V&V Reference Report
L2 ASCDS Version : 8.5.1.1

Observation 14992 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Nov 30 2014

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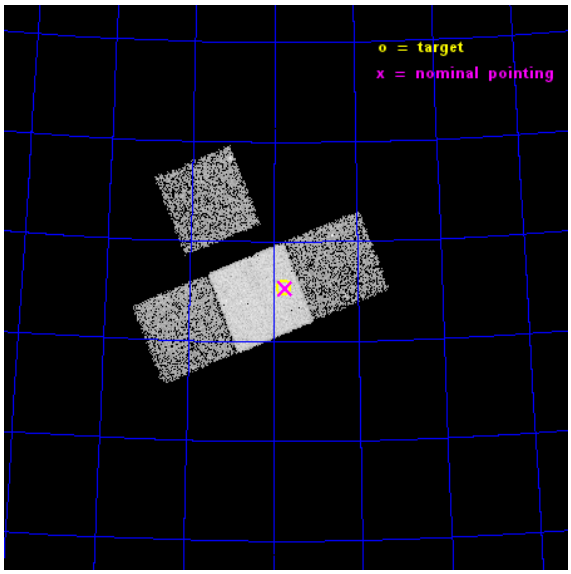
1 Front

seq_num	702800	Sequence number
obs_id	14992	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	3C220.3	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	144.847667	Observer's specified target RA [deg]
dec_targ	83.257269	Observer's specified target Dec [deg]
ra_nom	144.82666620121	Nominal RA [deg]
dec_nom	83.255548658258	Nominal Dec [deg]
roll_nom	158.01375963327	Nominal Roll [deg]
revision	2	Processing version of data
ontime	10071.897615433	Sum of GTIs [s]
livetime	9940.300858264	Livetime [s]
ontime3	10071.815535426	Sum of GTIs [s]
ontime6	10071.856575429	Sum of GTIs [s]
ontime7	10071.897615433	Sum of GTIs [s]
ontime8	10071.774495423	Sum of GTIs [s]
l2events	48740	Number of level 2 events

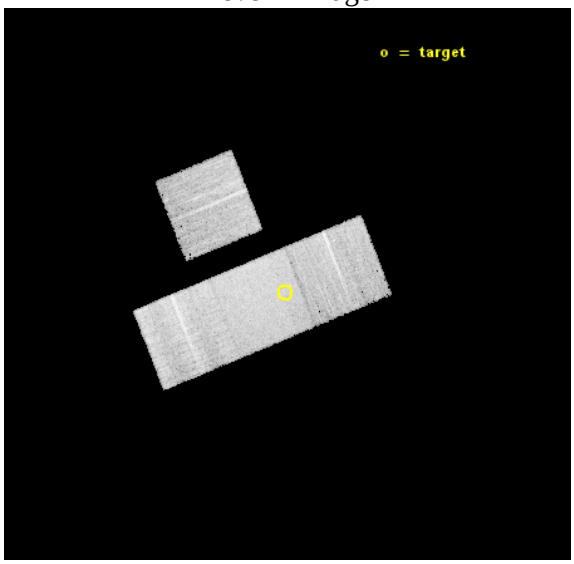


2 OBI

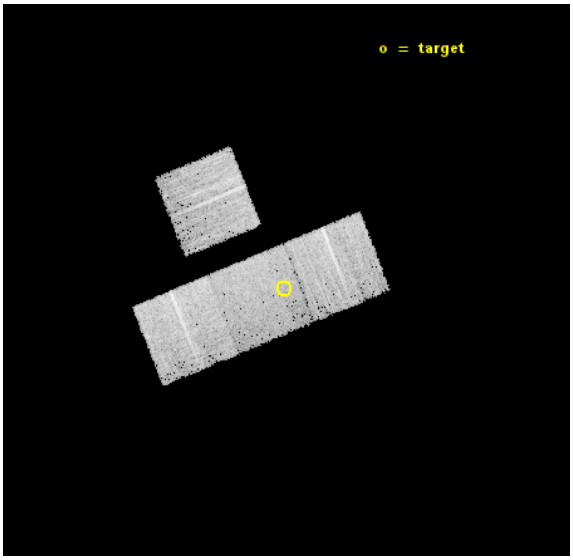
2.1 OBI

2.1.1 Images

Level 1 Image

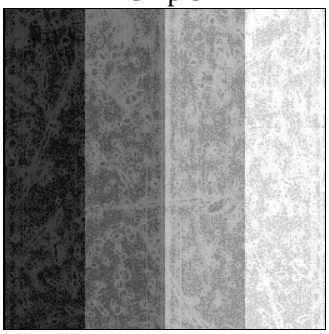


Level 1 Bad Events

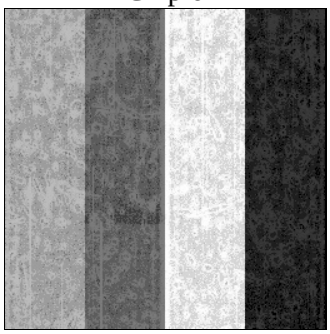


2.1.2 Bias

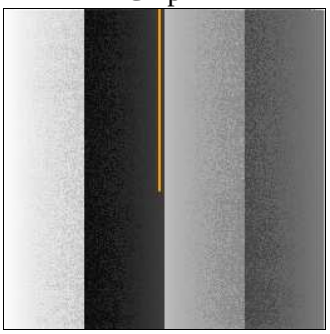
Chip 3



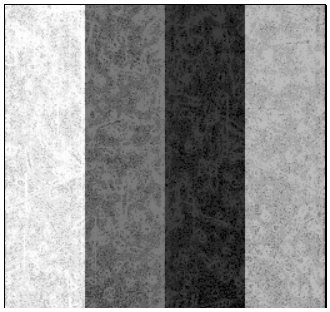
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	10.3	Processing system revision
caldbver	4.6.4	
date	2014-12-01T08:23:05	Date and time of file creation
revision	2	Processing version of data

sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ontime	10071.897615433	Sum of GTIs [s]
ontime3	10071.815535426	Sum of GTIs [s]
ontime6	10071.856575429	Sum of GTIs [s]
ontime7	10071.897615433	Sum of GTIs [s]
ontime8	10071.774495423	Sum of GTIs [s]
l1events	255356	Number of level 1 events

2.1.4 Events

	ccd 3	**ccd 6**	**ccd 7**	**ccd 8**
level 1 events	52509	56465	73667	72715
rejected events	46542	49856	41745	54141
rejected %	88%	88%	56%	74%

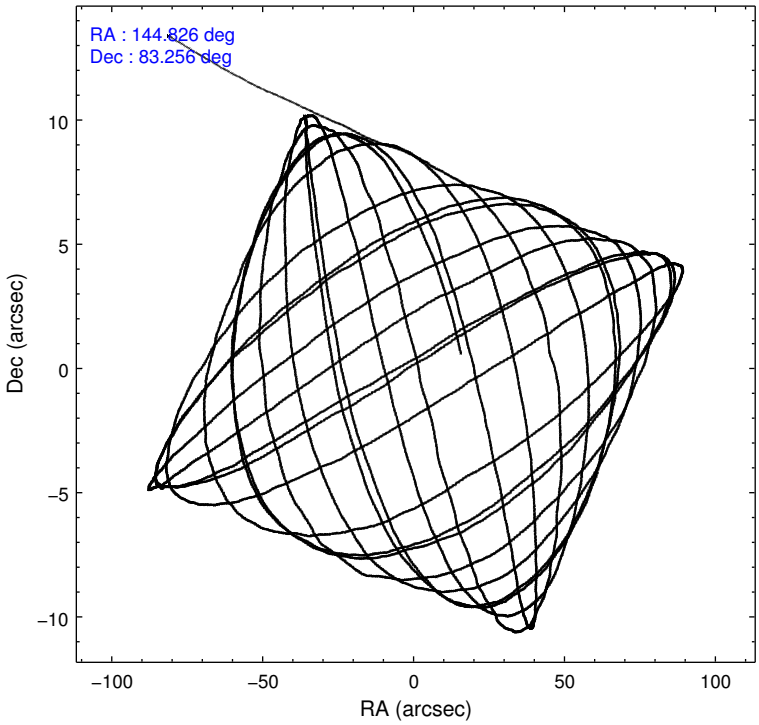
	ccd 3	**ccd 6**	**ccd 7**	**ccd 8**
grade 0 events	2094	2217	2805	5107
	3%	3%	3%	7%
grade 1 events	32	23	75	51
	0%	0%	0%	0%
grade 2 events	1345	1529	6492	4368
	2%	2%	8%	6%
grade 3 events	659	661	2698	1974
	1%	1%	3%	2%
grade 4 events	681	667	2618	1905
	1%	1%	3%	2%
grade 5 events	2864	2744	7534	3924
	5%	4%	10%	5%
grade 6 events	1190	1537	17323	5221
	2%	2%	23%	7%
grade 7 events	43644	47087	34122	50165
	83%	83%	46%	68%

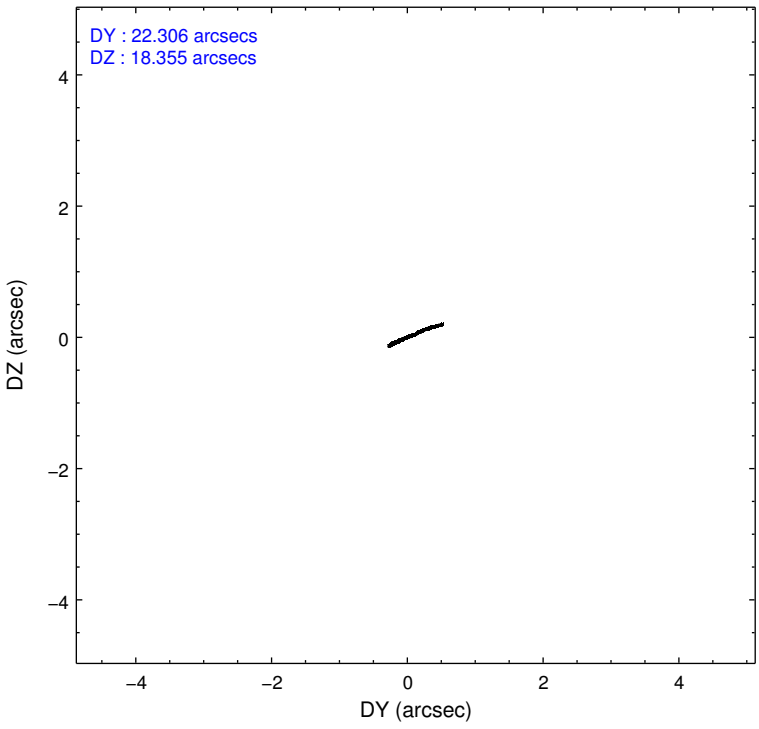
2.2 Compared Parameters

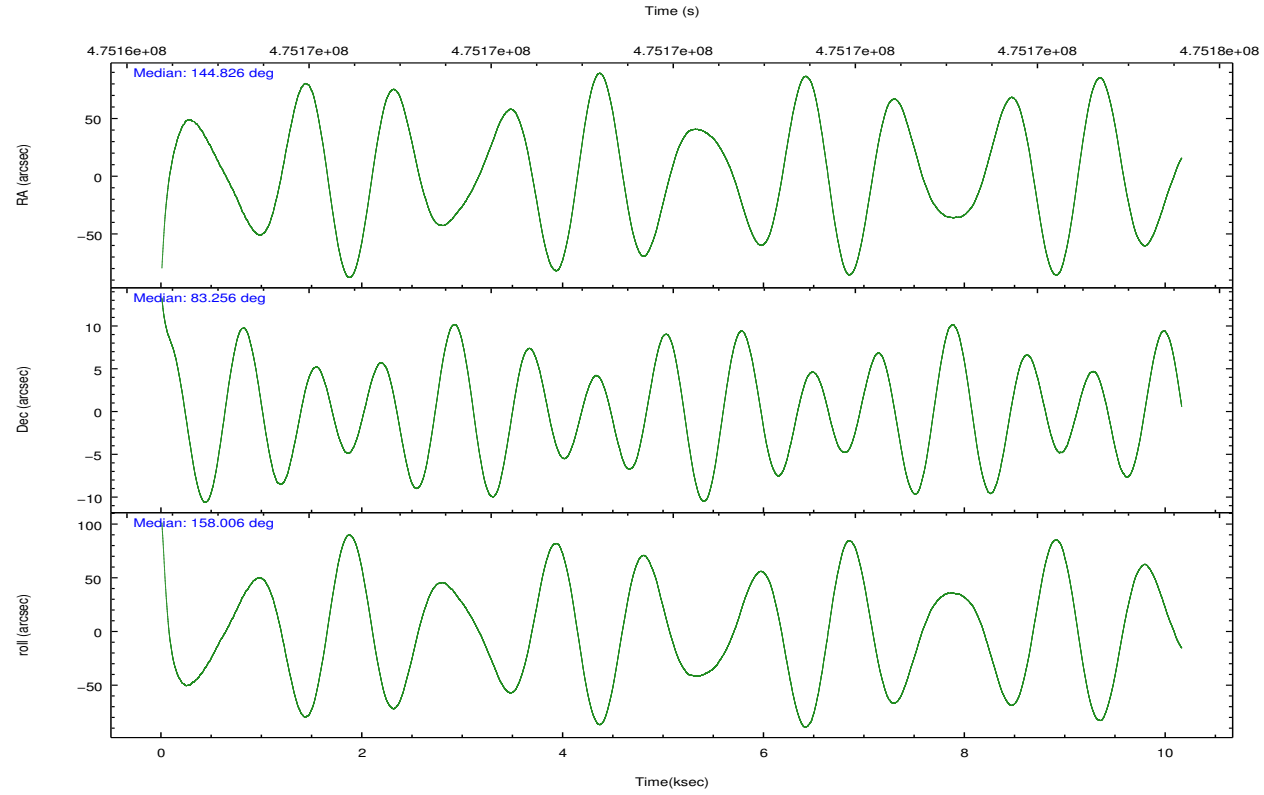
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-3678	ACIS-3678
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	145.056885	144.8266662012136
[deg] Pointing Dec	83.259632	83.25554865825805
[deg] Pointing Roll	157.628467	158.0137596332692
[mm] SIM 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)	475165061.184000	475163960.7246
Observation start date	2013-01-21T14:16:34	2013-01-21T13:59:20
[s] Observation end time (MET)	475175061.184000	475175767.70024
Observation end date	2013-01-21T17:03:14	2013-01-21T17:16:07
Read mode	TIMED	TIMED

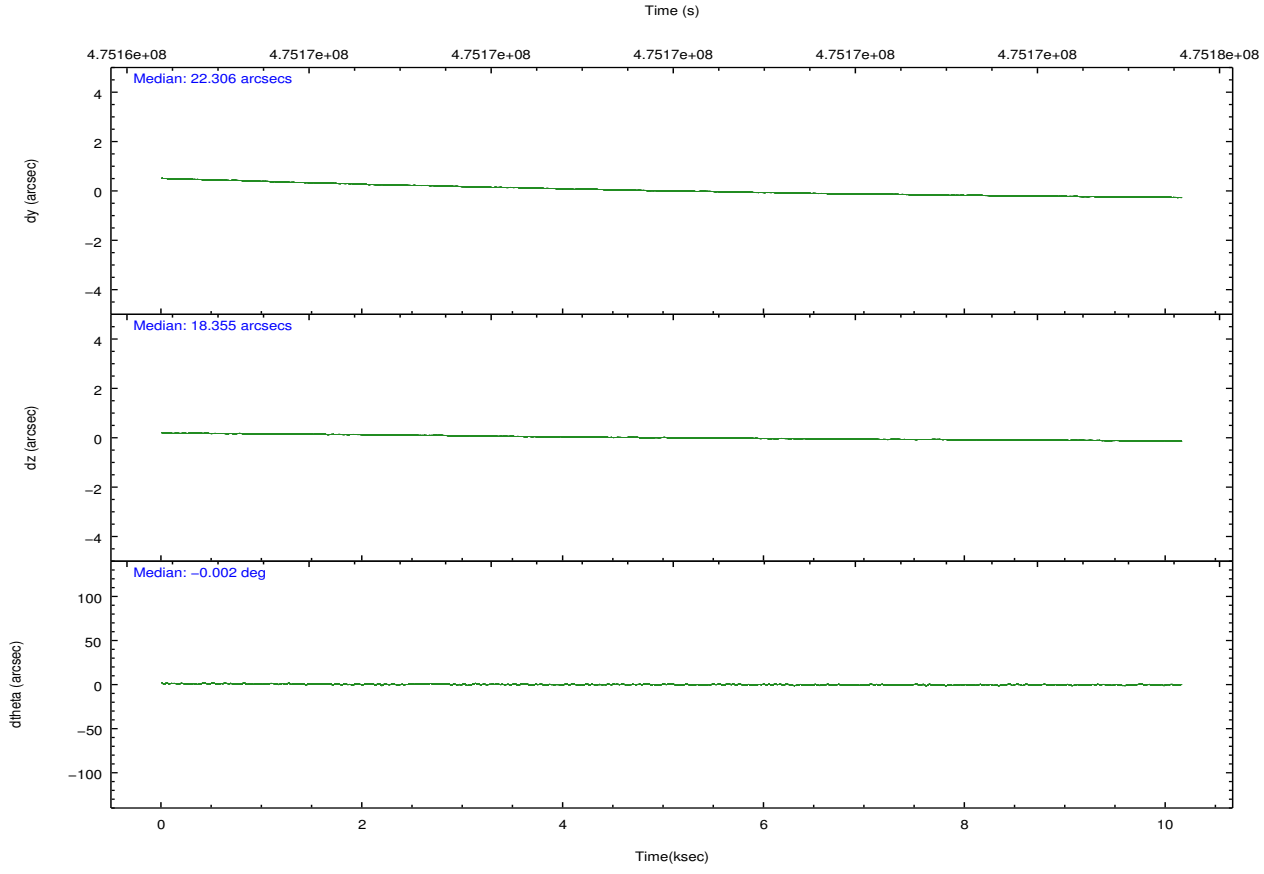
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	N	N
CCD I3 on	O1	Y
CCD S0 on	N	N
CCD S1 on	N	N
CCD S2 on	O3	Y
CCD S3 on	Y	Y
CCD S4 on	O2	Y
CCD S5 on	N	N
Number of optional ACIS chips dropped	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 : 144.826 deg
Dec : 83.256 deg
10
5
0
−5
−10
Dec (arcsec)
−100
−50
0
50
100
RA (arcsec)


DY : 22.306 arcsecs
DZ : 18.355 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
4.7516e+08
4.7517e+08
4.7517e+08
4.7517e+08
4.7517e+08
4.7517e+08
4.7518e+08
Median: 144.826 deg
RA (arcsec)
Median: 83.256 deg
Dec (arcsec)
Median: 158.006 deg
roll (arcsec)
Time(ksec)

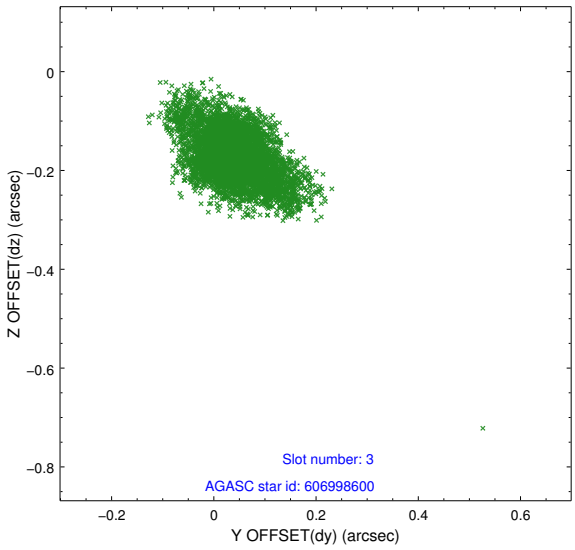

Time (s)
4.7516e+08
4.7517e+08
4.7517e+08
4.7517e+08
4.7517e+08
4.7517e+08
4.7518e+08
Median: 22.306 arcsecs
dy (arcsec)
Median: 18.355 arcsecs
dz (arcsec)
Median: −0.002 deg
dtheta (arcsec)
Time(ksec)

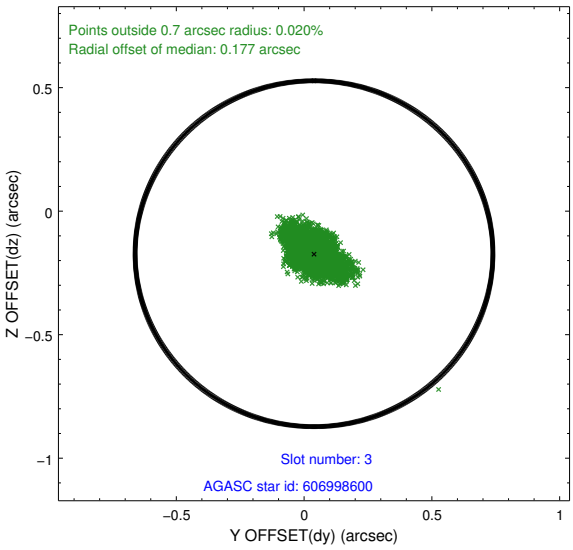
Slot Statistics

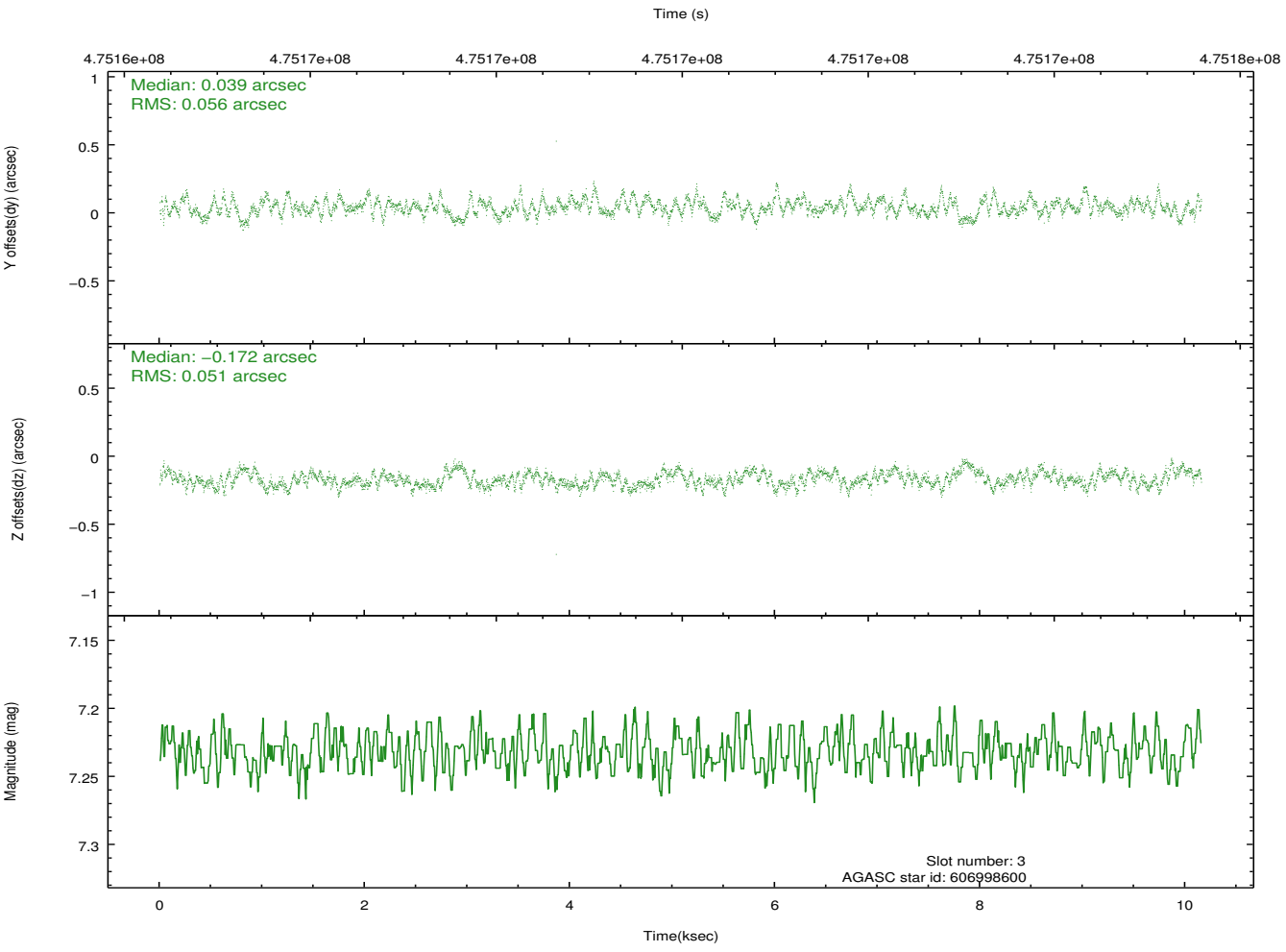
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.06	2478	-0.175	-0.123	0.009	0.018	0.000000	0.000000	-775.74	-1739.89
1	FID		ACIS-S-4	7.14	2477	0.212	0.086	0.010	0.016	0.000000	0.000000	2137.73	168.18
2	FID		ACIS-S-6	7.28	2477	-0.063	0.043	0.010	0.017	0.000000	0.000000	387.09	806.18
3	GUIDE	used	606998600	7.23	4955	0.039	-0.172	0.077	0.138	144.240165	82.925382	-122.20	1248.46
4	GUIDE	used	607003496	8.23	4953	0.118	0.249	0.080	0.129	149.989507	83.475683	-1533.52	-1563.69
5	GUIDE	used	607010560	8.62	4954	0.136	0.076	0.087	0.138	147.344229	83.714556	-203.61	-1873.92
6	GUIDE	used	606998240	8.37	4952	-0.120	-0.170	0.112	0.183	142.037328	82.688368	509.28	2394.48
7	GUIDE	used	607012224	7.70	4953	-0.175	0.010	0.060	0.096	143.315443	83.741617	1296.39	-1353.02

2.4 Star Slots

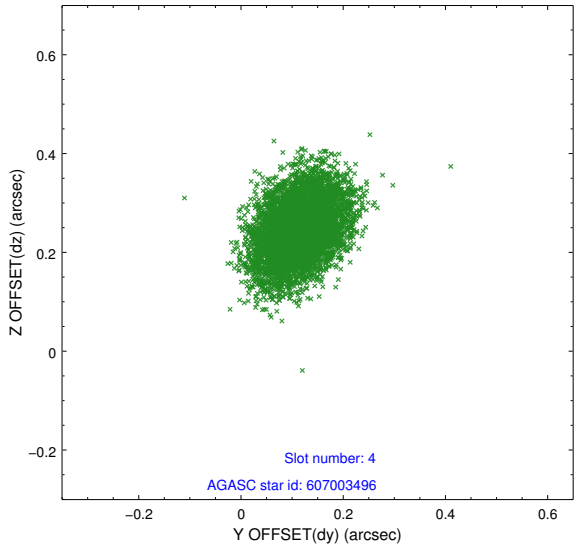
2.4.1 Slot 3

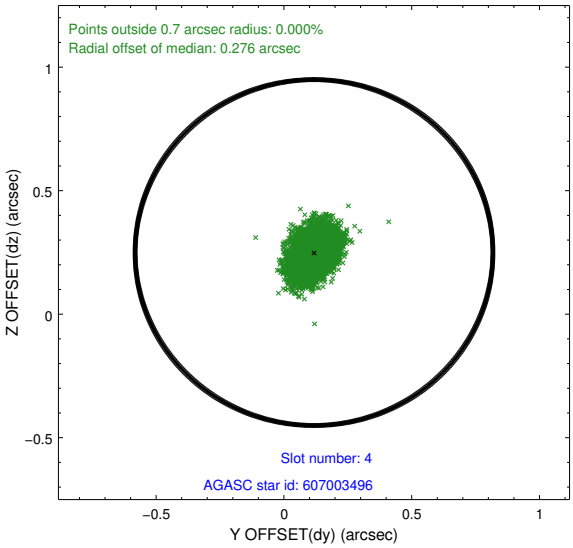


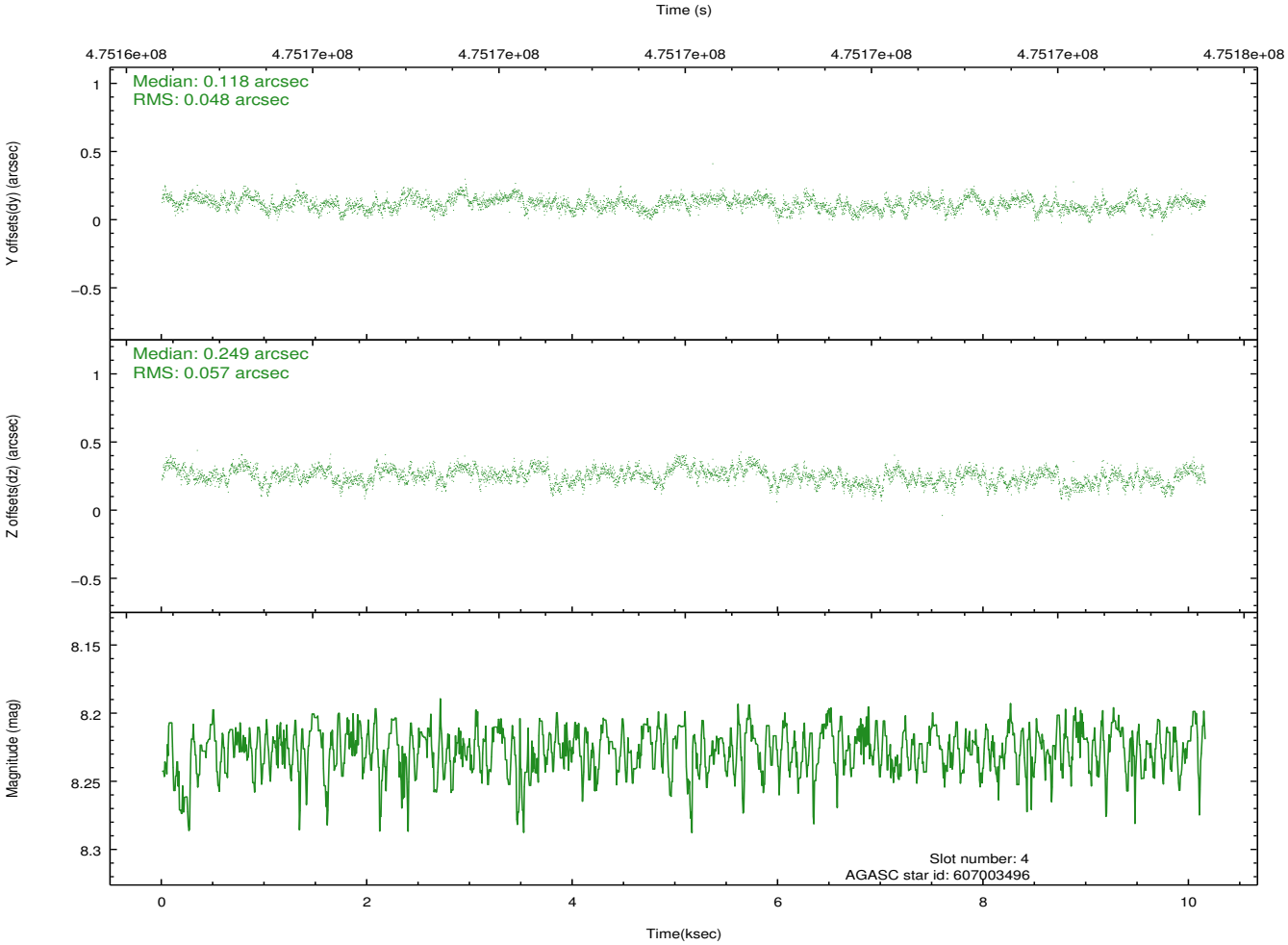




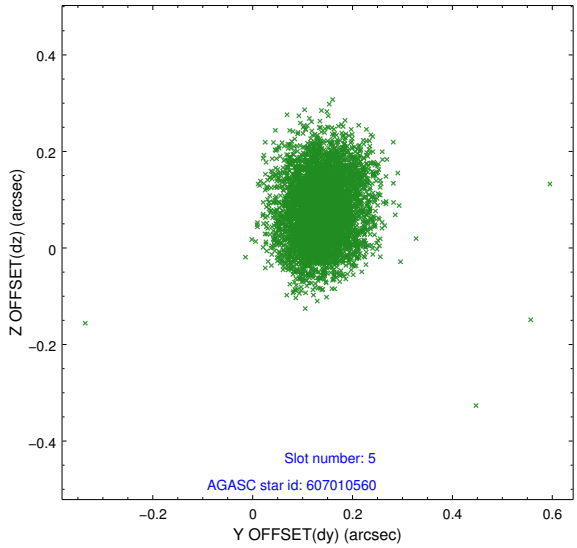
2.4.2 Slot 4

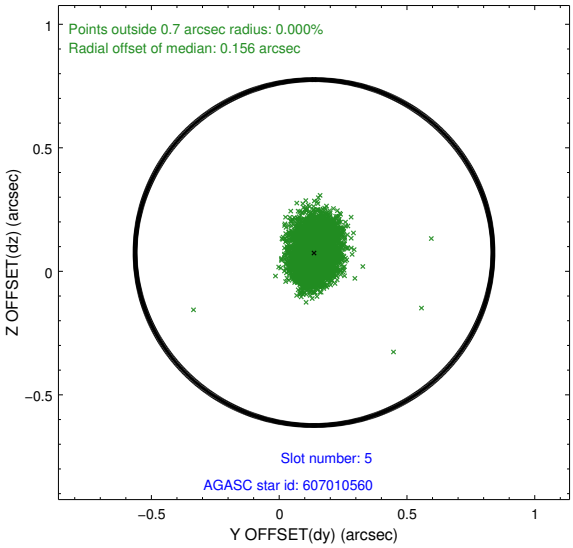

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 607003496

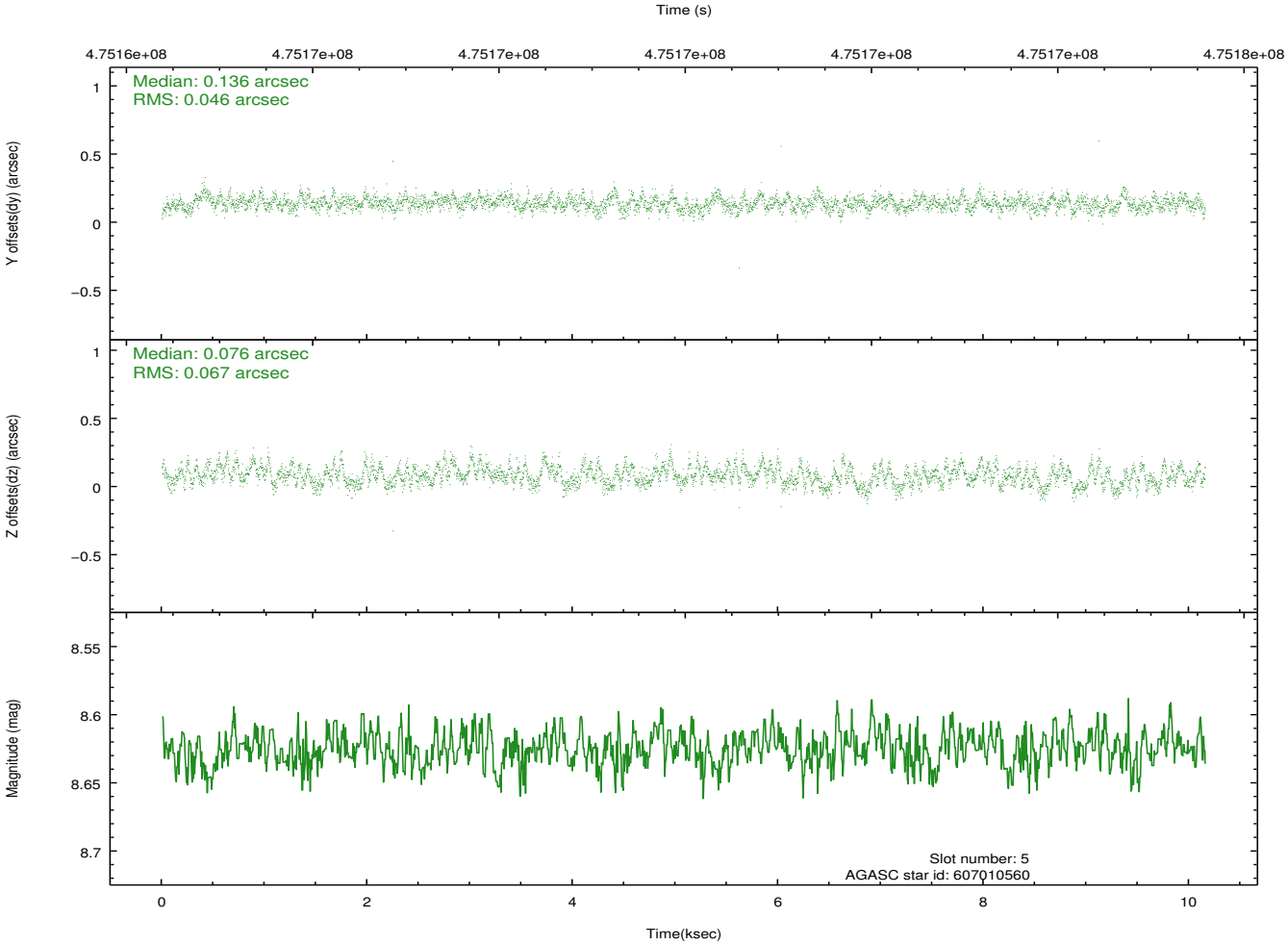

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.276 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 607003496


Time (s)
Median: 0.118 arcsec
RMS: 0.048 arcsec
Y offsets(dy) (arcsec)
Median: 0.249 arcsec
RMS: 0.057 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 607003496
Time(ksec)

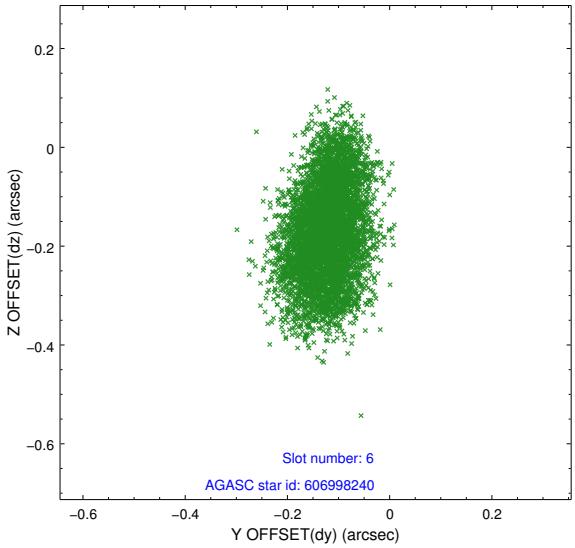
2.4.3 Slot 5

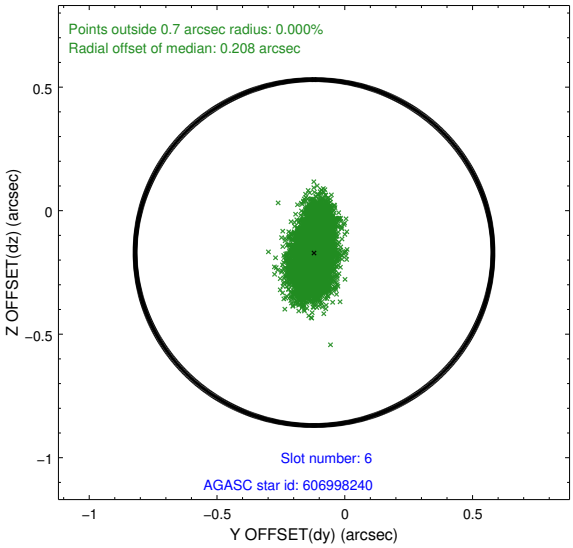

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 607010560

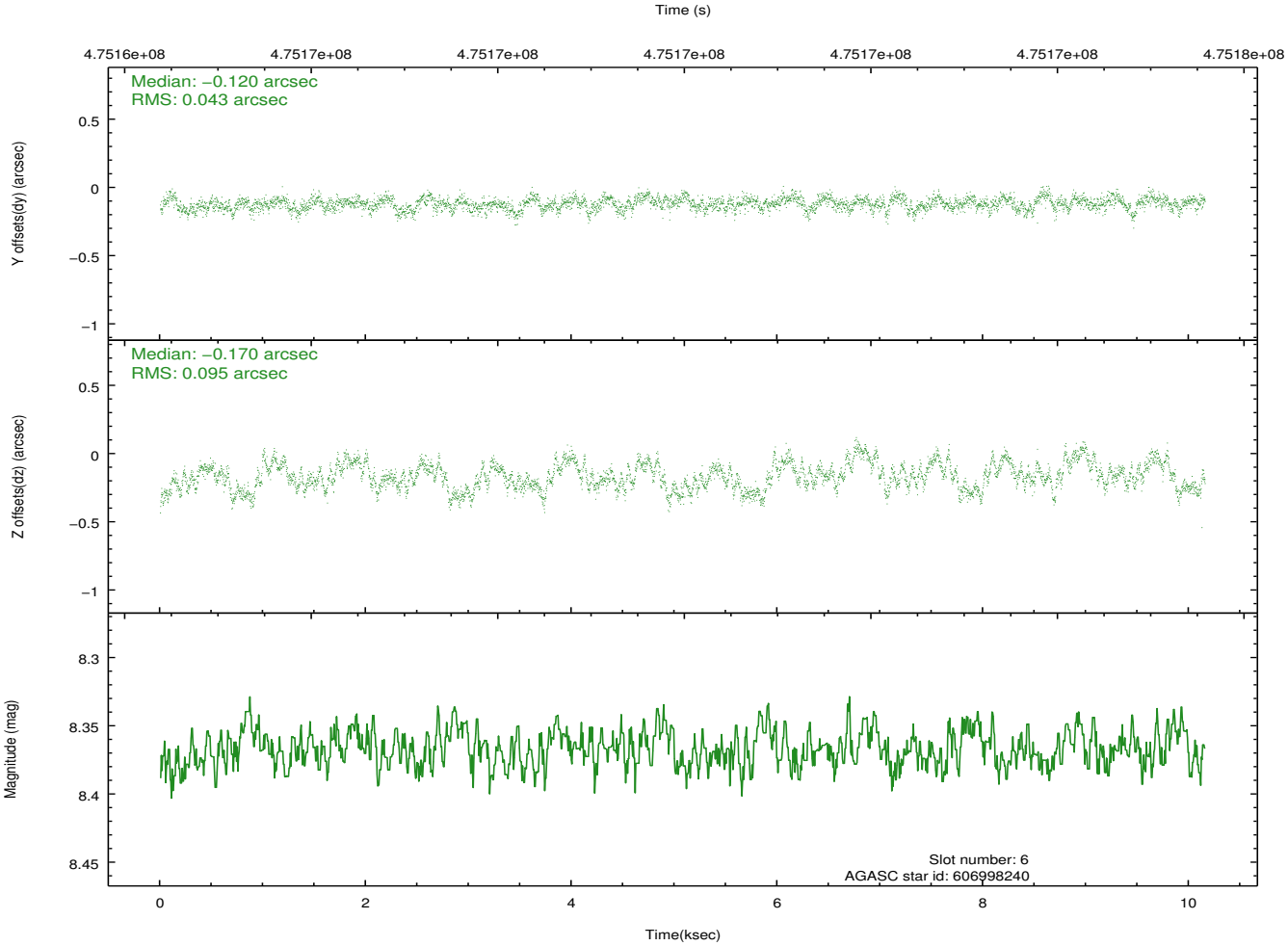

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.156 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 607010560


Time (s)
Median: 0.136 arcsec
RMS: 0.046 arcsec
Y offsets(dy) (arcsec)
Median: 0.076 arcsec
RMS: 0.067 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 607010560
Time(ksec)

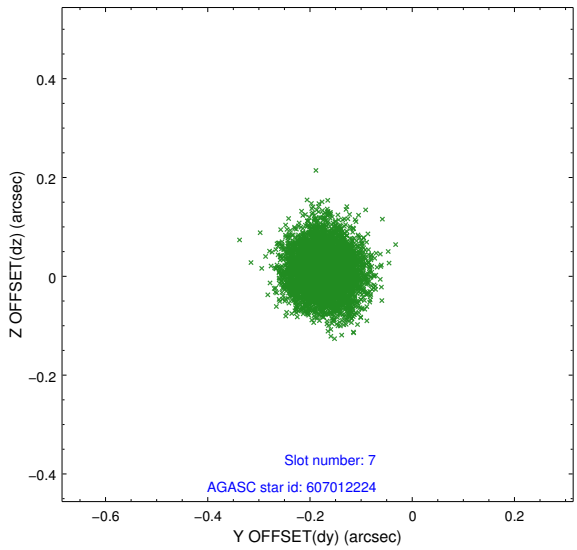
2.4.4 Slot 6

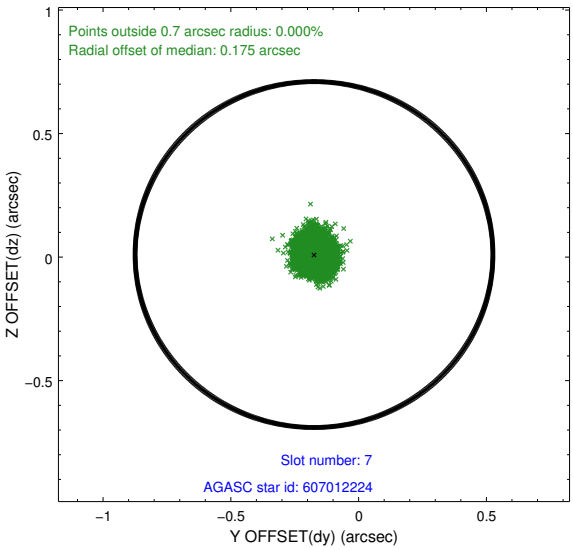

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 606998240

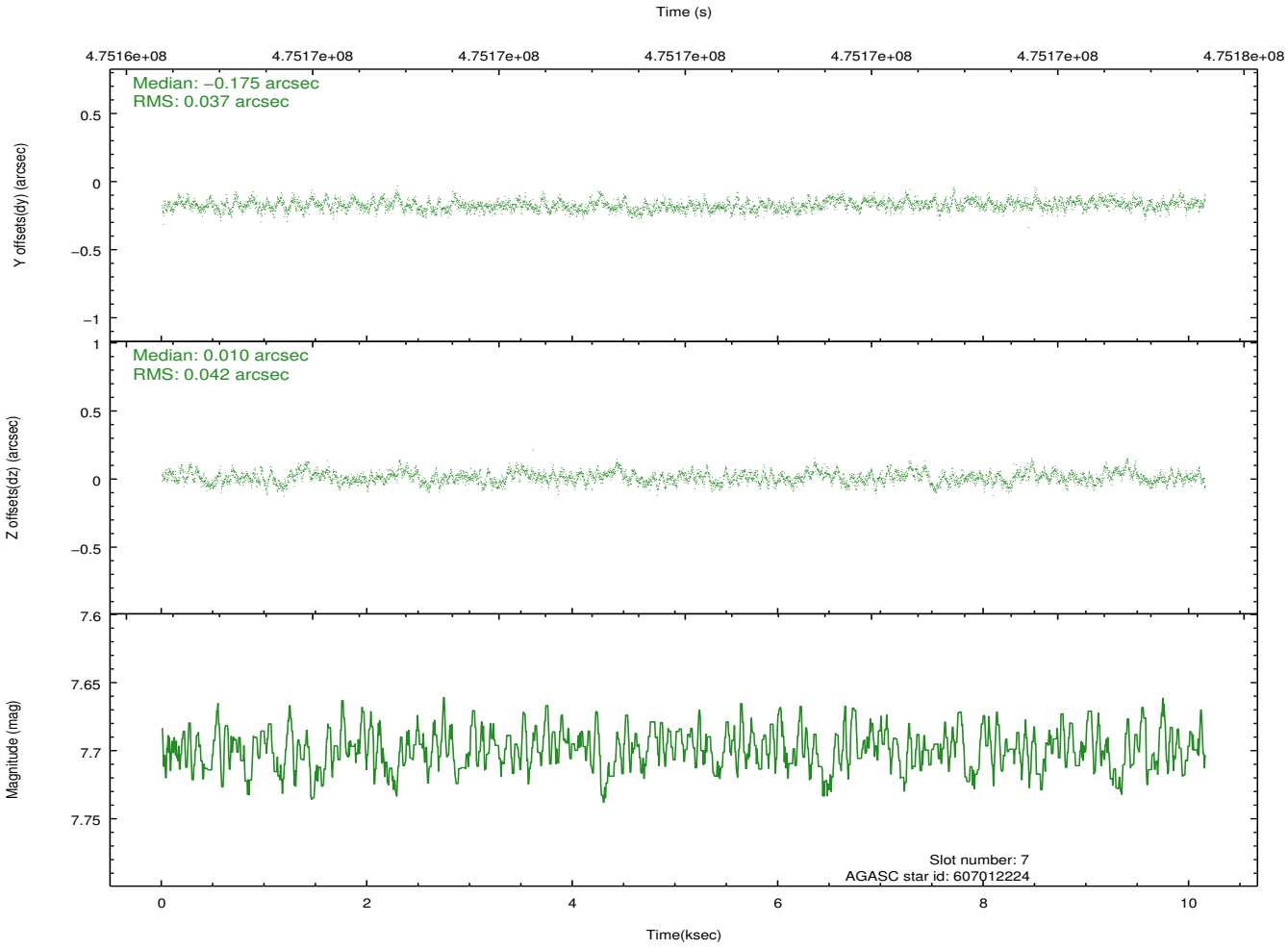

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.208 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 606998240


Time (s)
Median: −0.120 arcsec
RMS: 0.043 arcsec
Y offsets(dy) (arcsec)
Median: −0.170 arcsec
RMS: 0.095 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 606998240
Time(ksec)

2.4.5 Slot 7

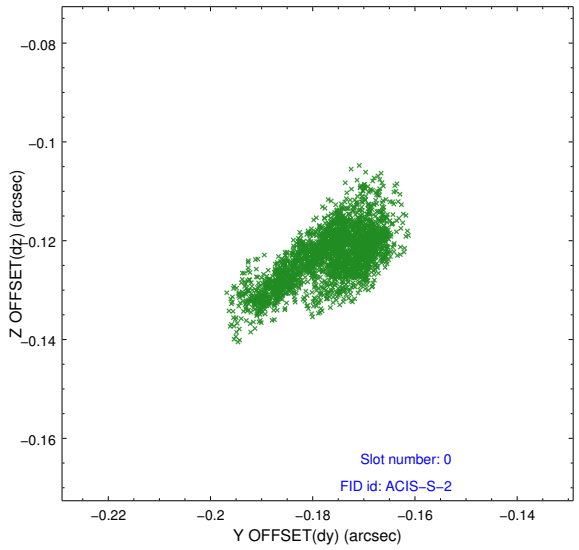

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 607012224

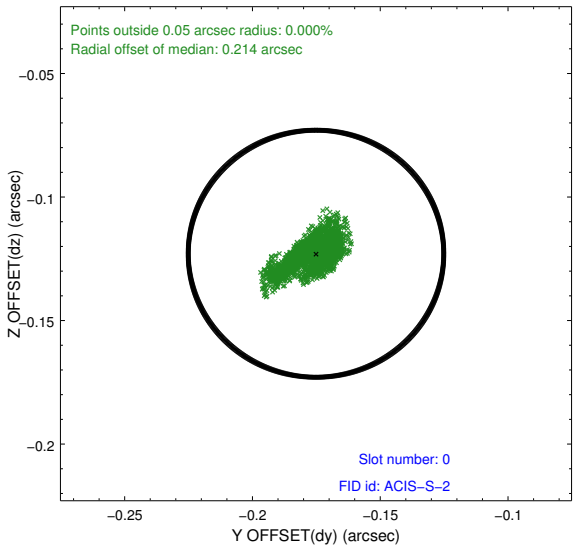

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.175 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 607012224

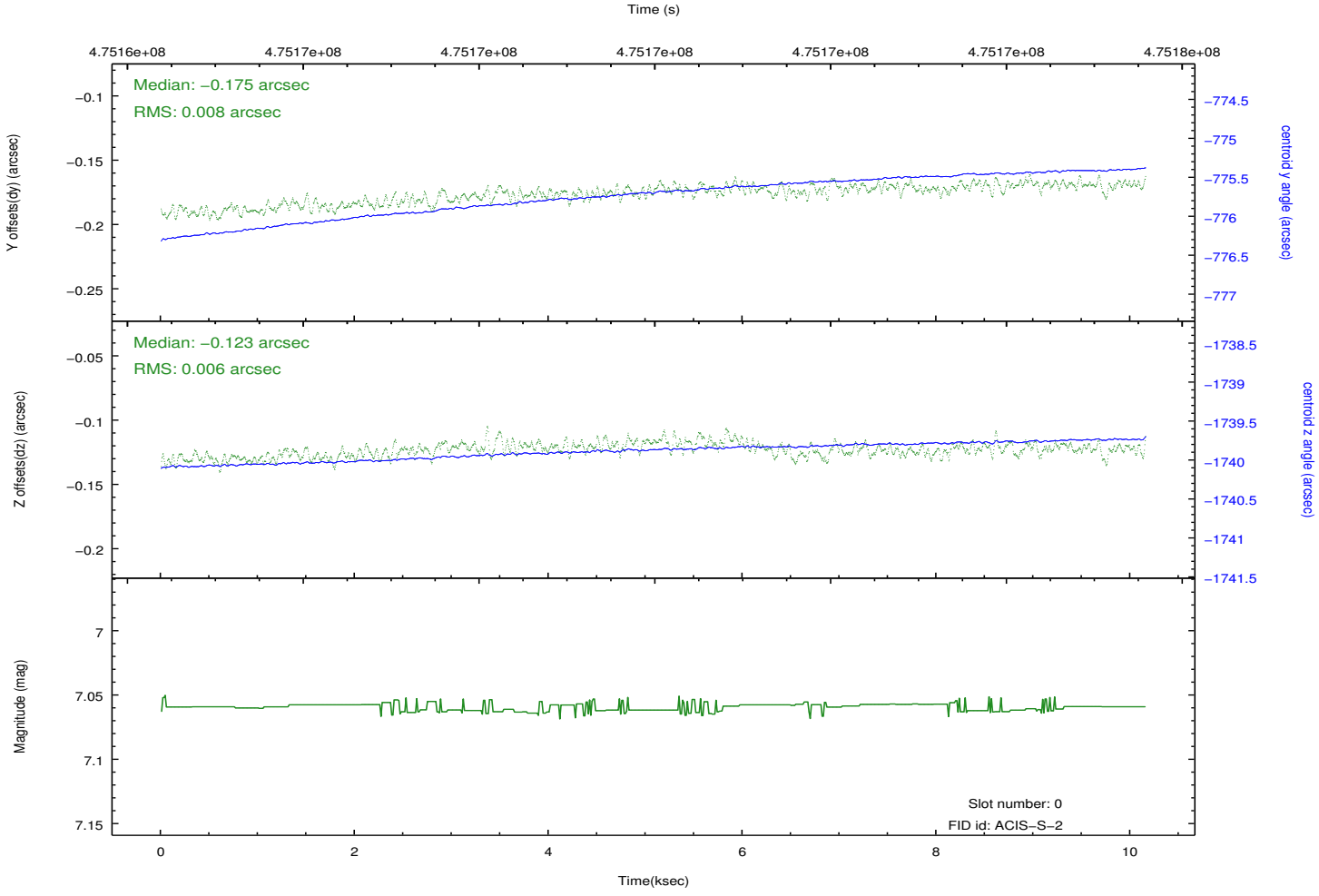

Time (s)
Median: −0.175 arcsec
RMS: 0.037 arcsec
Y offsets(dy) (arcsec)
Median: 0.010 arcsec
RMS: 0.042 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 607012224
Time(ksec)

2.5 FID Slots

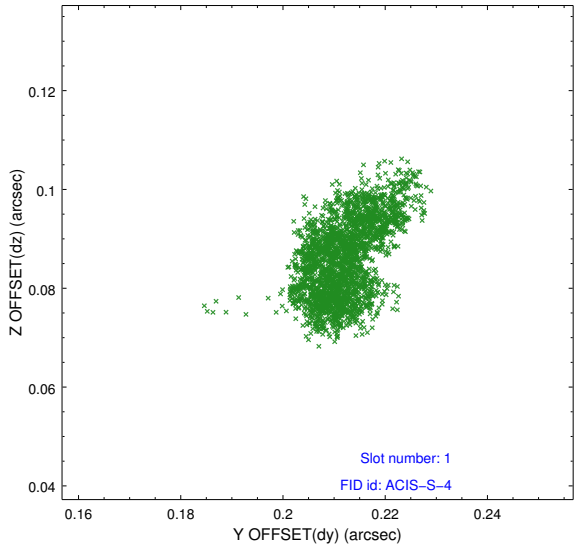
2.5.1 Slot 0

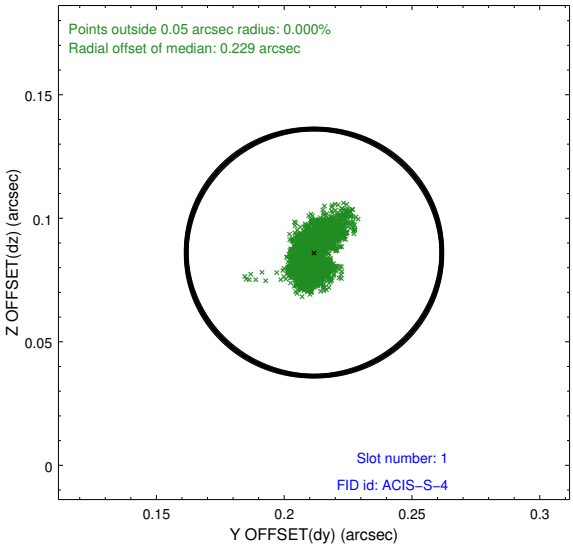


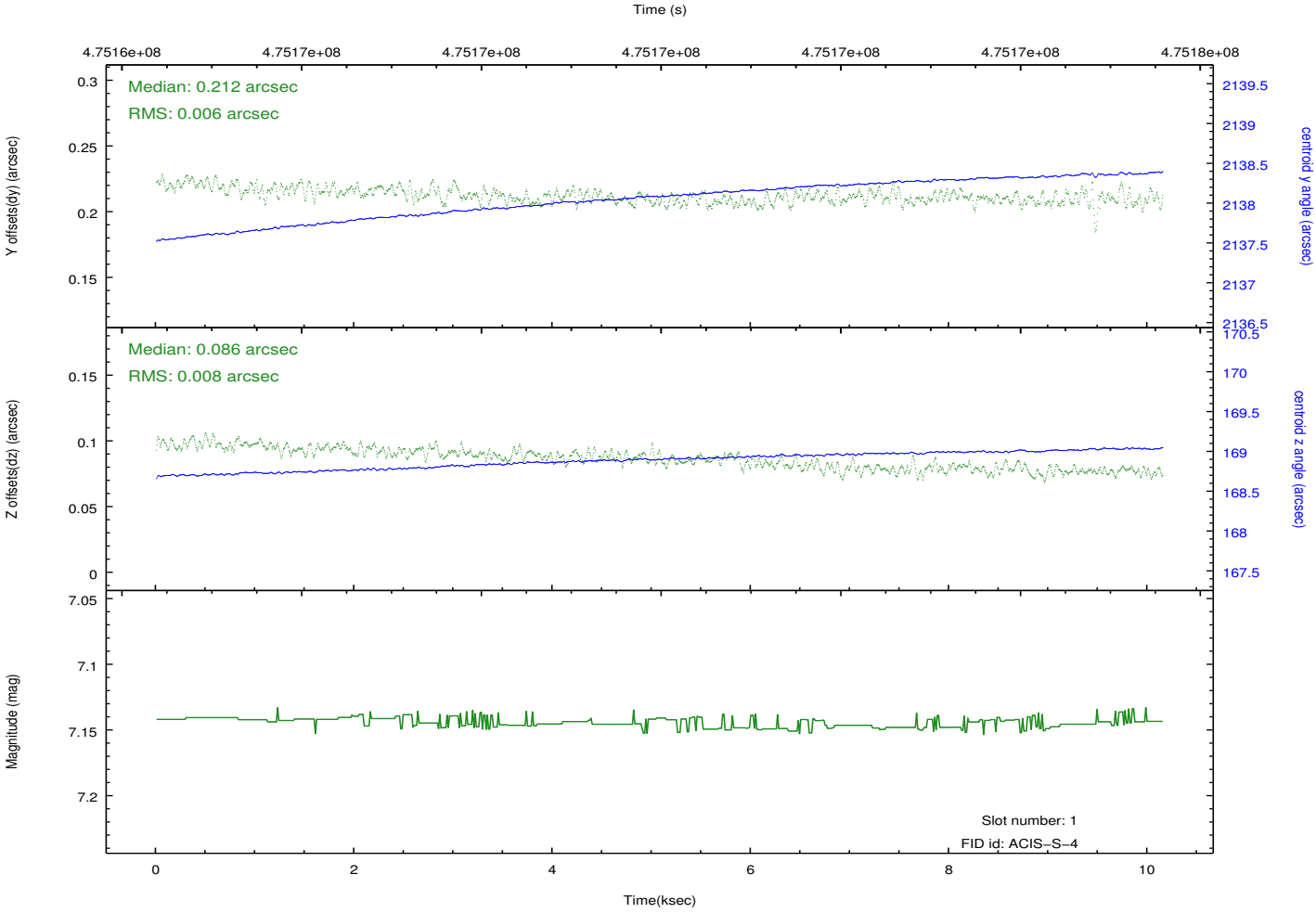




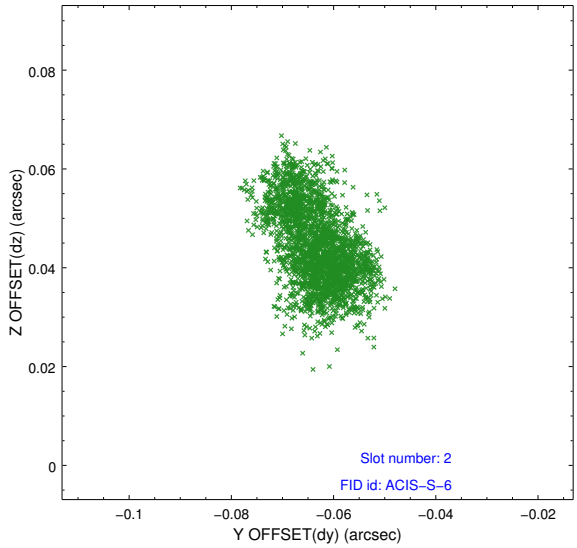
2.5.2 Slot 1

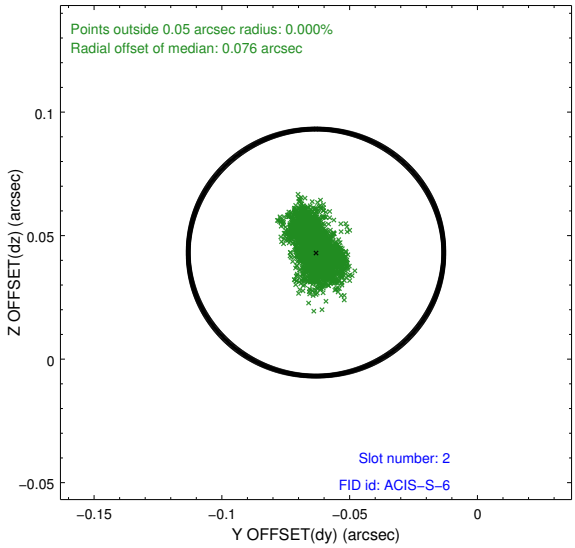

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS–S–4

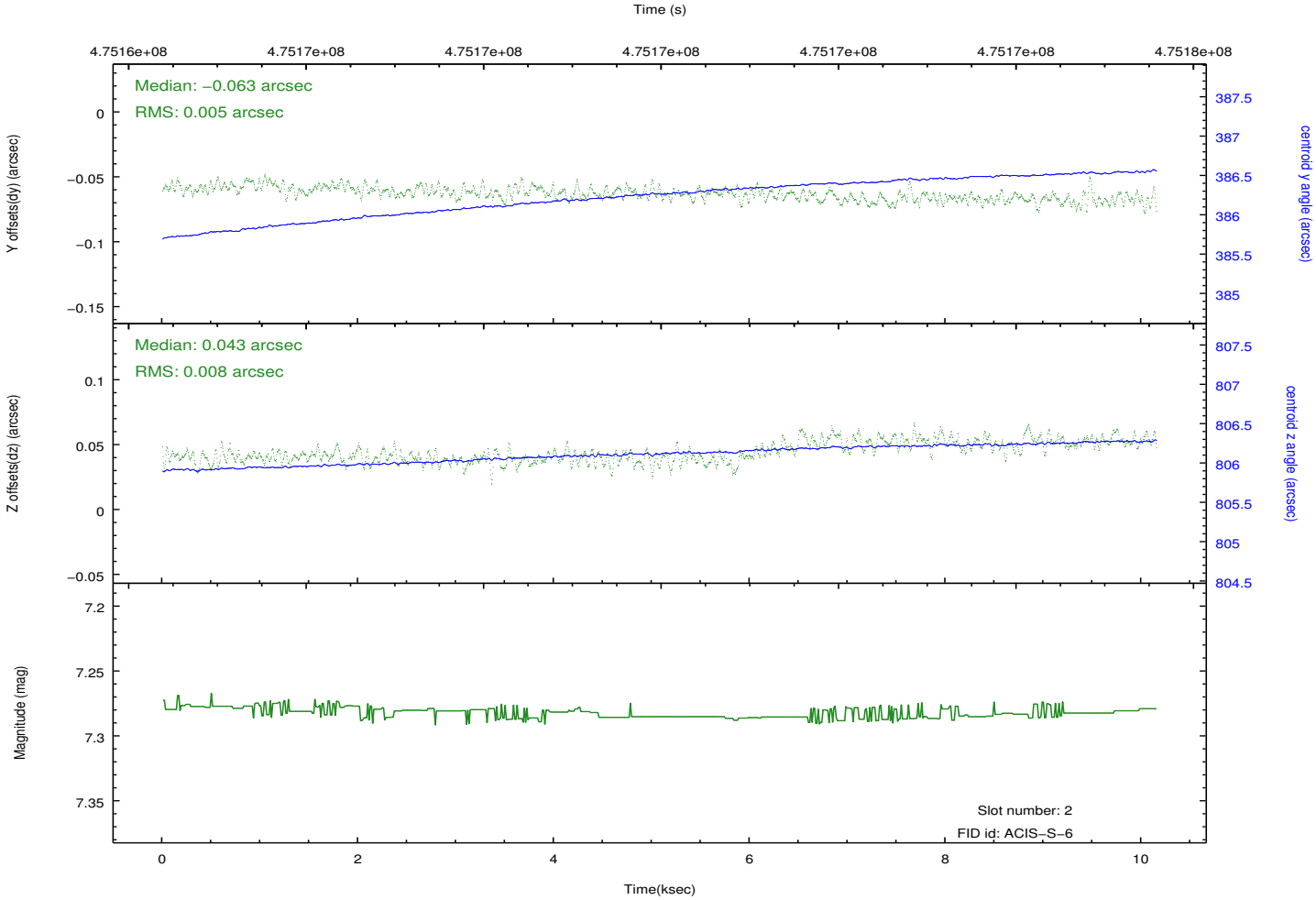

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.229 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS–S–4


Time (s)
Median: 0.212 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.086 arcsec
RMS: 0.008 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−6


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.076 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−6


Time (s)
Median: −0.063 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.043 arcsec
RMS: 0.008 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: ACIS−S−6
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	10.071897615433

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.