V&V Reference Report
L2 ASCDS Version : 10.3.3

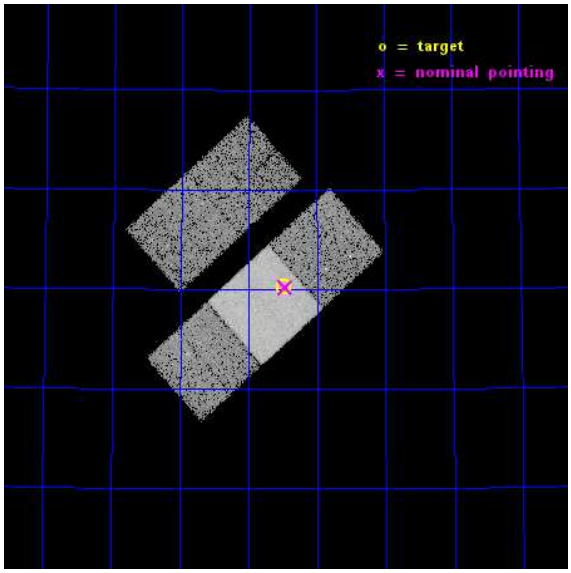
Observation 16118 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Feb 5 2015

Contents

1 Front

seq_num	703006	Sequence number
obs_id	16118	Observation id
title	A Pilot Search for Spatially Offset AGN in Galaxy Merger Remnants	
observer	Dr. Julia Comerford	Principal investigator
object	SDSS J111729.22+614015.2	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	169.37175	Observer's specified target RA [deg]
dec_targ	61.67089	Observer's specified target Dec [deg]
ra_nom	169.36538809932	Nominal RA [deg]
dec_nom	61.670069979557	Nominal Dec [deg]
roll_nom	138.26093635367	Nominal Roll [deg]
revision	2	Processing version of data
ontime	20035.300154209	Sum of GTIs [s]
livetime	19773.524207921	Livetime [s]
ontime2	20035.300154209	Sum of GTIs [s]
ontime3	20035.300154209	Sum of GTIs [s]
ontime6	20035.300154209	Sum of GTIs [s]
ontime7	20035.300154209	Sum of GTIs [s]
ontime8	20035.300154209	Sum of GTIs [s]
l2events	92752	Number of level 2 events

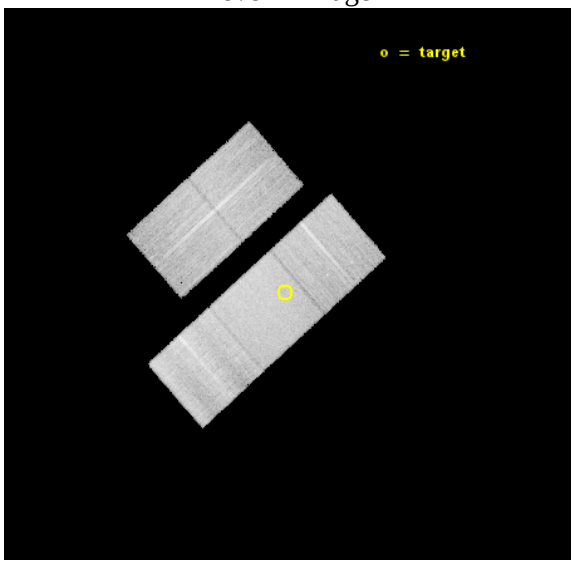


2 OBI

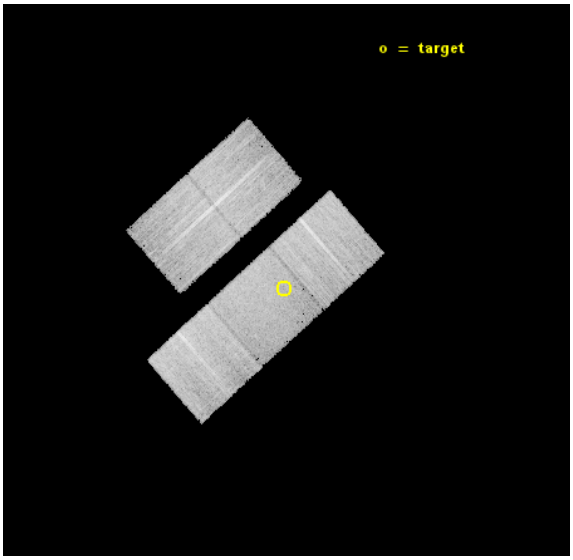
2.1 OBI

2.1.1 Images

Level 1 Image

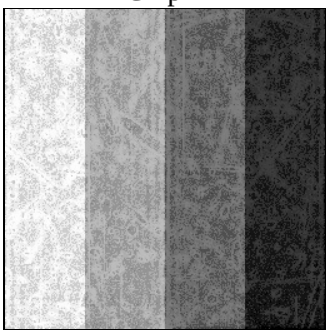


Level 1 Bad Events

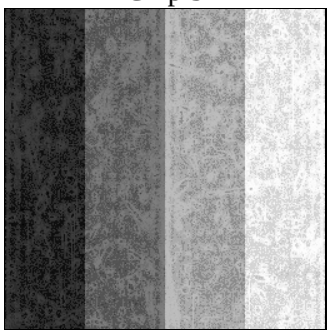


2.1.2 Bias

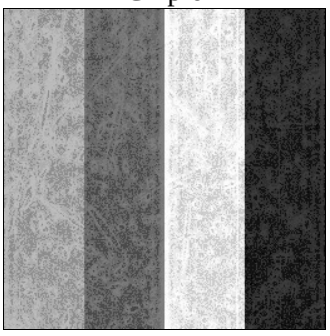
Chip 2



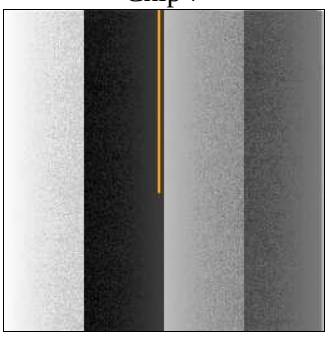
Chip 3



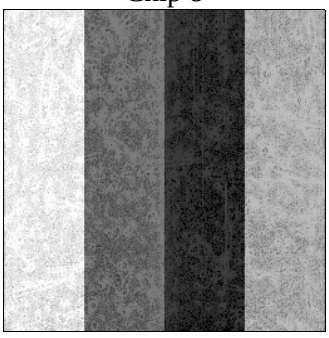
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	2	Obi number
ascdsver	10.3.3	Processing system revision
caldbver	4.6.6	
date	2015-02-05T20:20:11	Date and time of file creation
revision	2	Processing version of data

sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ontime	20035.300154209	Sum of GTIs [s]
ontime2	20035.300154209	Sum of GTIs [s]
ontime3	20035.300154209	Sum of GTIs [s]
ontime6	20035.300154209	Sum of GTIs [s]
ontime7	20035.300154209	Sum of GTIs [s]
ontime8	20035.300154209	Sum of GTIs [s]
l1events	545465	Number of level 1 events

2.1.4 Events

	ccd 2	**ccd 3**	**ccd 6**	**ccd 7**	**ccd 8**
level 1 events	94169	92998	102260	130123	125915
rejected events	84004	82808	90421	75302	94912
rejected %	89%	89%	88%	57%	75%

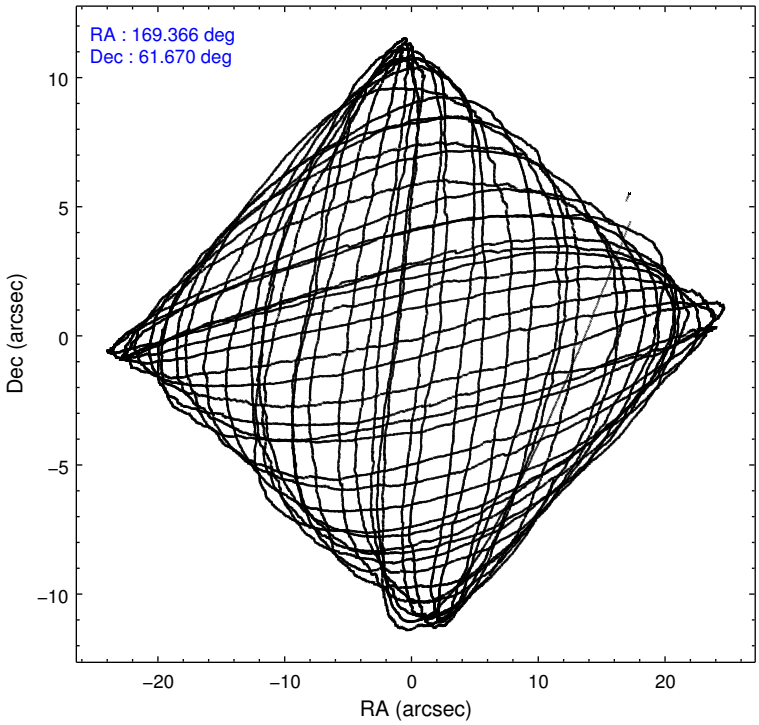
	ccd 2	**ccd 3**	**ccd 6**	**ccd 7**	**ccd 8**
grade 0 events	3563	3358	4001	4477	8775
	3%	3%	3%	3%	6%
grade 1 events	52	65	50	168	79
	0%	0%	0%	0%	0%
grade 2 events	2370	2309	2705	11384	7465
	2%	2%	2%	8%	5%
grade 3 events	1079	1122	1158	4345	3317
	1%	1%	1%	3%	2%
grade 4 events	1099	1126	1145	4139	3125
	1%	1%	1%	3%	2%
grade 5 events	4028	4991	4855	12770	7040
	4%	5%	4%	9%	5%
grade 6 events	2056	2276	2831	30485	8323
	2%	2%	2%	23%	6%
grade 7 events	79922	77751	85515	62355	87791
	84%	83%	83%	47%	69%

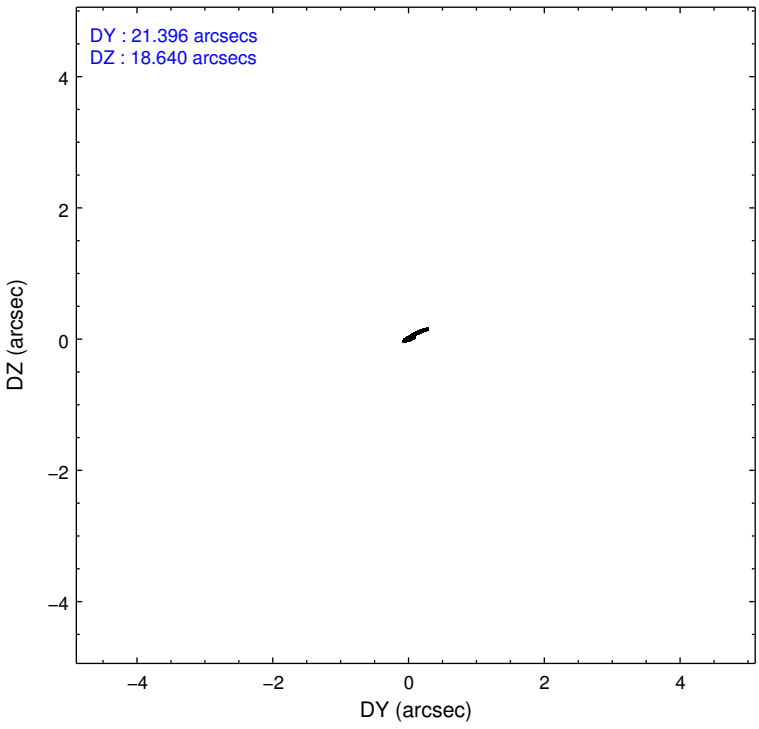
2.2 Compared Parameters

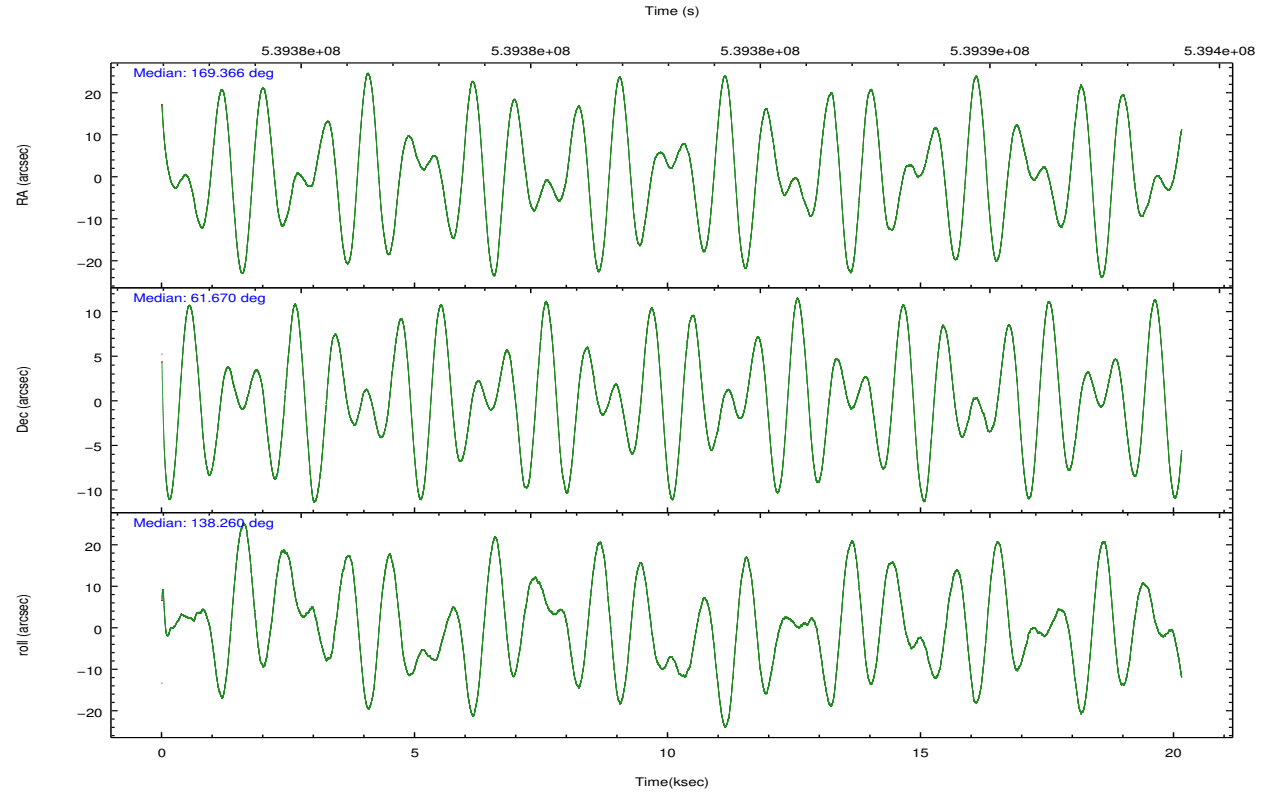
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-23678	ACIS-23678
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	169.422159	169.3653880993175
[deg] Pointing Dec	61.664857	61.6700699795572
[deg] Pointing Roll	138.054318	138.2609363536704
[mm] SIM 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)	539373155.184000	539371860.50216
Observation start date	2015-02-03T17:51:28	2015-02-03T17:31:00
[s] Observation end time (MET)	539393155.184000	539393917.9909
Observation end date	2015-02-03T23:24:48	2015-02-03T23:38:37
Read mode	TIMED	TIMED

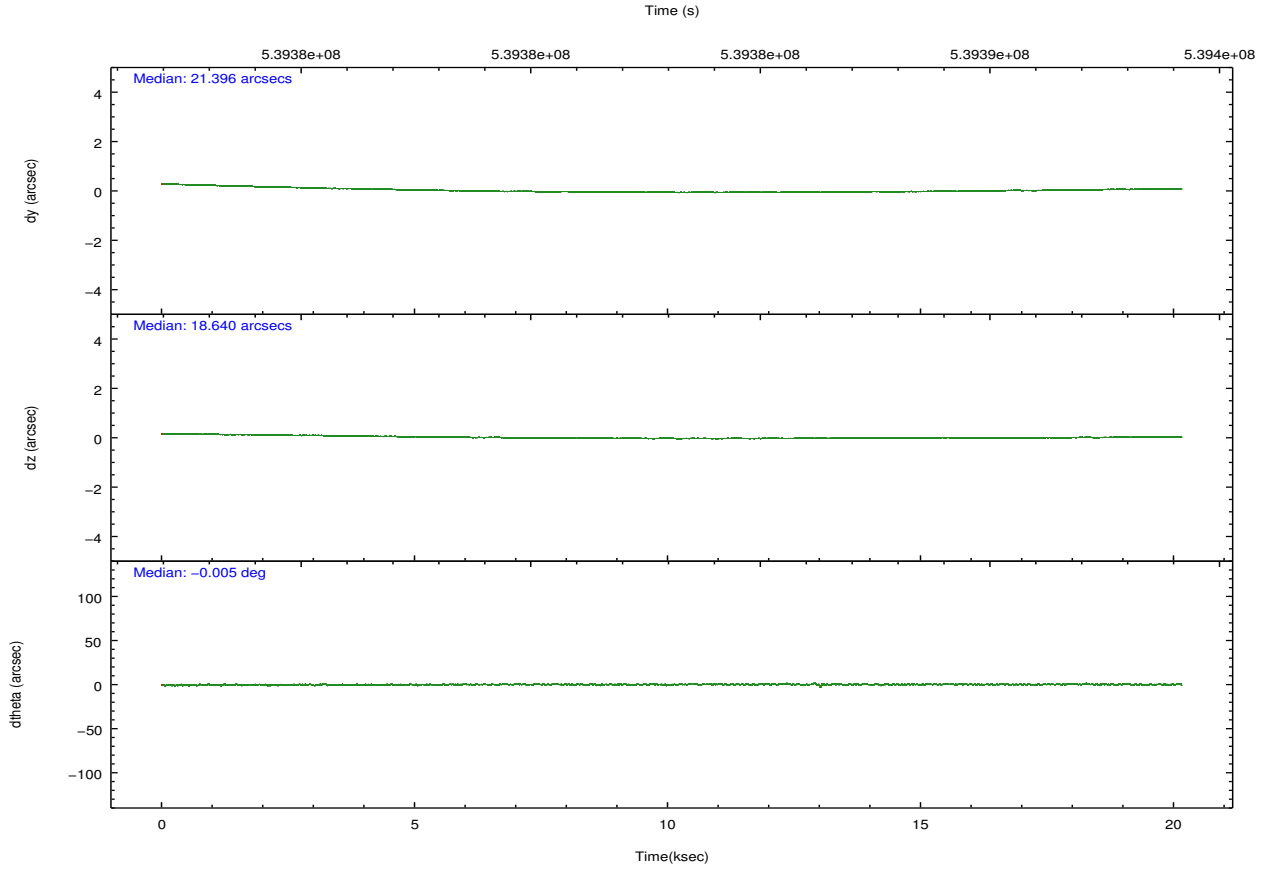
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	O1	Y
CCD I3 on	O4	Y
CCD S0 on	N	N
CCD S1 on	N	N
CCD S2 on	O2	Y
CCD S3 on	Y	Y
CCD S4 on	O3	Y
CCD S5 on	N	N
Number of optional ACIS chips dropped	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 : 169.366 deg
Dec : 61.670 deg
10
5
0
−5
−10
Dec (arcsec)
−20
−10
0
10
20
RA (arcsec)


DY : 21.396 arcsecs
DZ : 18.640 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
5.3938e+08
5.3938e+08
5.3938e+08
5.3939e+08
5.394e+08
Median: 169.366 deg
RA (arcsec)
Median: 61.670 deg
Dec (arcsec)
Median: 138.260 deg
roll (arcsec)
Time(ksec)

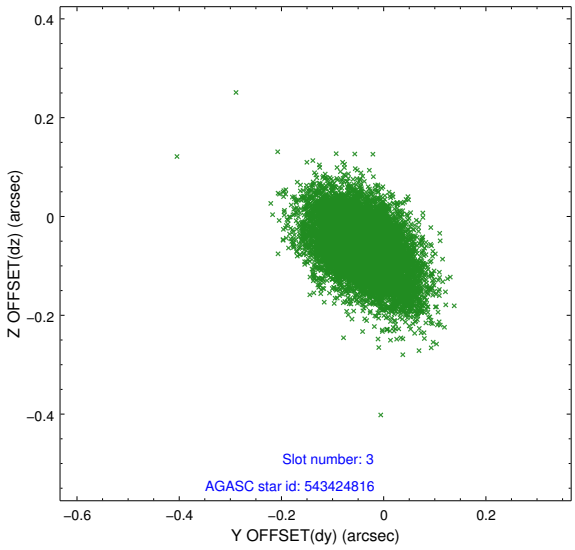

Time (s)
5.3938e+08
5.3938e+08
5.3938e+08
5.3939e+08
5.394e+08
Median: 21.396 arcsecs
dy (arcsec)
Median: 18.640 arcsecs
dz (arcsec)
Median: −0.005 deg
dtheta (arcsec)
Time(ksec)

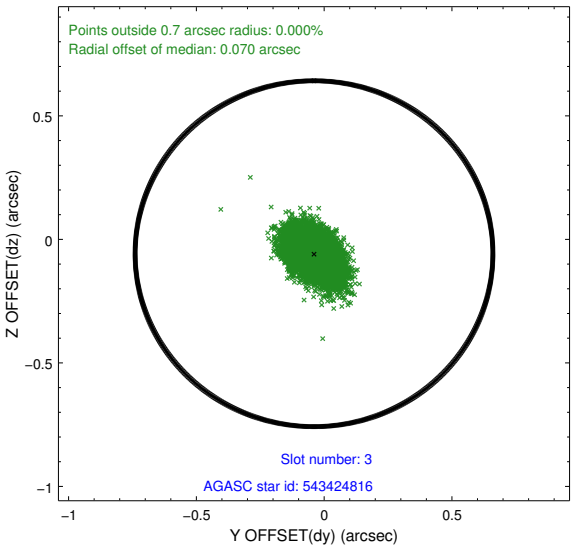
Slot Statistics

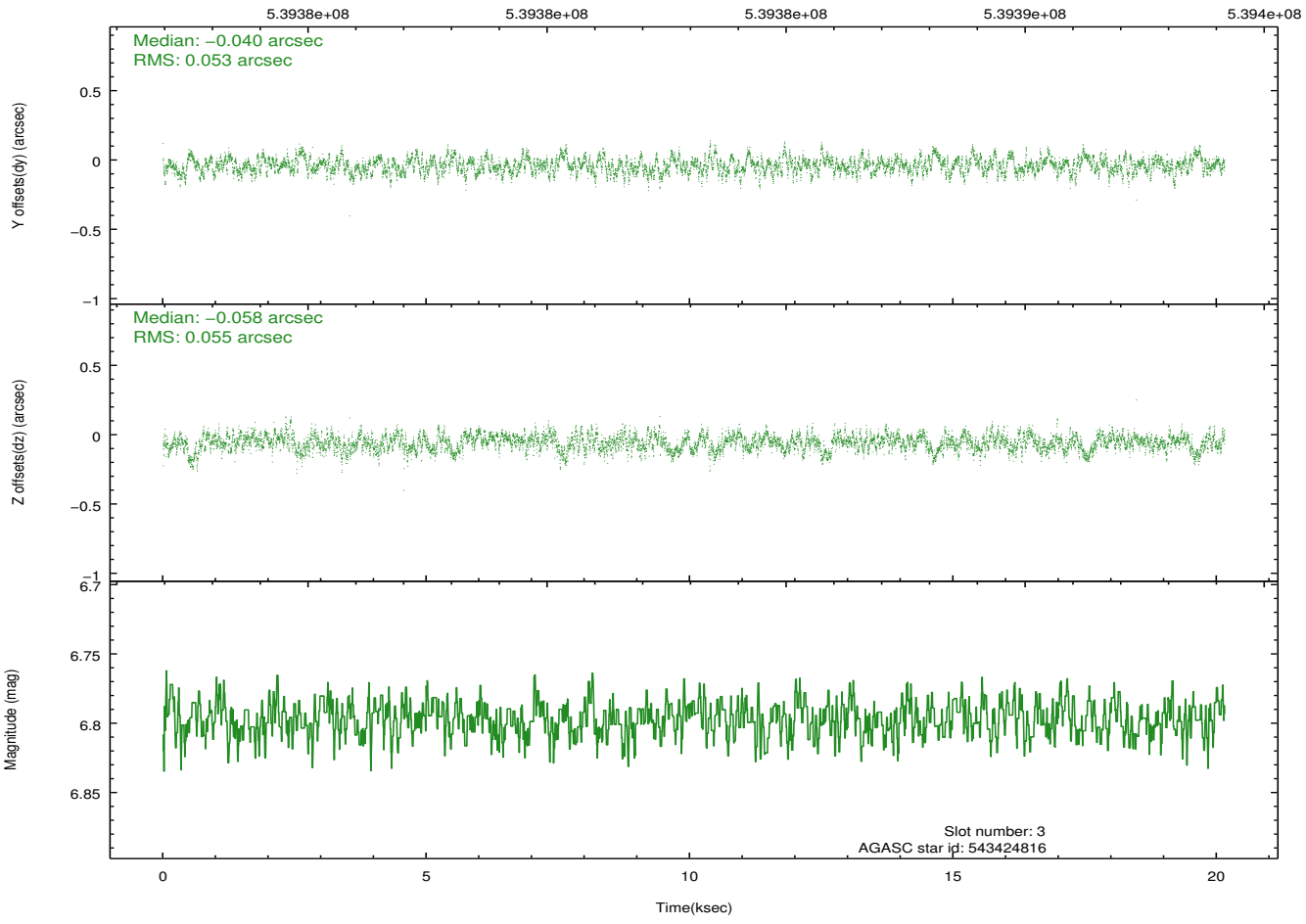
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-4	7.21	4915	0.311	0.020	0.006	0.010	0.000000	0.000000	2139.09	168.61
1	FID		ACIS-S-5	7.22	4916	-0.316	0.021	0.006	0.010	0.000000	0.000000	-1827.49	162.08
2	FID		ACIS-S-6	7.34	4916	-0.024	-0.027	0.007	0.012	0.000000	0.000000	386.81	805.79
3	GUIDE	used	543424816	6.80	9832	-0.040	-0.058	0.079	0.136	169.764722	62.182676	820.27	-1772.05
4	GUIDE	used	543424840	8.80	9825	-0.058	0.186	0.087	0.142	168.898359	62.146615	1817.42	-703.60
5	GUIDE	used	543427168	9.32	9823	0.254	0.134	0.128	0.204	171.258775	61.724220	-2156.10	-2284.82
6	GUIDE	used	543429480	9.19	9821	-0.391	-0.366	0.140	0.235	169.077940	61.802834	768.40	20.30
7	GUIDE	used	543425216	9.28	9823	0.243	0.109	0.128	0.207	170.458034	61.258948	-2300.12	-122.09

2.4 Star Slots

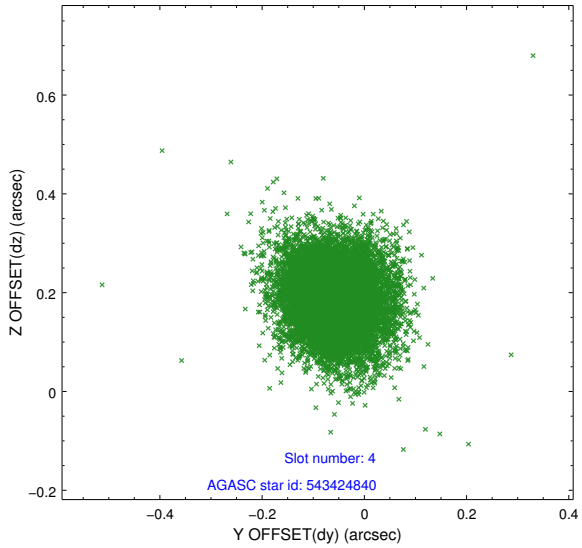
2.4.1 Slot 3

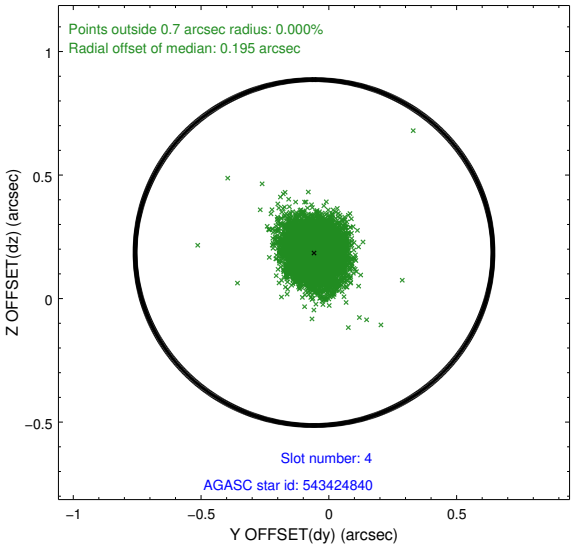


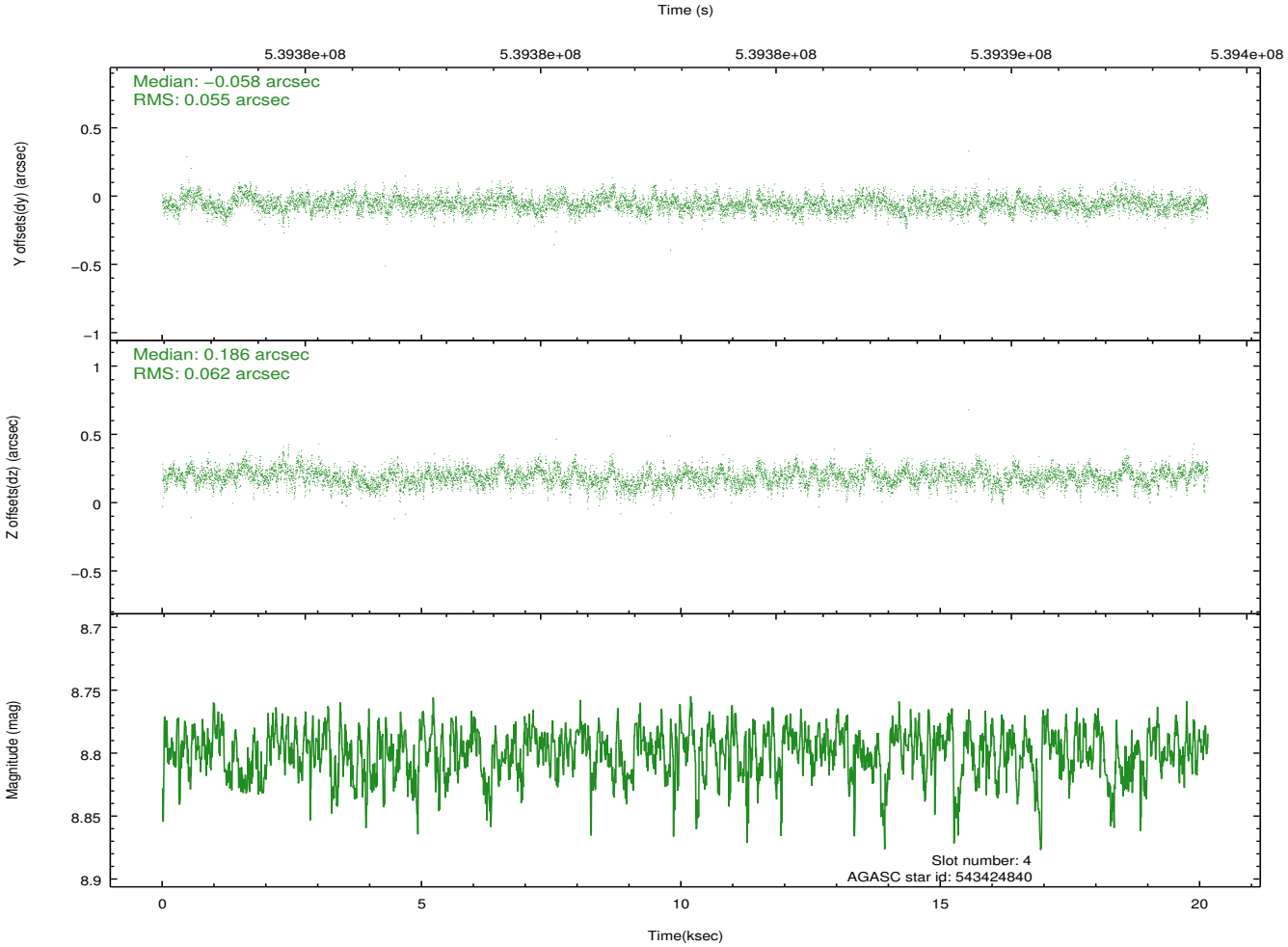




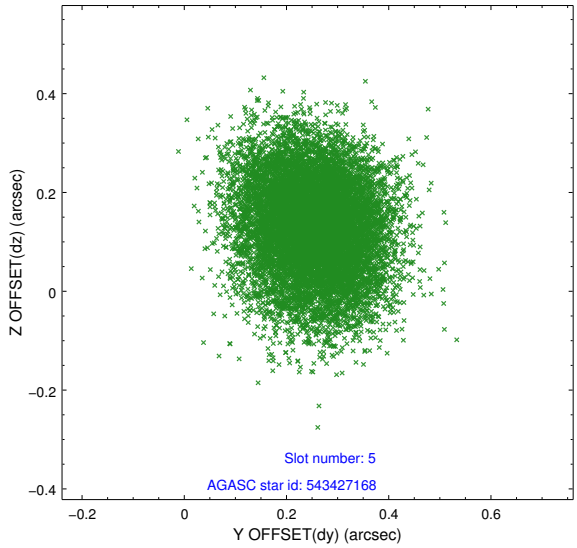
2.4.2 Slot 4

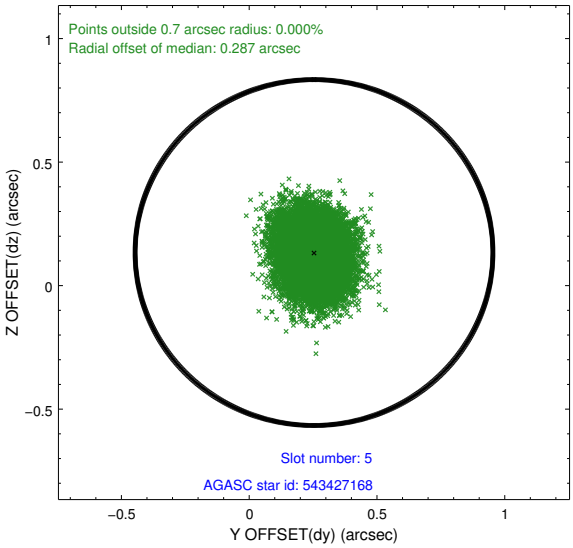

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 543424840

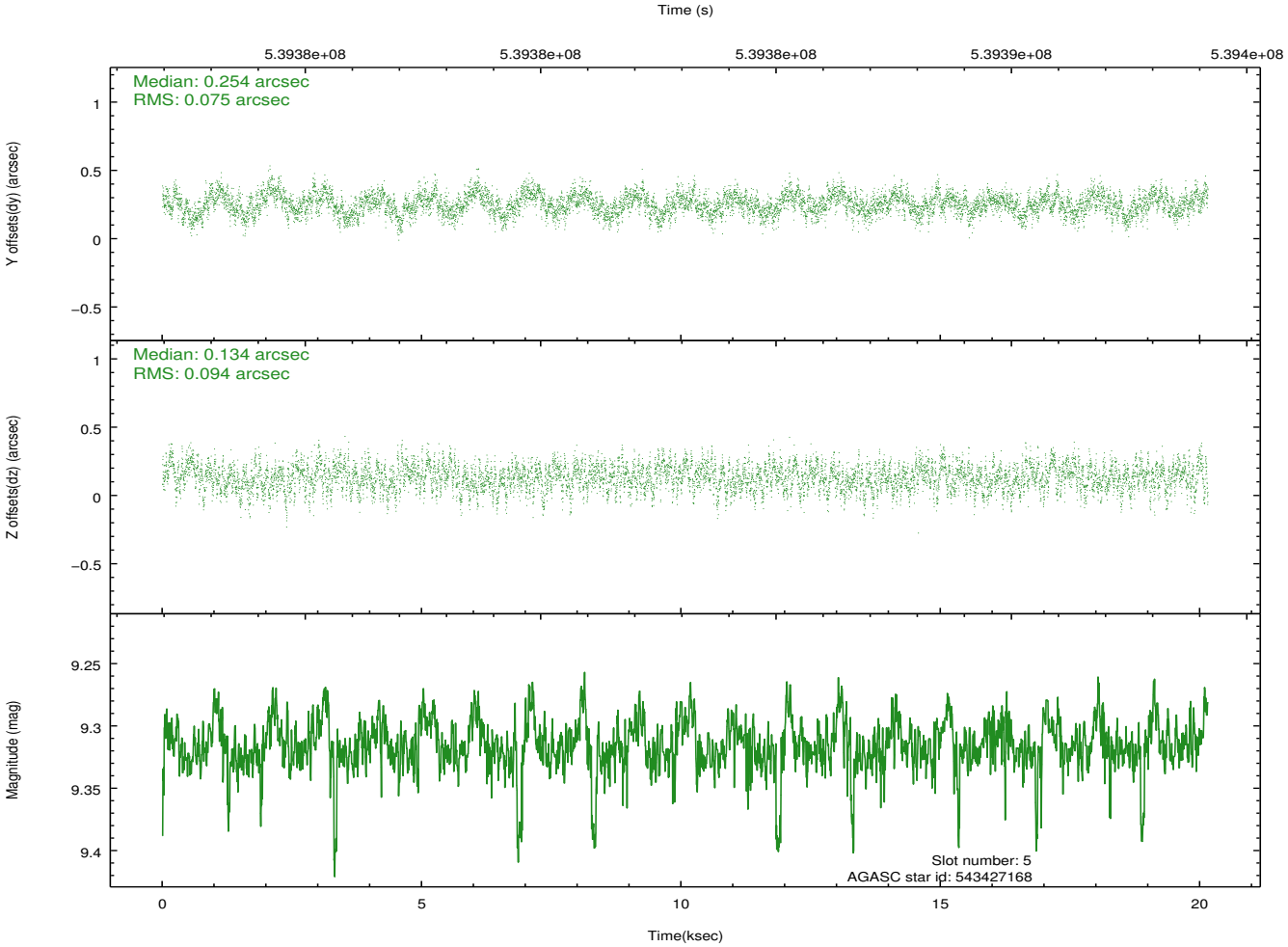

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.195 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 543424840


Time (s)
Median: −0.058 arcsec
RMS: 0.055 arcsec
Y offsets(dy) (arcsec)
Median: 0.186 arcsec
RMS: 0.062 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 543424840
Time(ksec)

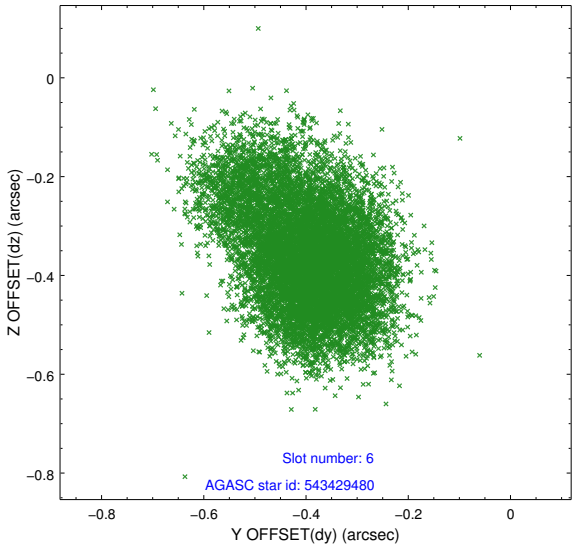
2.4.3 Slot 5

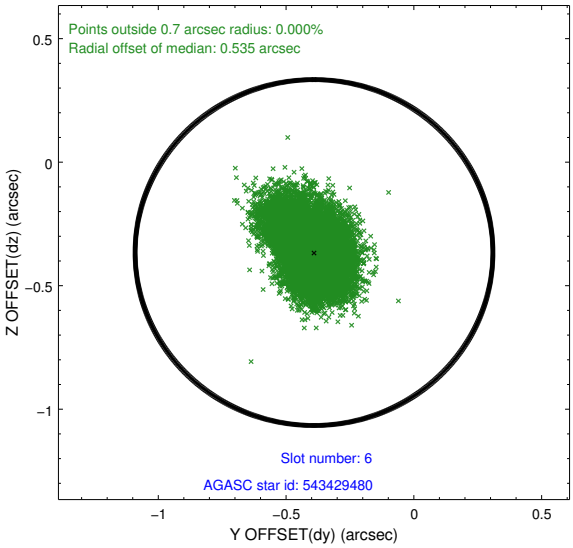

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 543427168

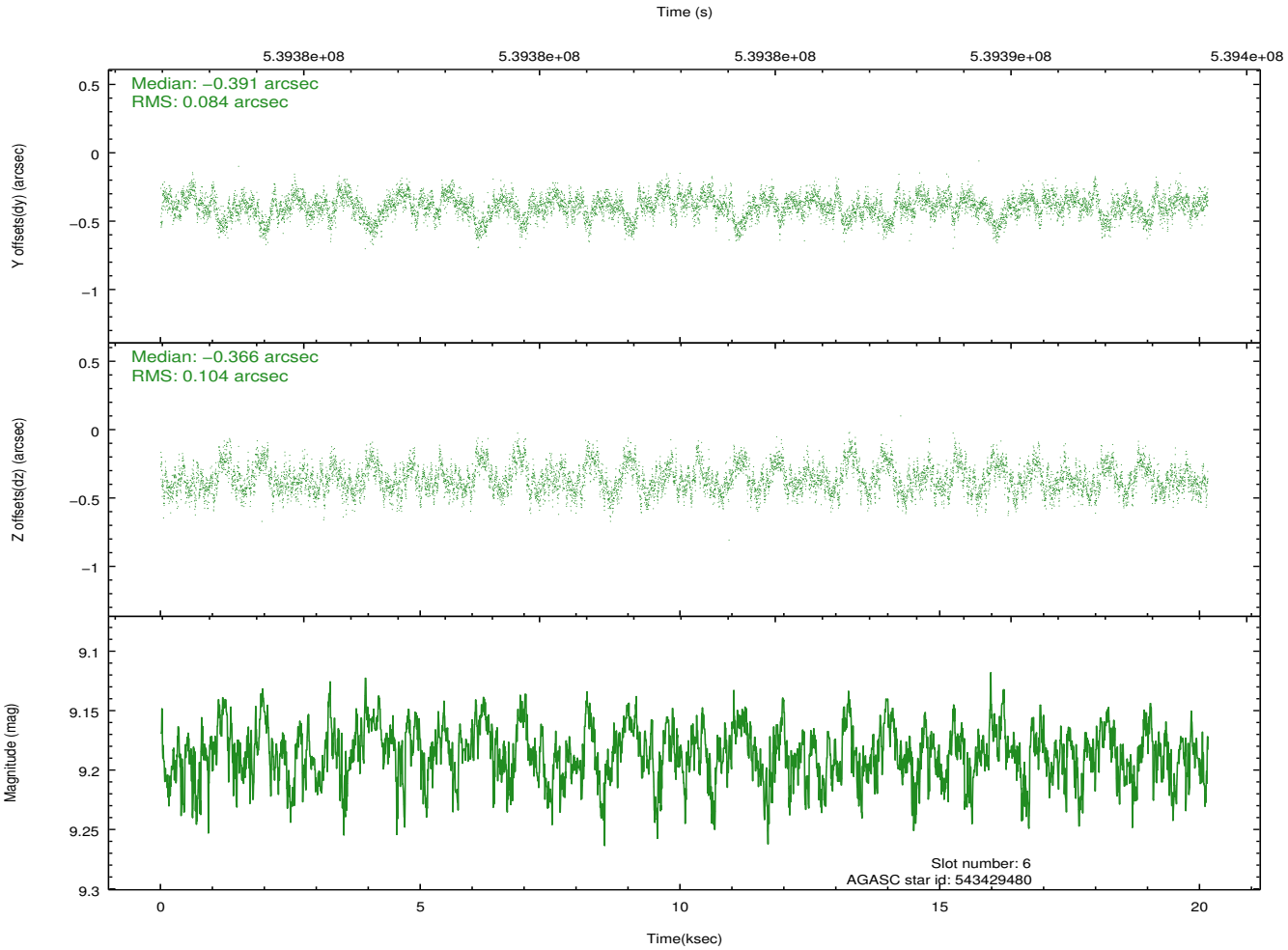

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.287 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 543427168


Time (s)
Median: 0.254 arcsec
RMS: 0.075 arcsec
Y offsets(dy) (arcsec)
Median: 0.134 arcsec
RMS: 0.094 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 543427168
Time(ksec)

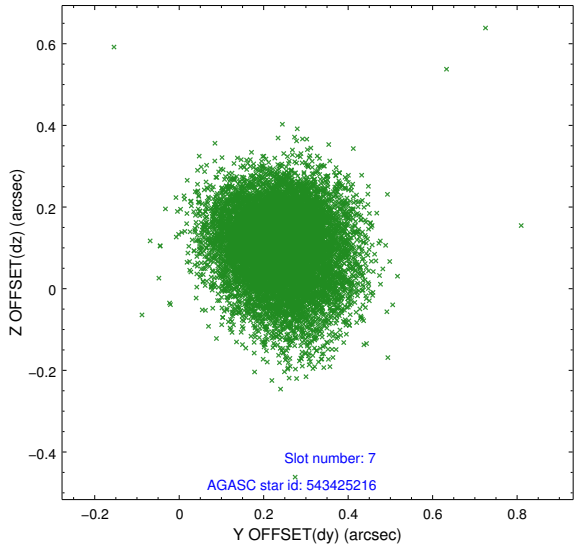
2.4.4 Slot 6

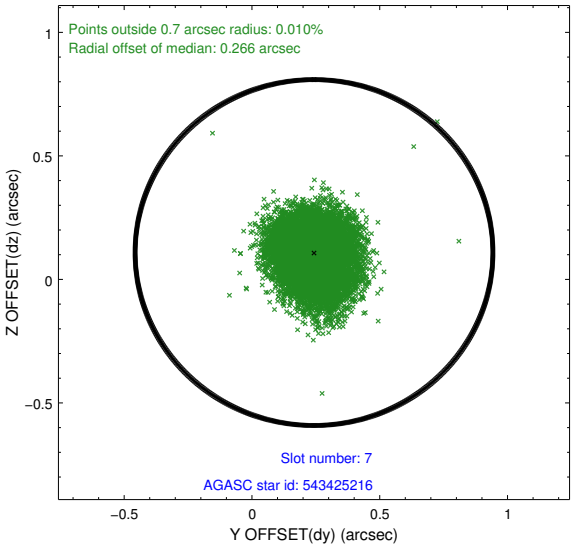

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 543429480

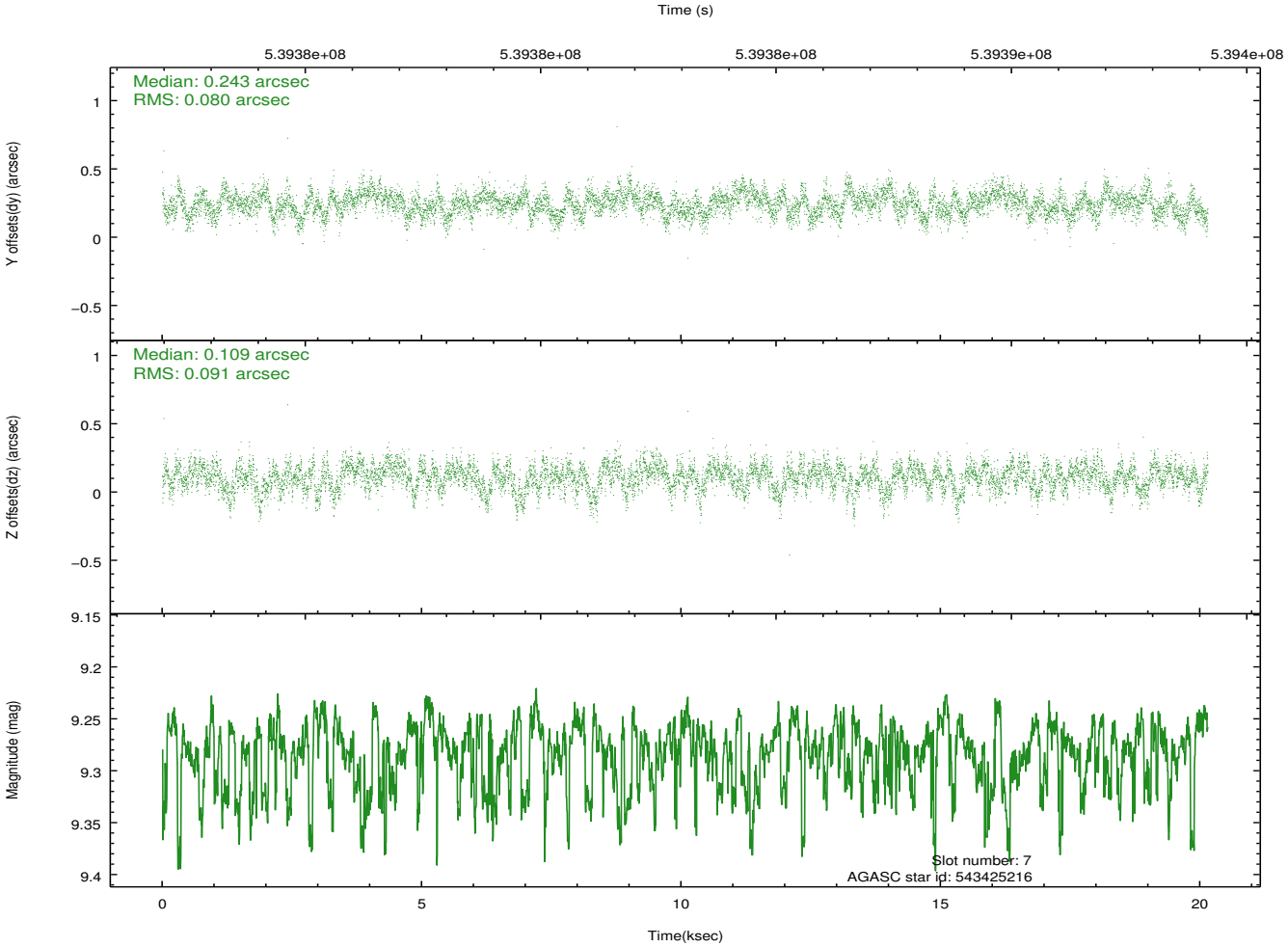

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.535 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 543429480


Time (s)
Median: −0.391 arcsec
RMS: 0.084 arcsec
Y offsets(dy) (arcsec)
Median: −0.366 arcsec
RMS: 0.104 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 543429480
Time(ksec)

2.4.5 Slot 7

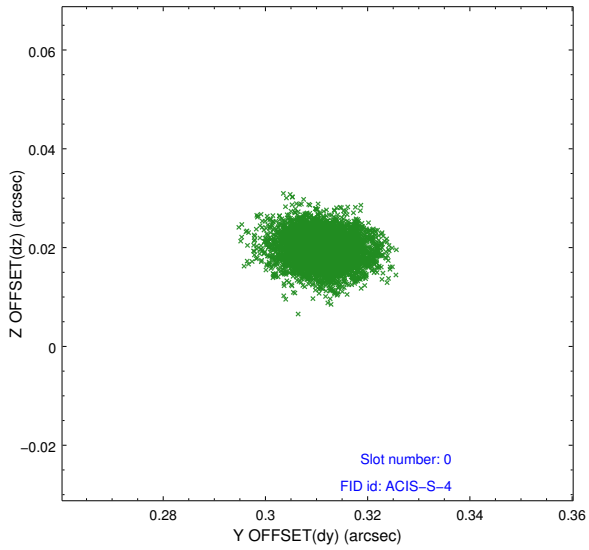

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 543425216

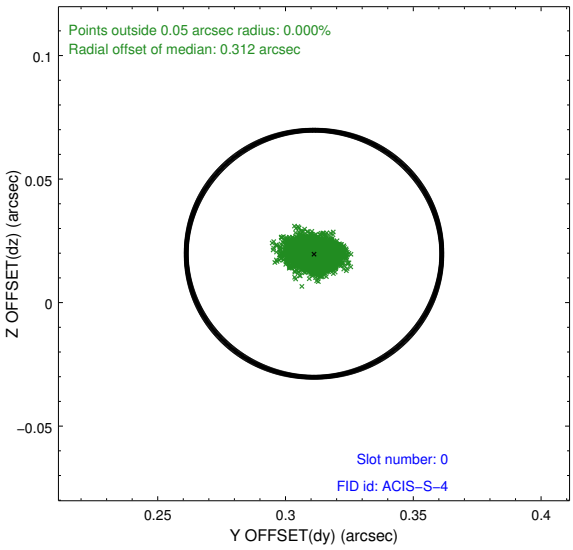

Points outside 0.7 arcsec radius: 0.010%
Radial offset of median: 0.266 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 543425216

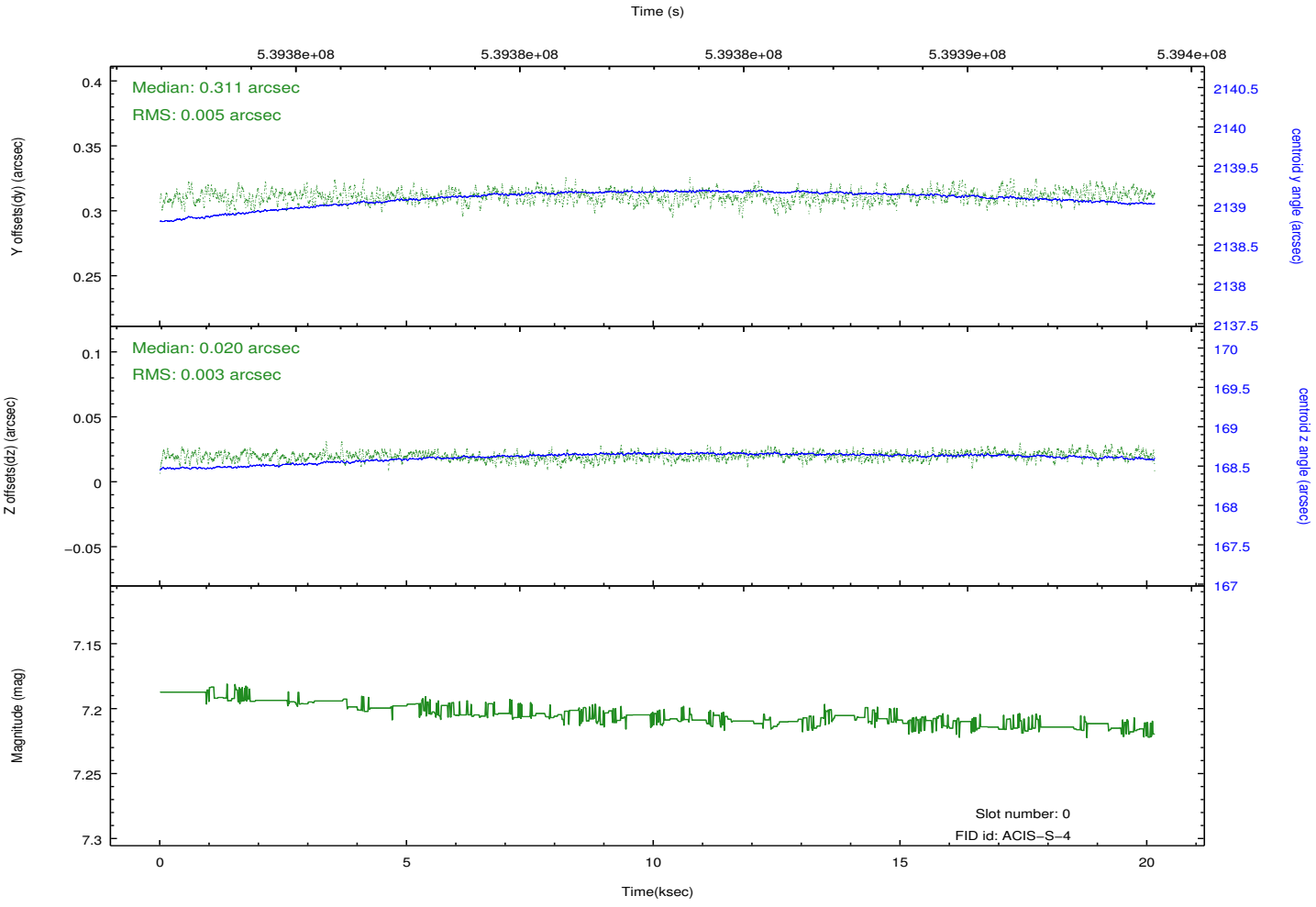

Time (s)
Median: 0.243 arcsec
RMS: 0.080 arcsec
Y offsets(dy) (arcsec)
Median: 0.109 arcsec
RMS: 0.091 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 543425216
Time(ksec)

2.5 FID Slots

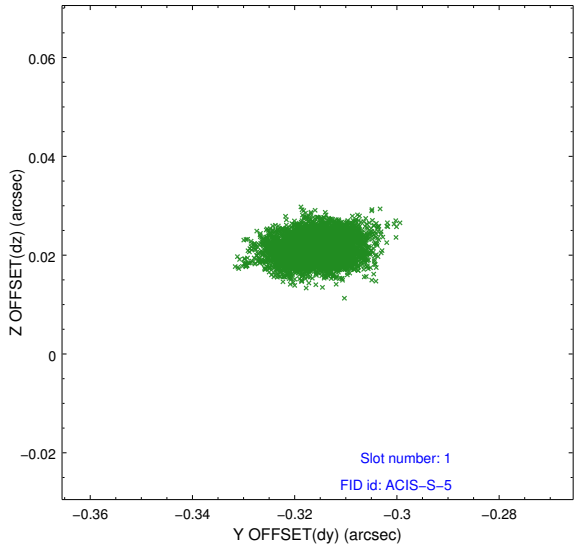
2.5.1 Slot 0

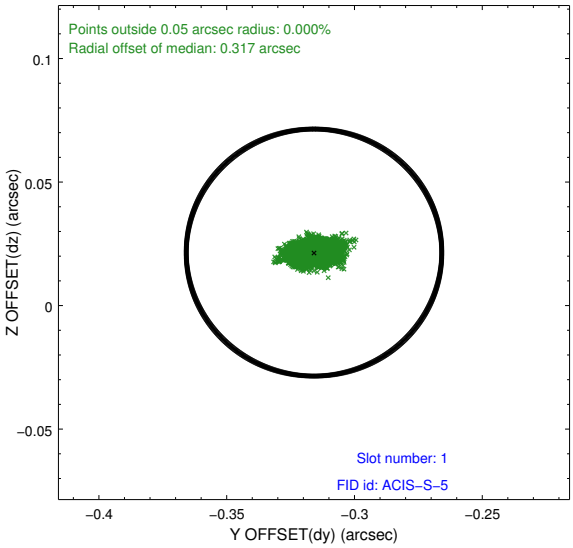


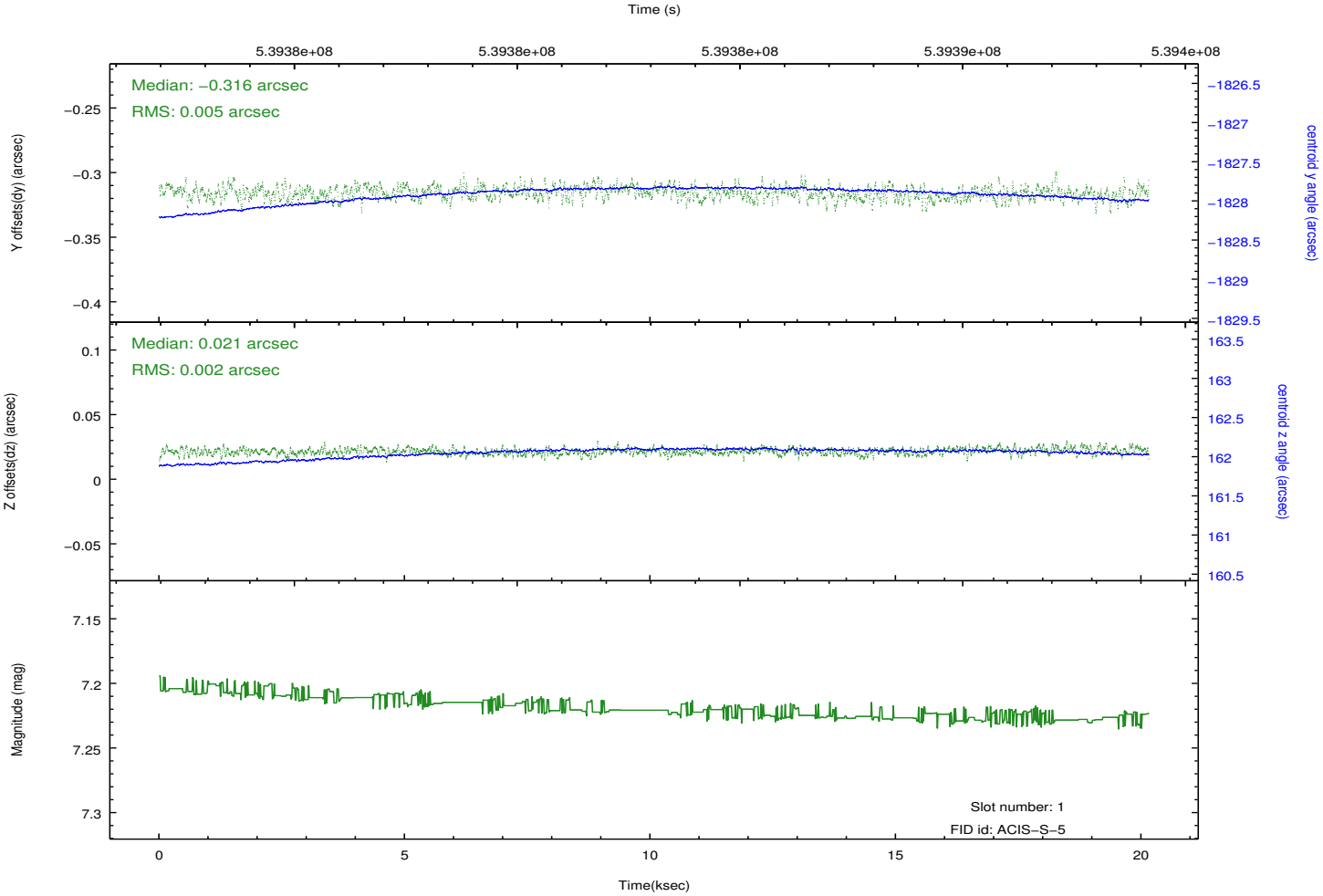




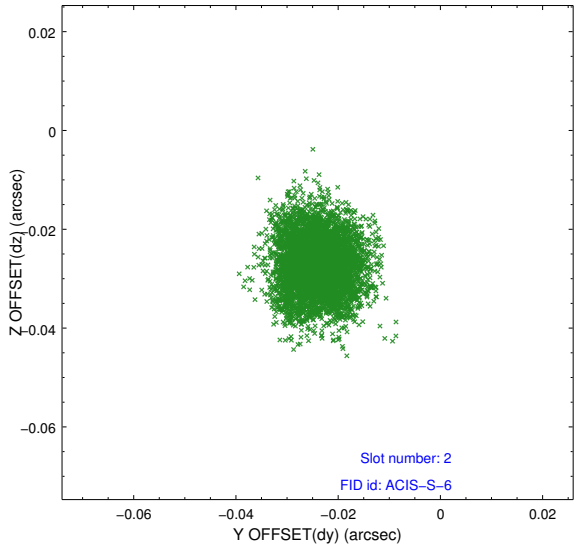
2.5.2 Slot 1

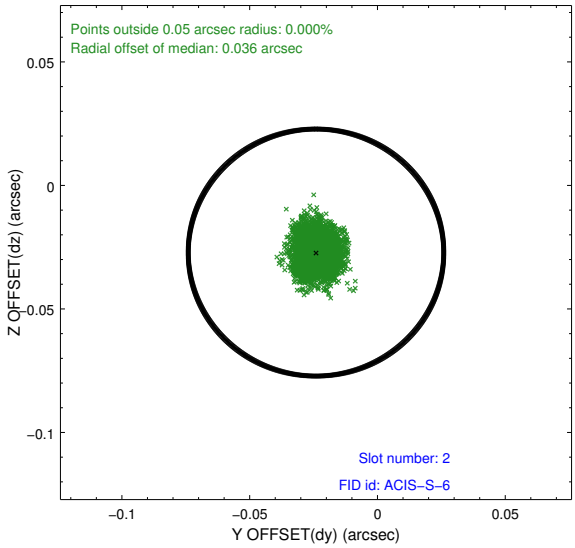

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−5

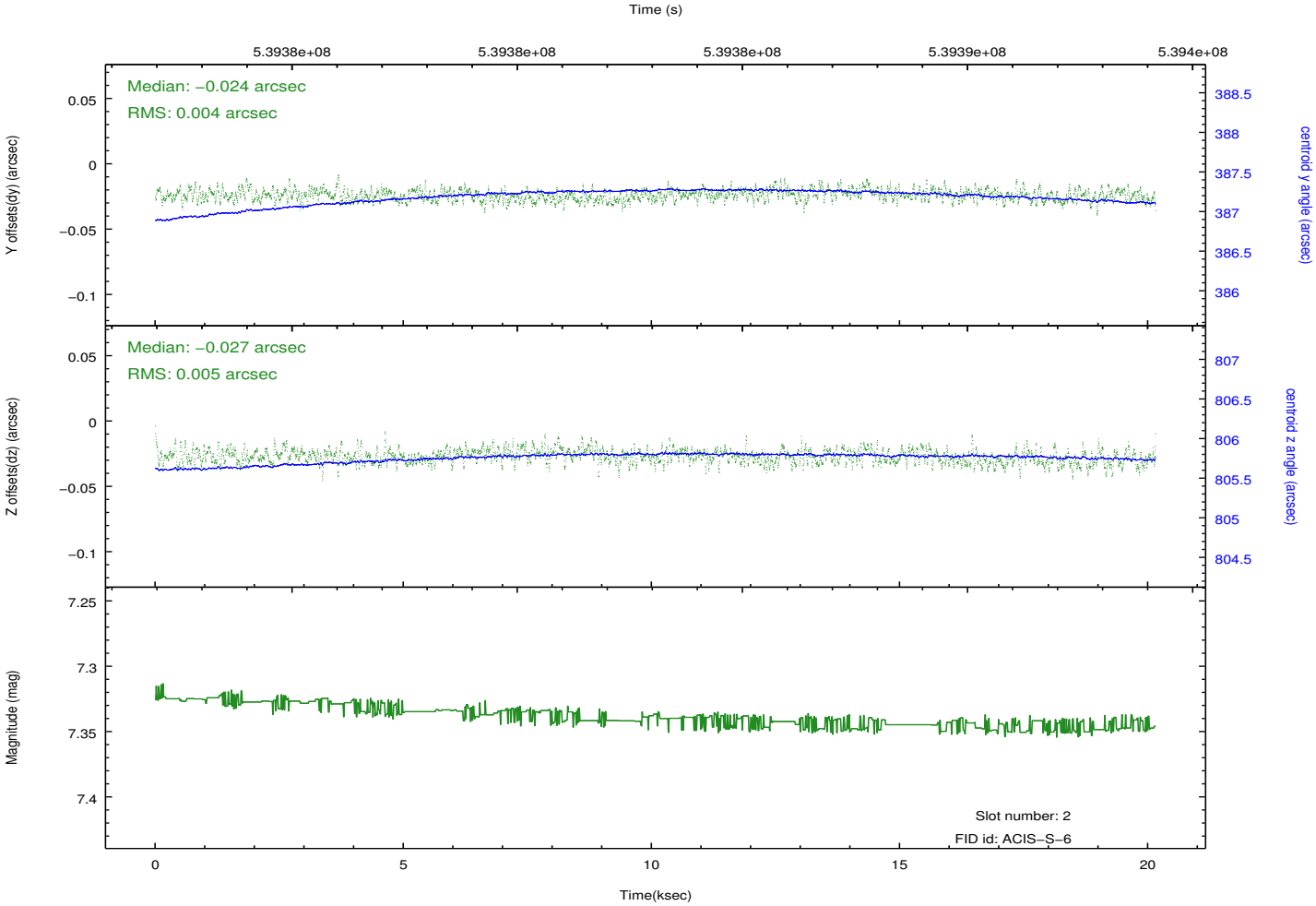

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.317 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−5


Time (s)
Median: −0.316 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.021 arcsec
RMS: 0.002 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: ACIS−S−5
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: 0.036 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−6


Time (s)
Median: −0.024 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.027 arcsec
RMS: 0.005 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)	2015.02.06
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.035300154209

A.2 Comments

```
Joint proposal with HST.
A spatial region of the original bias map for CCD = 6 suffered from
anomalously high data values. Pixels in the event data that were
bias-corrected by one of the original affected bias pixels may have
an apparent energy shift. While the change in energy is expected to be
small (~20 eV), it depends on many parameters that have not yet been
fully explored for this bias anomaly. The bias map for CCD = 6 has
been reconstructed for this processing to remove this anomaly using
scaled data from a comparable bias map from another observation.
The pixels affected by the anomaly are bounded by sky coords:
(169.02161, 61.72473), (169.03090, 61.72085), (169.10930, 61.76291),
(169.09313, 61.76311).
```