V&V Reference Report
L2 ASCDS Version : 8.4.3

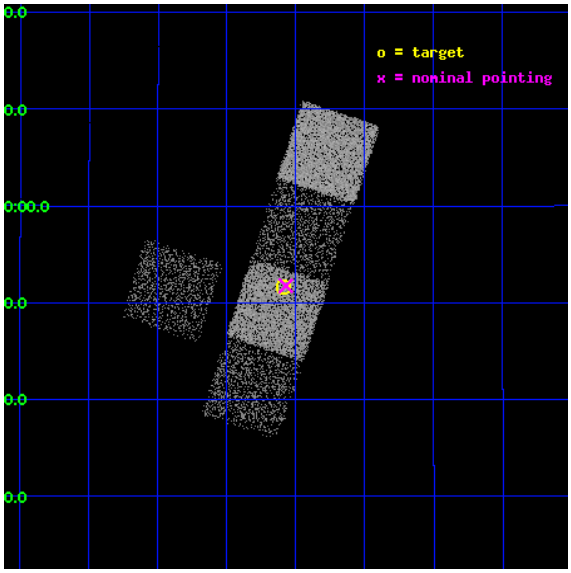
Observation 12679 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Feb 5 2012

Contents

1 Front

seq_num	501512	Sequence number
obs_id	12679	Observation id
title	Completing Identification of the Nearest and Brightest Neutron Stars	
observer	Prof. Derek Fox	Principal investigator
object	1RXSJ130205.2+155122	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	195.521667	Observer's specified target RA [deg]
dec_targ	15.859667	Observer's specified target Dec [deg]
ra_nom	195.51786862823	Nominal RA [deg]
dec_nom	15.862615251409	Nominal Dec [deg]
roll_nom	108.10084925655	Nominal Roll [deg]
revision	2	Processing version of data
ontime	2036.0755821466	Sum of GTIs [s]
livetime	2009.4727557289	Livetime [s]
ontime3	2035.9524621367	Sum of GTIs [s]
ontime5	2036.0345421433	Sum of GTIs [s]
ontime6	2035.99350214	Sum of GTIs [s]
ontime7	2036.0755821466	Sum of GTIs [s]
ontime8	2035.9114221334	Sum of GTIs [s]
l2events	22110	Number of level 2 events

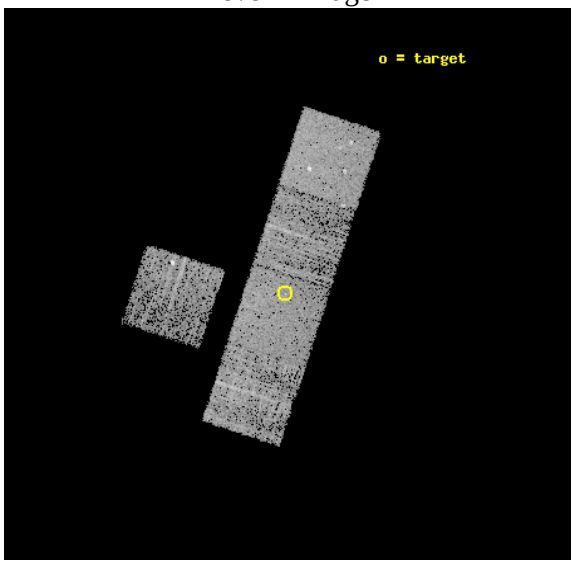


2 OBI

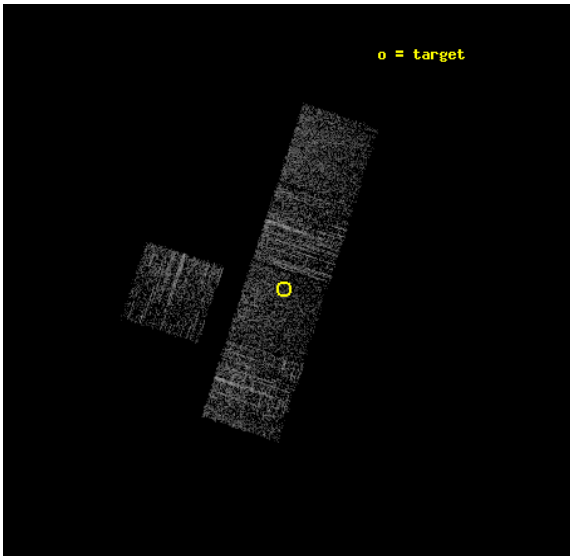
2.1 OBI

2.1.1 Images

Level 1 Image

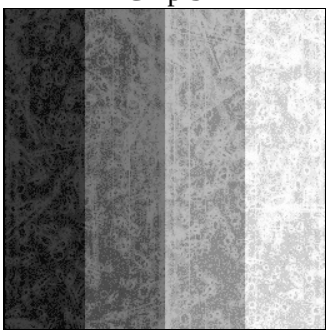


Level 1 Bad Events

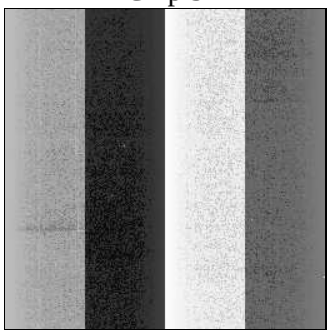


2.1.2 Bias

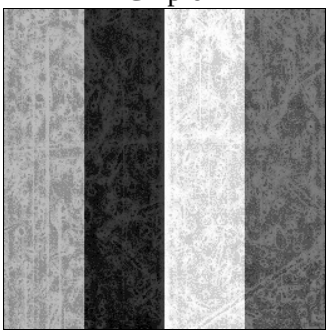
Chip 3



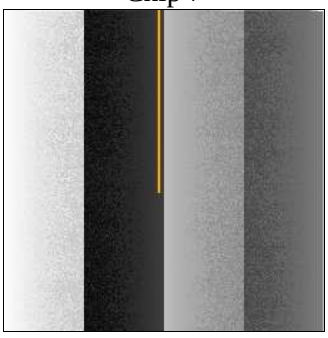
Chip 5



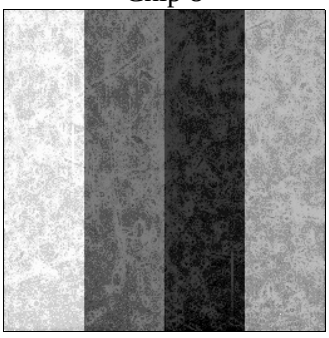
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	1	Obi number
ascdsver	8.4.3	Processing system revision
caldbver	4.4.7	
date	2012-02-05T14:22:24	Date and time of file creation
revision	2	Processing version of data

sched_exp_time	2000.000000	[s] Scheduled observation exposure time
ontime	2036.0755821466	Sum of GTIs [s]
ontime3	2035.9524621367	Sum of GTIs [s]
ontime5	2036.0345421433	Sum of GTIs [s]
ontime6	2035.99350214	Sum of GTIs [s]
ontime7	2036.0755821466	Sum of GTIs [s]
ontime8	2035.9114221334	Sum of GTIs [s]
l1events	86496	Number of level 1 events

2.1.4 Events

	ccd 3	**ccd 5**	**ccd 6**	**ccd 7**	**ccd 8**
level 1 events	12867	22640	15309	17760	17920
rejected events	10788	11087	13596	9855	13546
rejected %	83%	48%	88%	55%	75%

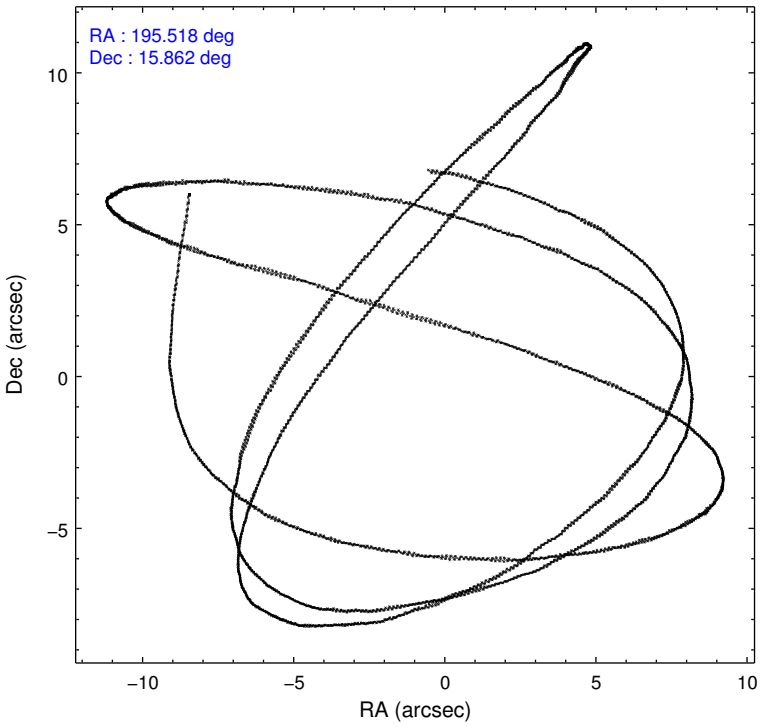
	ccd 3	**ccd 5**	**ccd 6**	**ccd 7**	**ccd 8**
grade 0 events	1112	1864	622	723	1270
	8%	8%	4%	4%	7%
grade 1 events	15	73	7	22	10
	0%	0%	0%	0%	0%
grade 2 events	331	3192	370	1684	1072
	2%	14%	2%	9%	5%
grade 3 events	156	383	182	716	493
	1%	1%	1%	4%	2%
grade 4 events	158	427	183	667	439
	1%	1%	1%	3%	2%
grade 5 events	639	1598	652	1781	996
	4%	7%	4%	10%	5%
grade 6 events	326	5716	361	4140	1103
	2%	25%	2%	23%	6%
grade 7 events	10130	9387	12932	8027	12537
	78%	41%	84%	45%	69%

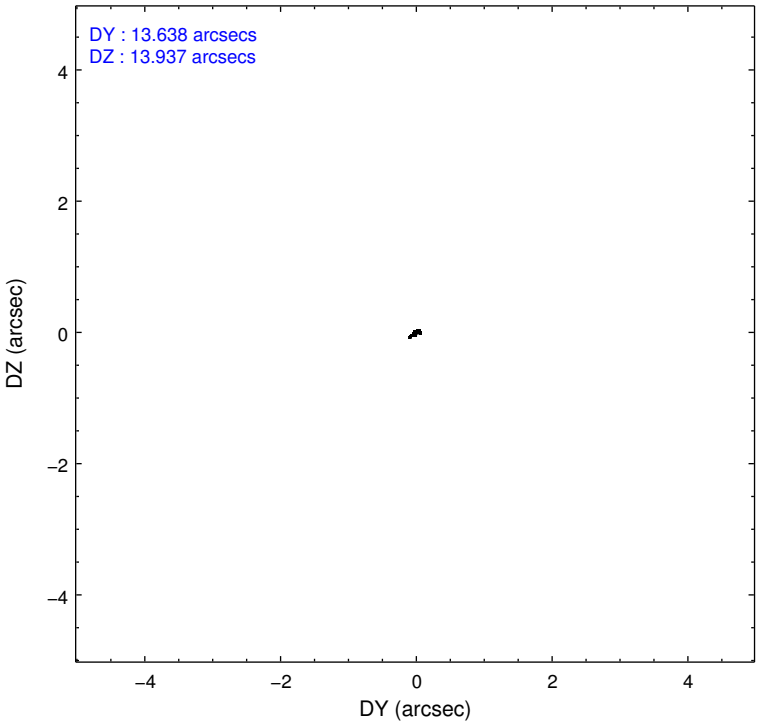
2.2 Compared Parameters

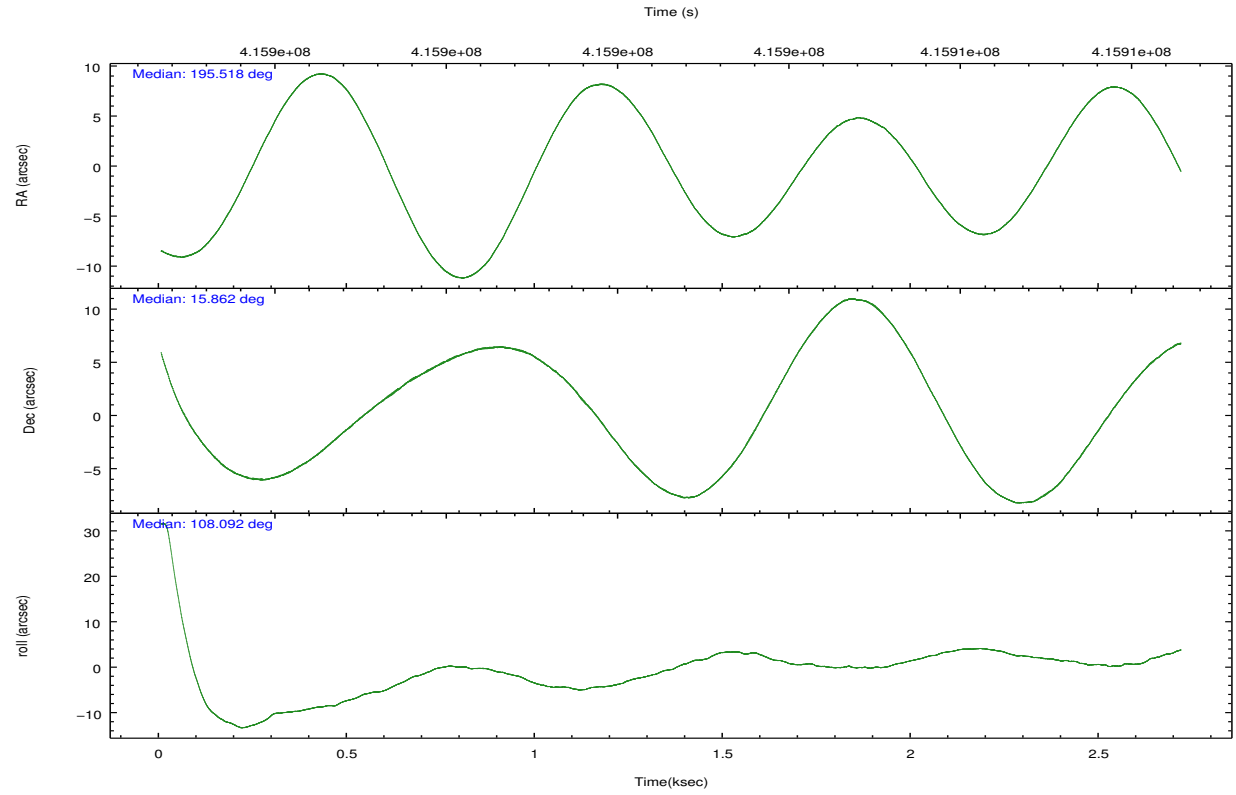
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-35678	ACIS-35678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	195.539232	195.5178686282287
[deg] Pointing Dec	15.844823	15.86261525140938
[deg] Pointing Roll	107.938158	108.1008492565535
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.145094680475
[mm] SIM translation stage offset	0	0.01257209746719923
[s] Observation start time (MET)	415904016.184000	415902824.16618
Observation start date	2011-03-07T16:52:30	2011-03-07T16:33:44
[s] Observation end time (MET)	415906016.184000	415906460.35387
Observation end date	2011-03-07T17:25:50	2011-03-07T17:34:20
Read mode	TIMED	TIMED

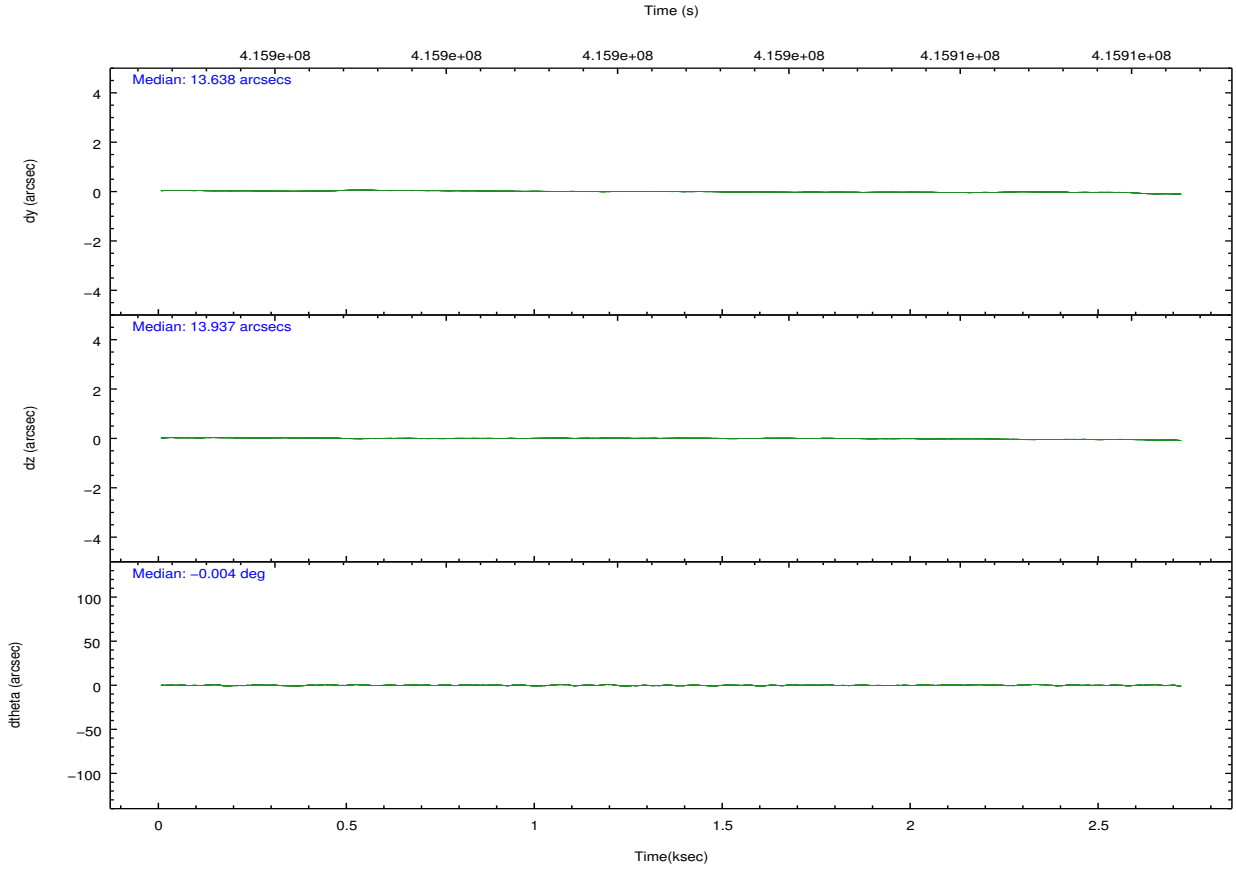
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	N	N
CCD I3 on	Y	Y
CCD S0 on	N	N
CCD S1 on	O1	Y
CCD S2 on	Y	Y
CCD S3 on	Y	Y
CCD S4 on	Y	Y
CCD S5 on	N	N
Number of optional ACIS chips dropped	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 : 195.518 deg
Dec : 15.862 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10
−5
0
5
10


DY : 13.638 arcsecs
DZ : 13.937 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
4.159e+08
4.159e+08
4.159e+08
4.159e+08
4.1591e+08
4.1591e+08
Median: 195.518 deg
RA (arcsec)
Median: 15.862 deg
Dec (arcsec)
Median: 108.092 deg
roll (arcsec)
Time(ksec)

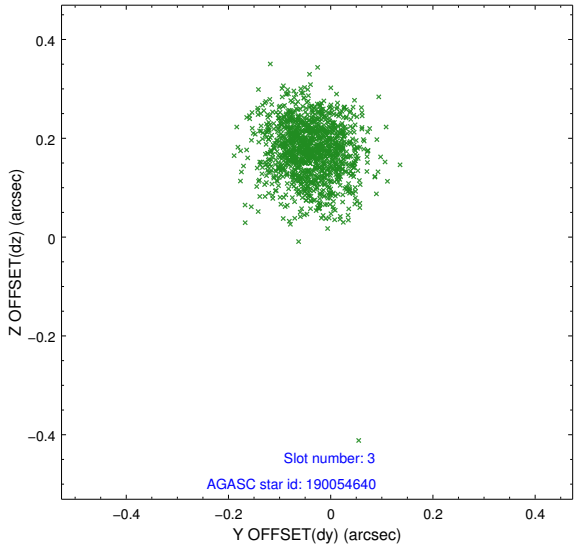

Time (s)
4.159e+08
4.159e+08
4.159e+08
4.159e+08
4.1591e+08
4.1591e+08
Median: 13.638 arcsecs
dy (arcsec)
Median: 13.937 arcsecs
dz (arcsec)
Median: −0.004 deg
dtheta (arcsec)
Time(ksec)

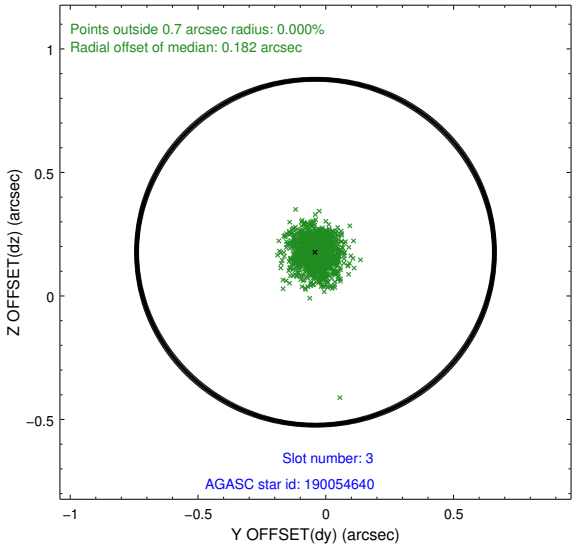
Slot Statistics

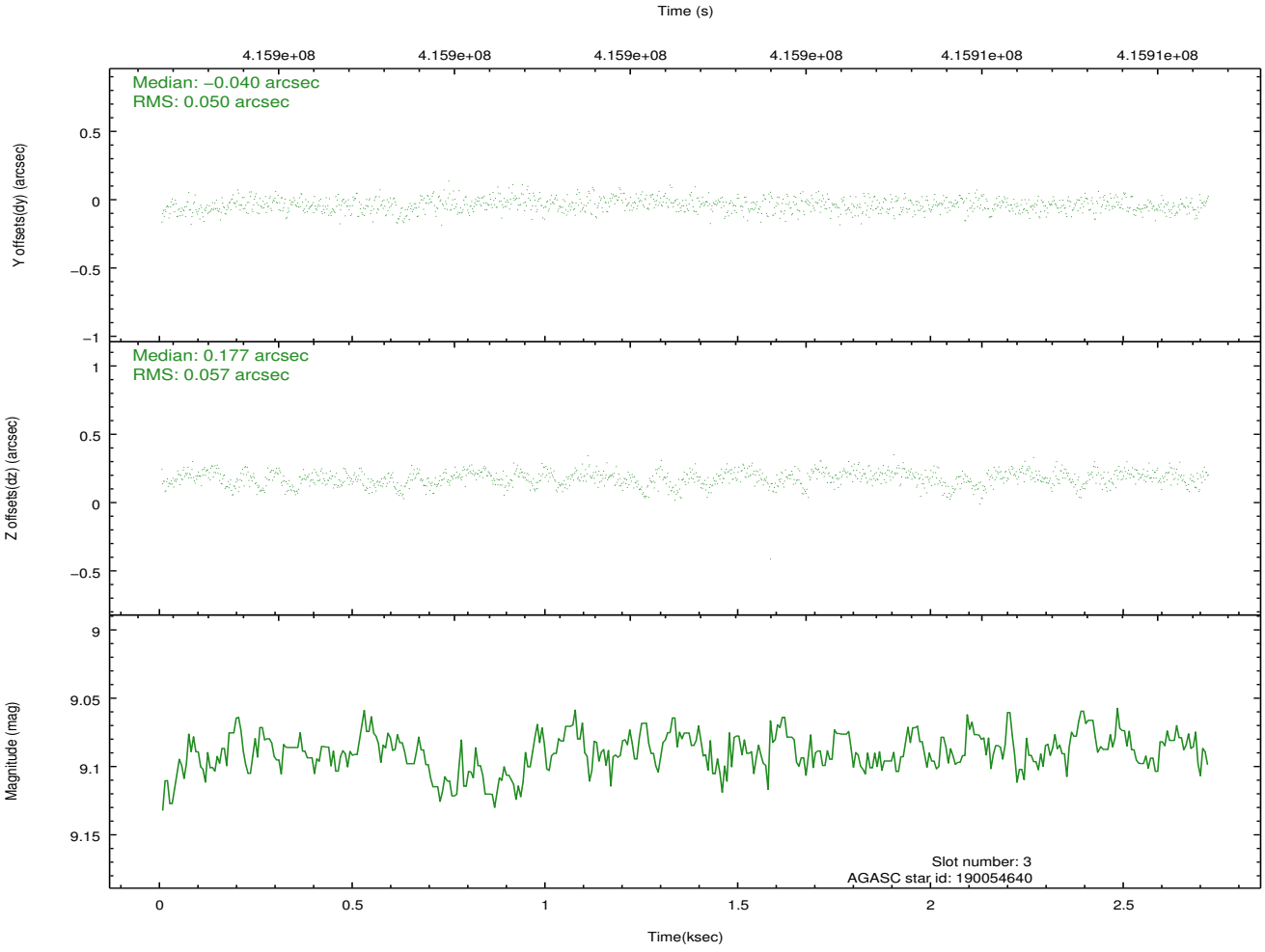
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.99	662	-0.051	-0.065	0.007	0.012	0.000000	0.000000	-766.62	-1735.24
1	FID	ACIS-S-4	7.07	662	0.197	0.042	0.006	0.013	0.000000	0.000000	2145.82	170.89
2	FID	ACIS-S-5	7.10	662	-0.178	0.031	0.007	0.012	0.000000	0.000000	-1816.55	167.25
3	GUIDE	190054640	9.09	1323	-0.040	0.177	0.079	0.130	196.007173	16.130373	482.81	-1855.60
4	GUIDE	190054720	9.06	1312	0.096	-0.094	0.102	0.155	195.290305	15.806791	137.19	860.83
5	GUIDE	190057472	9.10	1324	-0.041	-0.088	0.091	0.147	194.706985	16.210982	2146.47	2330.34
6	GUIDE	190058416	8.92	1324	-0.013	0.125	0.083	0.135	195.624359	16.042291	588.81	-496.53
7	GUIDE	190059248	8.57	1324	0.001	-0.128	0.071	0.119	195.193050	15.498238	-815.19	1525.83

2.4 Star Slots

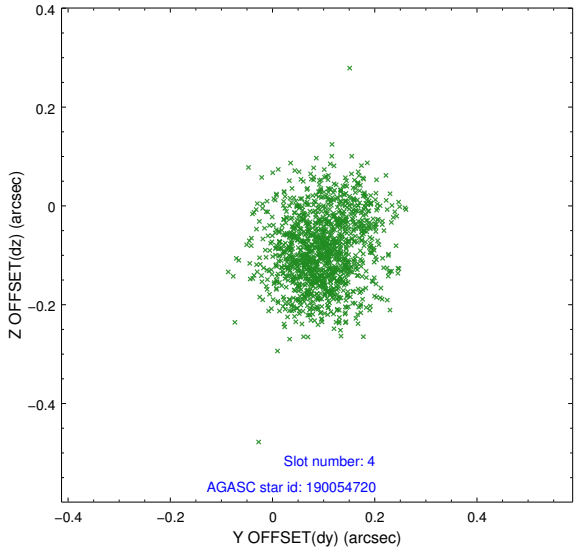
2.4.1 Slot 3

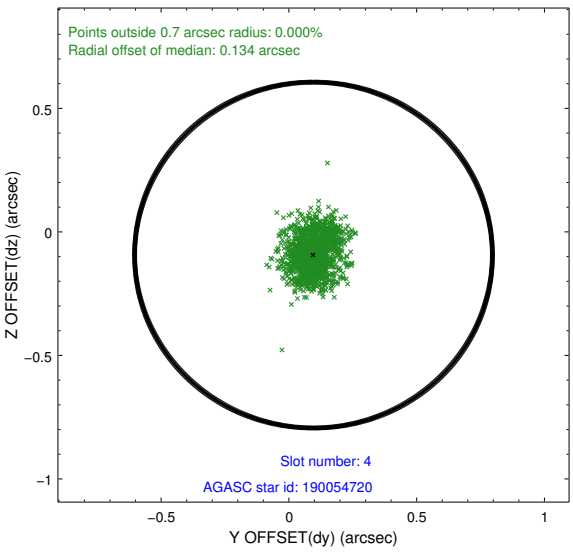


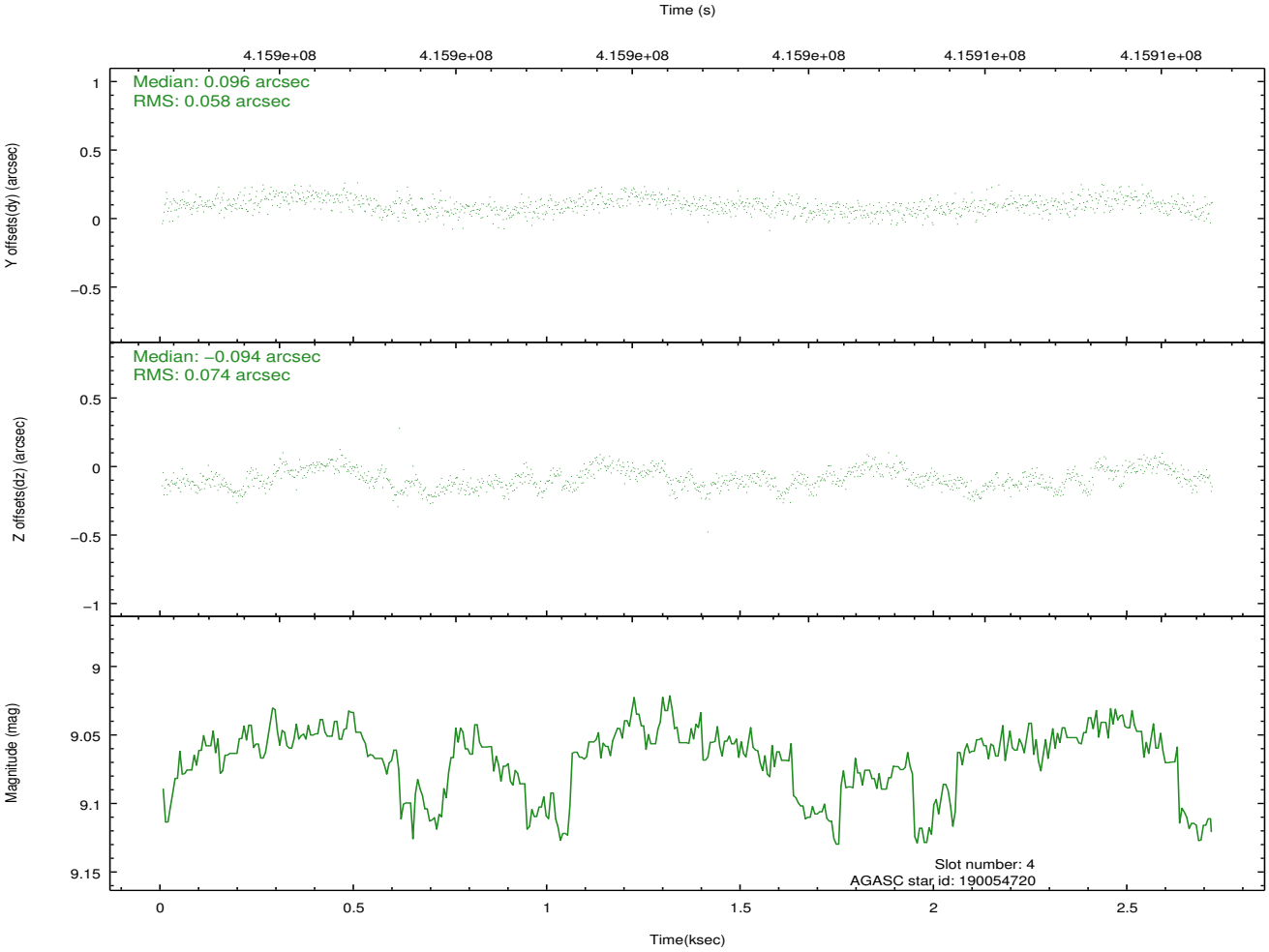




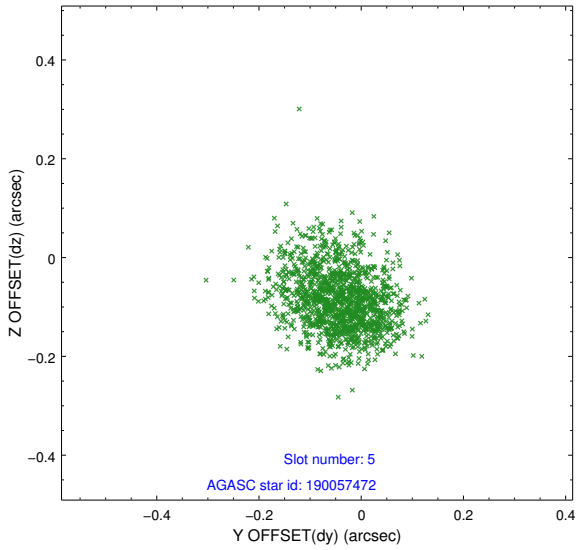
2.4.2 Slot 4

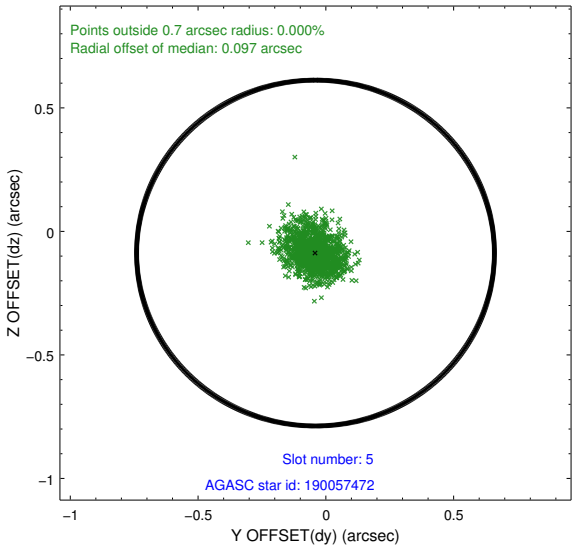

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 190054720

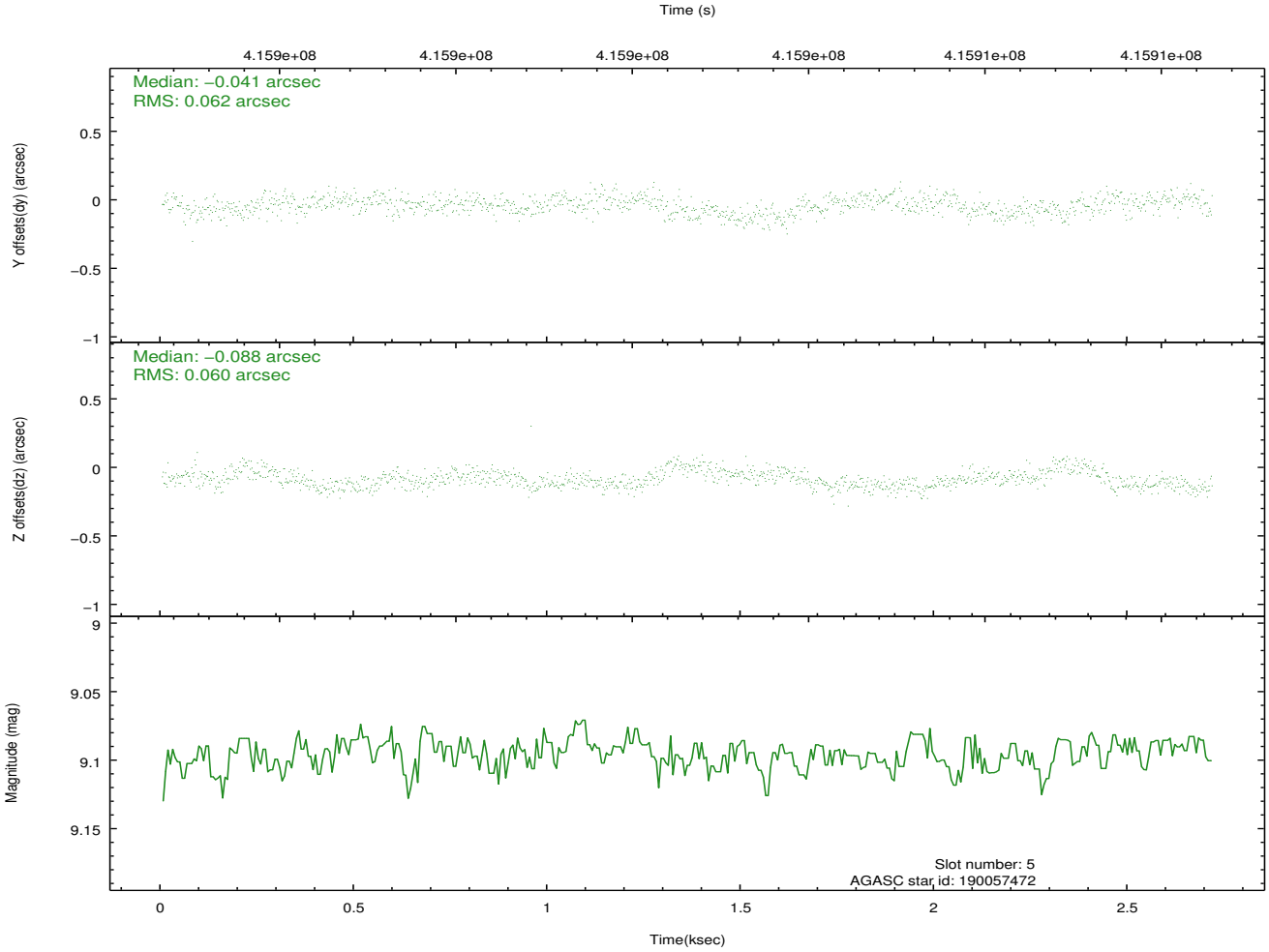

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.134 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 190054720


Time (s)
Median: 0.096 arcsec
RMS: 0.058 arcsec
Y offsets(dy) (arcsec)
Median: −0.094 arcsec
RMS: 0.074 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 190054720
Time(ksec)

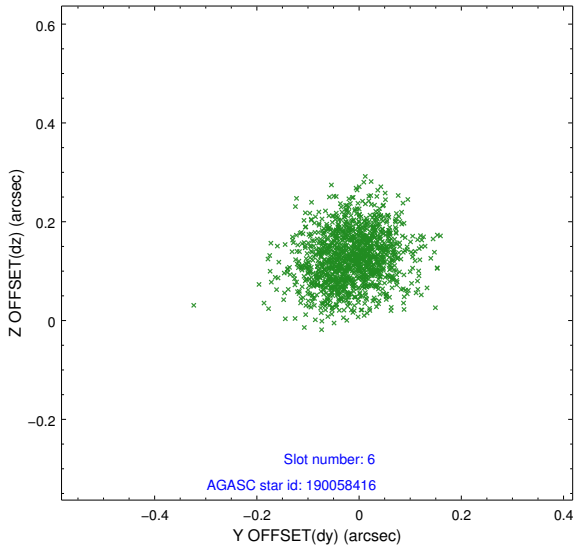
2.4.3 Slot 5

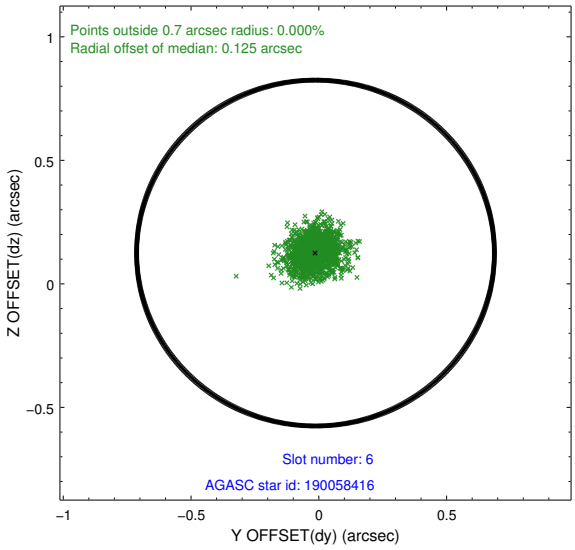

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 190057472

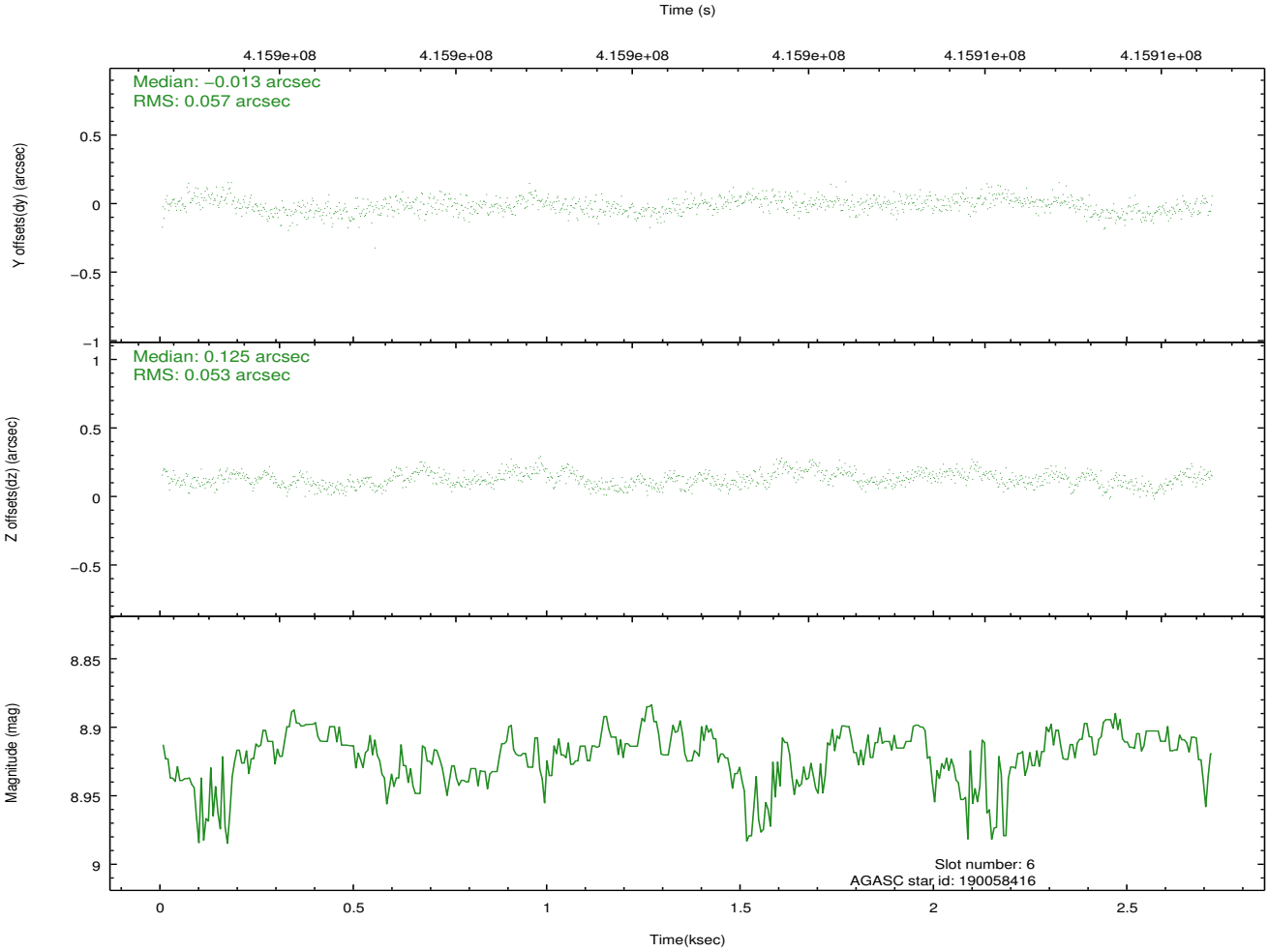

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.097 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 190057472


Time (s)
Median: −0.041 arcsec
RMS: 0.062 arcsec
Y offsets(dy) (arcsec)
Median: −0.088 arcsec
RMS: 0.060 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 190057472
Time(ksec)

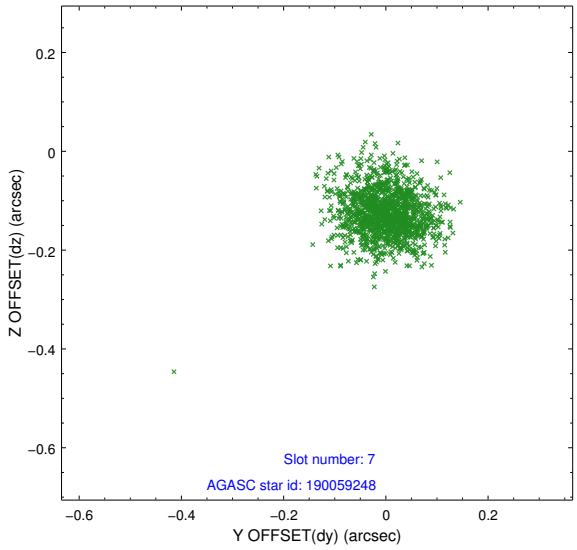
2.4.4 Slot 6

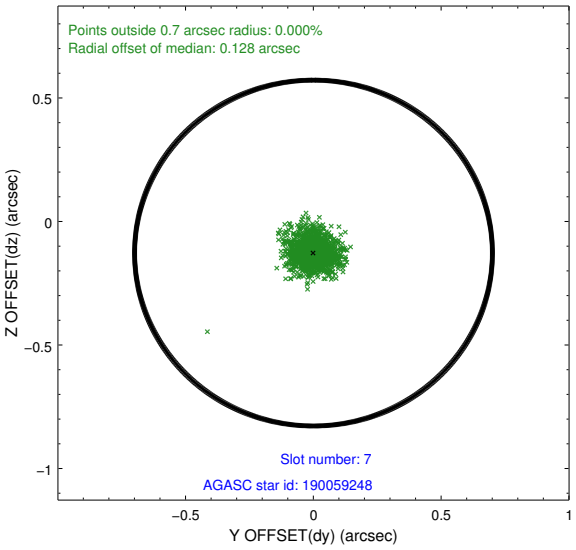

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 190058416

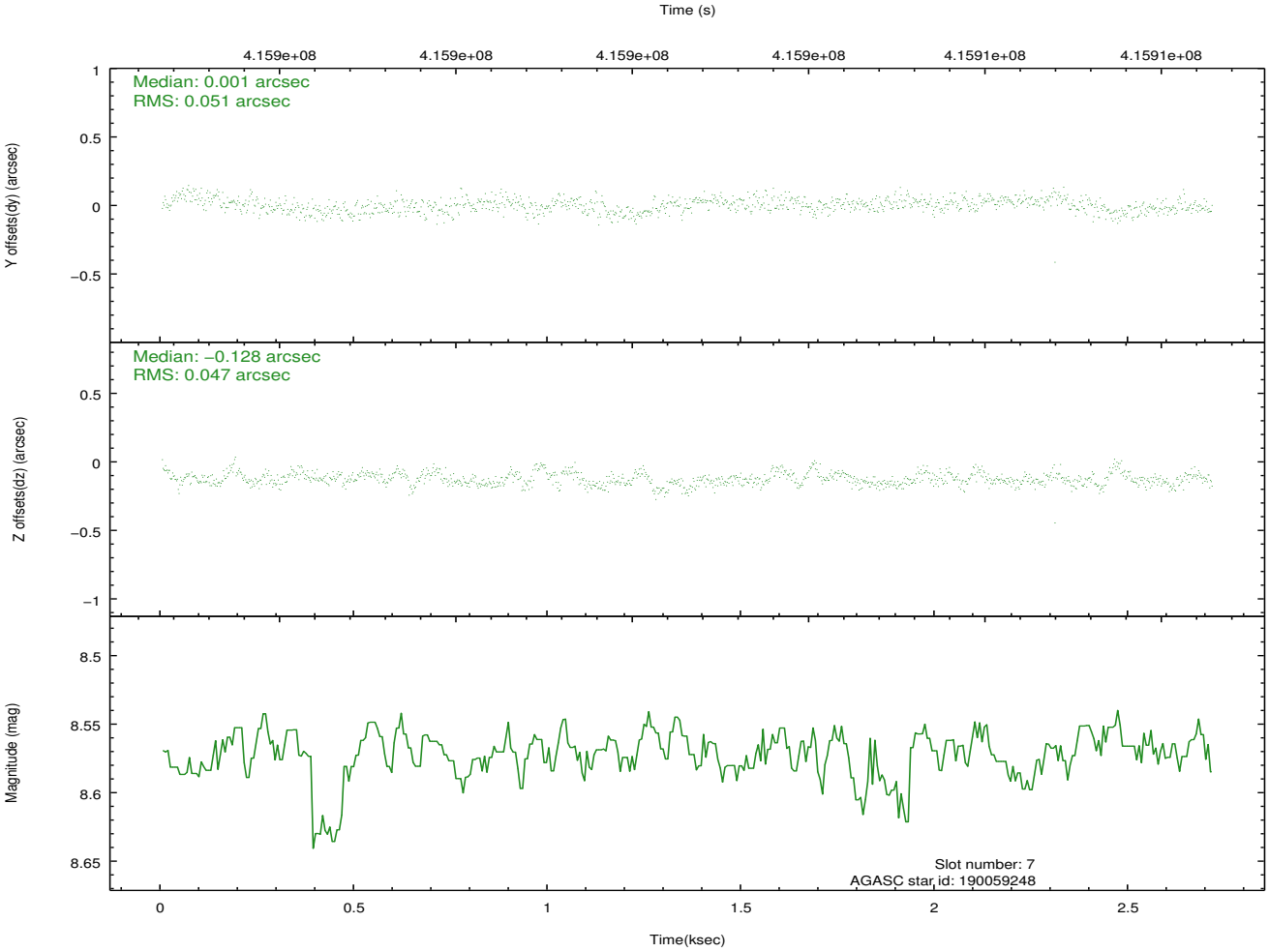

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.125 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 190058416


Time (s)
4.159e+08
4.159e+08
4.159e+08
4.159e+08
4.1591e+08
4.1591e+08
Median: –0.013 arcsec
RMS: 0.057 arcsec
Y offsets(dy) (arcsec)
Median: 0.125 arcsec
RMS: 0.053 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 190058416
Time(ksec)

2.4.5 Slot 7

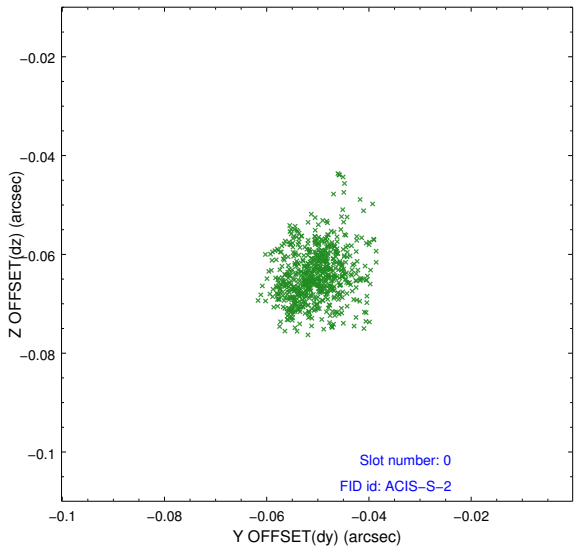

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 190059248

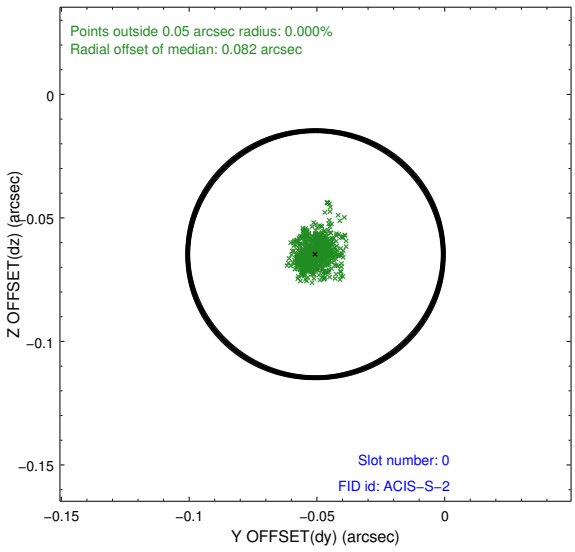

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.128 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 190059248

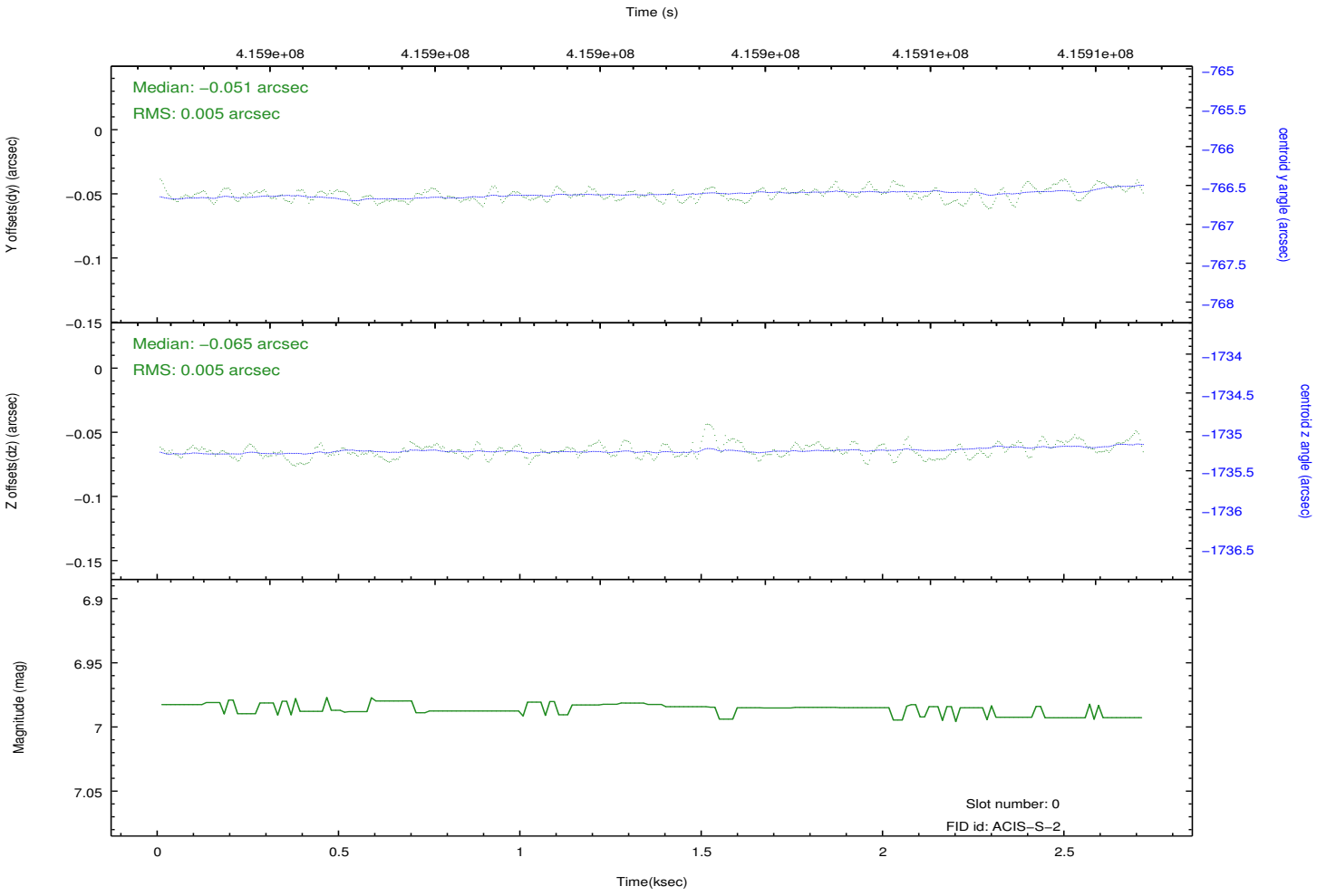

Time (s)
Median: 0.001 arcsec
RMS: 0.051 arcsec
Y offsets(dy) (arcsec)
Median: −0.128 arcsec
RMS: 0.047 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 190059248
Time(ksec)

2.5 FID Slots

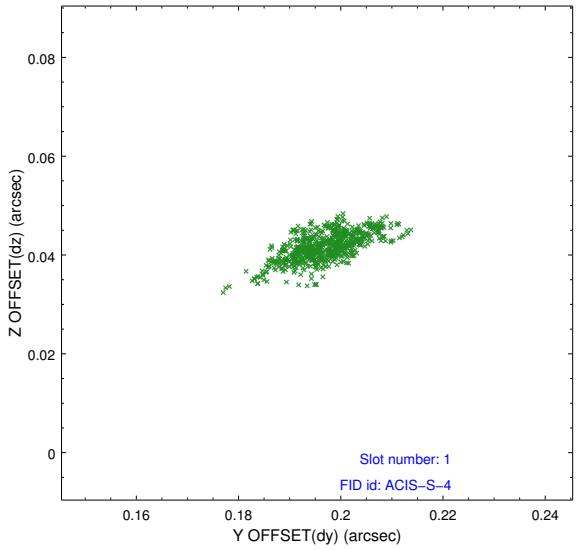
2.5.1 Slot 0

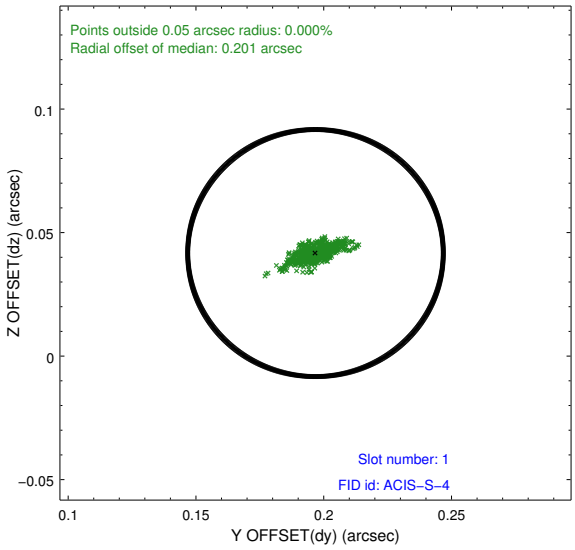


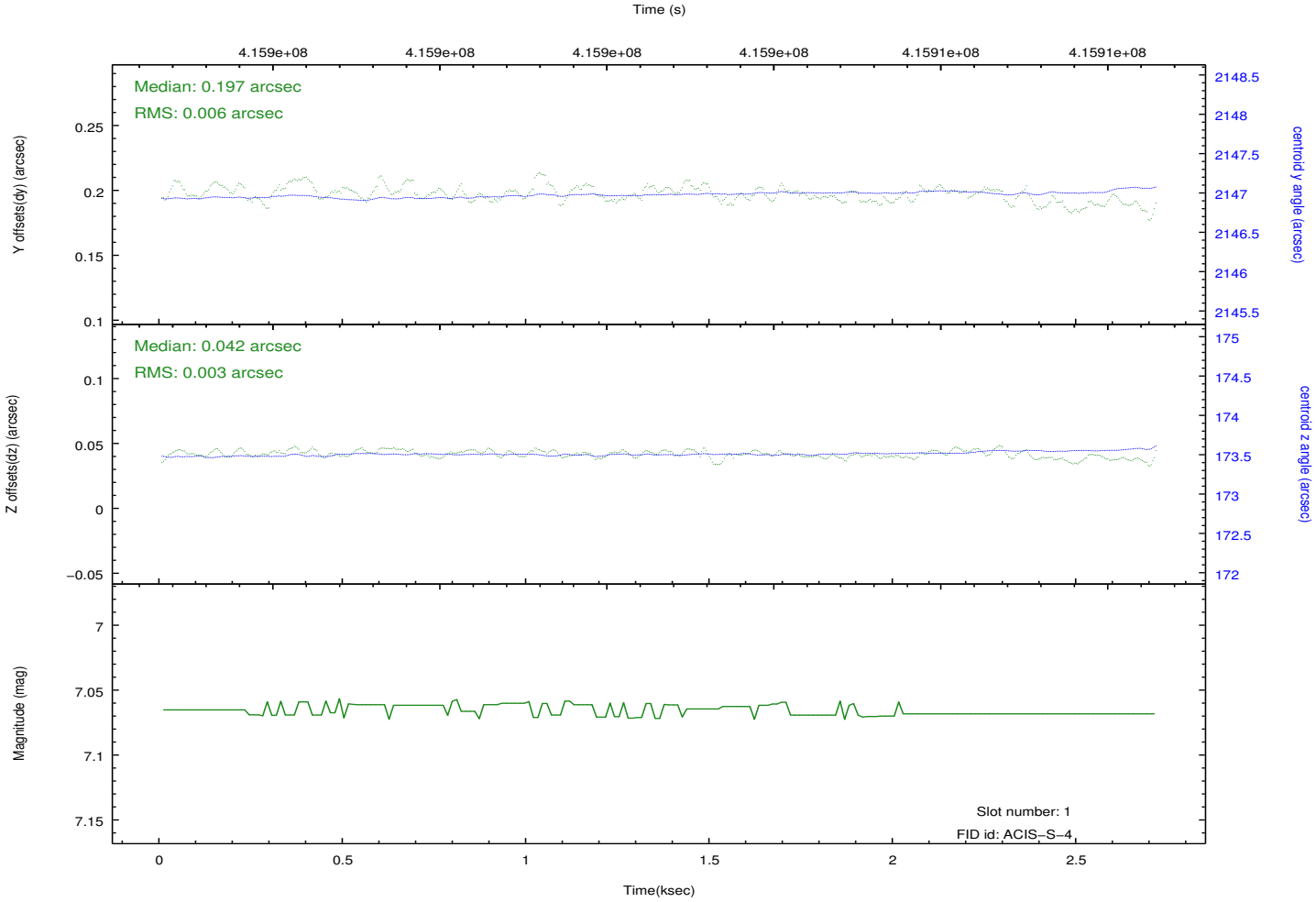




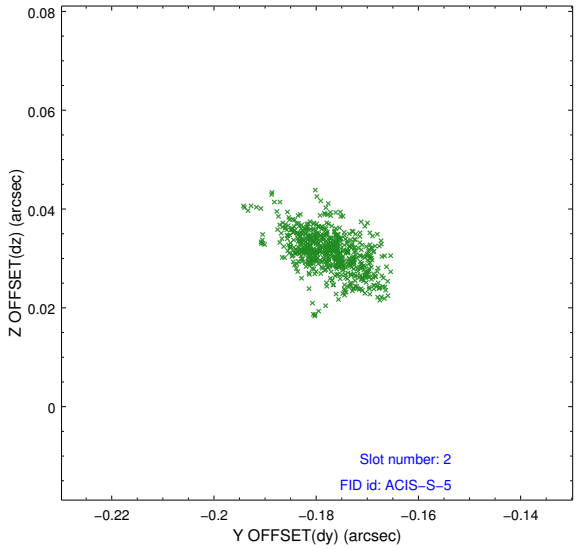
2.5.2 Slot 1

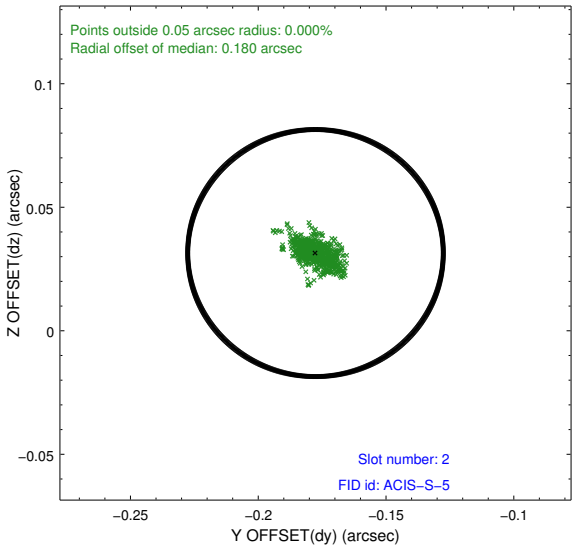

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4

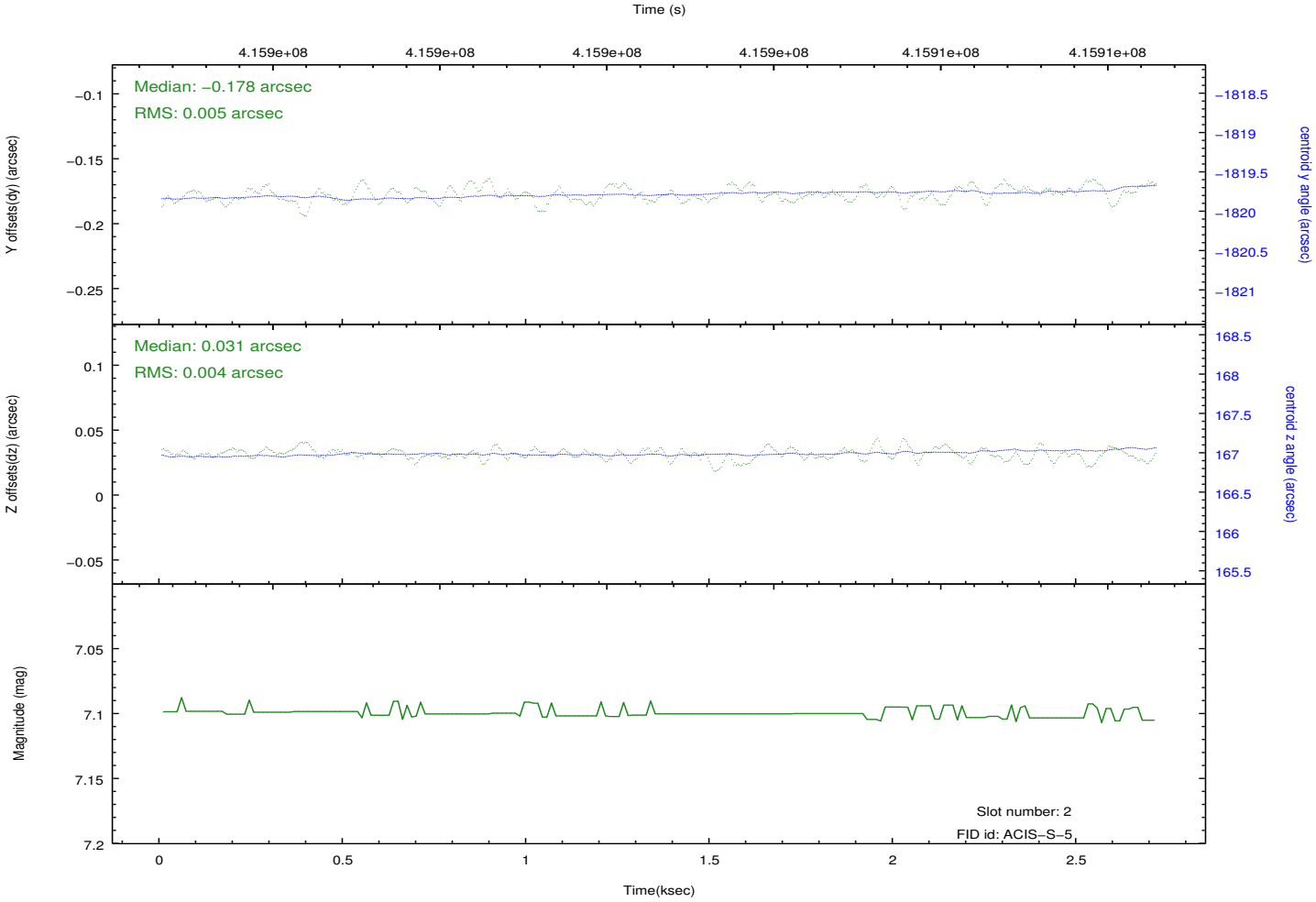

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.201 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4


Time (s)
Median: 0.197 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.042 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: 0.180 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−5


Time (s)
Median: −0.178 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.031 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)	2012.02.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	2.0360755822062

A.2 Comments

The data for this observation have been processed using the 'EDSER' sub-pixel event-repositioning algorithm of Li et al. (2004, ApJ, 610, 1204). Small-scale features should become sharper for sources near the aim point. The improvement will be less noticeable for off-axis sources where the size of the point-spread function is comparable to or larger than the size of an ACIS pixel. To take full advantage of the improvement, images should be binned on spatial scales smaller than the size of an ACIS pixel. Note that, at present, the point-spread function has not been calibrated for data to which the EDSER algorithm has been applied. If dither was disabled for the observation, then the algorithm can introduce artificial aliasing effects on spatial scales smaller than a pixel. If you would prefer to use no sub-pixel adjustment or to apply a coordinate randomization, then use acis_process_events to reprocess the data with the parameter pix_adj=NONE or RANDOMIZE, respectively.