V&V Reference Report
L2 ASCDS Version : 8.4.4

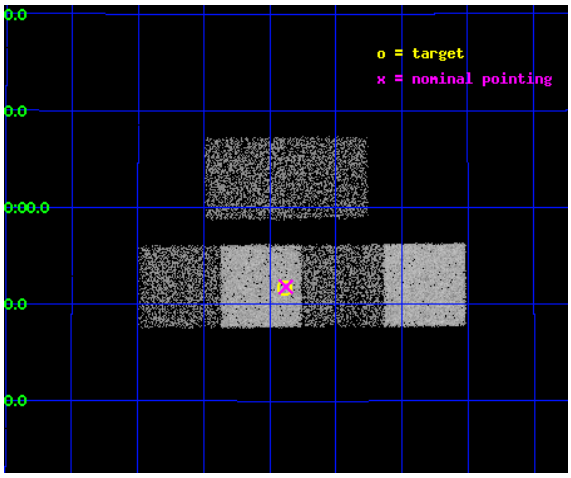
Observation 8164 - L2 Version 3
Chandra X-Ray Center

L2 Processing Date : May 3 2012

Contents

1 Front

seq_num	900705	Sequence number
obs_id	8164	Observation id
title	ChICAGO GTO: Chandra Identification of Compact ASCA Galactic Objects	
observer	Dr. Stephen Murray	Principal investigator
object	AX J194152+2251	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	295.470833	Observer's specified target RA [deg]
dec_targ	22.862	Observer's specified target Dec [deg]
ra_nom	295.46956825119	Nominal RA [deg]
dec_nom	22.863445311259	Nominal Dec [deg]
roll_nom	179.5638724911	Nominal Roll [deg]
revision	3	Processing version of data
ontime	2748.7999898195	Sum of GTIs [s]
livetime	2713.9930292198	Livetime [s]
ontime2	2748.7999898195	Sum of GTIs [s]
ontime3	2748.7999898195	Sum of GTIs [s]
ontime5	2748.7999898195	Sum of GTIs [s]
ontime6	2748.7999898195	Sum of GTIs [s]
ontime7	2748.7999898195	Sum of GTIs [s]
ontime8	2748.7999898195	Sum of GTIs [s]
l2events	42973	Number of level 2 events

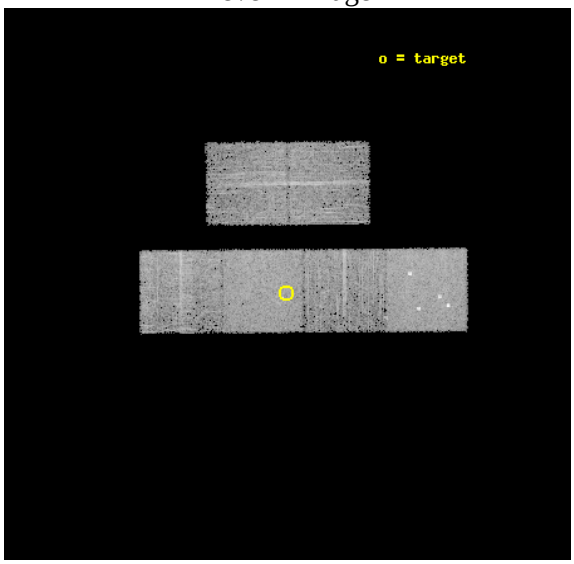


2 OBI

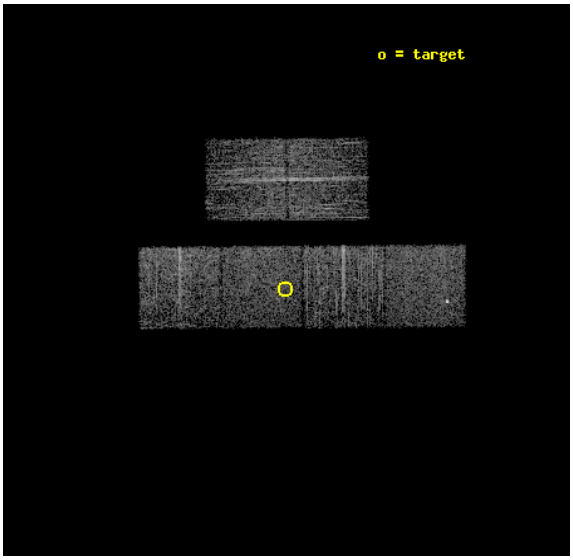
2.1 OBI

2.1.1 Images

Level 1 Image

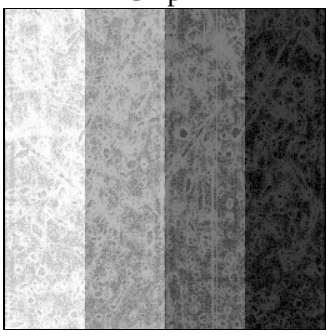


Level 1 Bad Events

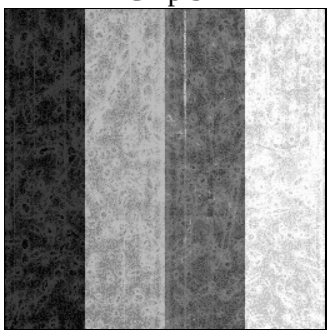


2.1.2 Bias

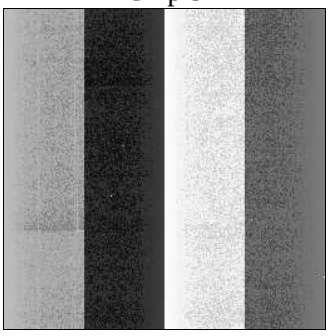
Chip 2



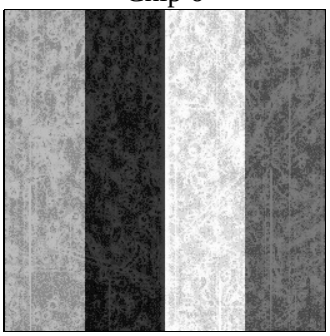
Chip 3



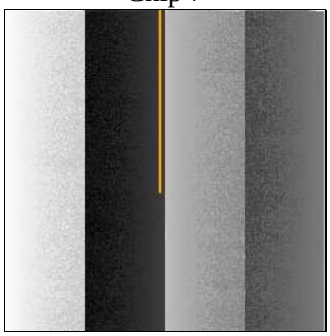
Chip 5



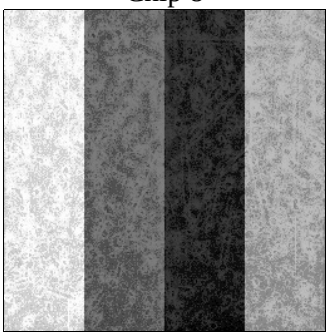
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	8.4.4	Processing system revision
caldbver	4.4.9	
date	2012-05-03T15:53:58	Date and time of file creation
revision	3	Processing version of data

sched_exp_time	2800.000000	[s] Scheduled observation exposure time
ontime	2748.7999898195	Sum of GTIs [s]
ontime2	2748.7999898195	Sum of GTIs [s]
ontime3	2748.7999898195	Sum of GTIs [s]
ontime5	2748.7999898195	Sum of GTIs [s]
ontime6	2748.7999898195	Sum of GTIs [s]
ontime7	2748.7999898195	Sum of GTIs [s]
ontime8	2748.7999898195	Sum of GTIs [s]
l1events	191219	Number of level 1 events

2.1.4 Events

	ccd 2	**ccd 3**	**ccd 5**	**ccd 6**	**ccd 7**	**ccd 8**
level 1 events	27220	26765	42315	27174	35676	32069
rejected events	24173	23651	22229	23958	20873	24954
rejected %	88%	88%	52%	88%	58%	77%

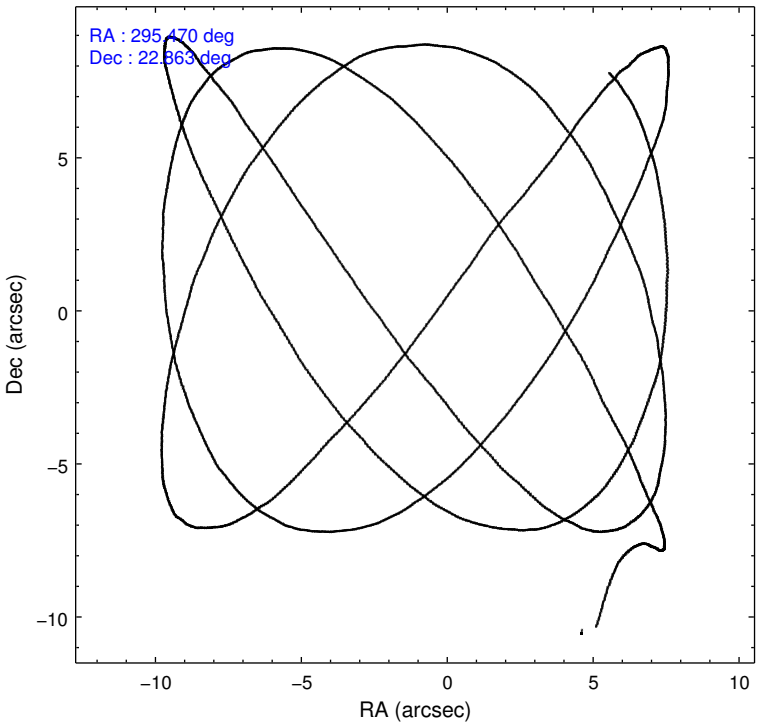
	ccd 2	**ccd 3**	**ccd 5**	**ccd 6**	**ccd 7**	**ccd 8**
grade 0 events	1404	1407	2982	1225	1237	2404
	5%	5%	7%	4%	3%	7%
grade 1 events	20	11	57	23	32	33
	0%	0%	0%	0%	0%	0%
grade 2 events	591	621	5915	747	2955	1547
	2%	2%	13%	2%	8%	4%
grade 3 events	283	291	608	274	1258	727
	1%	1%	1%	1%	3%	2%
grade 4 events	276	284	525	298	1204	677
	1%	1%	1%	1%	3%	2%
grade 5 events	1085	1142	2605	1143	3378	1572
	3%	4%	6%	4%	9%	4%
grade 6 events	500	518	10101	680	8183	1772
	1%	1%	23%	2%	22%	5%
grade 7 events	23061	22491	19522	22784	17429	23337
	84%	84%	46%	83%	48%	72%

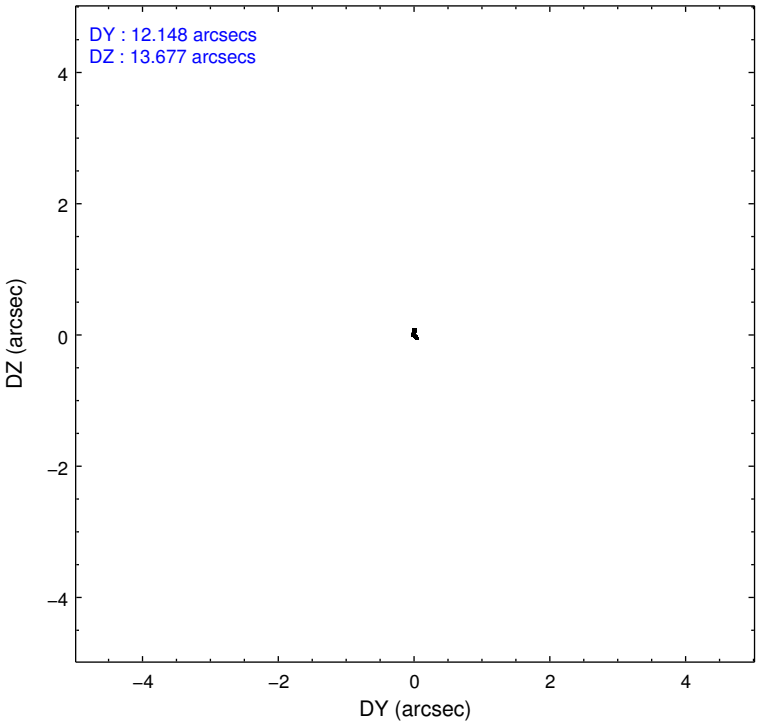
2.2 Compared Parameters

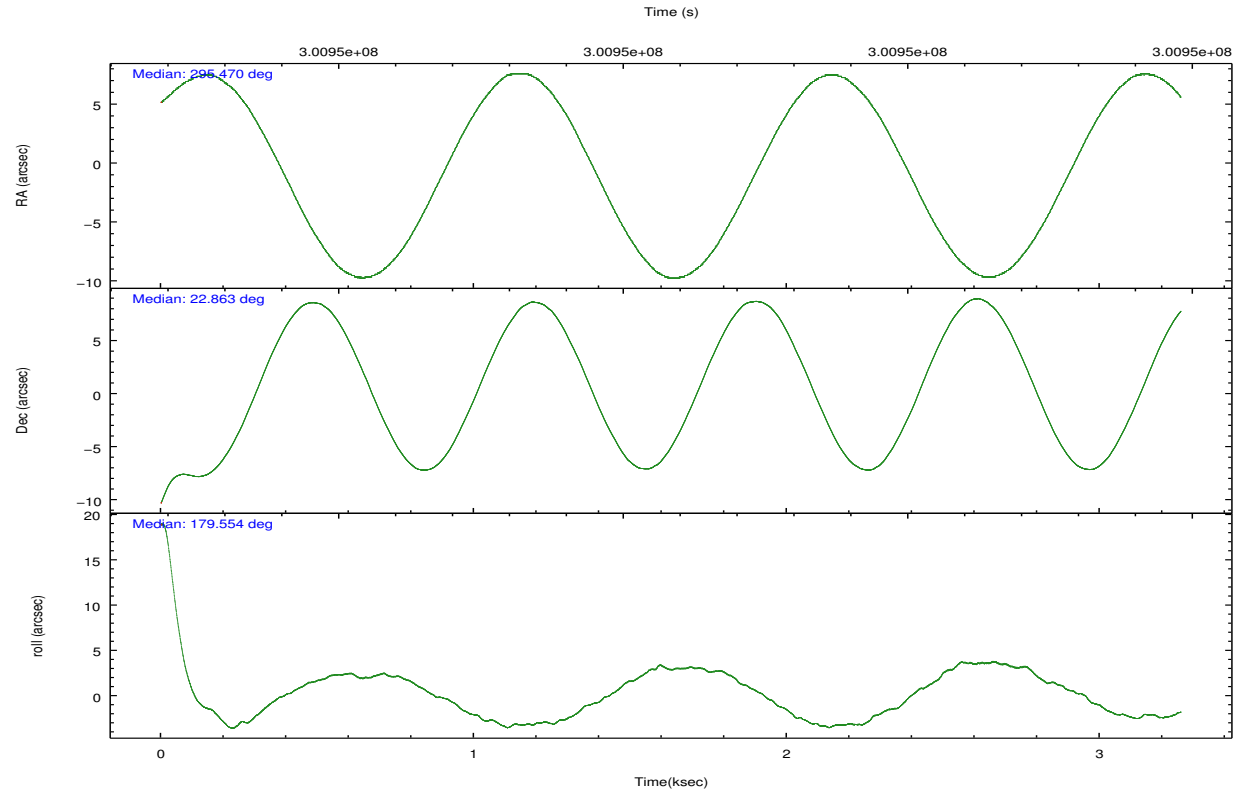
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-235678	ACIS-235678
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	295.495001	295.4695682511941
[deg] Pointing Dec	22.877436	22.86344531125929
[deg] Pointing Roll	179.397285	179.5638724910973
[mm] 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)	300949998.184000	300948901.58772
Observation start date	2007-07-16T05:12:13	2007-07-16T04:55:01
[s] Observation end time (MET)	300952798.184000	300954161.37548
Observation end date	2007-07-16T05:58:53	2007-07-16T06:22:41
Read mode	TIMED	TIMED

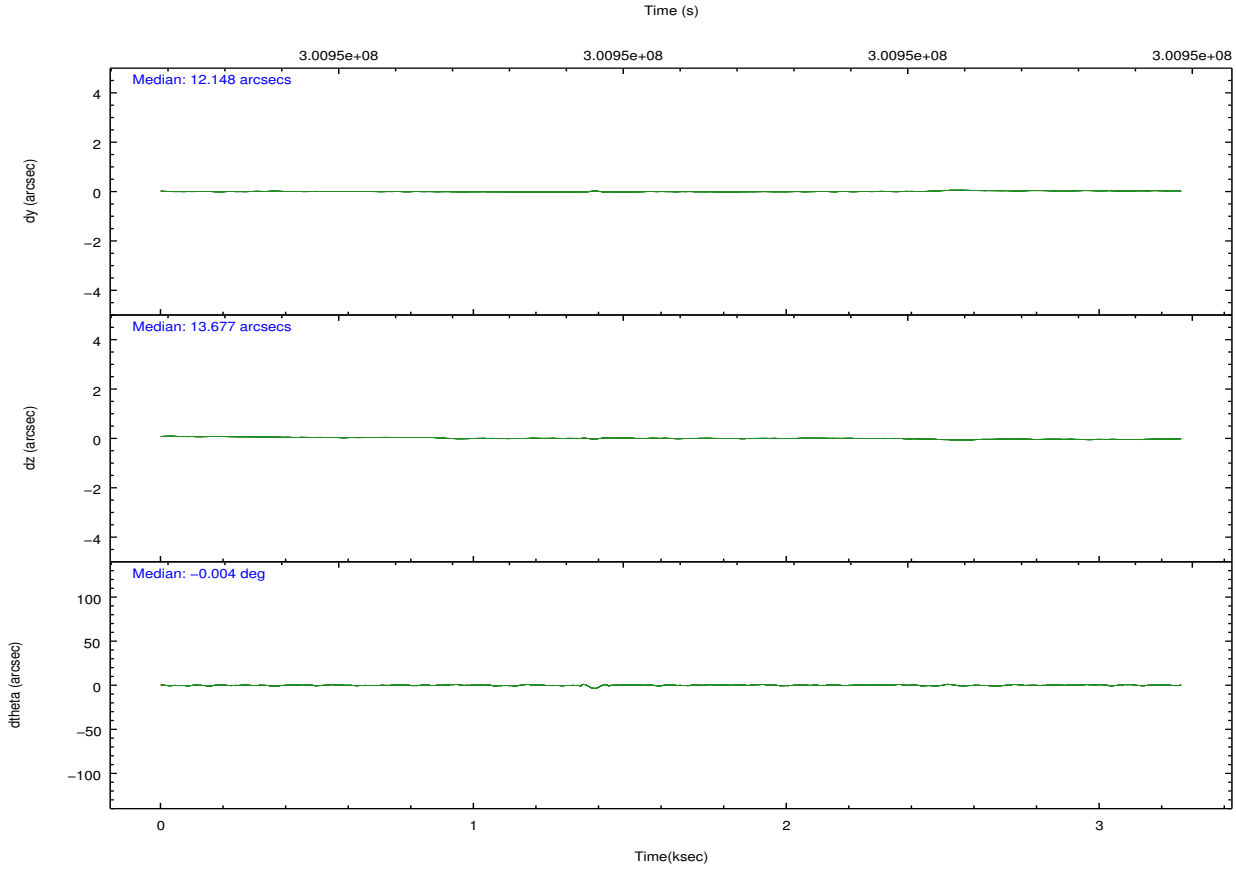
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	O2	Y
CCD I3 on	O3	Y
CCD S0 on	N	N
CCD S1 on	O1	Y
CCD S2 on	O5	Y
CCD S3 on	Y	Y
CCD S4 on	O4	Y
CCD S5 on	N	N
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.2

2.3 Aspect


RA : 295.470 deg
Dec : 22.863 deg
Dec (arcsec)
RA (arcsec)
5
0
−5
−10
−10
−5
0
5
10


DY : 12.148 arcsecs
DZ : 13.677 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
3.0095e+08
3.0095e+08
3.0095e+08
3.0095e+08
Median: 295.470 deg
RA (arcsec)
Median: 22.863 deg
Dec (arcsec)
Median: 179.554 deg
roll (arcsec)
Time(ksec)

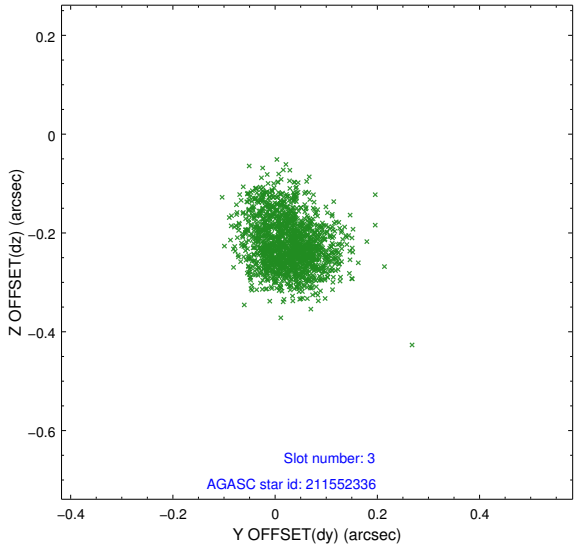

Time (s)
3.0095e+08
3.0095e+08
3.0095e+08
3.0095e+08
Median: 12.148 arcsecs
dy (arcsec)
Median: 13.677 arcsecs
dz (arcsec)
Median: −0.004 deg
dtheta (arcsec)
Time(ksec)

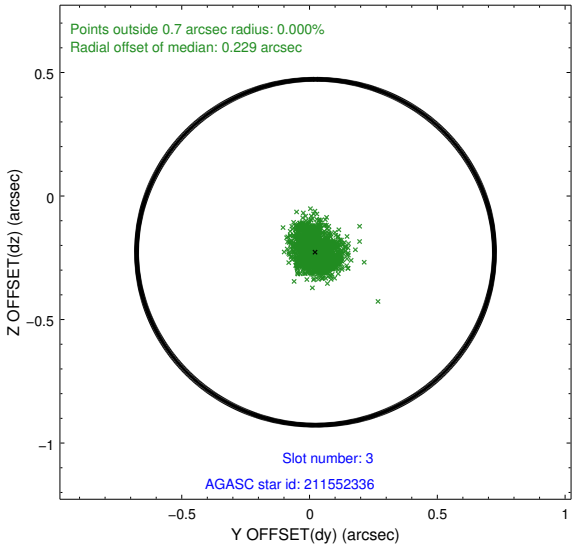
Slot Statistics

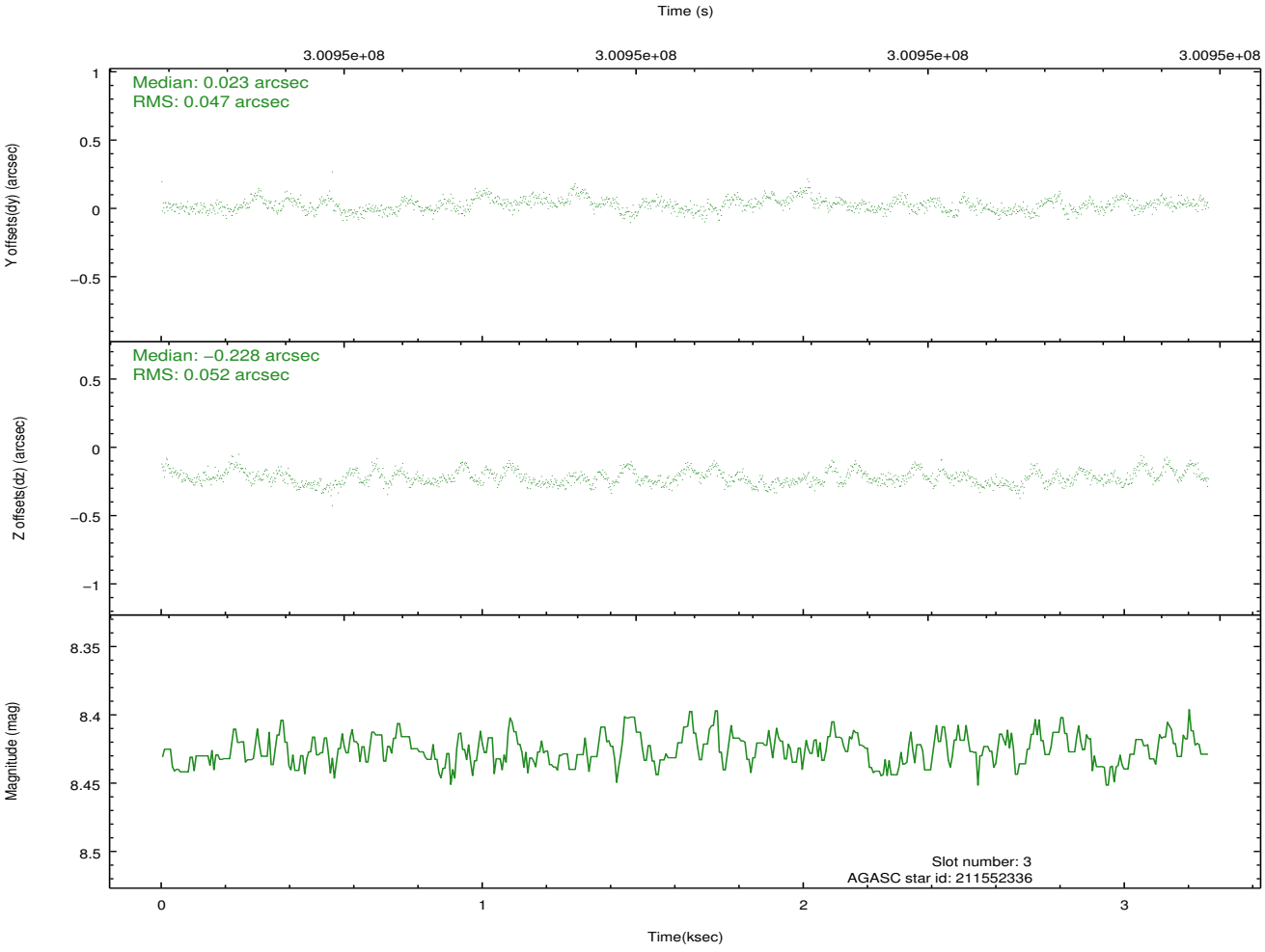
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	796	-0.033	-0.053	0.007	0.011	0.000000	0.000000	-765.08	-1735.08
1	FID	ACIS-S-4	7.19	796	0.141	0.030	0.005	0.011	0.000000	0.000000	2147.48	171.46
2	FID	ACIS-S-5	7.23	796	-0.139	0.032	0.006	0.011	0.000000	0.000000	-1815.53	167.36
3	GUIDE	211552336	8.43	1591	0.023	-0.228	0.075	0.118	295.769367	22.302185	-935.06	2059.73
4	GUIDE	280248584	7.47	1591	-0.134	0.073	0.074	0.119	295.098999	23.480132	1330.72	-2156.43
5	GUIDE	280369728	8.71	1589	0.051	0.119	0.089	0.140	295.706771	23.463304	-675.04	-2118.47
6	GUIDE	280374688	8.88	1590	0.038	-0.025	0.072	0.119	295.740098	23.192930	-798.82	-1146.24
7	GUIDE	280377144	9.24	1587	0.017	0.057	0.085	0.142	295.998716	23.345278	-1646.34	-1705.60

2.4 Star Slots

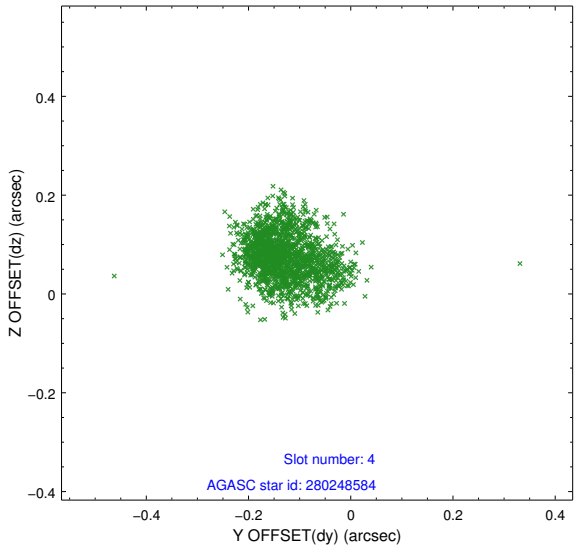
2.4.1 Slot 3

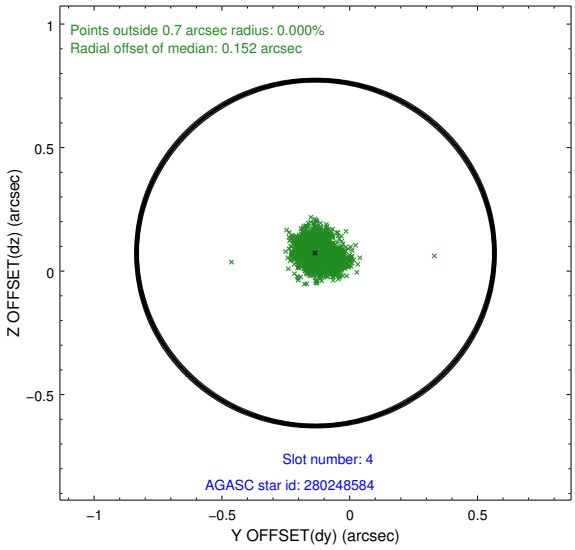


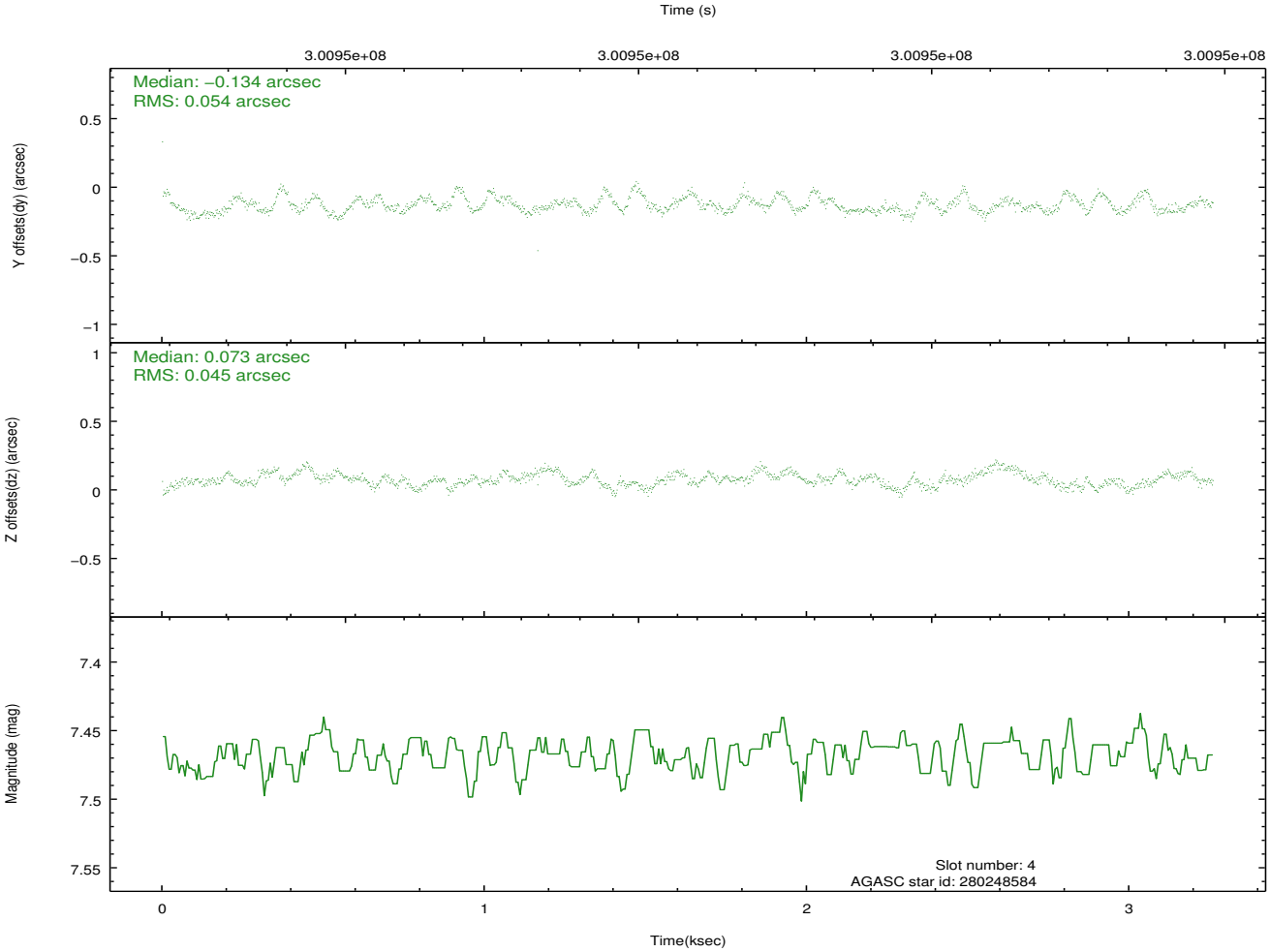




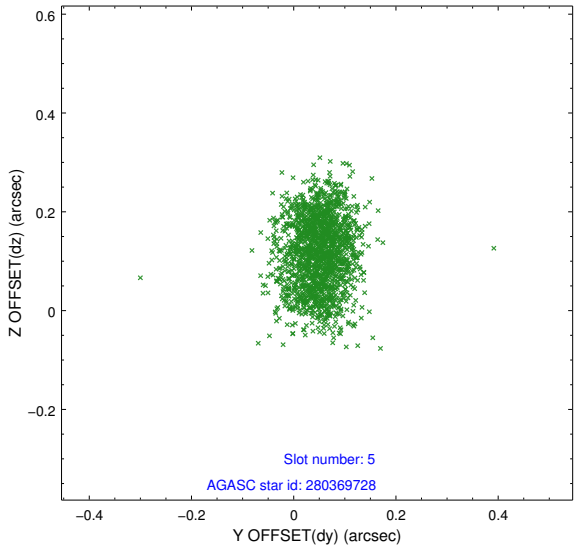
2.4.2 Slot 4

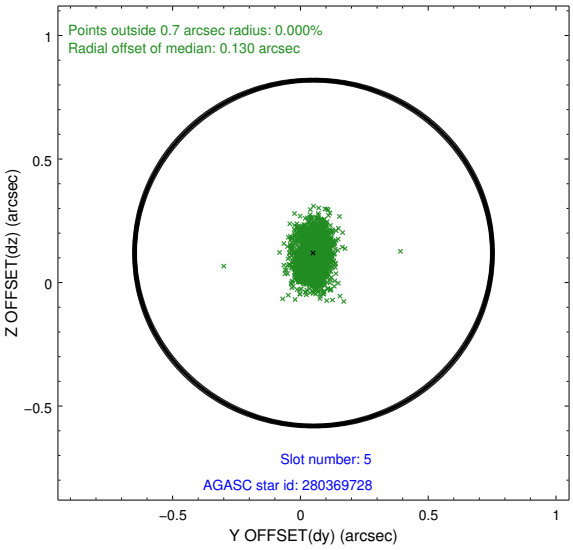

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 280248584

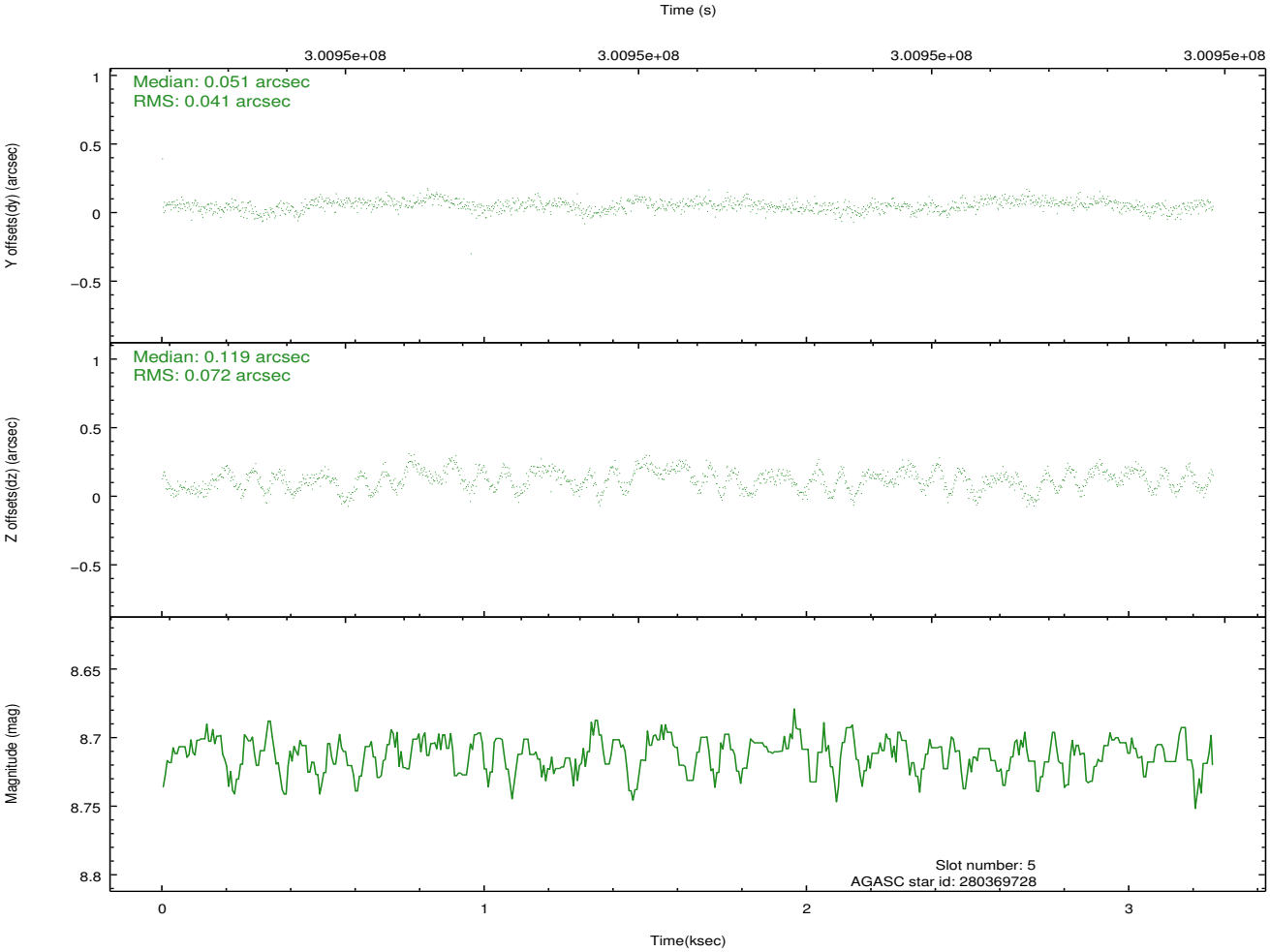

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.152 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 280248584


Time (s)
3.0095e+08
Median: –0.134 arcsec
RMS: 0.054 arcsec
Y offsets(dy) (arcsec)
Median: 0.073 arcsec
RMS: 0.045 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 280248584
Time(ksec)

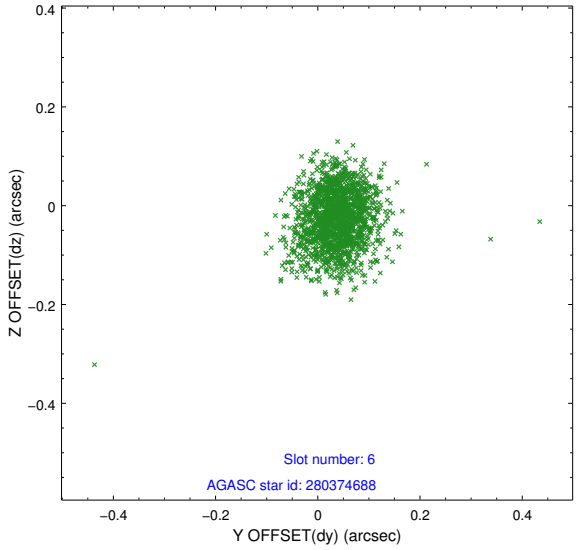
2.4.3 Slot 5

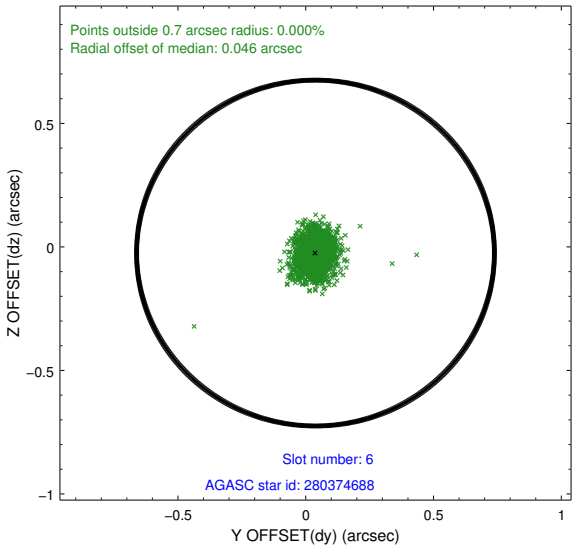

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 280369728

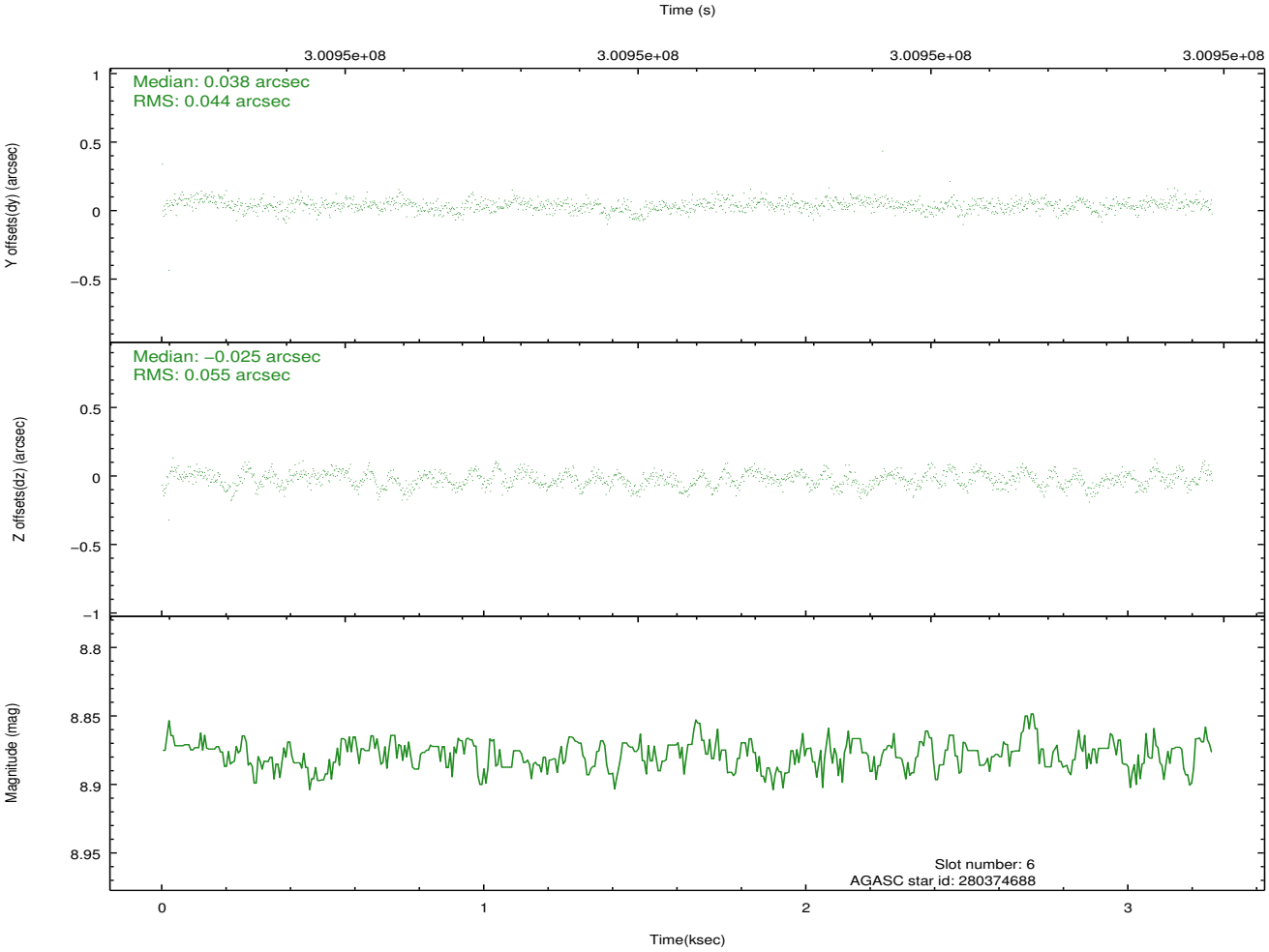

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.130 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 280369728


Time (s)
3.0095e+08
Median: 0.051 arcsec
RMS: 0.041 arcsec
Y offsets(dy) (arcsec)
Median: 0.119 arcsec
RMS: 0.072 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 280369728
Time(ksec)

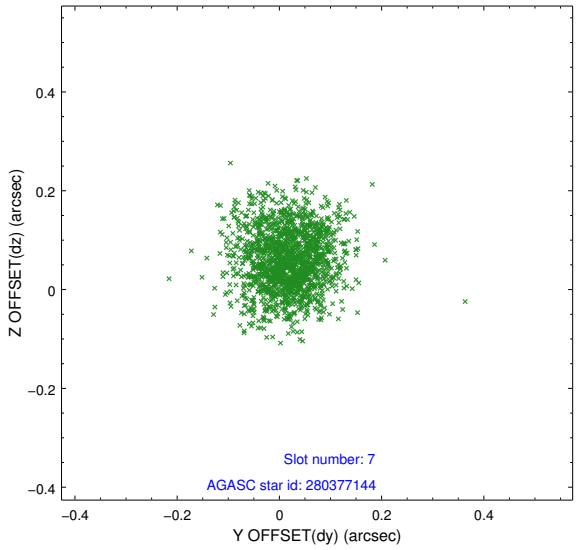
2.4.4 Slot 6

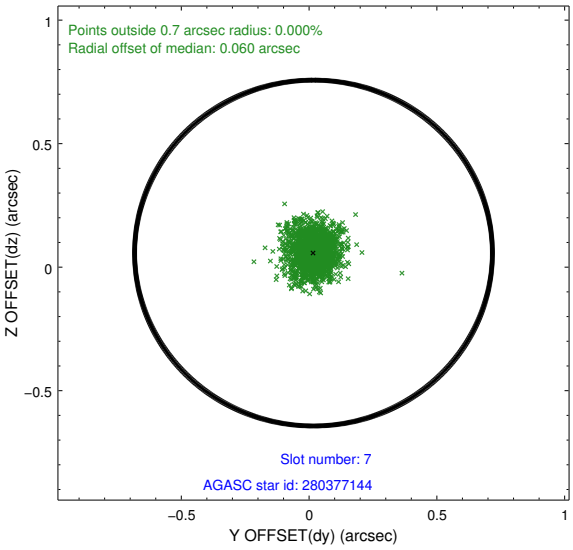

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 280374688

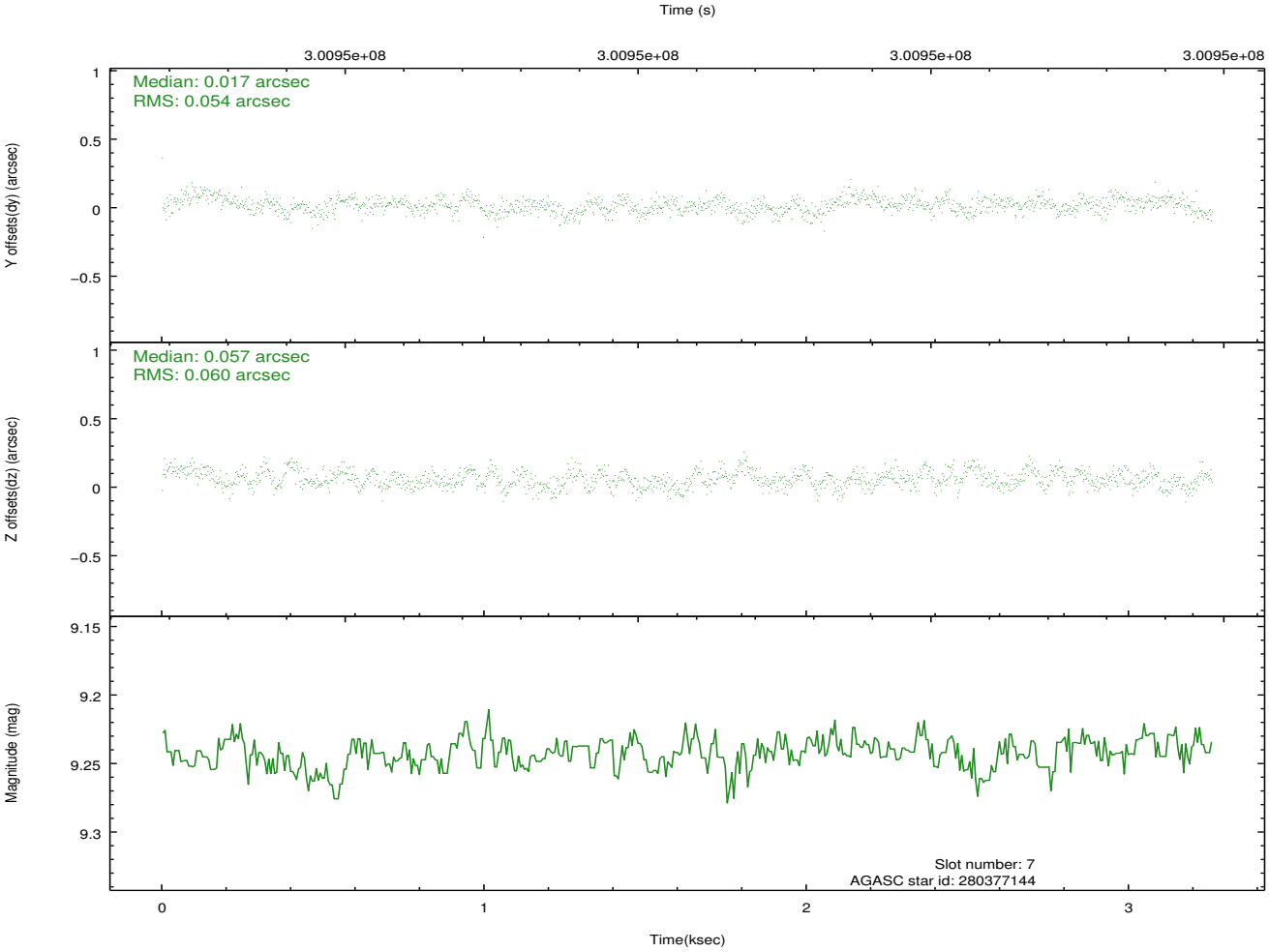

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.046 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 280374688


Time (s)
3.0095e+08
Median: 0.038 arcsec
RMS: 0.044 arcsec
Y offsets(dy) (arcsec)
Median: −0.025 arcsec
RMS: 0.055 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 280374688
Time(ksec)

2.4.5 Slot 7

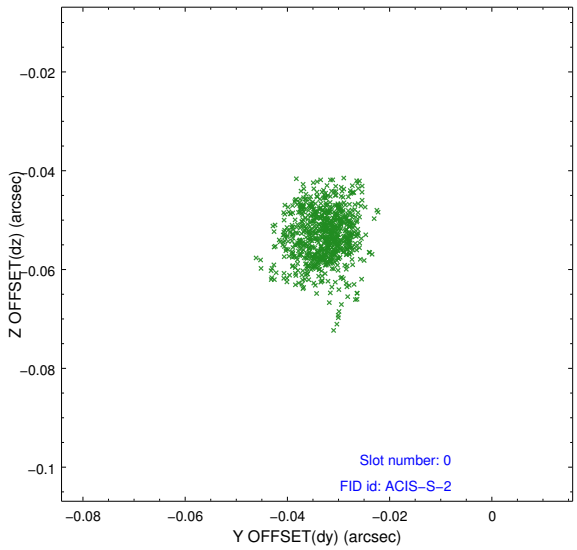

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 280377144

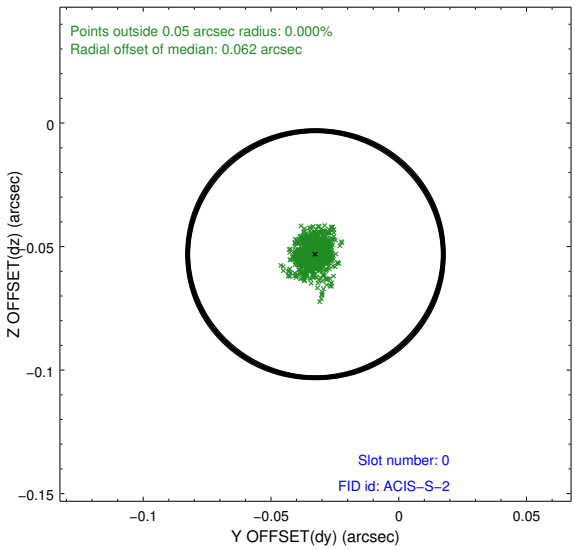

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.060 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 280377144

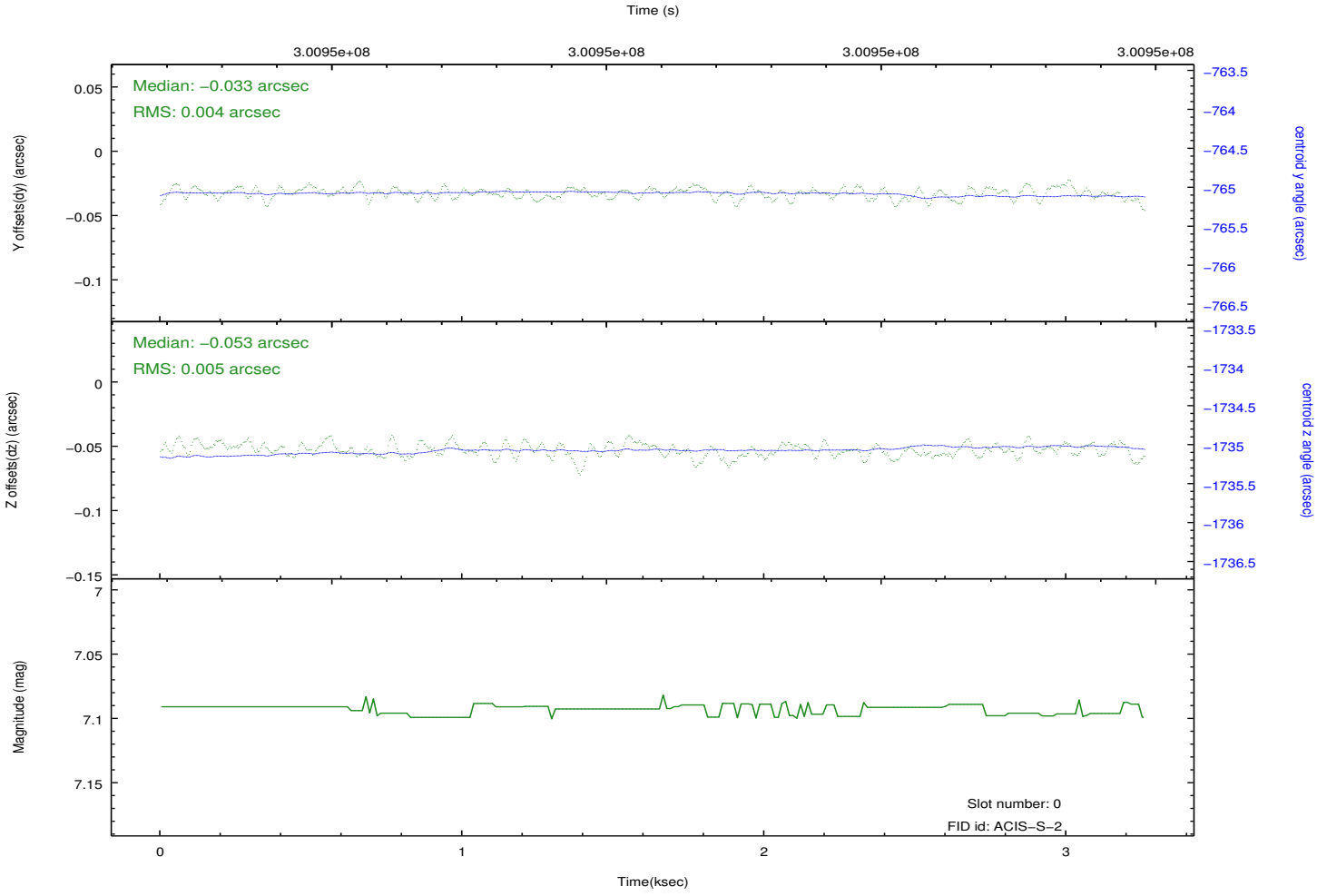

Time (s)
3.0095e+08
Median: 0.017 arcsec
RMS: 0.054 arcsec
Y offsets(dy) (arcsec)
Median: 0.057 arcsec
RMS: 0.060 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 280377144
Time(ksec)

2.5 FID Slots

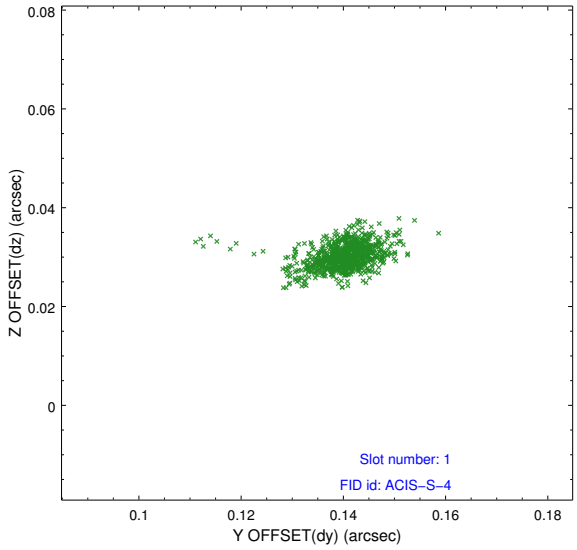
2.5.1 Slot 0

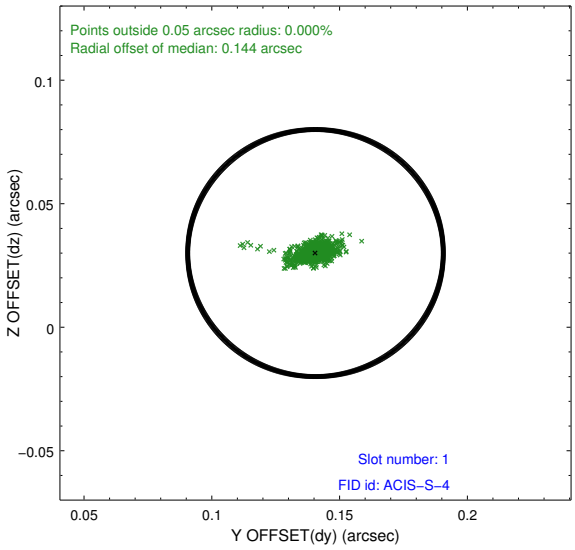


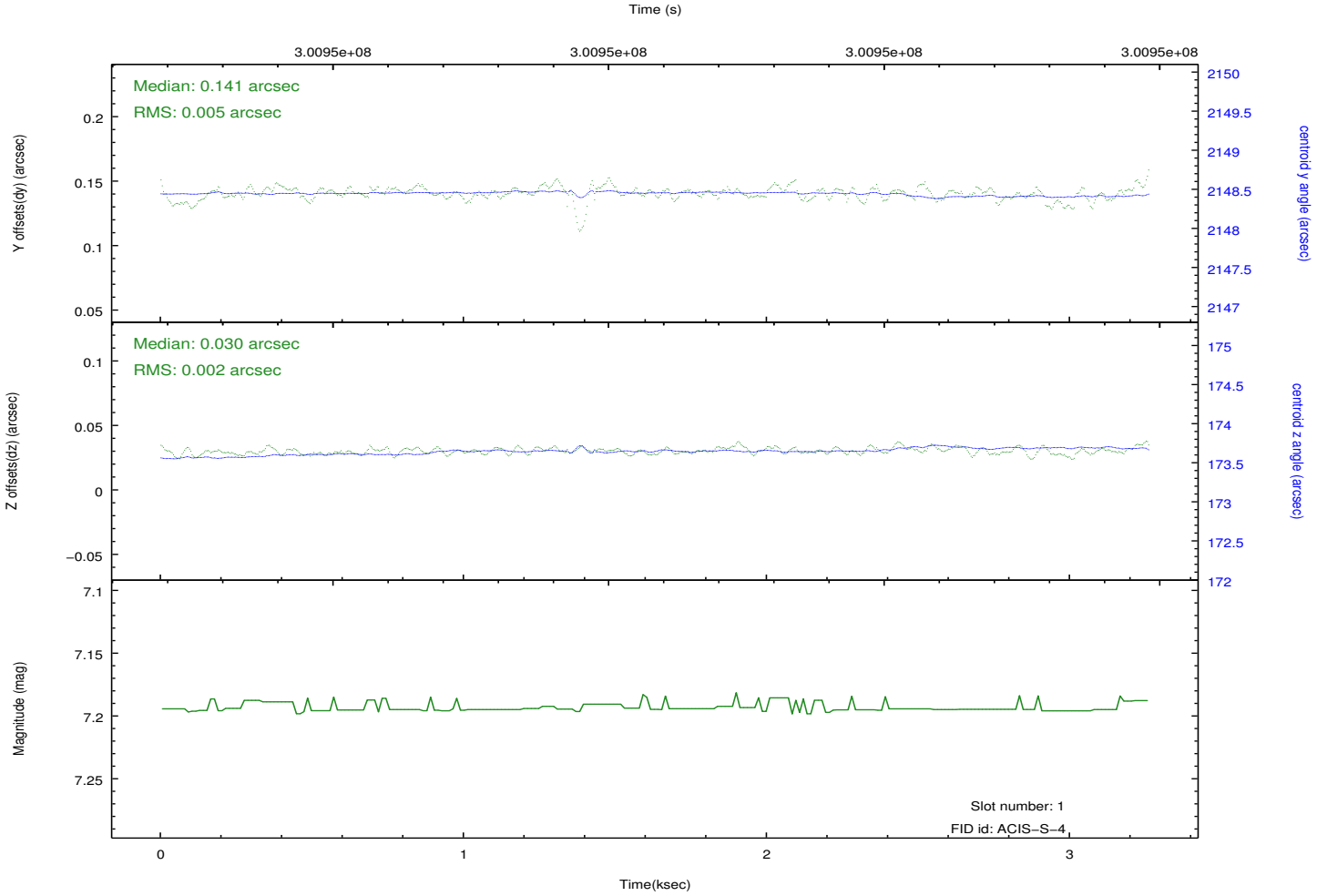




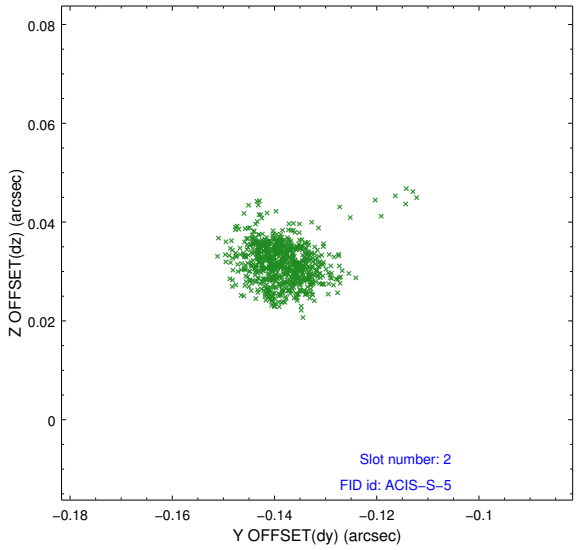
2.5.2 Slot 1

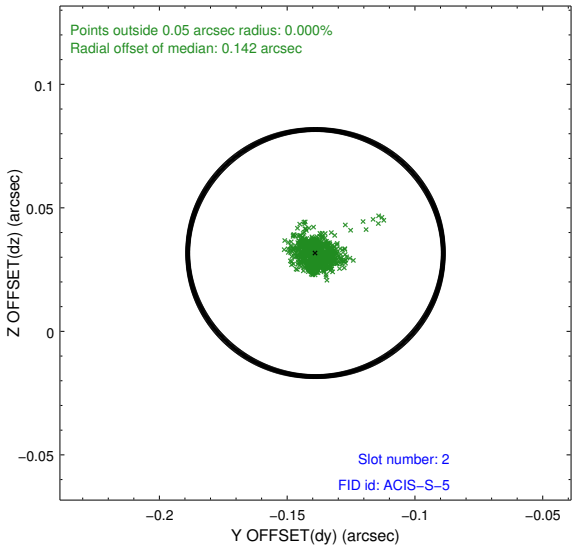

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4

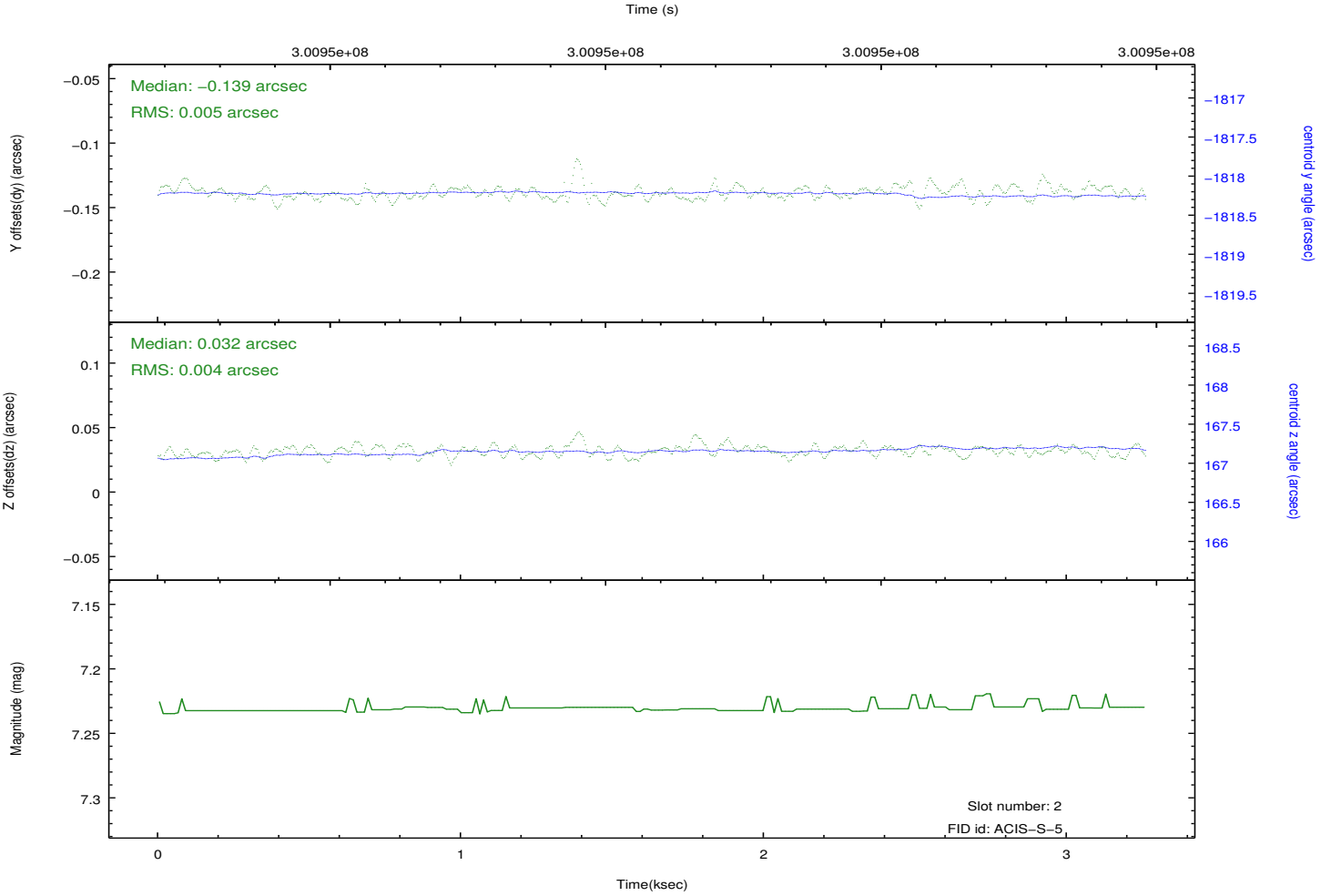

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.144 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4


Time (s)
Median: 0.141 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.030 arcsec
RMS: 0.002 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: 0.142 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−5


Time (s)
Median: −0.139 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.032 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)	2012.05.04
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	2.74879998

A.2 Comments

```
Nearest source is at ra=19:41:54.602, dec=+22:51:12.24. Observer
requested coordinates ra=19:41:53.00, dec=+22:51:43.20.
============
A spatial region of the original bias map for CCD = 3 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 = 3 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:
(295.56924,23.06803),(295.56927,23.07075),(295.52289,23.07109),(295.5228
6,23.06836)
```