V&V Reference Report
L2 ASCDS Version : 10.1

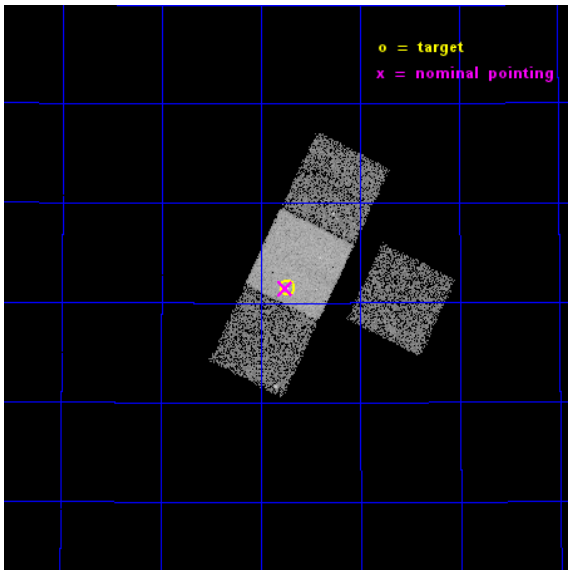
Observation 15013 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Dec 6 2014

Contents

1 Front

seq_num	702821	Sequence number
obs_id	15013	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	3C352	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	257.68375	Observer's specified target RA [deg]
dec_targ	46.024583	Observer's specified target Dec [deg]
ra_nom	257.68813074227	Nominal RA [deg]
dec_nom	46.024273837752	Nominal Dec [deg]
roll_nom	296.08802636523	Nominal Roll [deg]
revision	2	Processing version of data
ontime	10077.46970129	Sum of GTIs [s]
livetime	9945.8001407175	Livetime [s]
ontime3	10077.387621284	Sum of GTIs [s]
ontime6	10077.428661287	Sum of GTIs [s]
ontime7	10077.46970129	Sum of GTIs [s]
ontime8	10077.34658128	Sum of GTIs [s]
l2events	45106	Number of level 2 events

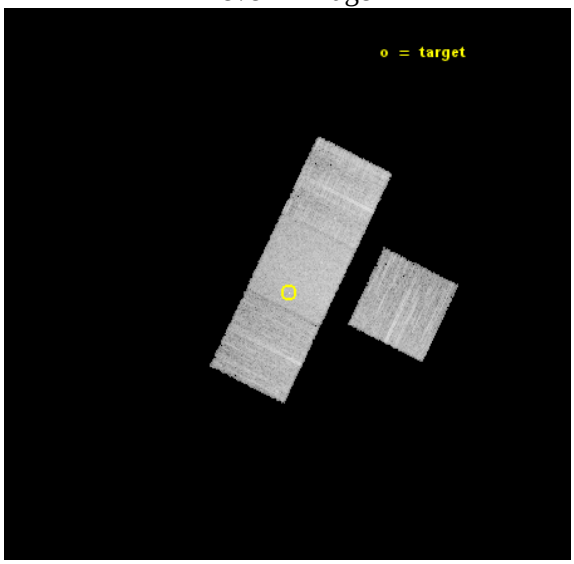


2 OBI

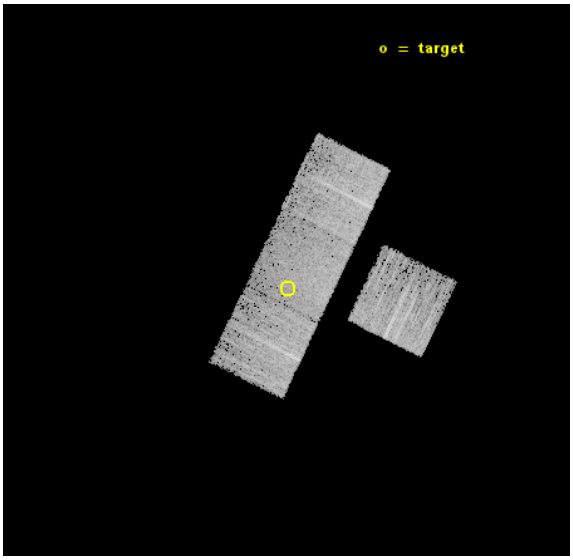
2.1 OBI

2.1.1 Images

Level 1 Image

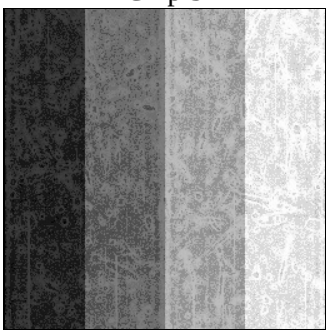


Level 1 Bad Events

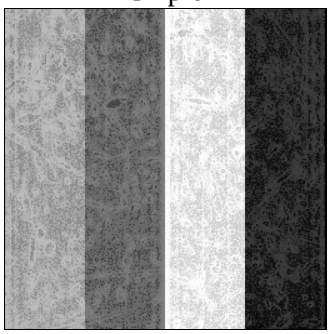


2.1.2 Bias

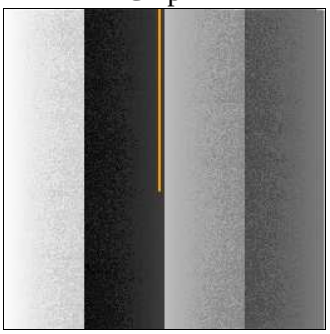
Chip 3



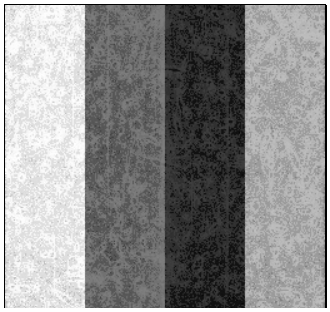
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	10.3.1	Processing system revision
caldbver	4.6.4	
date	2014-12-07T02:12:20	Date and time of file creation
revision	2	Processing version of data

sched_exp_time	10000.830000	[s] Scheduled observation exposure time
ontime	10077.46970129	Sum of GTIs [s]
ontime3	10077.387621284	Sum of GTIs [s]
ontime6	10077.428661287	Sum of GTIs [s]
ontime7	10077.46970129	Sum of GTIs [s]
ontime8	10077.34658128	Sum of GTIs [s]
l1events	226272	Number of level 1 events

2.1.4 Events

	ccd 3	**ccd 6**	**ccd 7**	**ccd 8**
level 1 events	46765	47499	66467	65541
rejected events	41447	41400	37149	47561
rejected %	88%	87%	55%	72%

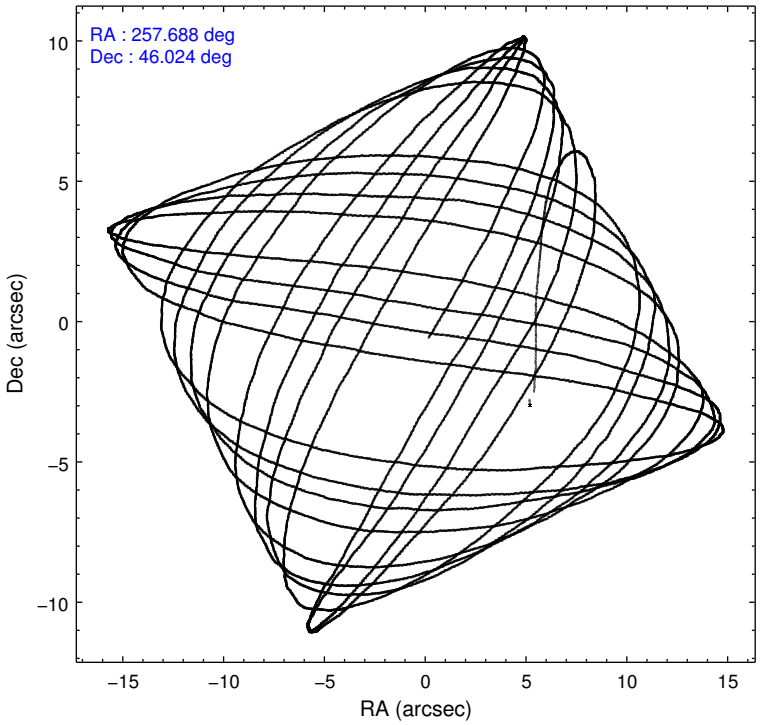
	ccd 3	**ccd 6**	**ccd 7**	**ccd 8**
grade 0 events	1846	2084	2602	5454
	3%	4%	3%	8%
grade 1 events	29	21	78	41
	0%	0%	0%	0%
grade 2 events	1215	1411	6152	4180
	2%	2%	9%	6%
grade 3 events	554	612	2462	1858
	1%	1%	3%	2%
grade 4 events	569	628	2472	1747
	1%	1%	3%	2%
grade 5 events	2506	2643	6840	3859
	5%	5%	10%	5%
grade 6 events	1140	1365	15643	4770
	2%	2%	23%	7%
grade 7 events	38906	38735	30218	43632
	83%	81%	45%	66%

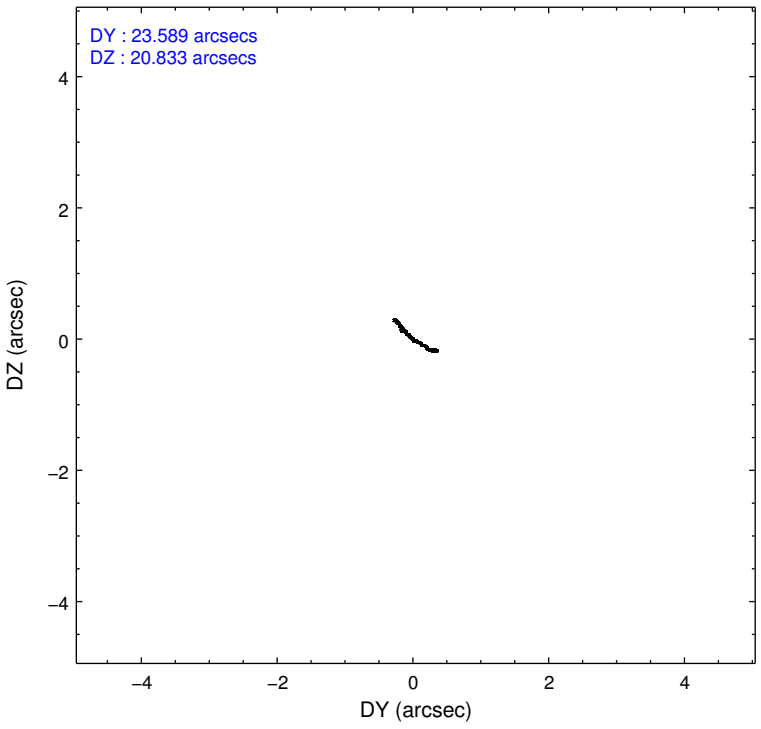
2.2 Compared Parameters

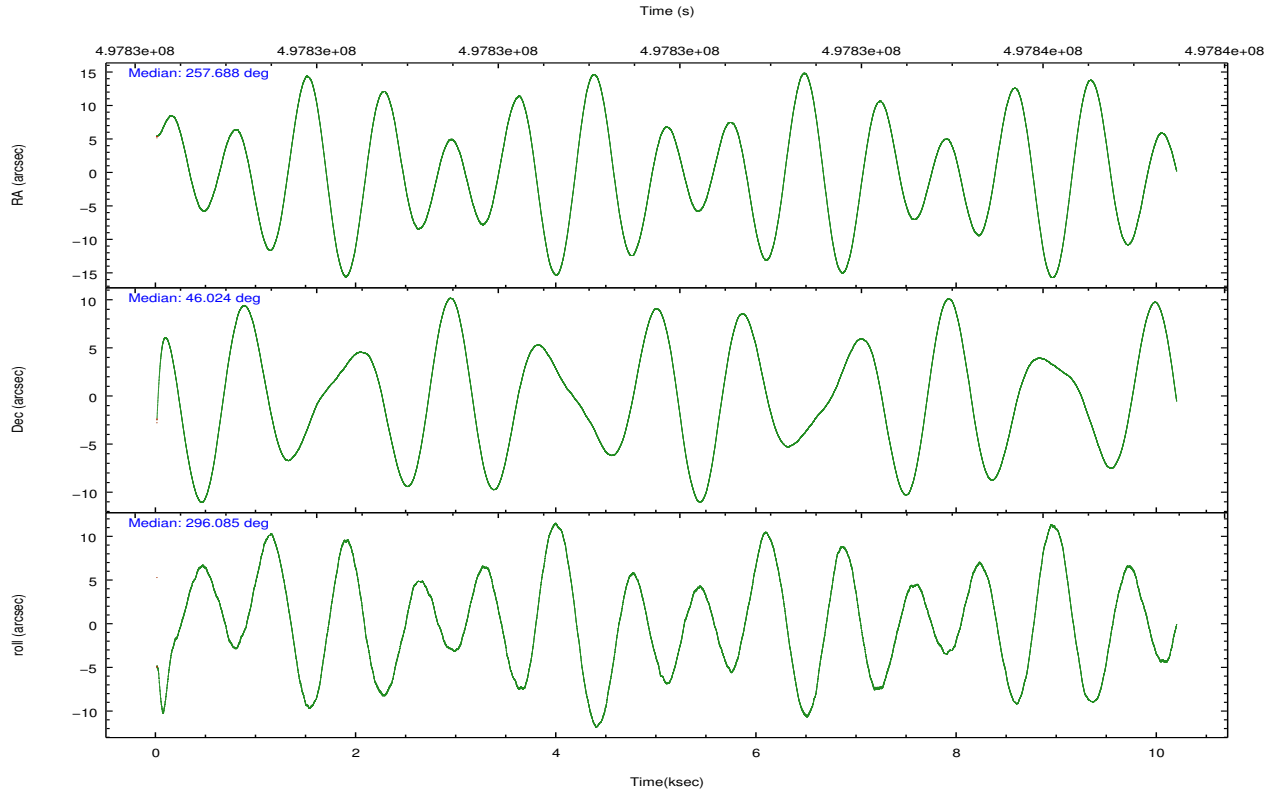
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-3678	ACIS-3678
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	257.655095	257.6881307422655
[deg] Pointing Dec	46.039176	46.02427383775174
[deg] Pointing Roll	295.955177	296.0880263652306
[mm] SIM 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)	497826954.184000	497825872.48009
Observation start date	2013-10-10T21:14:47	2013-10-10T20:57:52
[s] Observation end time (MET)	497836955.184000	497837180.79321
Observation end date	2013-10-11T00:01:28	2013-10-11T00:06:20
Read mode	TIMED	TIMED

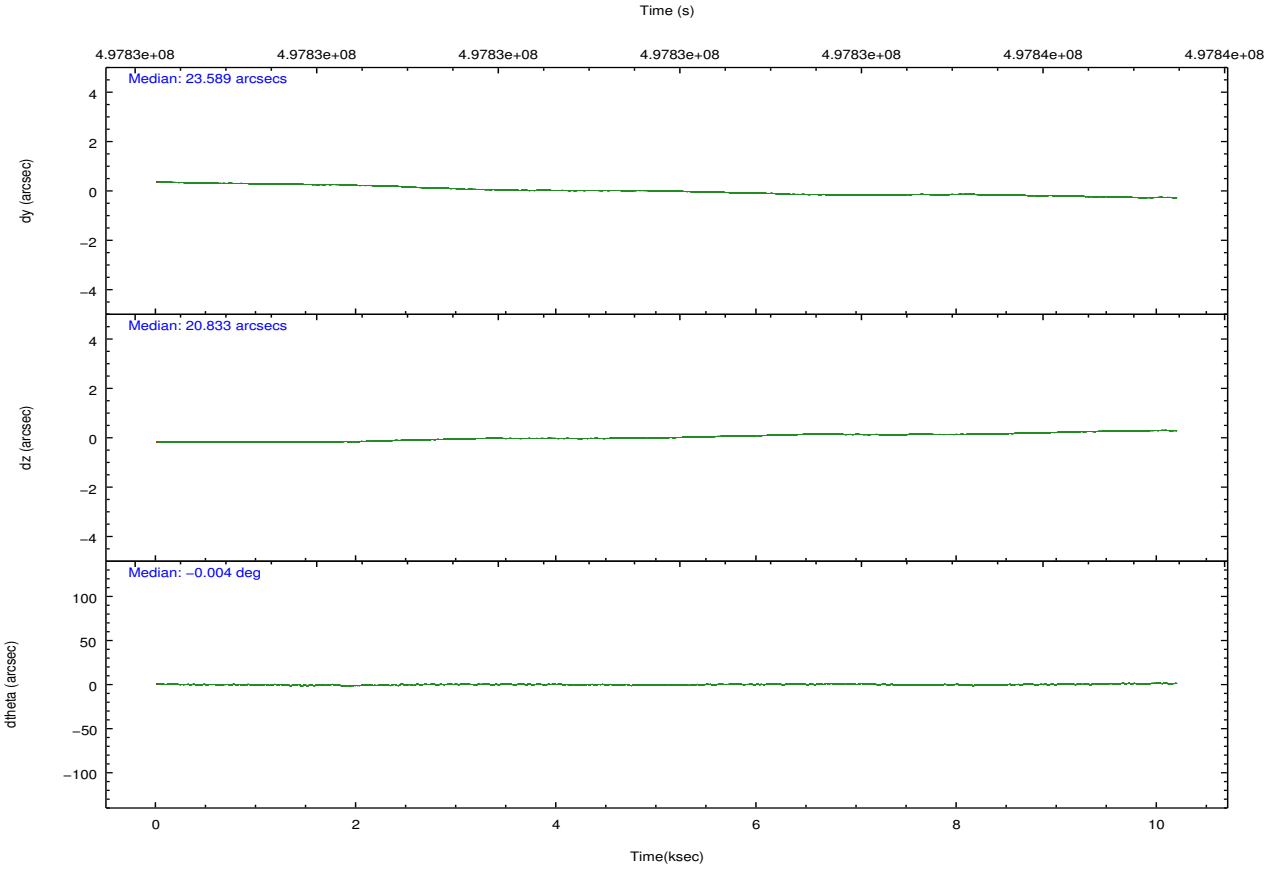
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	N	N
CCD I3 on	O1	Y
CCD S0 on	N	N
CCD S1 on	N	N
CCD S2 on	O3	Y
CCD S3 on	Y	Y
CCD S4 on	O2	Y
CCD S5 on	N	N
Number of optional ACIS chips dropped	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 : 257.688 deg
Dec : 46.024 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10
−15
−10
−5
0
5
10
15


DY : 23.589 arcsecs
DZ : 20.833 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
4.9783e+08
4.9783e+08
4.9783e+08
4.9783e+08
4.9783e+08
4.9784e+08
4.9784e+08
Median: 257.688 deg
RA (arcsec)
Median: 46.024 deg
Dec (arcsec)
Median: 296.085 deg
roll (arcsec)
Time(ksec)

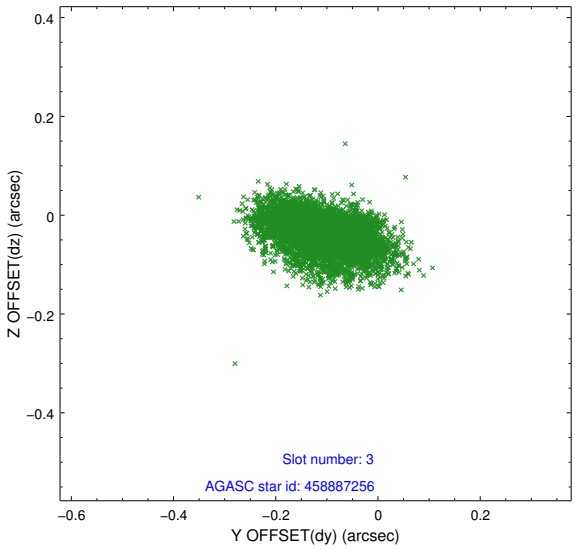

Time (s)
4.9783e+08
4.9783e+08
4.9783e+08
4.9783e+08
4.9783e+08
4.9784e+08
4.9784e+08
Median: 23.589 arcsecs
dy (arcsec)
Median: 20.833 arcsecs
dz (arcsec)
Median: −0.004 deg
dtheta (arcsec)
Time(ksec)

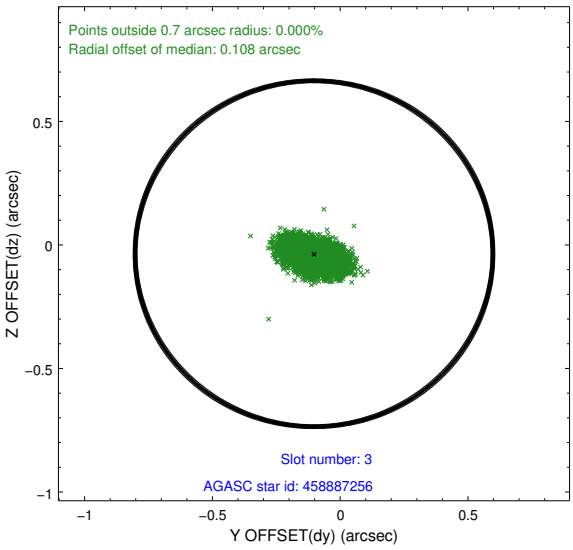
Slot Statistics

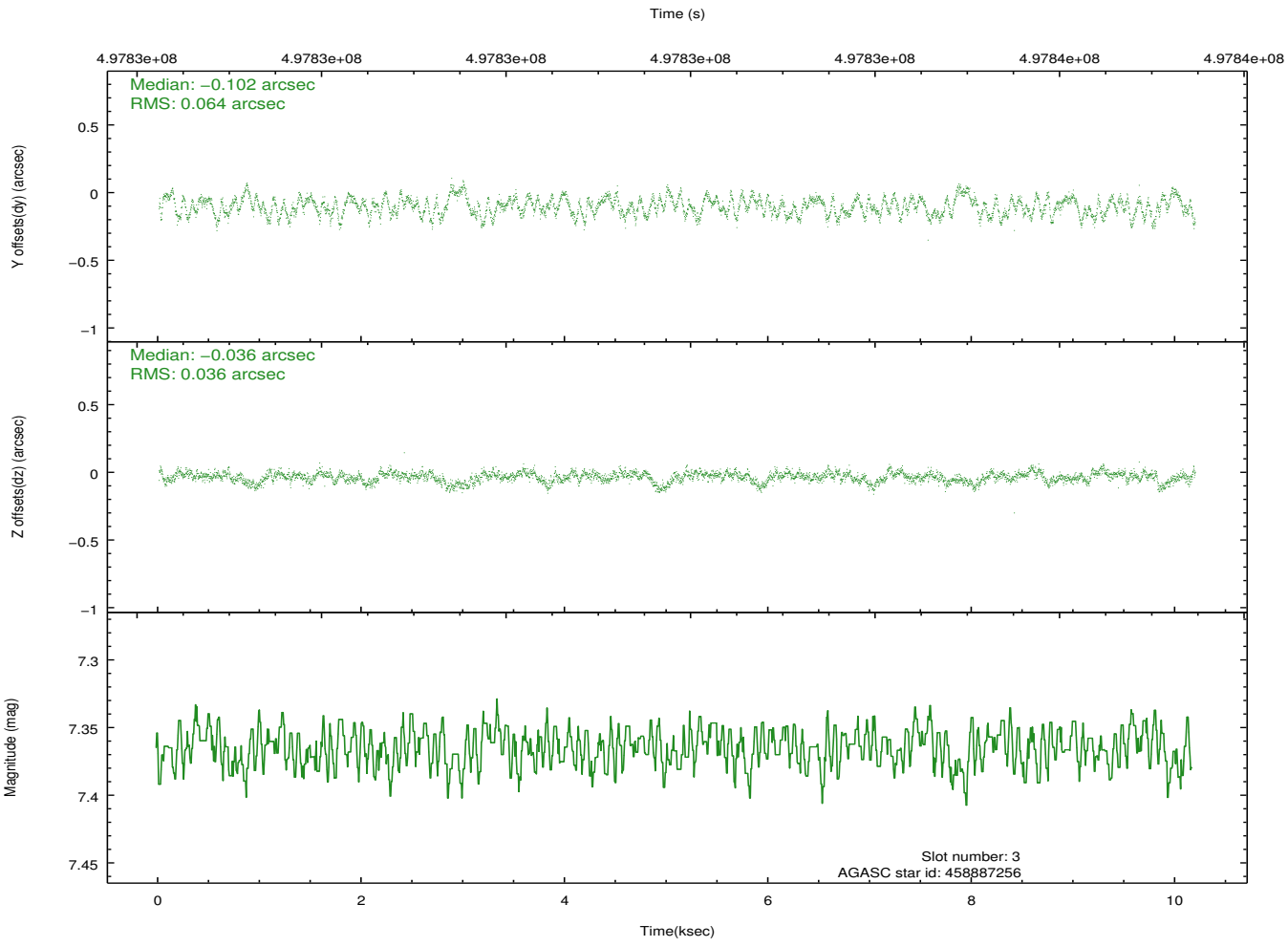
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.97	2486	-0.151	-0.019	0.012	0.019	0.000000	0.000000	-776.94	-1742.42
1	FID		ACIS-S-4	7.06	2486	0.345	0.078	0.015	0.023	0.000000	0.000000	2136.59	165.63
2	FID		ACIS-S-5	7.08	2485	-0.225	-0.050	0.010	0.015	0.000000	0.000000	-1829.20	159.75
3	GUIDE	used	458887256	7.36	4971	-0.102	-0.036	0.079	0.129	257.668075	46.556040	-1657.54	843.13
4	GUIDE	used	458897648	8.93	4951	0.148	0.183	0.113	0.175	257.228419	46.505420	-1974.24	-214.44
5	GUIDE	used	458903456	8.39	4967	-0.099	-0.020	0.084	0.138	257.830401	46.011014	282.95	349.44
6	GUIDE	used	458904008	9.25	4936	0.088	-0.076	0.140	0.220	257.405359	45.363721	1909.68	-1631.67
7	GUIDE	used	458883368	9.14	4965	-0.018	-0.040	0.162	0.240	257.620906	46.750299	-2337.30	1044.21

2.4 Star Slots

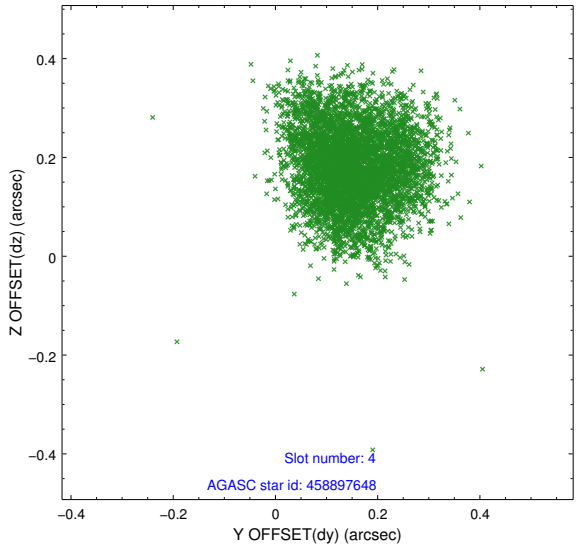
2.4.1 Slot 3

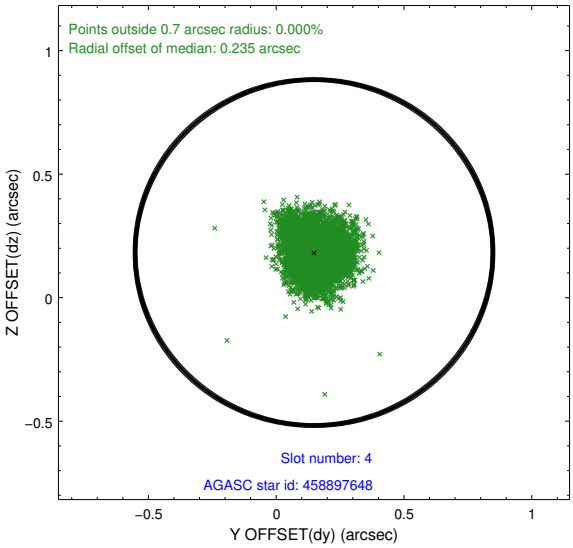


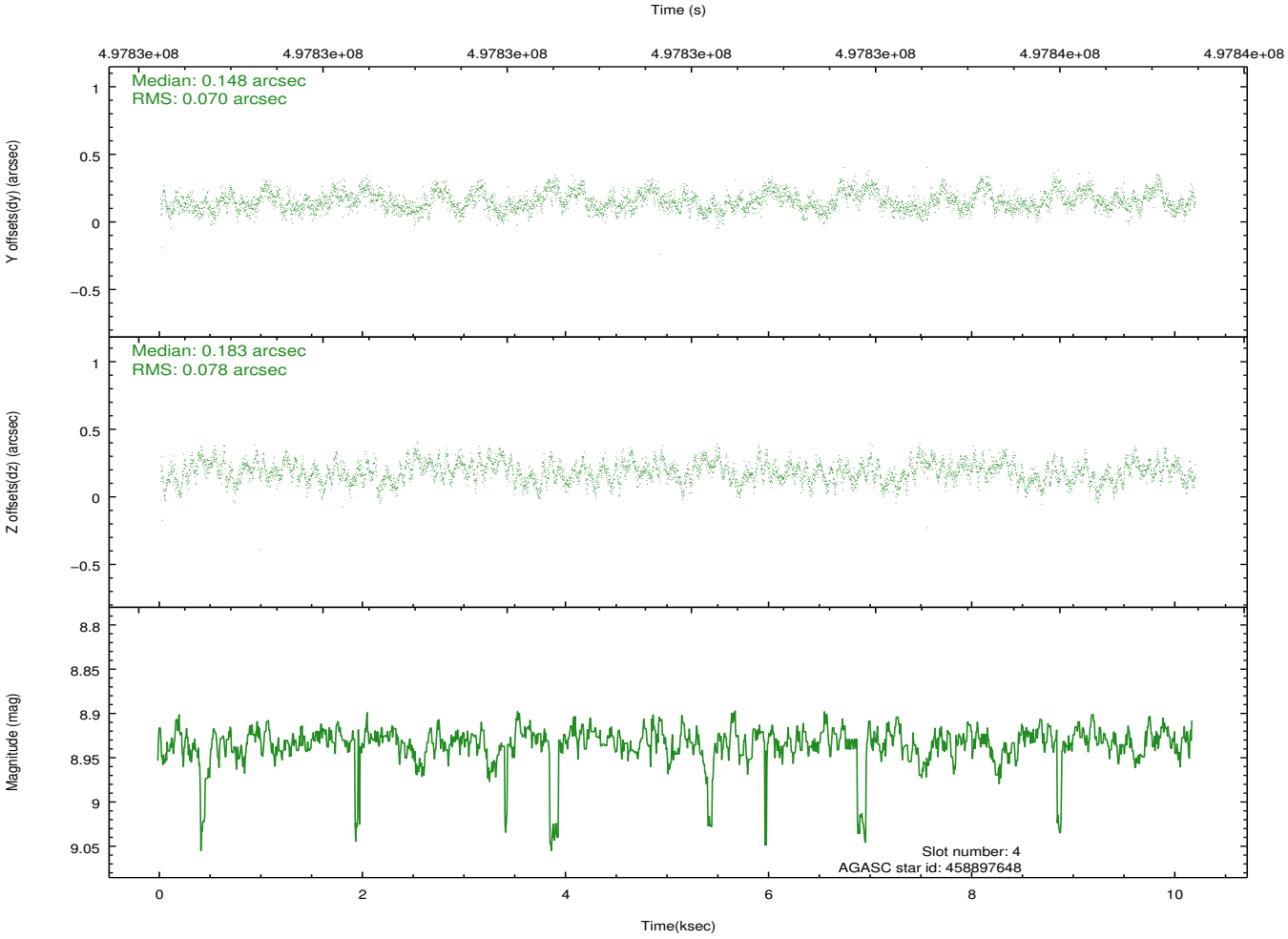




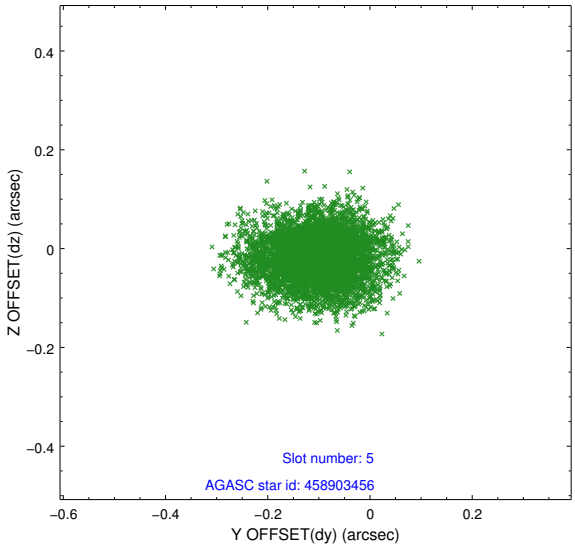
2.4.2 Slot 4

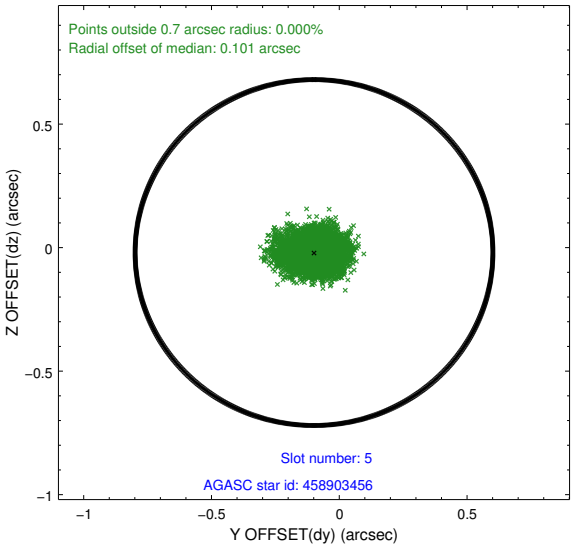

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 458897648

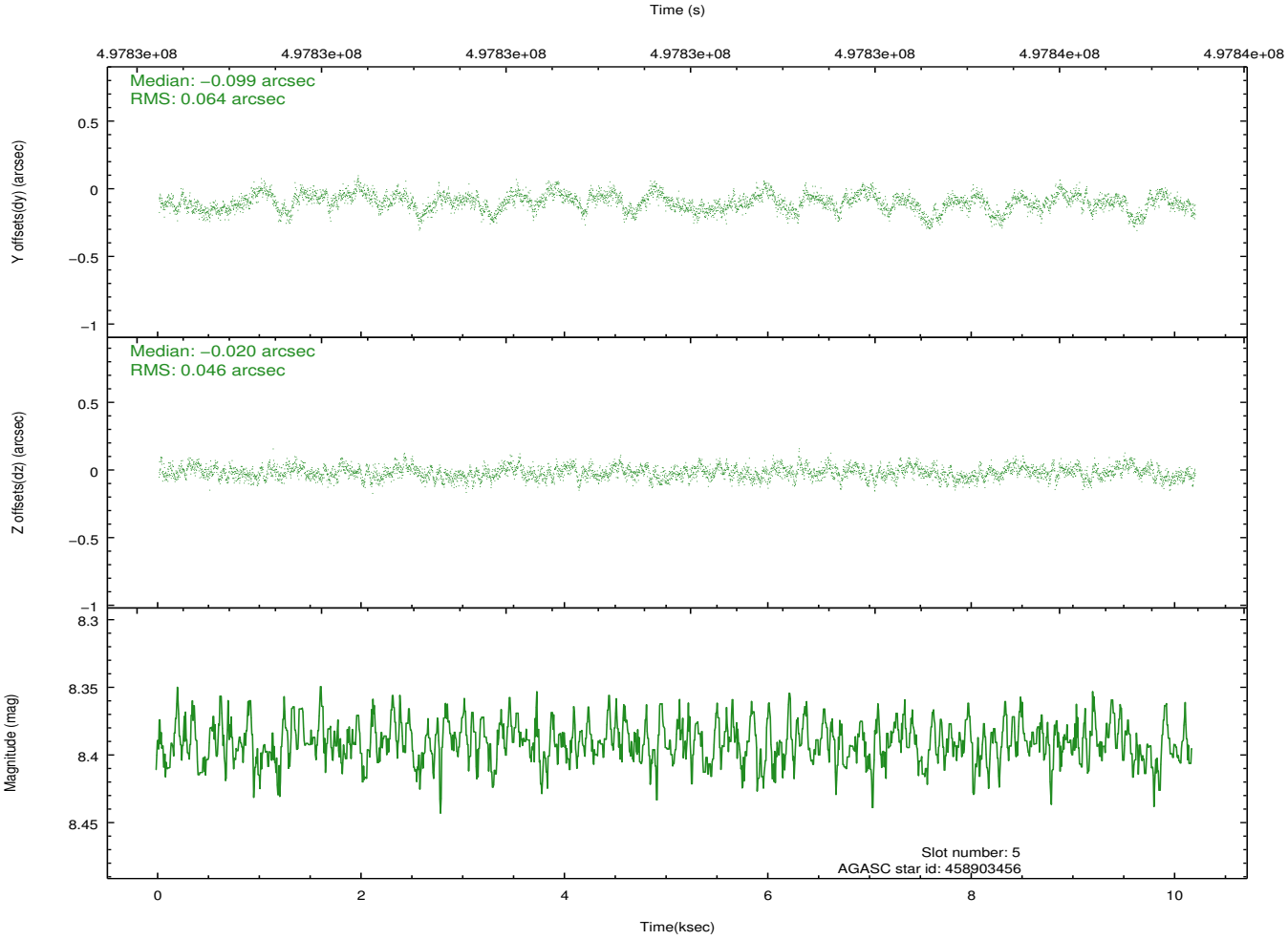

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.235 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 458897648


Time (s)
Median: 0.148 arcsec
RMS: 0.070 arcsec
Y offsets(dy) (arcsec)
Median: 0.183 arcsec
RMS: 0.078 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 458897648
Time(ksec)

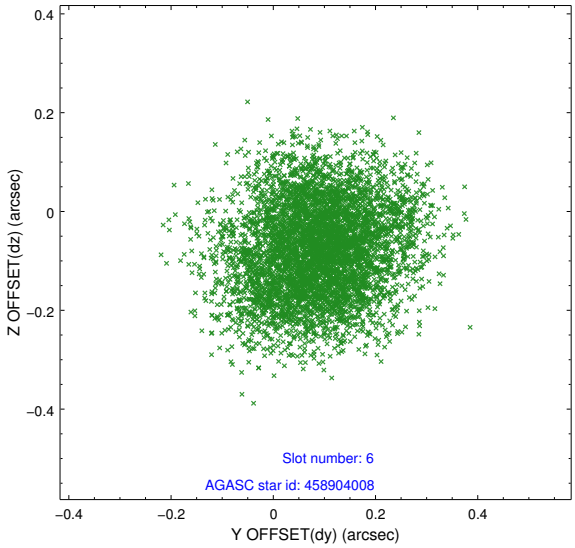
2.4.3 Slot 5

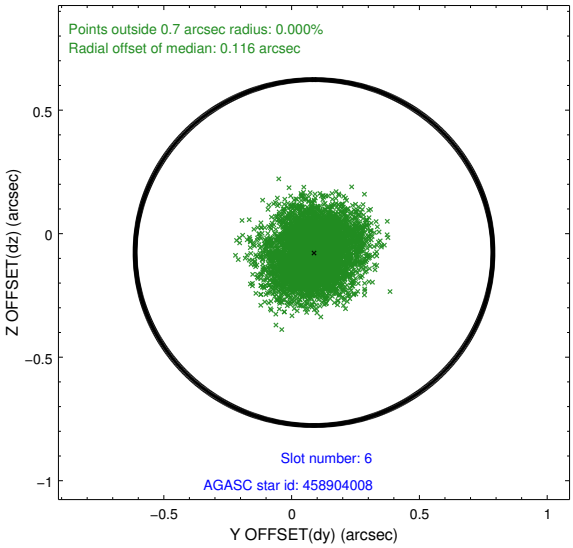

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 458903456

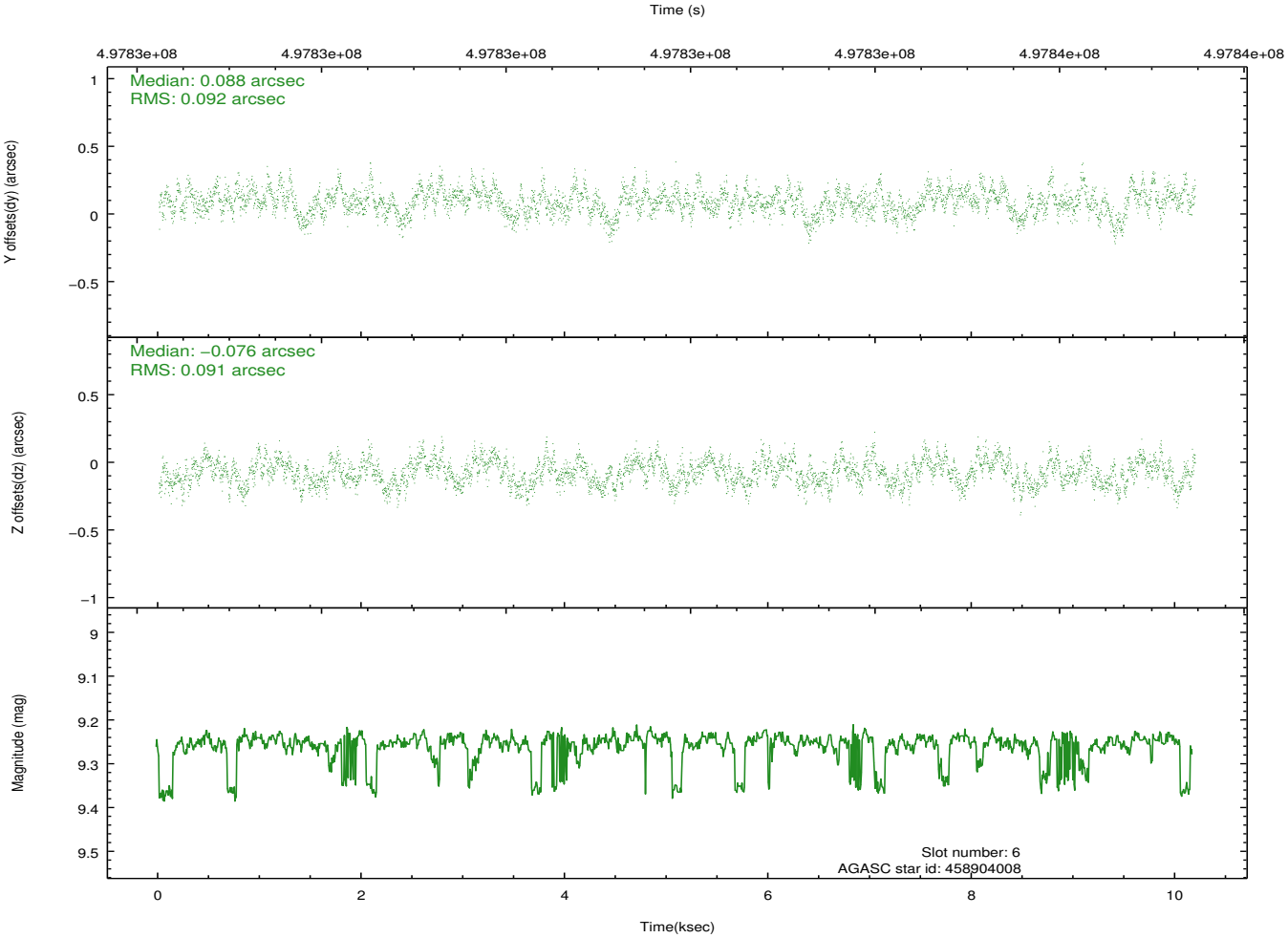

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.101 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 458903456


Time (s)
Median: −0.099 arcsec
RMS: 0.064 arcsec
Y offsets(dy) (arcsec)
Median: −0.020 arcsec
RMS: 0.046 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 458903456
Time(ksec)

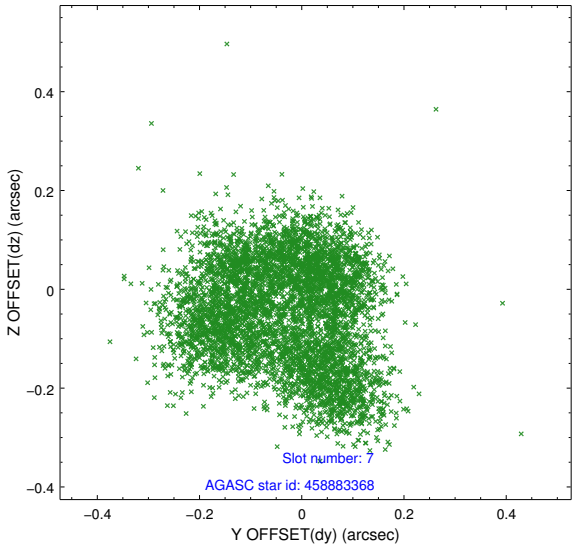
2.4.4 Slot 6

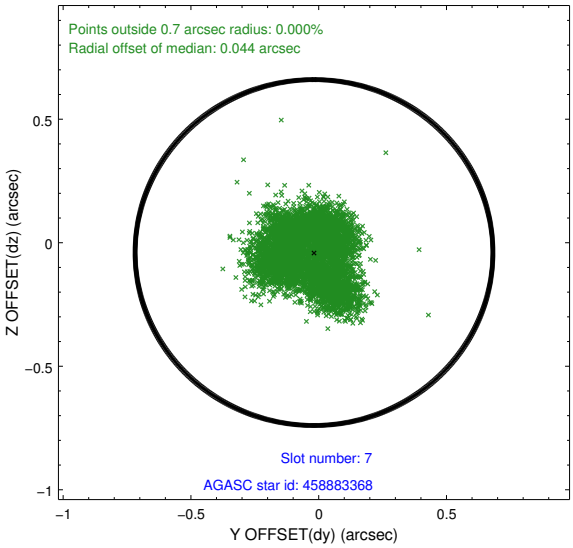

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 458904008

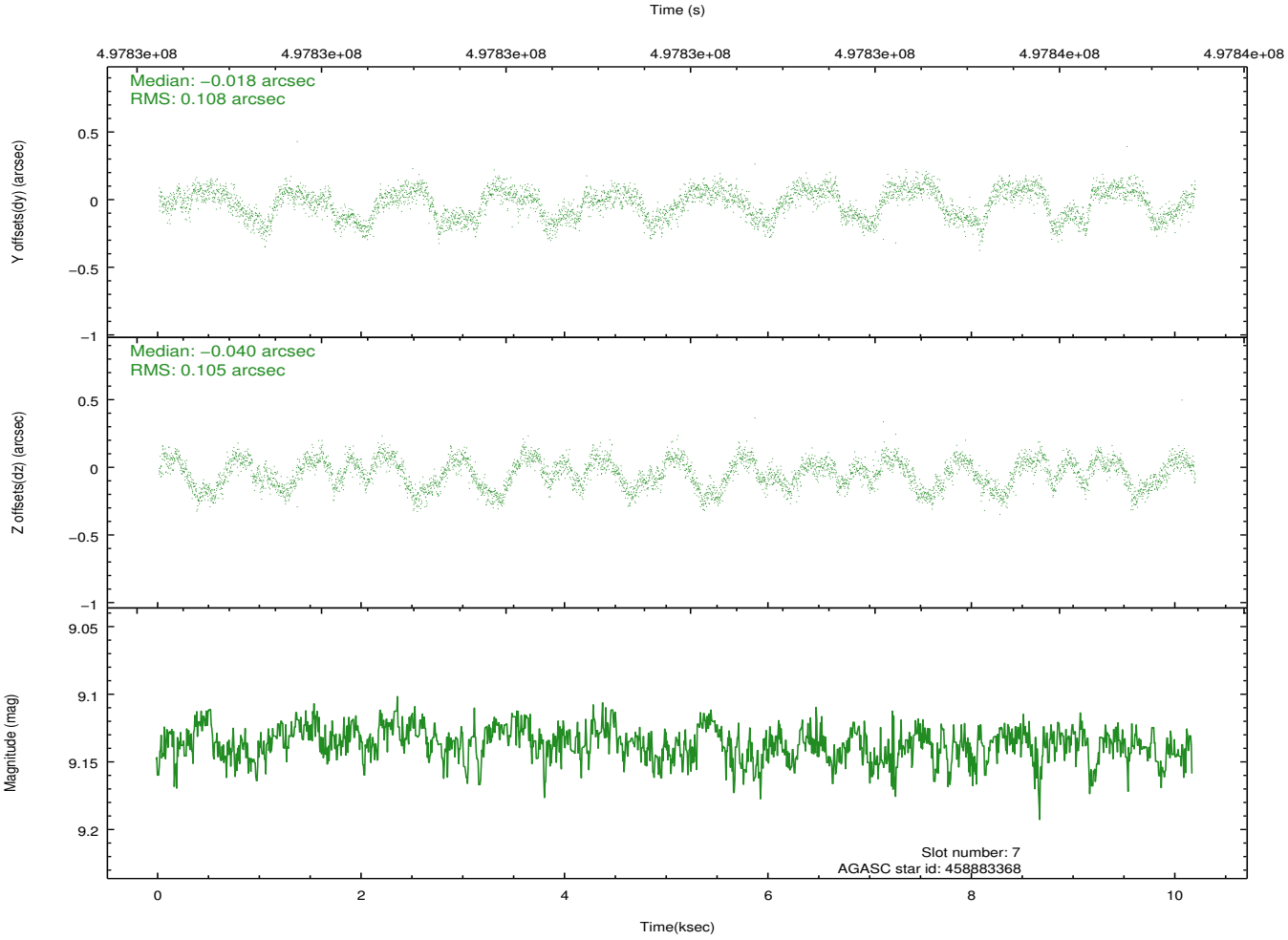

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.116 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 458904008


Time (s)
Median: 0.088 arcsec
RMS: 0.092 arcsec
Y offsets(dy) (arcsec)
Median: −0.076 arcsec
RMS: 0.091 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 458904008
Time(ksec)

2.4.5 Slot 7

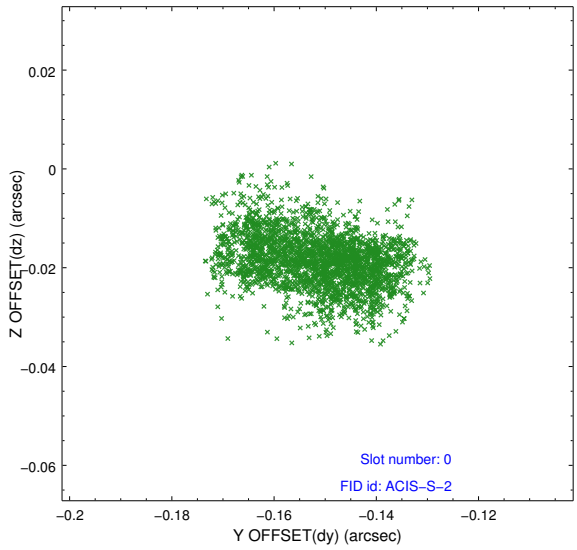

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 458883368

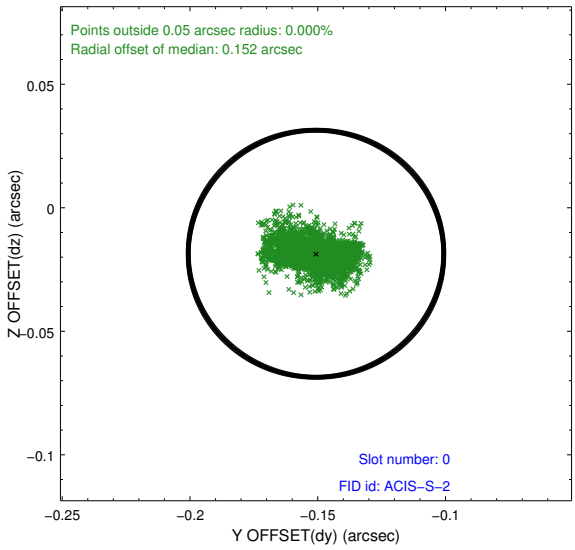

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.044 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 458883368

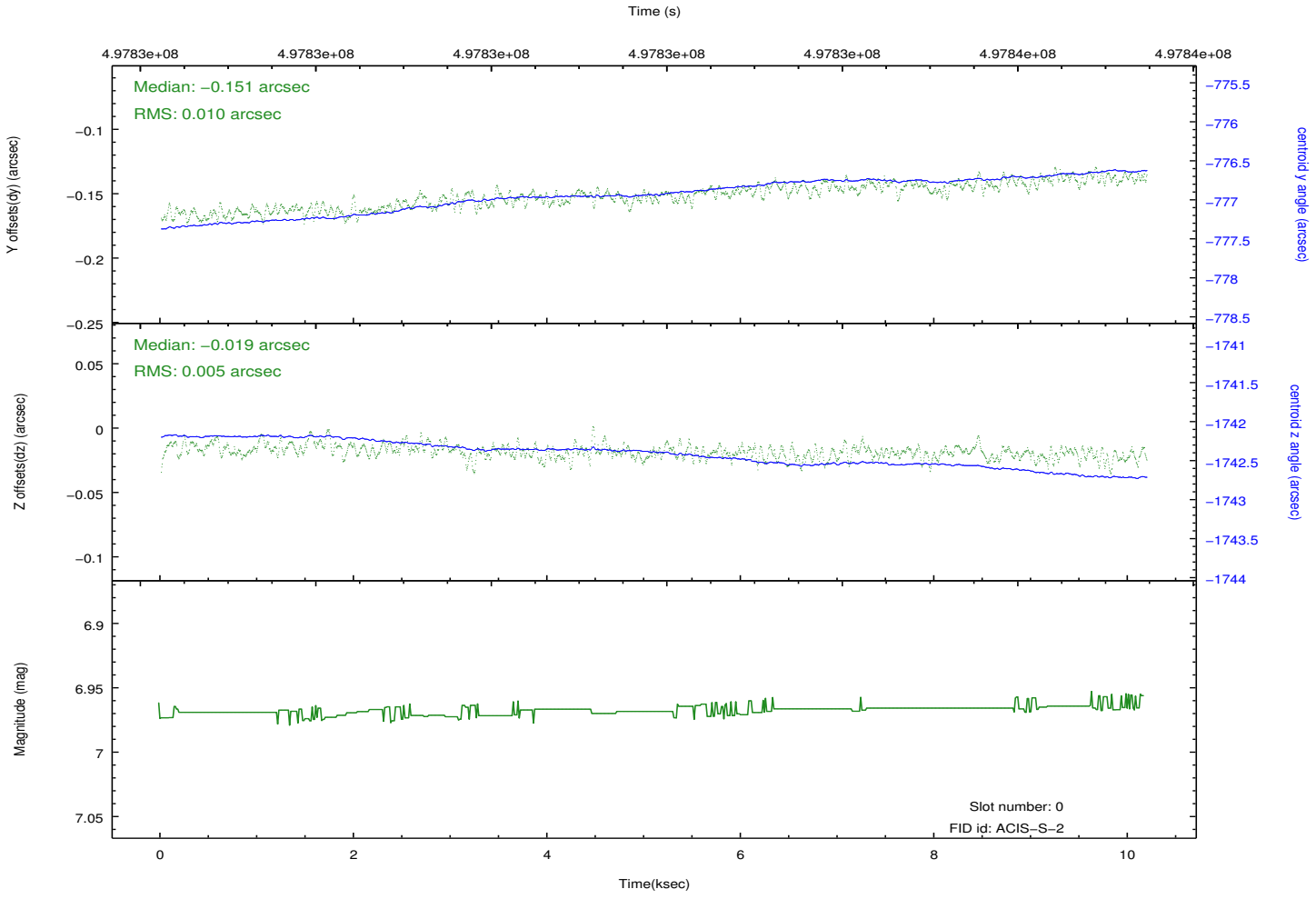

Time (s)
Median: −0.018 arcsec
RMS: 0.108 arcsec
Y offsets(dy) (arcsec)
Median: −0.040 arcsec
RMS: 0.105 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 458883368
Time(ksec)

2.5 FID Slots

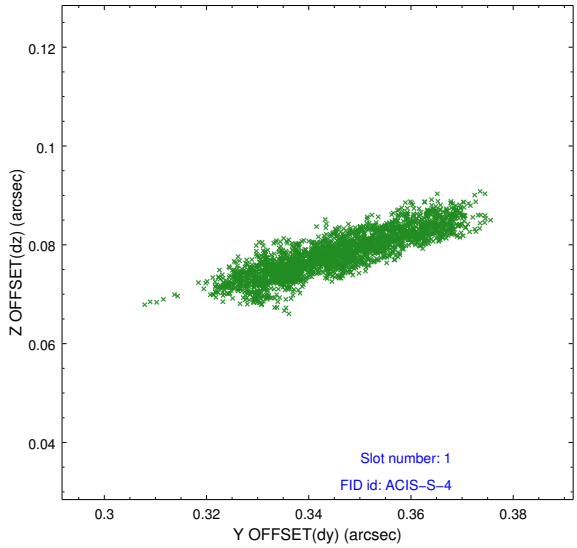
2.5.1 Slot 0

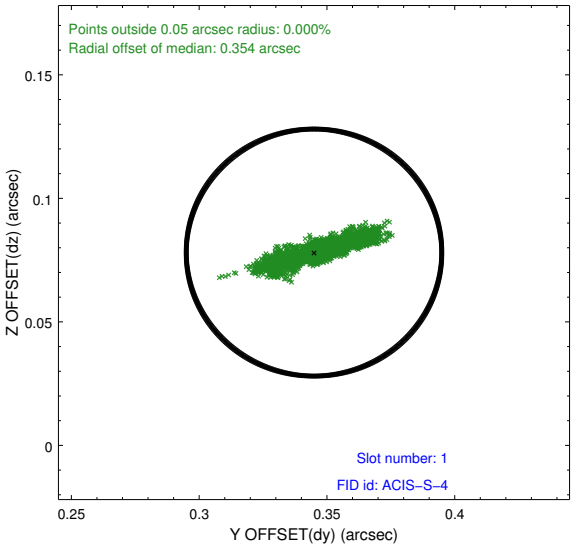


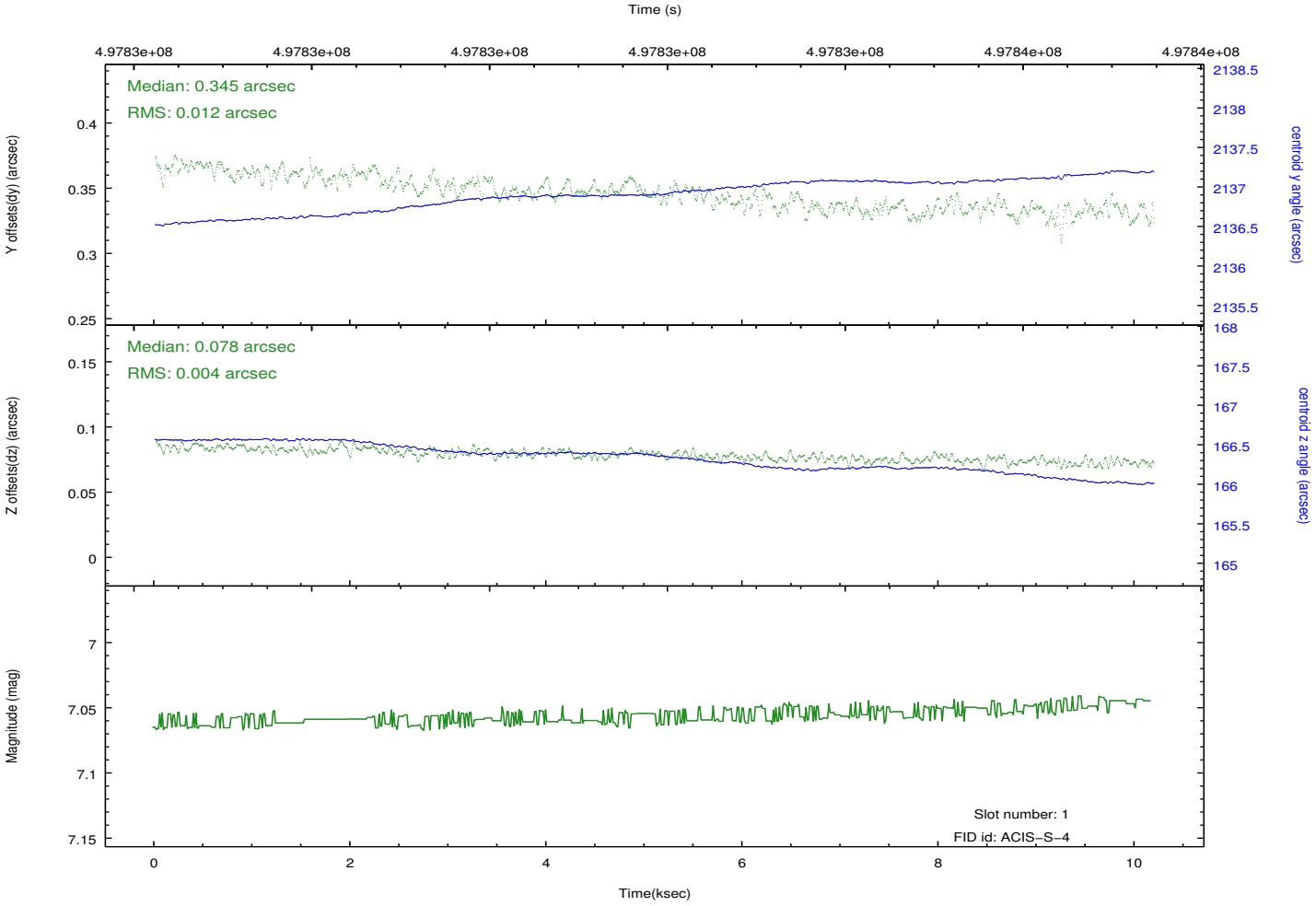




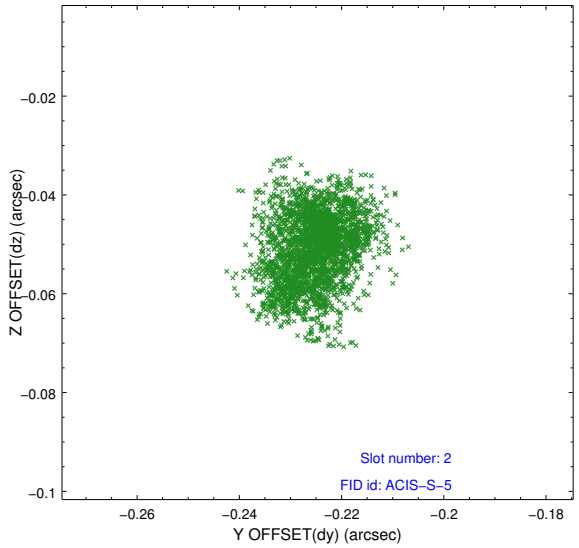
2.5.2 Slot 1

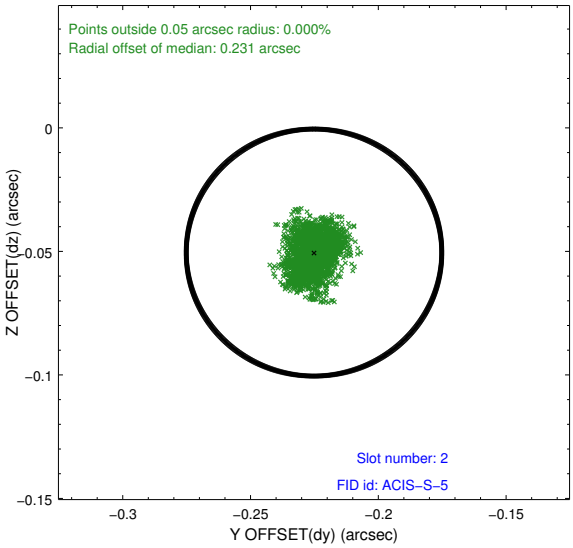

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS–S–4

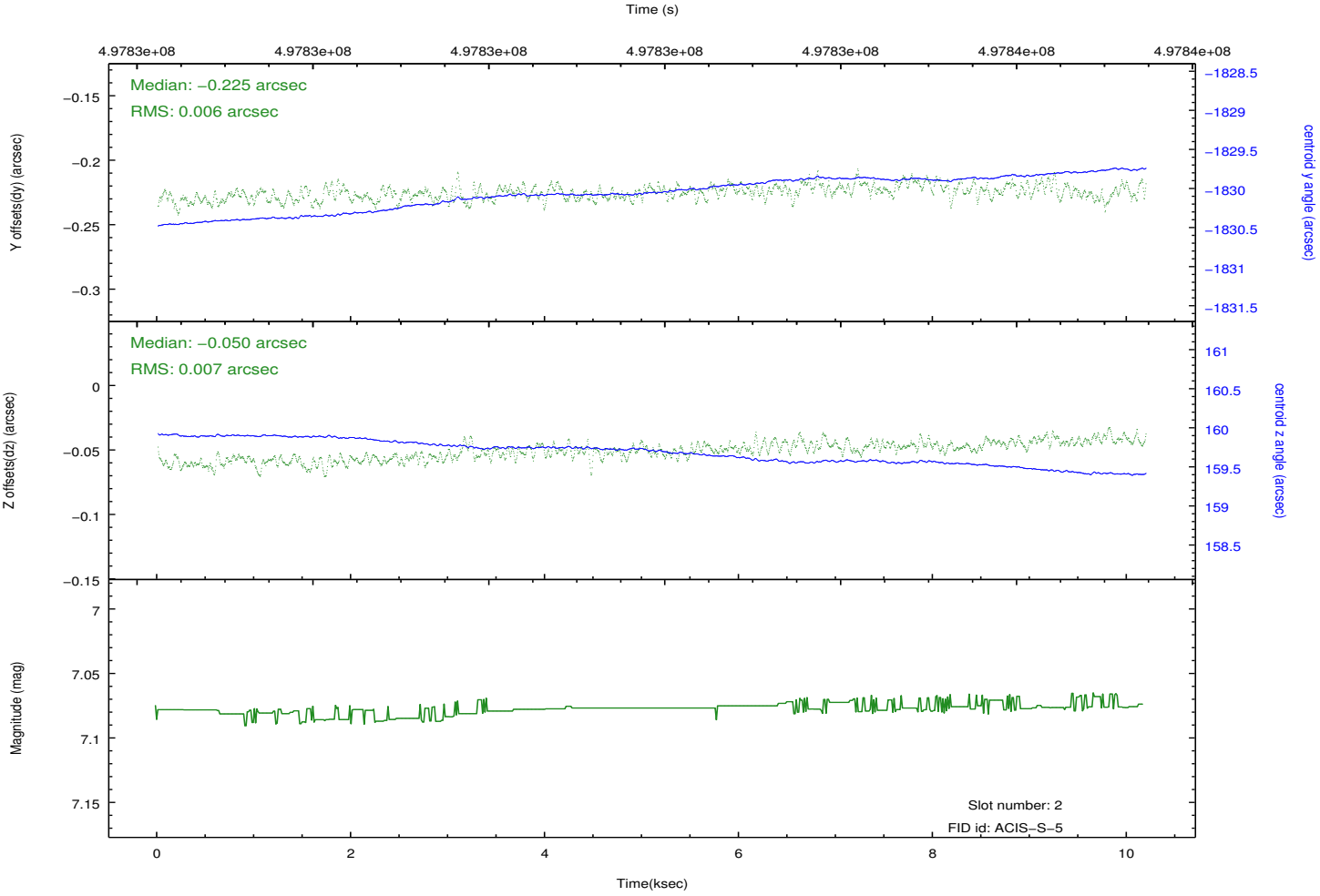

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.354 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS–S–4


Time (s)
Median: 0.345 arcsec
RMS: 0.012 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.078 arcsec
RMS: 0.004 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: 0.231 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−5


Time (s)
Median: −0.225 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.050 arcsec
RMS: 0.007 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)	2014.12.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.07746970129

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.