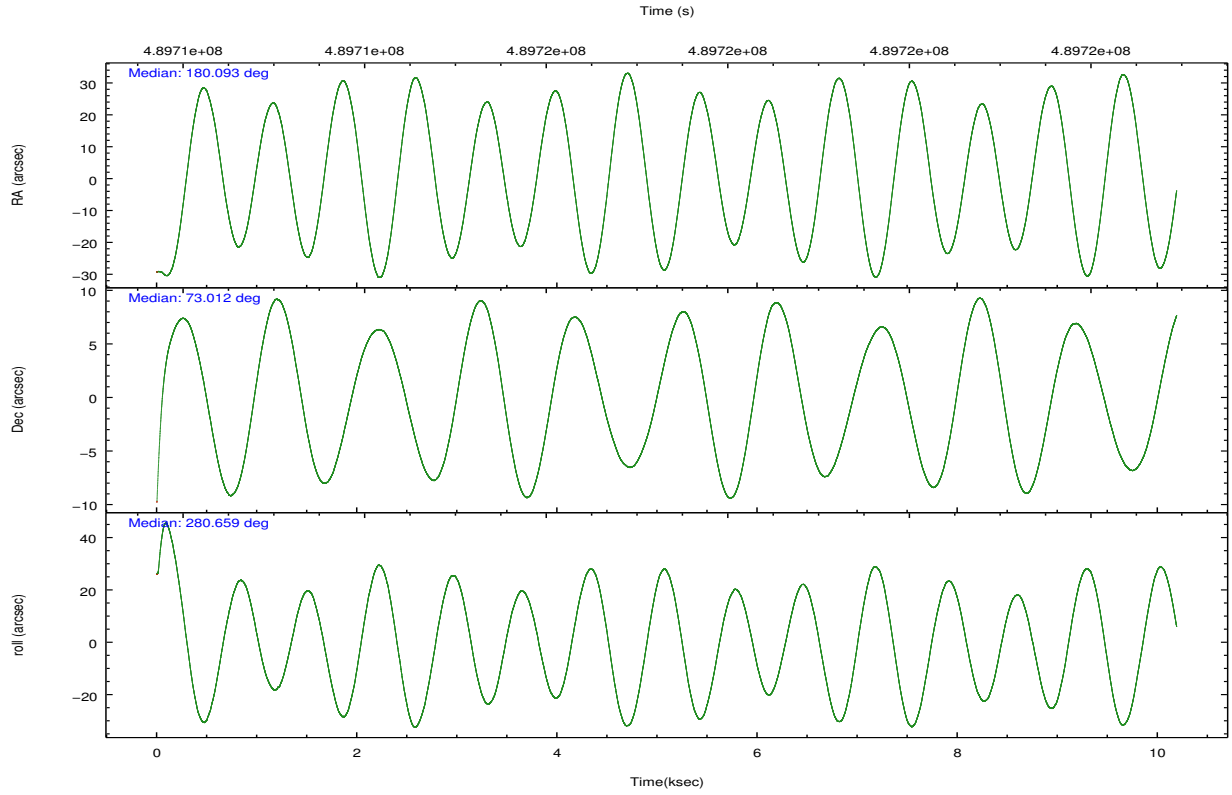
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-3678	ACIS-3678
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	180.031763	180.0935974581453
[deg] Pointing Dec	73.032015	73.011522266306
[deg] Pointing Roll	280.569454	280.6669051529761
[mm] SIM focus 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)	489712418.184000	489711248.38749
Observation start date	2013-07-08T23:12:31	2013-07-08T22:54:08
[s] Observation end time (MET)	489722418.184000	489723915.33818
Observation end date	2013-07-09T01:59:11	2013-07-09T02:25:15
Read mode	TIMED	TIMED

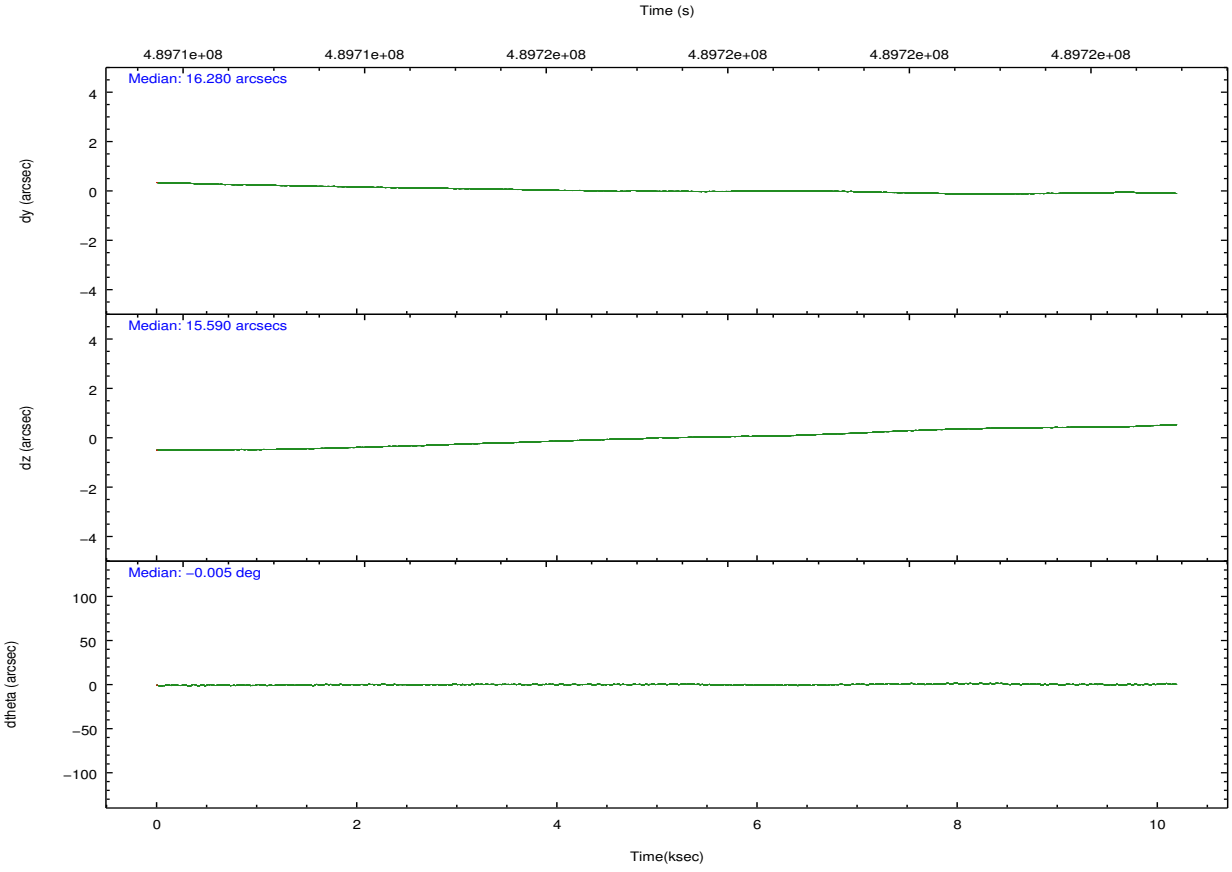
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	N	N
CCD I3 on	O1	Y
CCD S0 on	N	N
CCD S1 on	N	N
CCD S2 on	O3	Y
CCD S3 on	Y	Y
CCD S4 on	O2	Y
CCD S5 on	N	N
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.1

2.3 Aspect


RA : 180.093 deg
Dec : 73.012 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10
−20
0
20


DY : 16.280 arcsecs
DZ : 15.590 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
4.8971e+08
4.8971e+08
4.8972e+08
4.8972e+08
4.8972e+08
4.8972e+08
Median: 180.093 deg
RA (arcsec)
Median: 73.012 deg
Dec (arcsec)
Median: 280.659 deg
roll (arcsec)
Time(ksec)

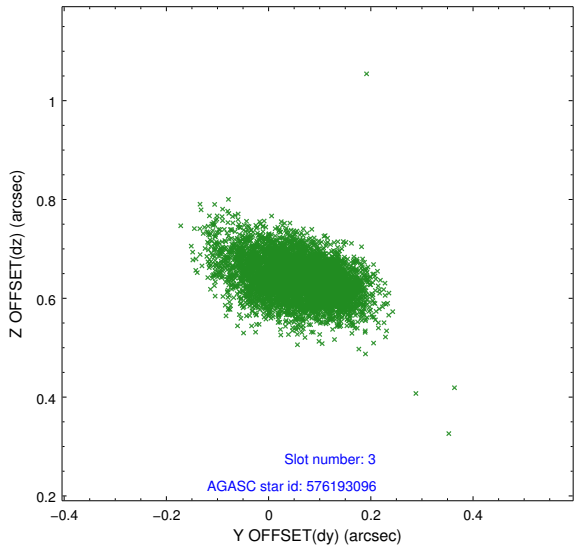

Time (s)
4.8971e+08
4.8971e+08
4.8972e+08
4.8972e+08
4.8972e+08
4.8972e+08
Median: 16.280 arcsecs
dy (arcsec)
Median: 15.590 arcsecs
dz (arcsec)
Median: −0.005 deg
dtheta (arcsec)
Time(ksec)

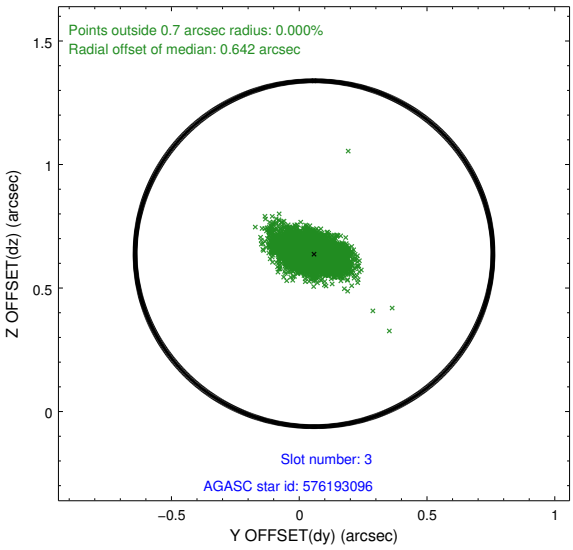
Slot Statistics

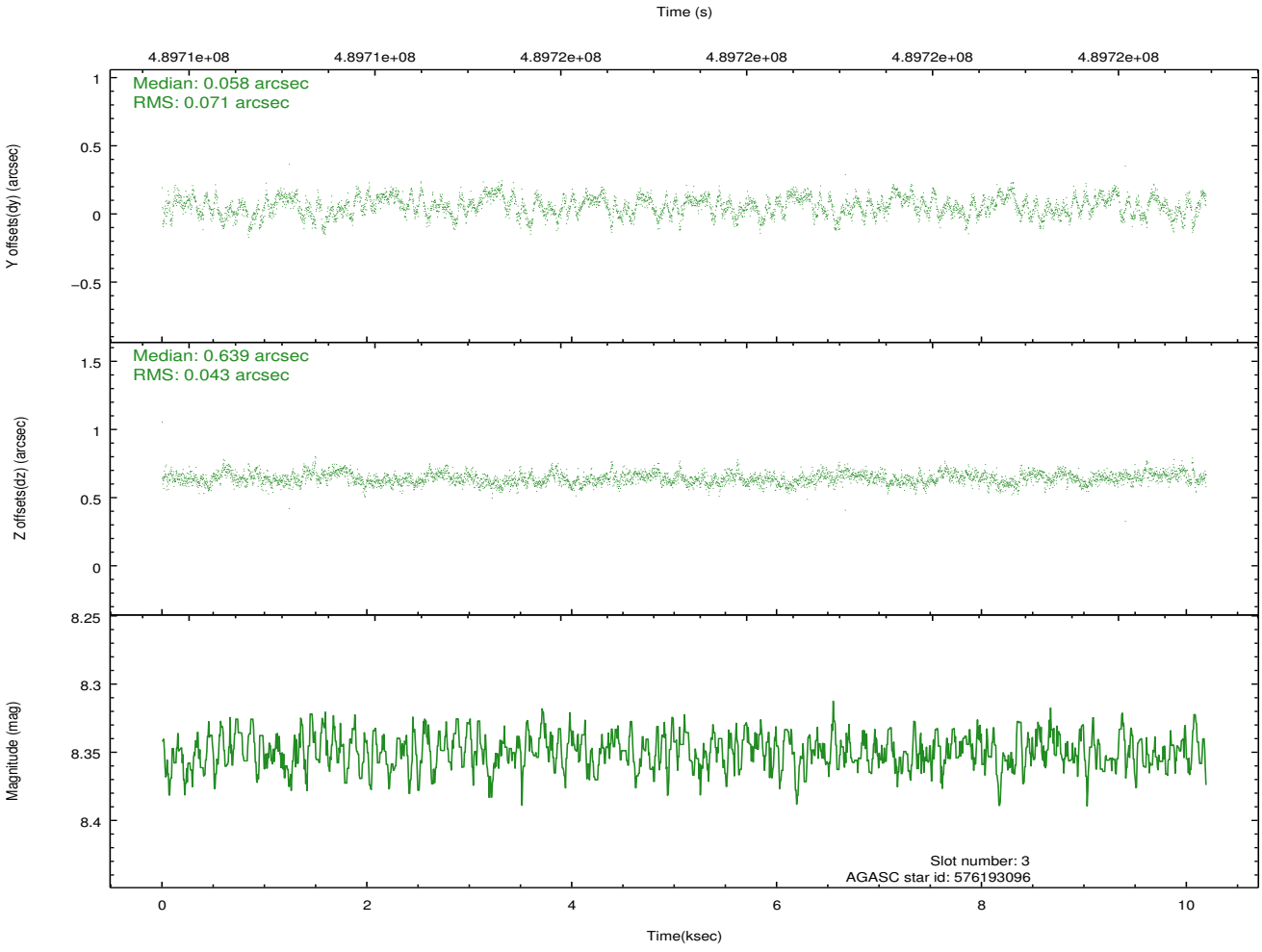
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.06	2486	-0.126	-0.021	0.009	0.017	0.000000	0.000000	-769.43	-1736.94
1	FID		ACIS-S-4	7.14	2486	0.249	0.066	0.008	0.014	0.000000	0.000000	2143.97	171.11
2	FID		ACIS-S-5	7.17	2486	-0.154	-0.037	0.008	0.013	0.000000	0.000000	-1821.66	165.24
3	GUIDE	used	576193096	8.35	4968	0.058	0.639	0.086	0.144	178.787538	72.388990	2013.91	-1752.83
4	GUIDE	used	576593504	7.31	4972	-0.018	-0.080	0.075	0.117	181.301062	73.454546	-1270.17	1560.03
5	GUIDE	used	576593608	8.68	4969	-0.205	0.280	0.081	0.129	178.117184	73.348898	-1514.59	-1725.33
6	GUIDE	used	576593656	8.83	4967	0.217	-0.294	0.084	0.142	181.804666	73.328581	-740.47	1999.62
7	GUIDE	used	576595136	9.09	4928	-0.054	-0.549	0.101	0.158	181.848495	72.804043	1132.44	1755.81

2.4 Star Slots

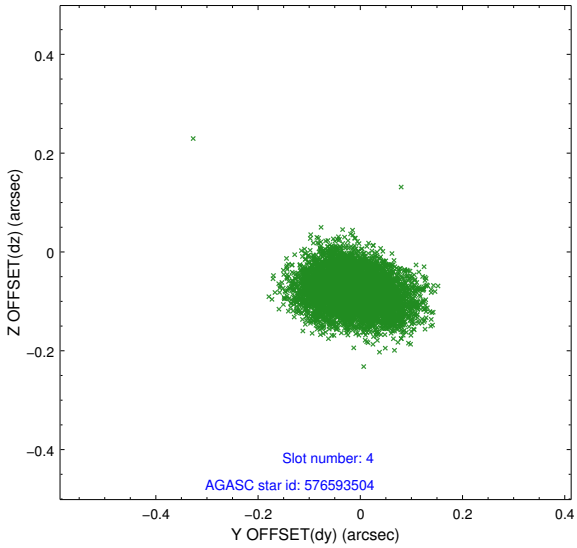
2.4.1 Slot 3

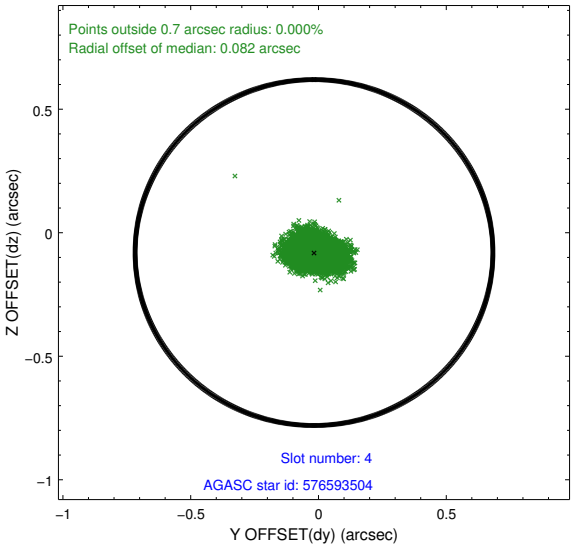


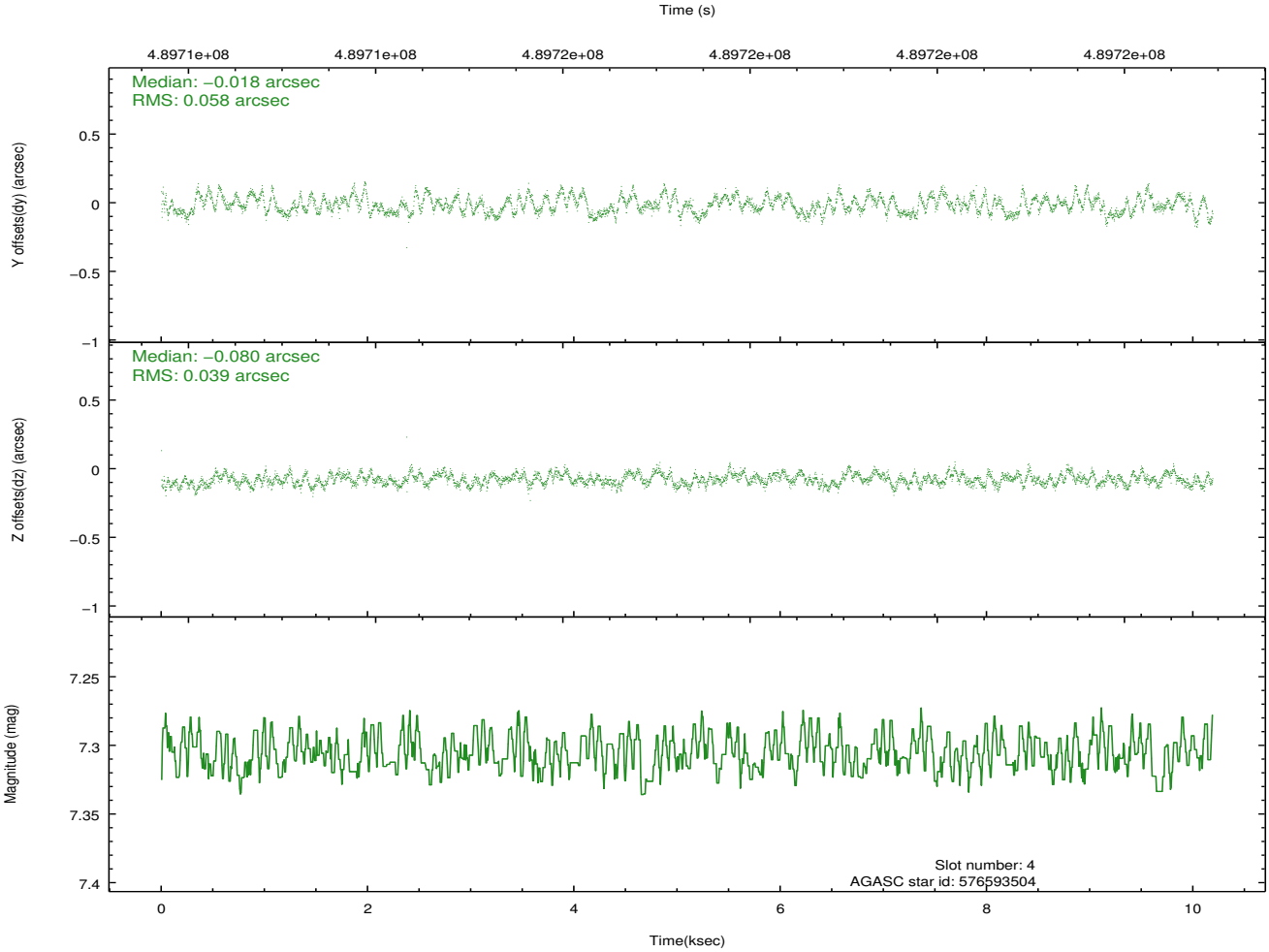




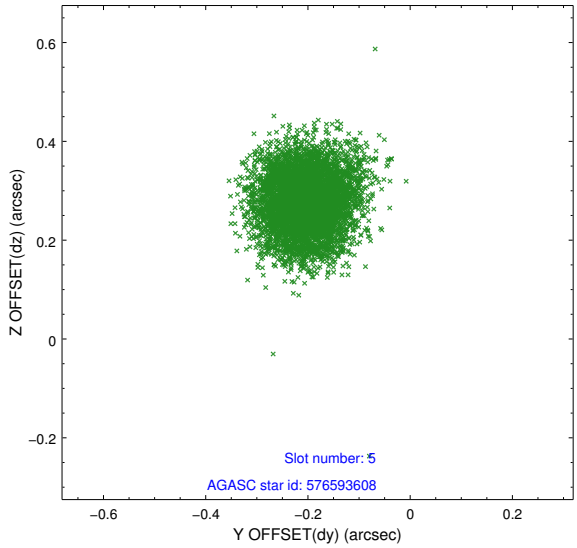
2.4.2 Slot 4

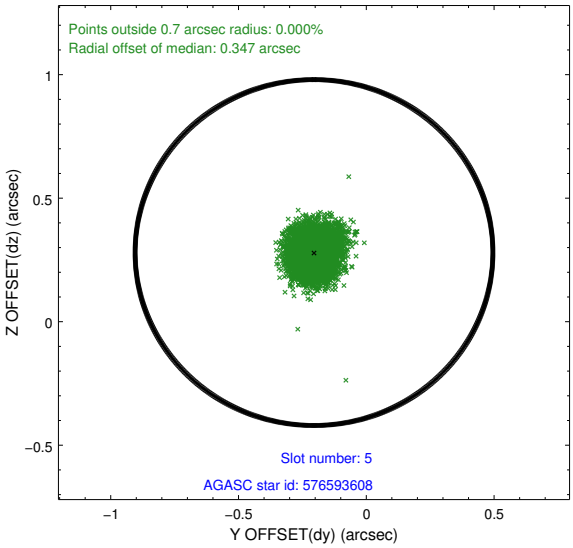

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 576593504

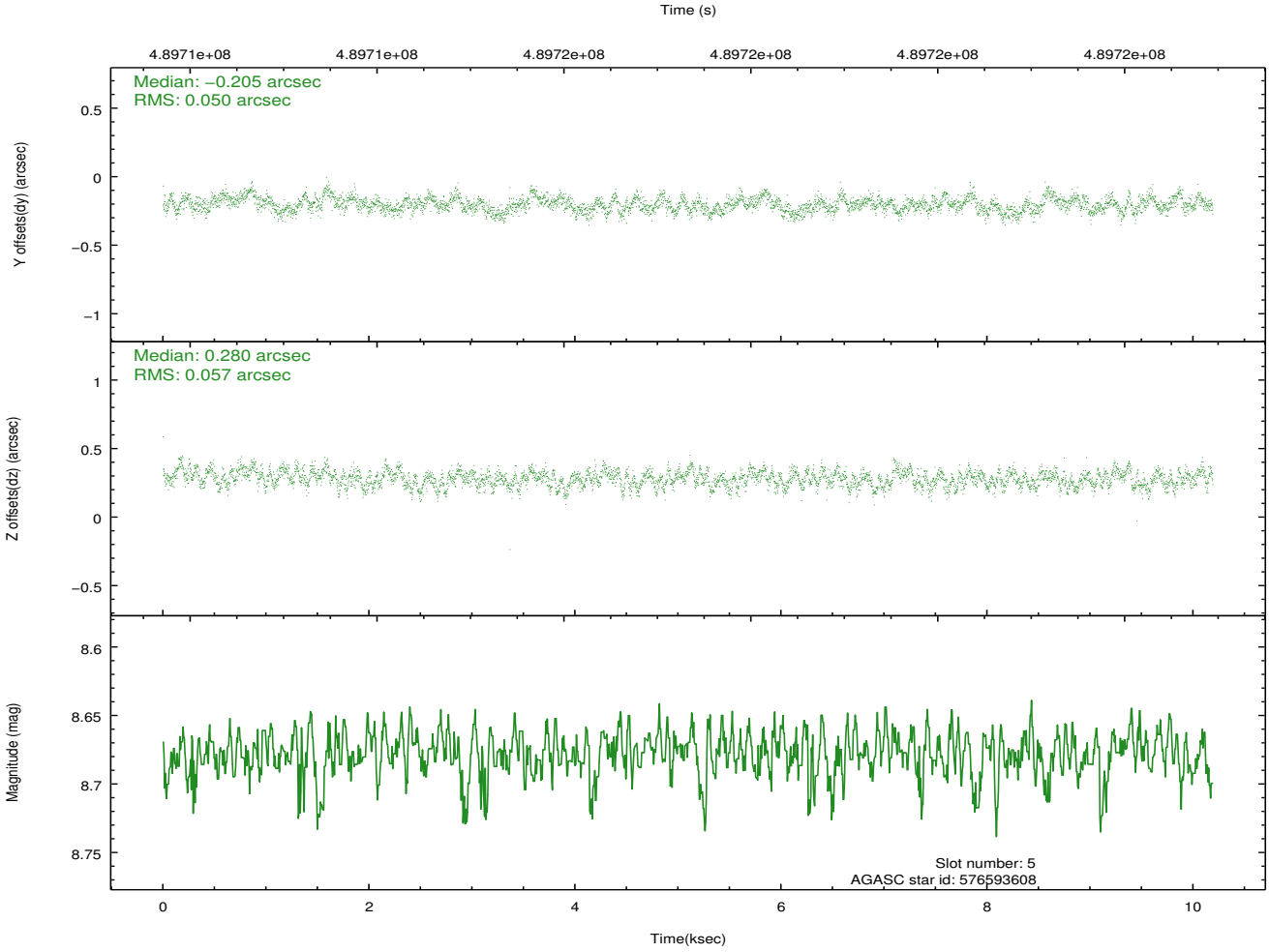

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.082 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 576593504


Time (s)
Median: −0.018 arcsec
RMS: 0.058 arcsec
Y offsets(dy) (arcsec)
Median: −0.080 arcsec
RMS: 0.039 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 576593504
Time(ksec)

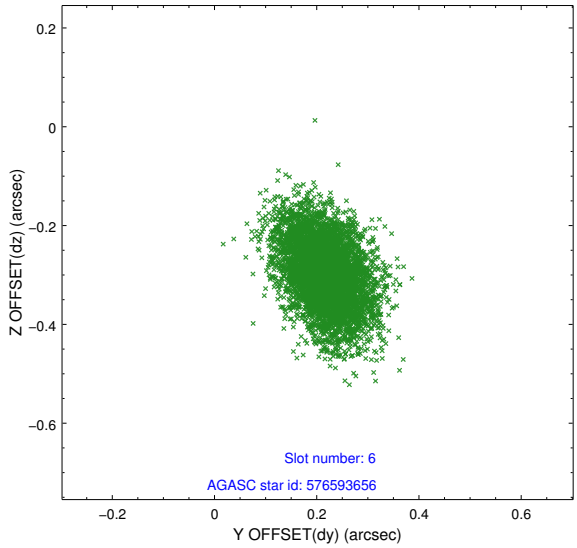
2.4.3 Slot 5

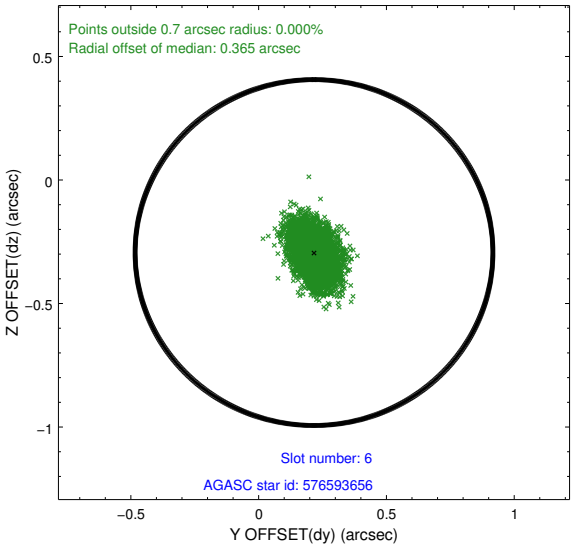

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 576593608

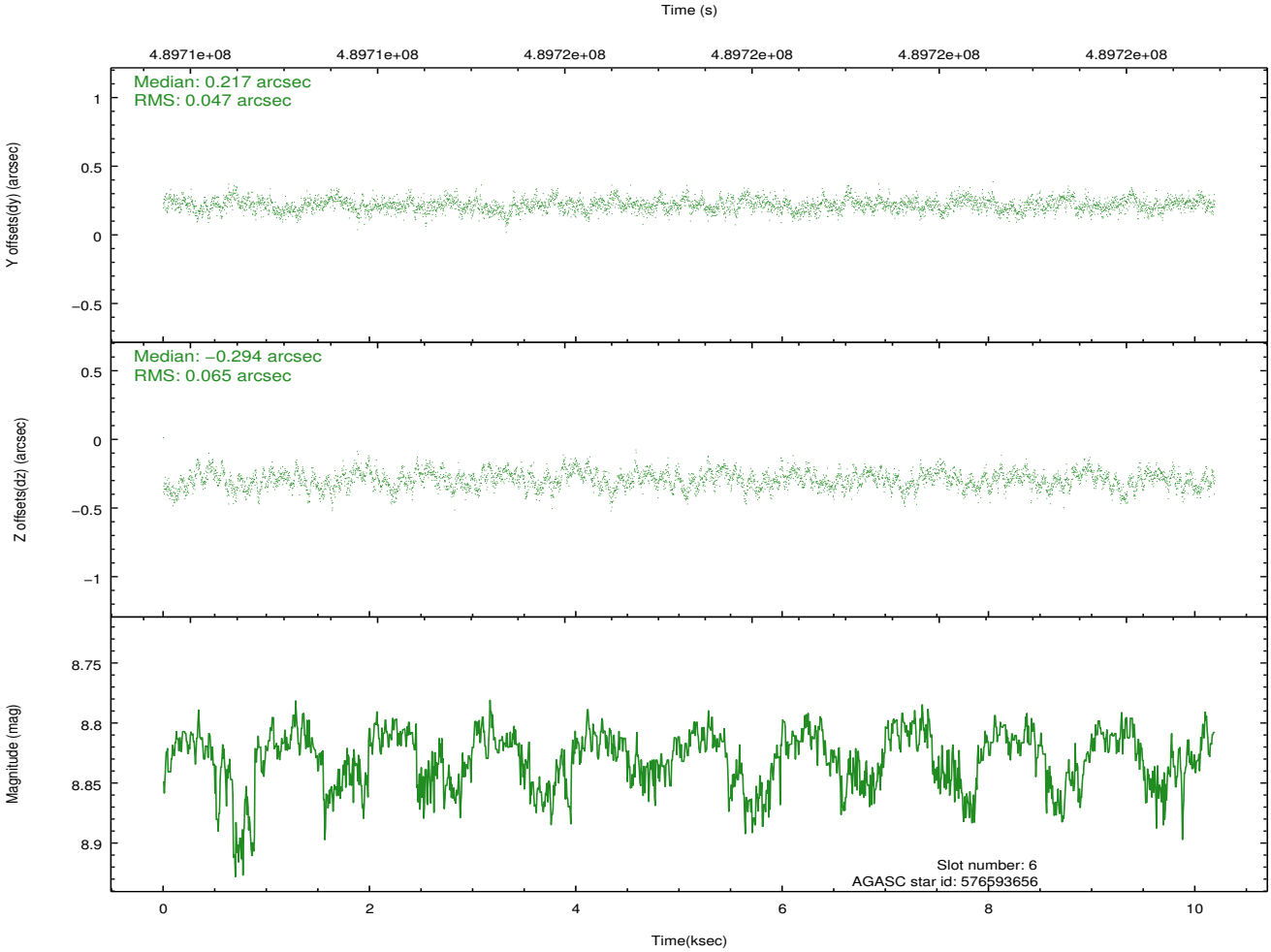

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.347 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 576593608


Time (s)
Median: −0.205 arcsec
RMS: 0.050 arcsec
Y offsets(dy) (arcsec)
Median: 0.280 arcsec
RMS: 0.057 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 576593608
Time(ksec)

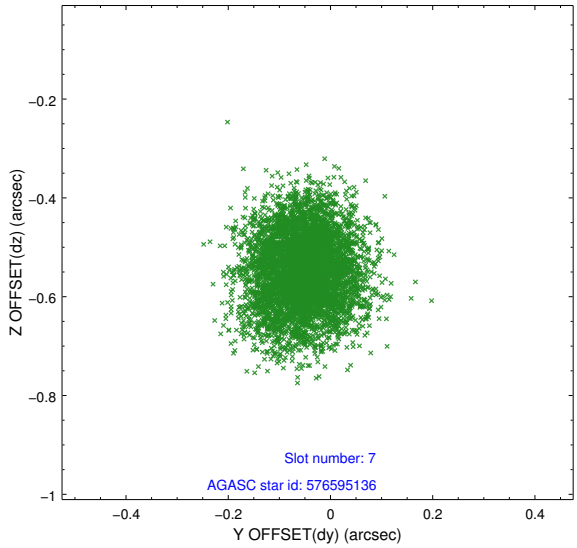
2.4.4 Slot 6

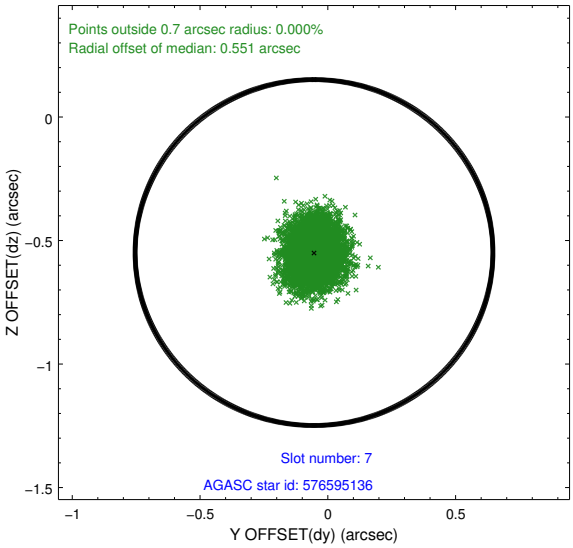

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 576593656

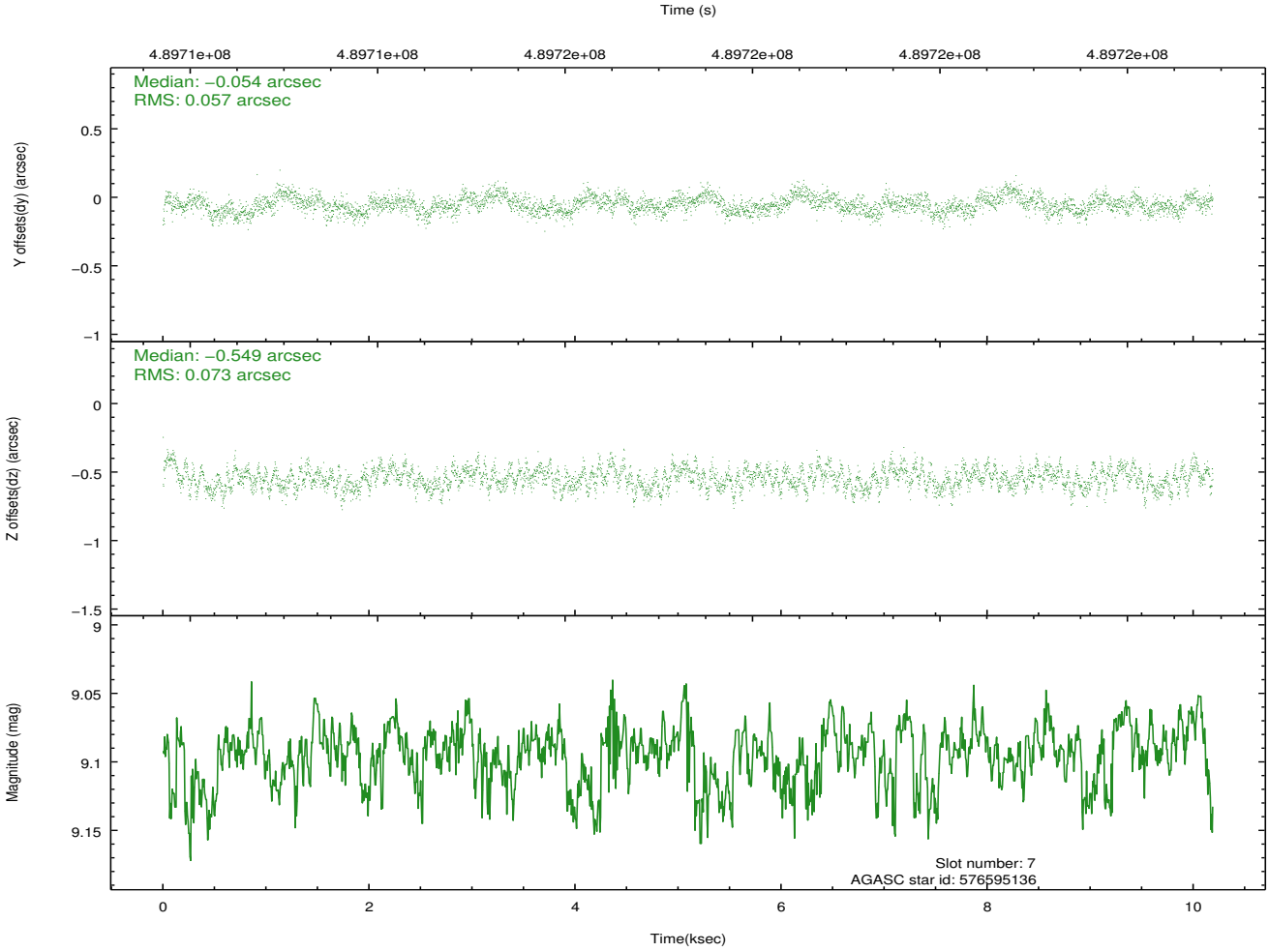

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.365 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 576593656


Time (s)
Median: 0.217 arcsec
RMS: 0.047 arcsec
Y offsets(dy) (arcsec)
Median: −0.294 arcsec
RMS: 0.065 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 576593656
Time(ksec)

2.4.5 Slot 7

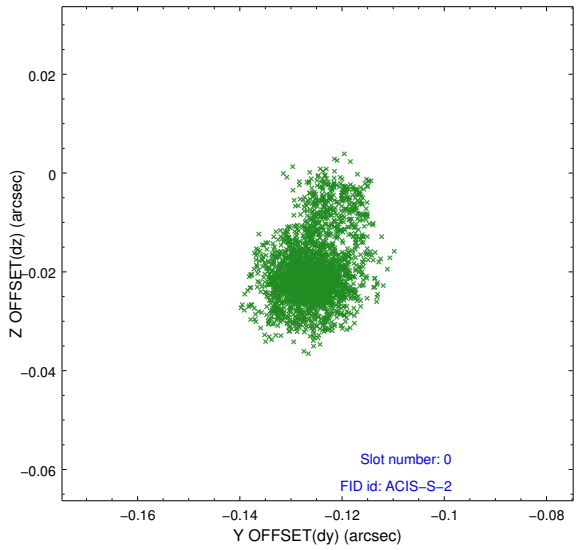

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 576595136

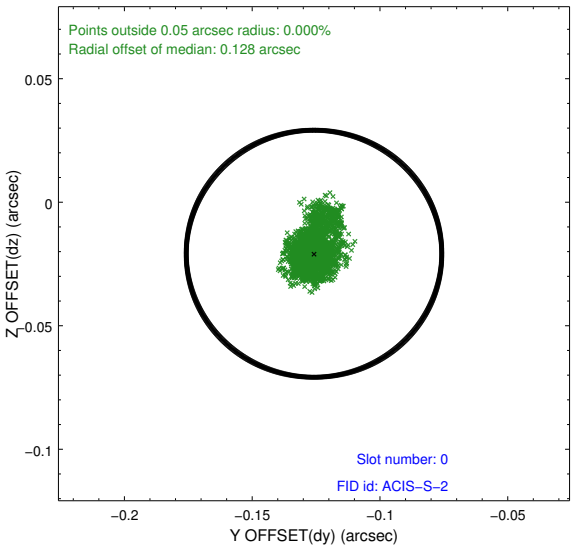

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.551 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 576595136

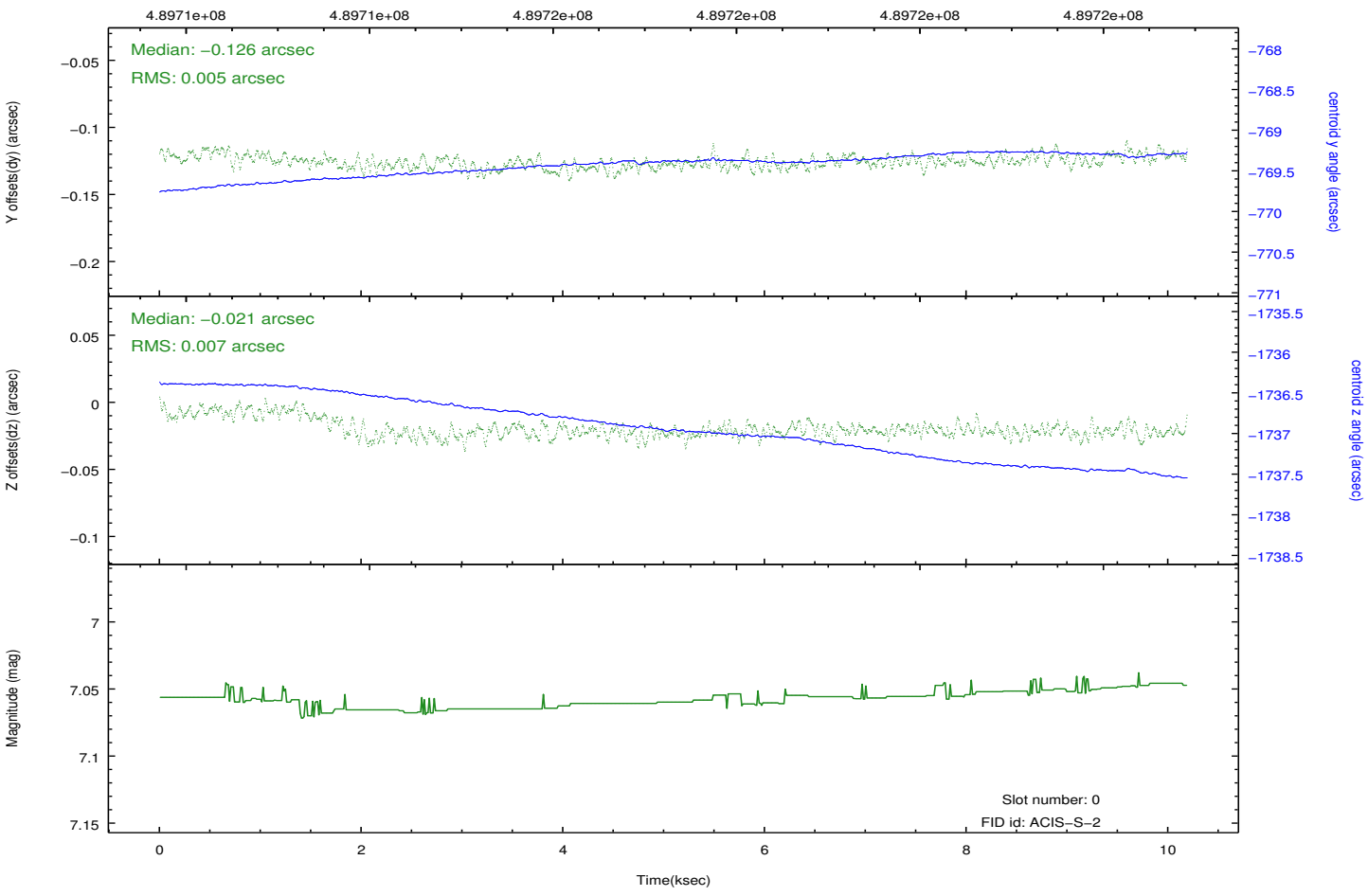

Time (s)
Median: −0.054 arcsec
RMS: 0.057 arcsec
Y offsets(dy) (arcsec)
Median: −0.549 arcsec
RMS: 0.073 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 576595136
Time(ksec)

2.5 FID Slots

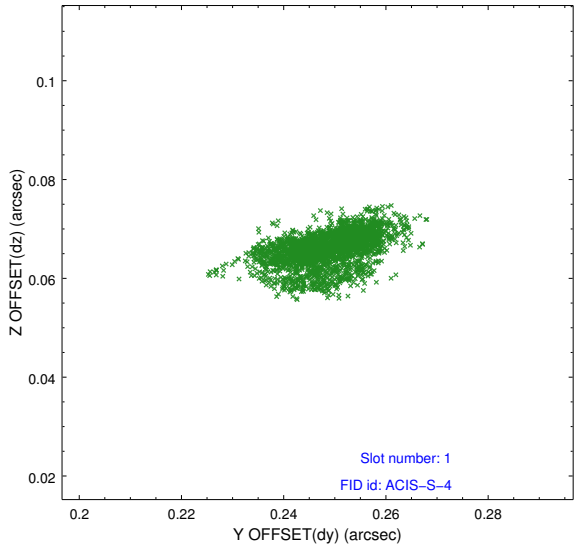
2.5.1 Slot 0

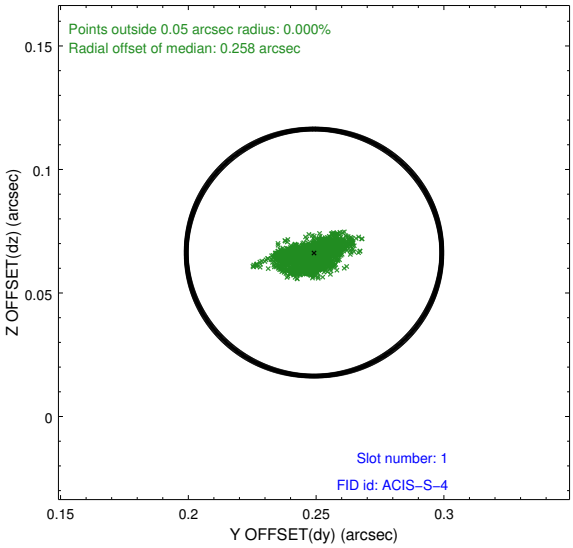


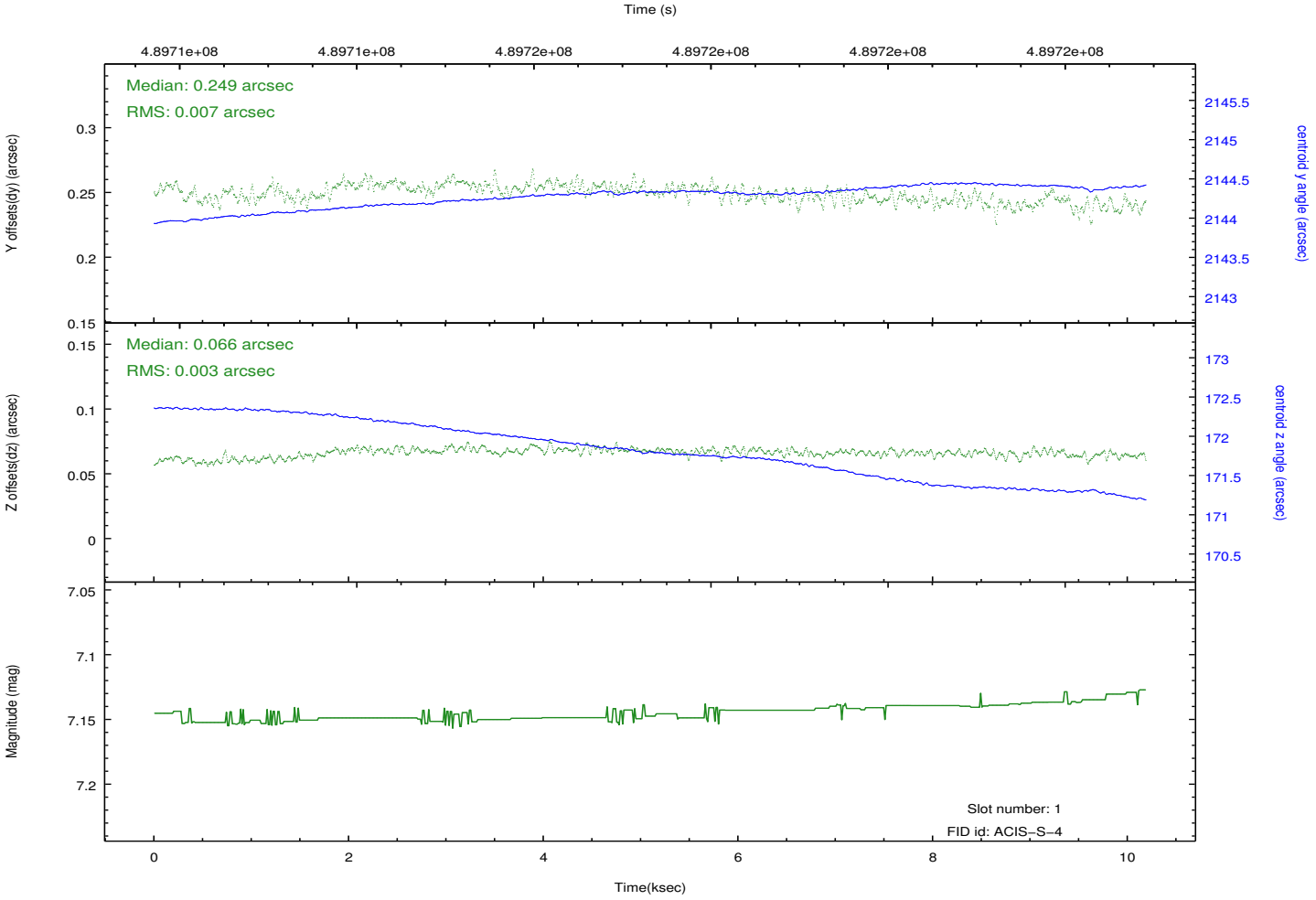




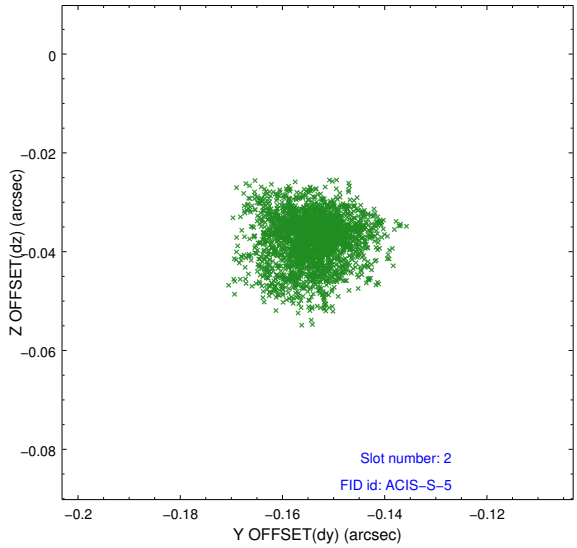
2.5.2 Slot 1

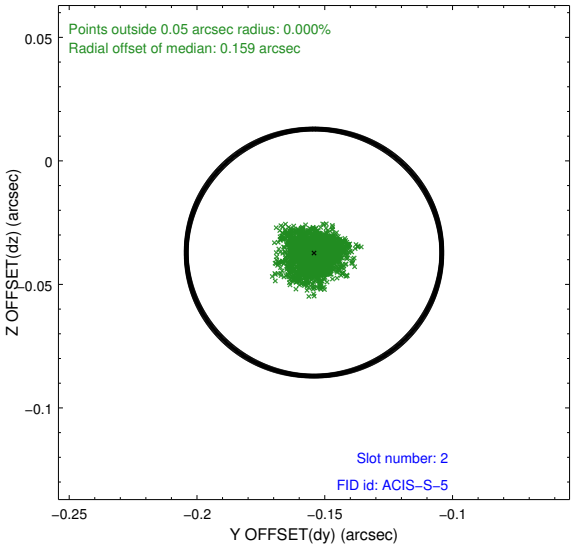

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS–S–4

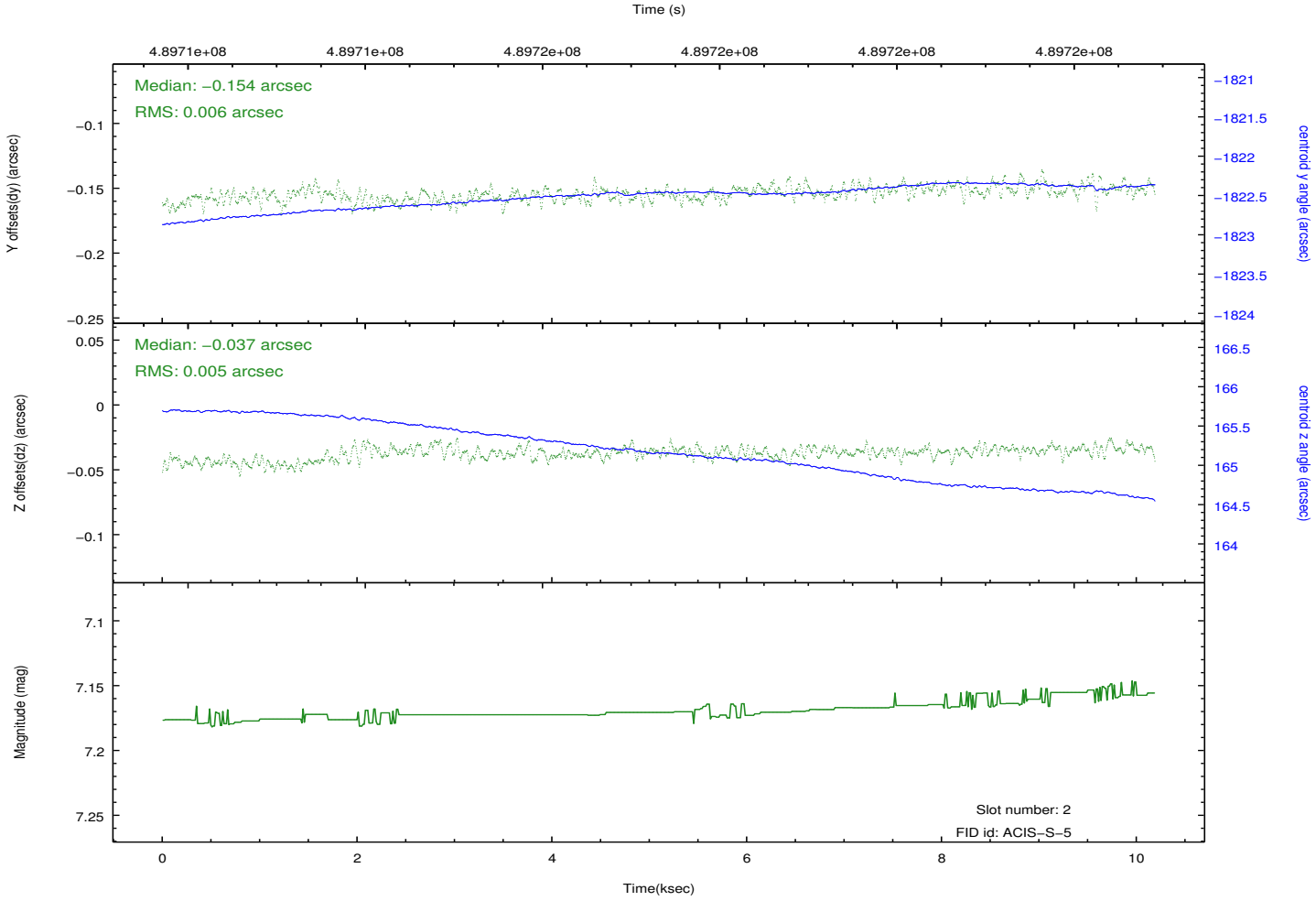

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.258 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS–S–4


Time (s)
Median: 0.249 arcsec
RMS: 0.007 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.066 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: 0.159 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−5


Time (s)
Median: −0.154 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.037 arcsec
RMS: 0.005 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)	2014.12.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.074083082199

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.