V&V Reference Report
L2 ASCDS Version : 8.1.1

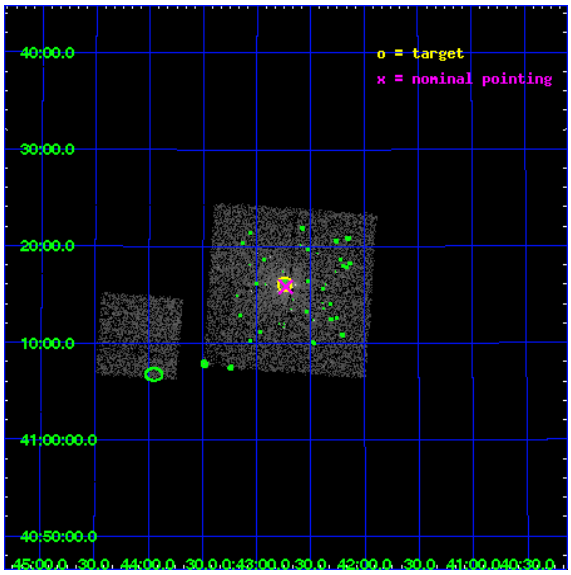
Observation 305 - L2 Version 4
Chandra X-Ray Center

L2 Processing Date : Nov 25 2009

Contents

1 Front

seq_num	600065	Sequence number
obs_id	305	Observation id
title	M31 MONITORING (FOLLOWUP)	Proposal title
observer	Dr Steve Murray	Principal investigator
object	M31 TRANSIENT TBD	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	10.685	Observer's specified target RA
dec_targ	41.268972	Observer's specified target Dec
ra_nom	10.682728419842	Nominal RA
dec_nom	41.263953414349	Nominal Dec
roll_nom	274.03338649054	Nominal Roll
revision	4	Processing version of data
ontime	4179.2000038922	Sum of GTIs [s]
livetime	4126.2804570308	Livetime [s]
ontime0	4175.9590436816	Sum of GTIs [s]
ontime1	4179.2000038922	Sum of GTIs [s]
ontime2	4179.2000038922	Sum of GTIs [s]
ontime3	4179.2000038922	Sum of GTIs [s]
ontime6	4179.2000038922	Sum of GTIs [s]
l2events	31048	Number of level 2 events

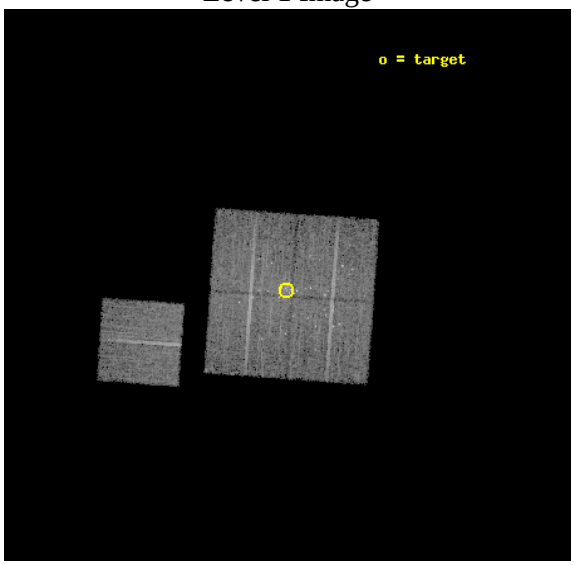


2 OBI

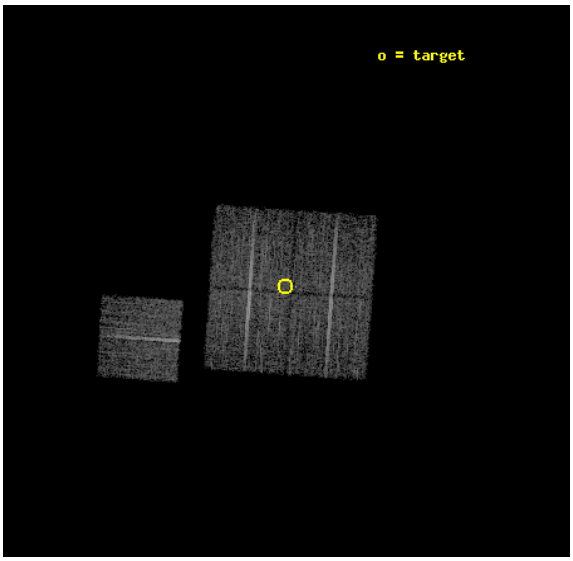
2.1 OBI

2.1.1 Images

Level 1 Image

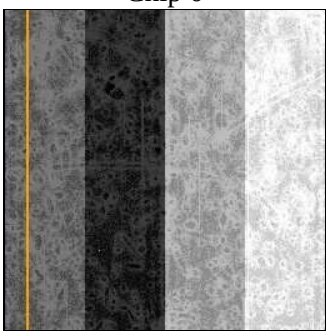


Level 1 Bad Events

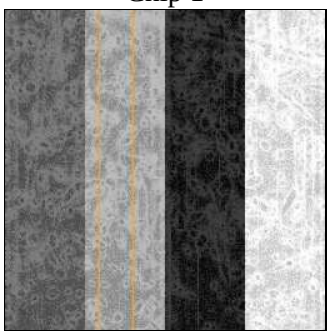


2.1.2 Bias

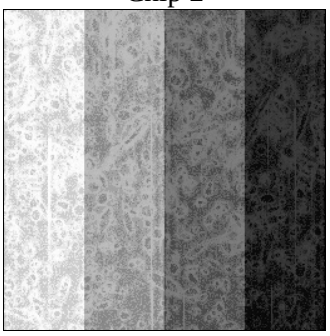
Chip 0



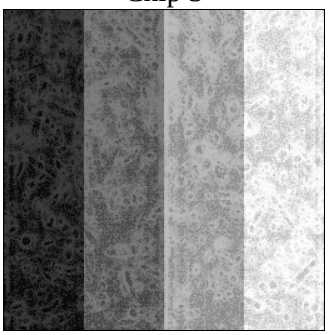
Chip 1



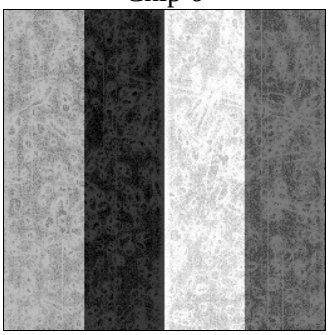
Chip 2



Chip 3



Chip 6



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	8.1.1	ASCDS version number
caldbver	4.1.4	
date	2009-11-25T14:16:43	Date and time of file creation
revision	3	Processing version of data

sched_exp_time	5000.000000	Scheduled observation exposure time
ontime	4179.2000038922	Sum of GTIs [s]
ontime0	4175.9590436816	Sum of GTIs [s]
ontime1	4179.2000038922	Sum of GTIs [s]
ontime2	4179.2000038922	Sum of GTIs [s]
ontime3	4179.2000038922	Sum of GTIs [s]
ontime6	4179.2000038922	Sum of GTIs [s]
l1events	199206	Number of level 1 events

2.1.4 Events

	ccd 0	**ccd 1**	**ccd 2**	**ccd 3**	**ccd 6**
level 1 events	39070	39016	41161	41495	38464
rejected events	32728	31220	34886	33011	34321
rejected %	83%	80%	84%	79%	89%

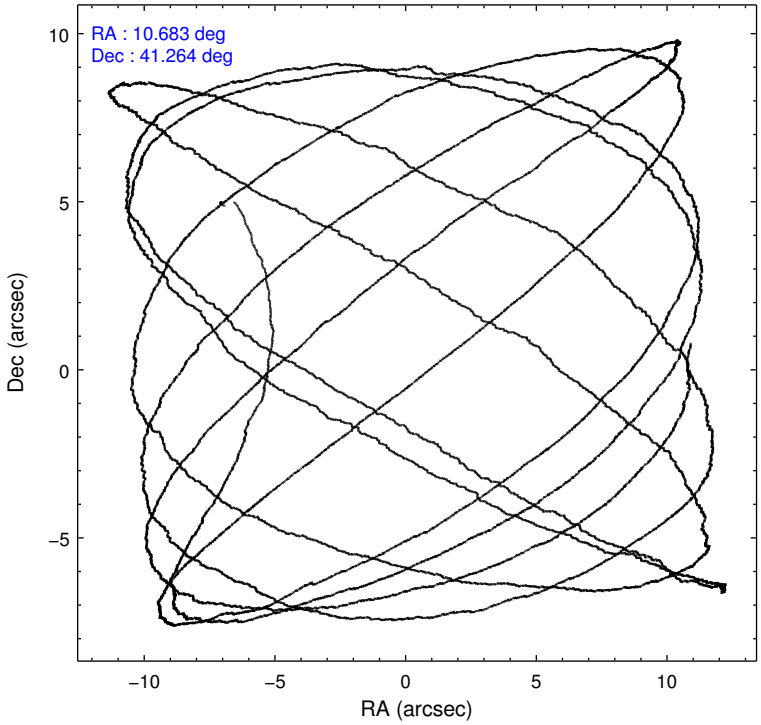
	ccd 0	**ccd 1**	**ccd 2**	**ccd 3**	**ccd 6**
grade 0 events	2481	2972	2208	3499	934
	6%	7%	5%	8%	2%
grade 1 events	13	63	22	24	10
	0%	0%	0%	0%	0%
grade 2 events	2312	2772	2563	3257	1725
	5%	7%	6%	7%	4%
grade 3 events	310	416	254	323	235
	0%	1%	0%	0%	0%
grade 4 events	289	369	247	304	219
	0%	0%	0%	0%	0%
grade 5 events	731	858	640	722	713
	1%	2%	1%	1%	1%
grade 6 events	950	1267	1003	1108	1032
	2%	3%	2%	2%	2%
grade 7 events	31984	30299	34224	32258	33596
	81%	77%	83%	77%	87%

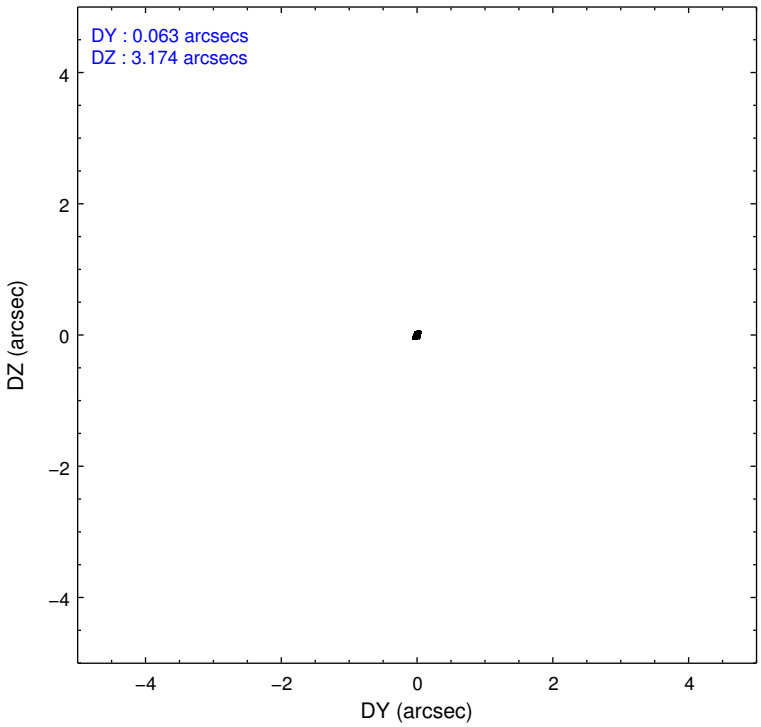
2.2 Compared Parameters

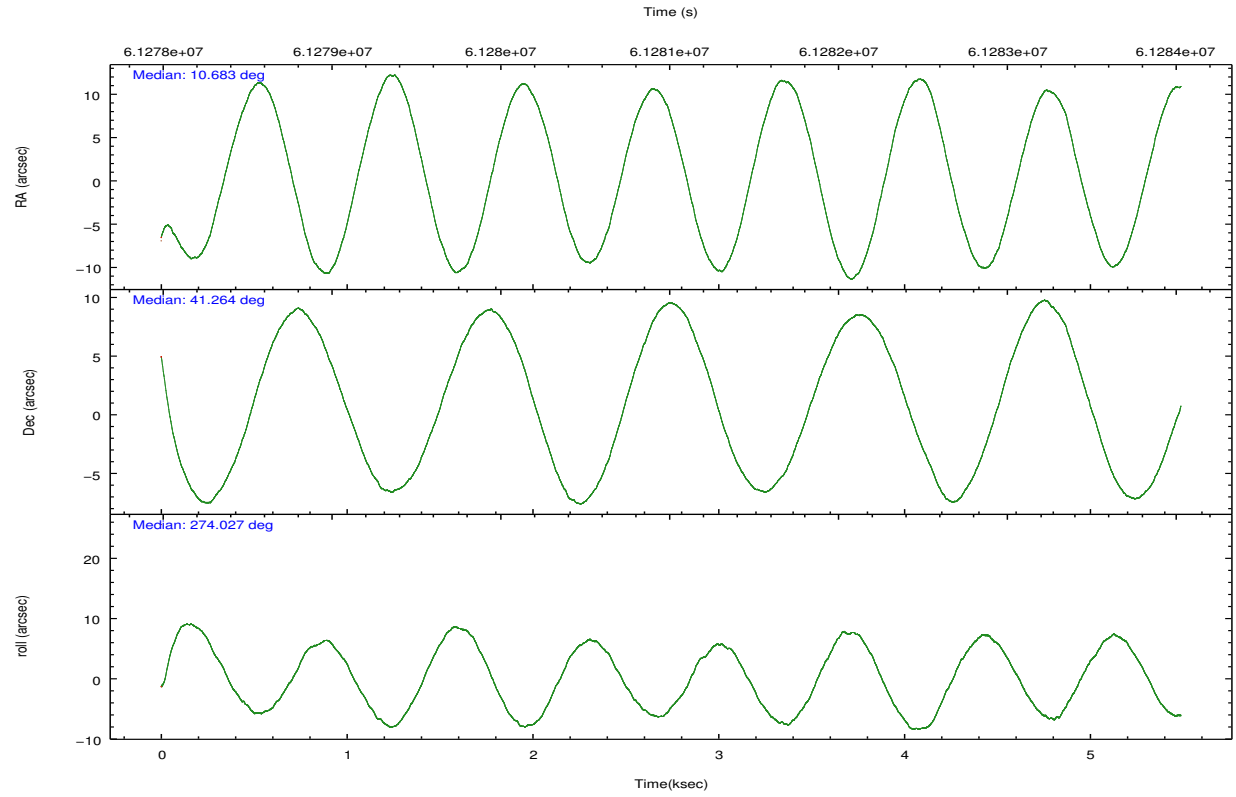
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-01236	ACIS-01236
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
Pointing RA	10.662488	10.68272841984158
Pointing Dec	41.287211	41.26395341434946
Pointing Roll	273.838066	274.0333864905421
SIM focus pos (mm)	-0.782348	-0.7809083437167272
SIM defocus (mm)	0	0.001439871863259334
SIM translation stage pos (mm)	-233.592463	-233.5874344608287
SIM translation stage offset (mm)	0	-0.005018542100998502
Observation start time	61278752.184000	61277747.645398
Observation start date	1999-12-11T05:51:28	1999-12-11T05:35:47
Observation end time	61283752.184000	61284644.870648
Observation end date	1999-12-11T07:14:48	1999-12-11T07:30:44
Read mode	TIMED	TIMED

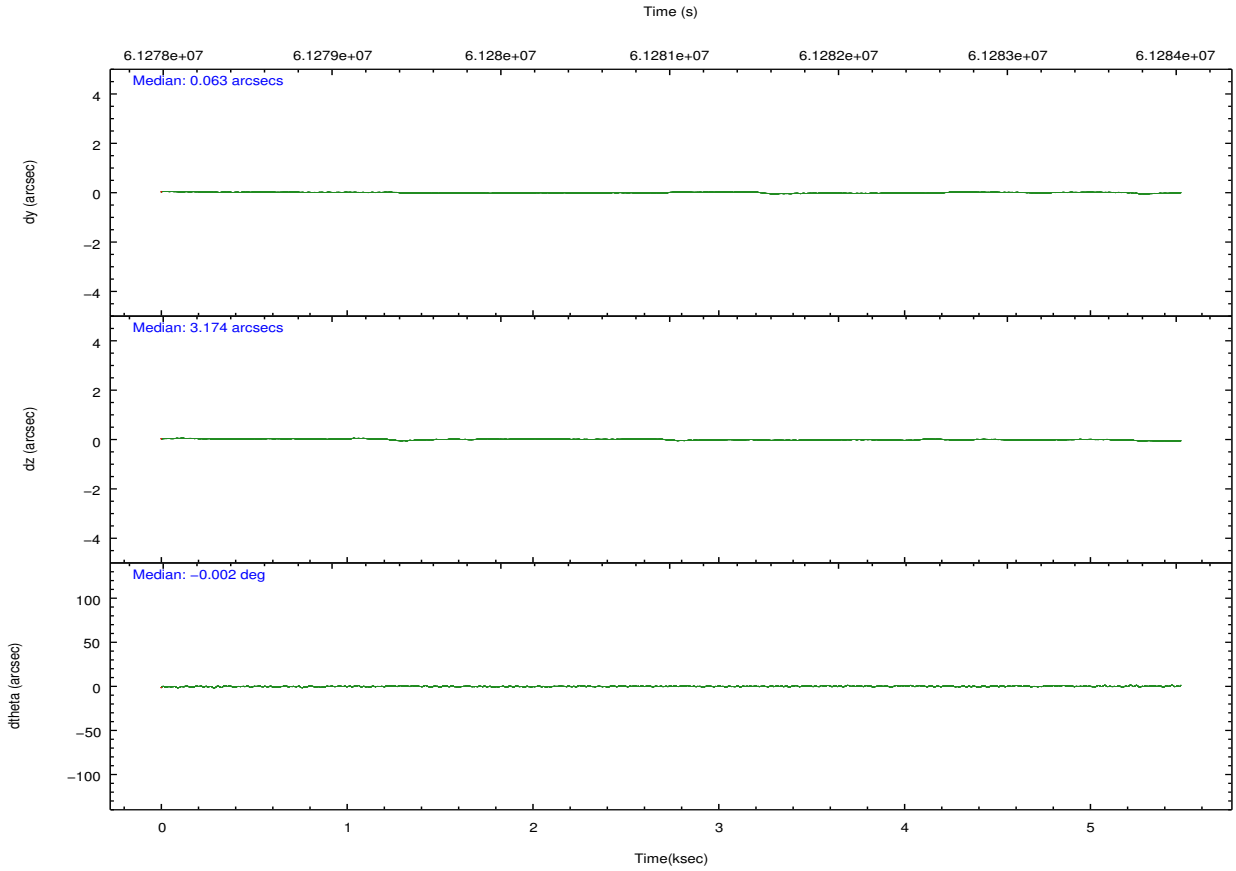
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
Primary exposure time	0.000000	3.2

2.3 Aspect


RA : 10.683 deg
Dec : 41.264 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10
−5
0
5
10


DY : 0.063 arcsecs
DZ : 3.174 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
6.1278e+07
6.1279e+07
6.128e+07
6.1281e+07
6.1282e+07
6.1283e+07
6.1284e+07
Median: 10.683 deg
RA (arcsec)
Median: 41.264 deg
Dec (arcsec)
Median: 274.027 deg
roll (arcsec)
Time(ksec)

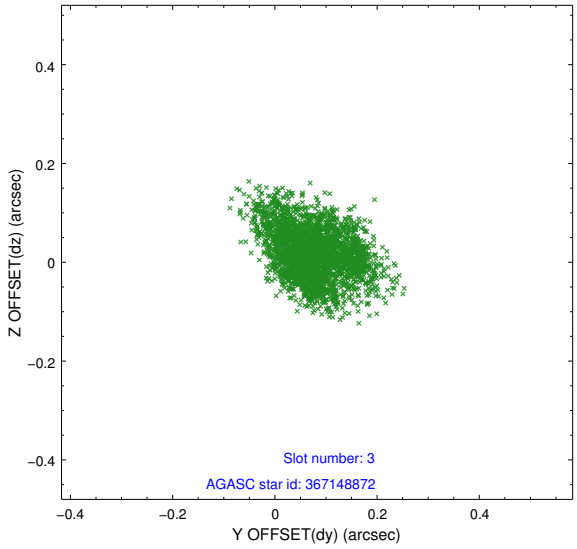

Time (s)
6.1278e+07
6.1279e+07
6.128e+07
6.1281e+07
6.1282e+07
6.1283e+07
6.1284e+07
Median: 0.063 arcsecs
dy (arcsec)
Median: 3.174 arcsecs
dz (arcsec)
Median: −0.002 deg
dtheta (arcsec)
Time(ksec)

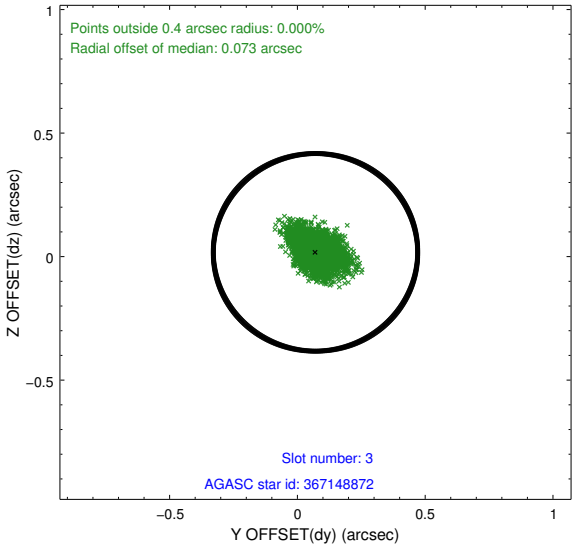
Slot Statistics

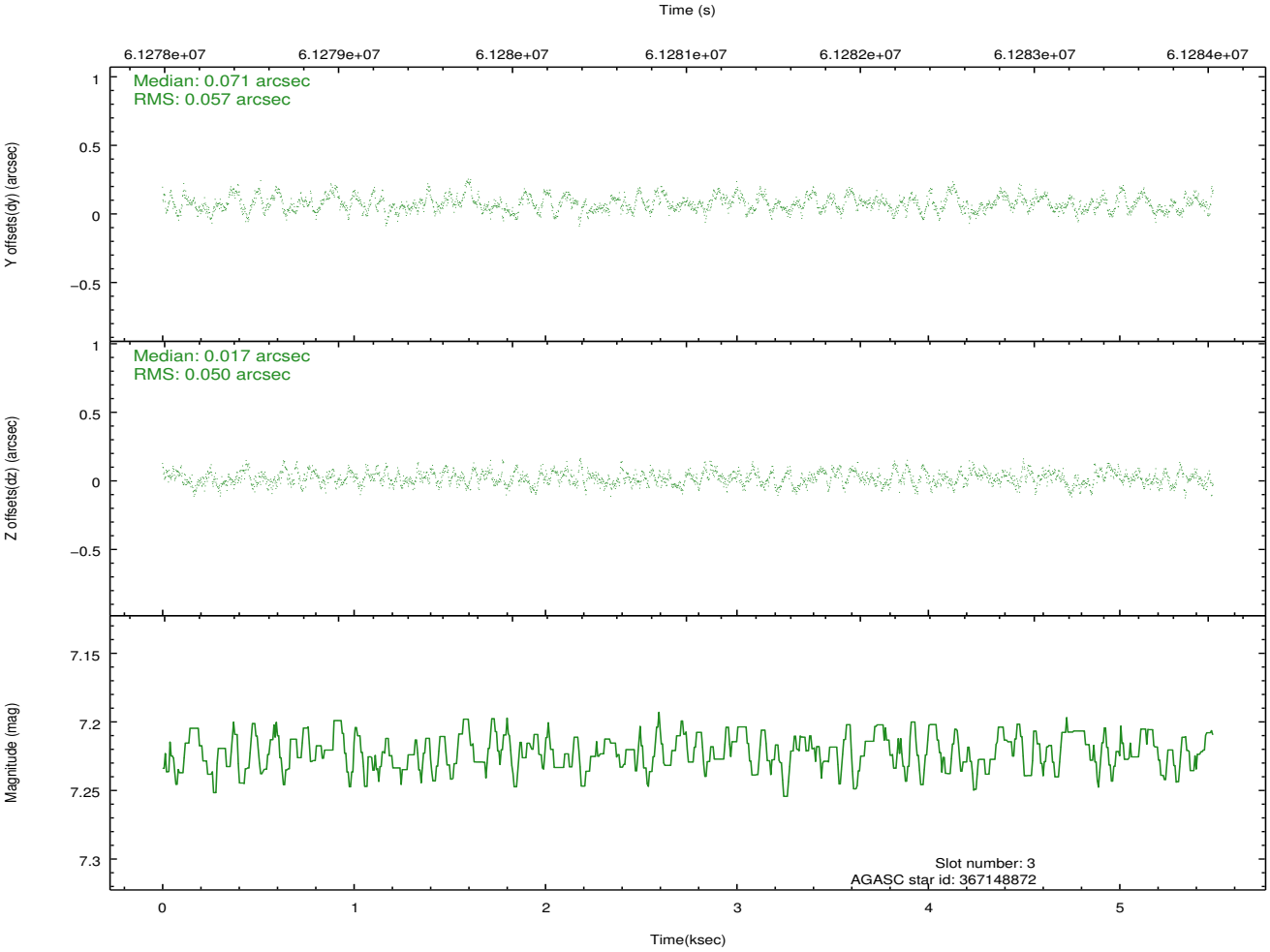
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.25	2678	0.009	0.052	0.006	0.010	0.000000	0.000000	939.82	-826.42
1	FID	ACIS-I-5	7.24	2676	-0.084	0.060	0.006	0.010	0.000000	0.000000	-1808.11	1070.86
2	FID	ACIS-I-6	7.27	2676	-0.016	-0.042	0.006	0.010	0.000000	0.000000	404.85	1715.78
3	GUIDE	367148872	7.22	2676	0.071	0.017	0.081	0.130	10.505940	40.688258	2122.12	-571.38
4	GUIDE	367674552	8.85	2677	-0.020	0.055	0.078	0.132	11.016238	41.570845	-956.73	1017.91
5	GUIDE	367146616	8.85	2675	0.029	-0.009	0.089	0.148	11.418645	41.190163	475.86	2020.60
6	GUIDE	367658664	9.58	2676	-0.006	-0.017	0.091	0.152	10.374070	41.369746	-350.07	-757.71
7	GUIDE	367665472	9.48	2673	-0.077	-0.047	0.085	0.144	10.241611	41.730843	-1672.45	-1022.56

2.4 Star Slots

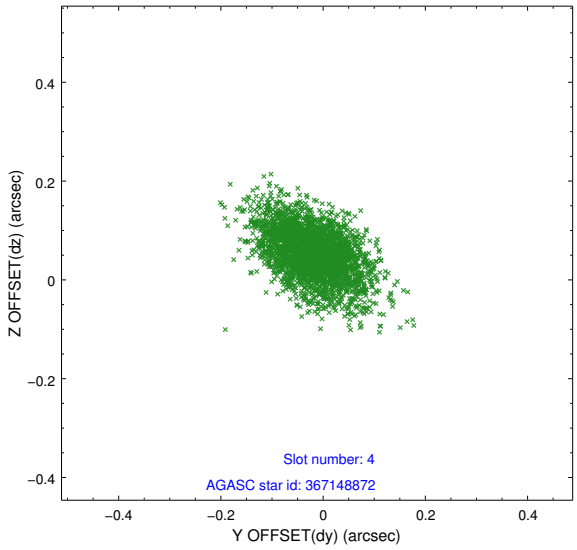
2.4.1 Slot 3

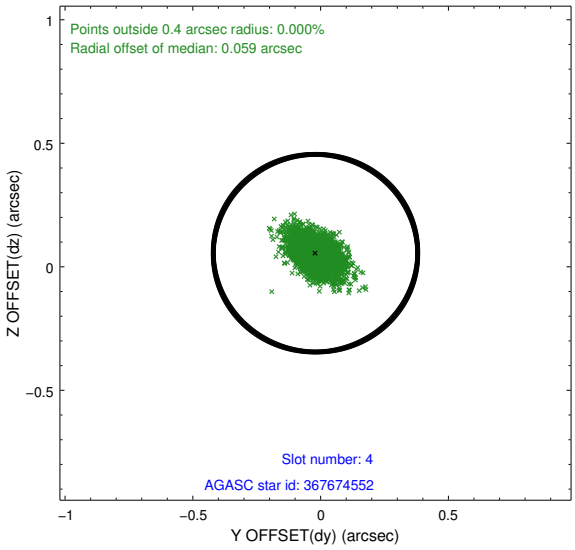


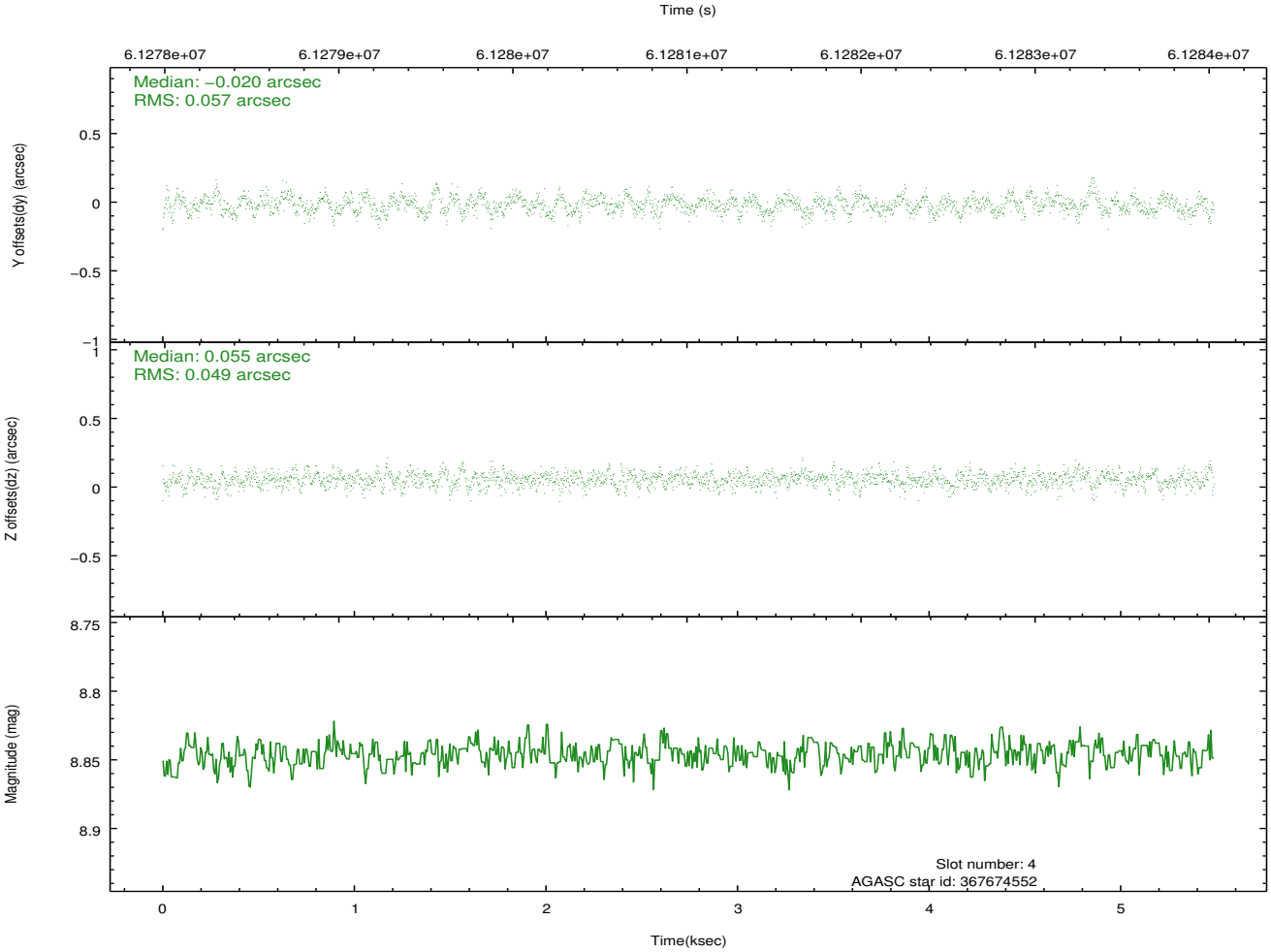




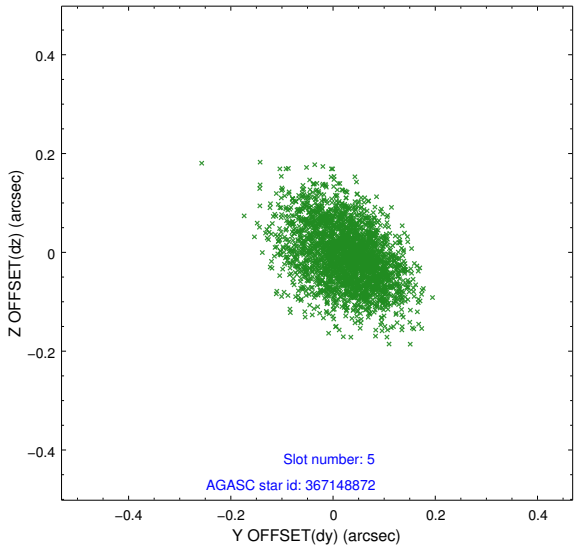
2.4.2 Slot 4

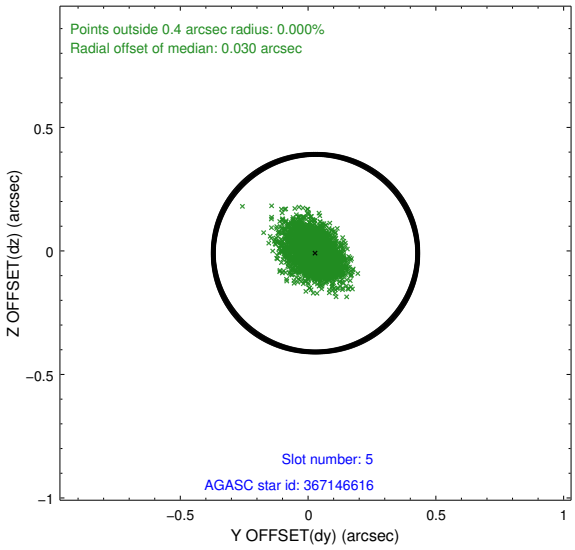

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 367148872

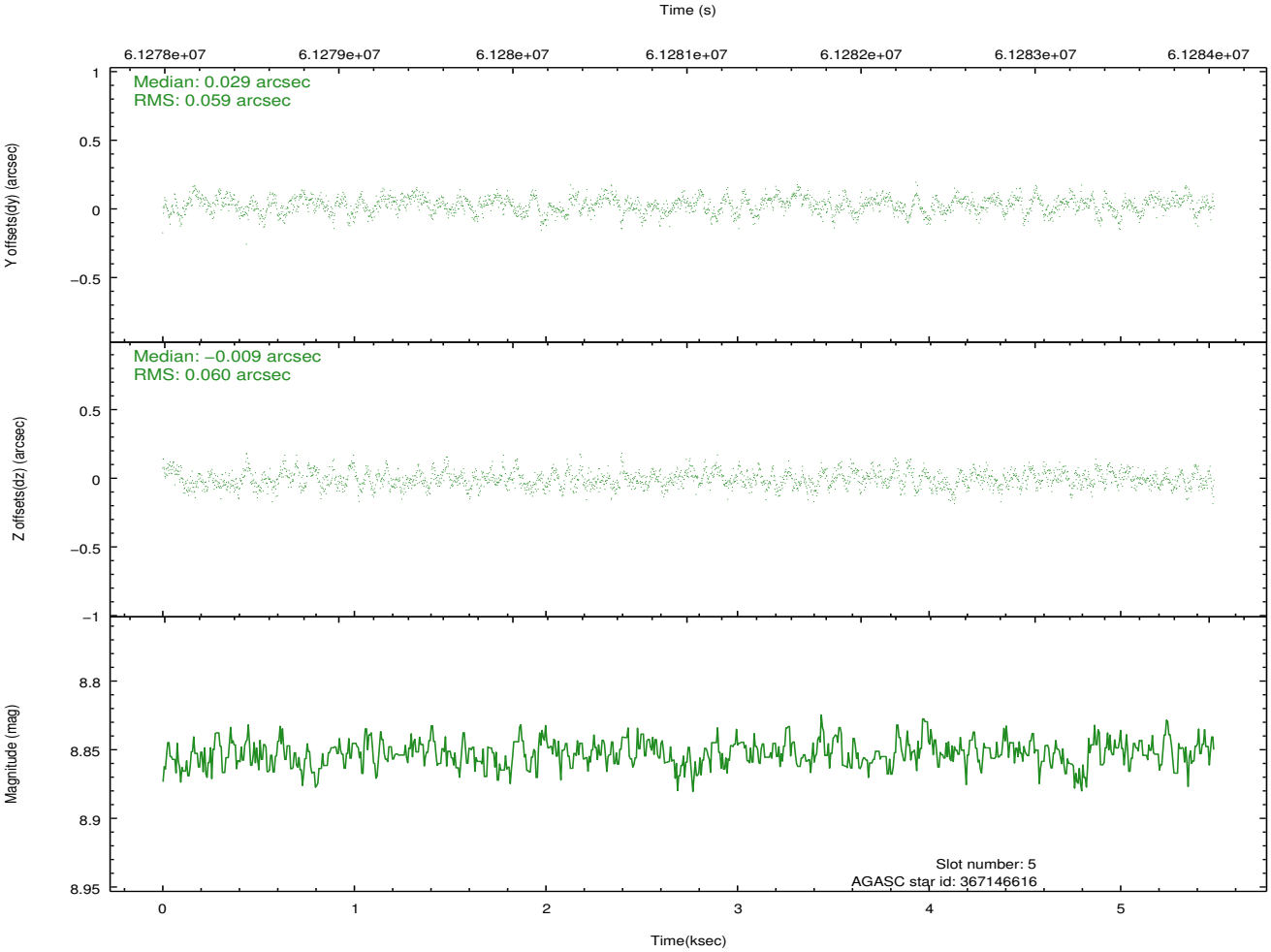

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.059 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 367674552


Time (s)
Median: −0.020 arcsec
RMS: 0.057 arcsec
Y offsets(dy) (arcsec)
Median: 0.055 arcsec
RMS: 0.049 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 367674552
Time(ksec)

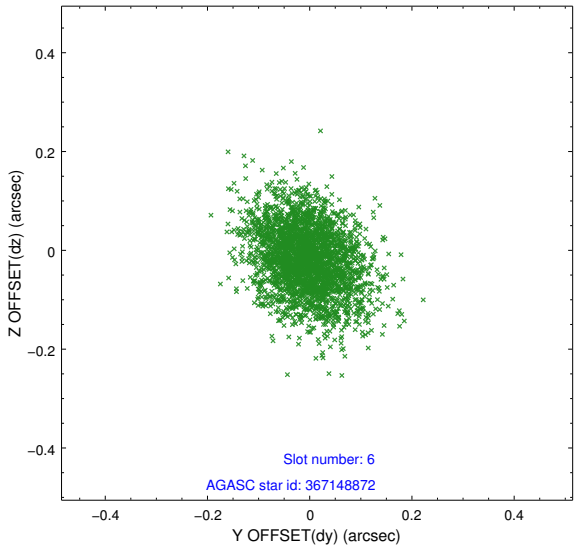
2.4.3 Slot 5

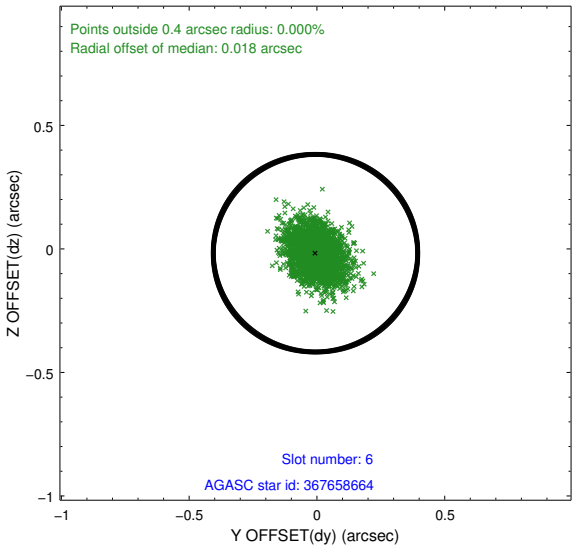

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 367148872

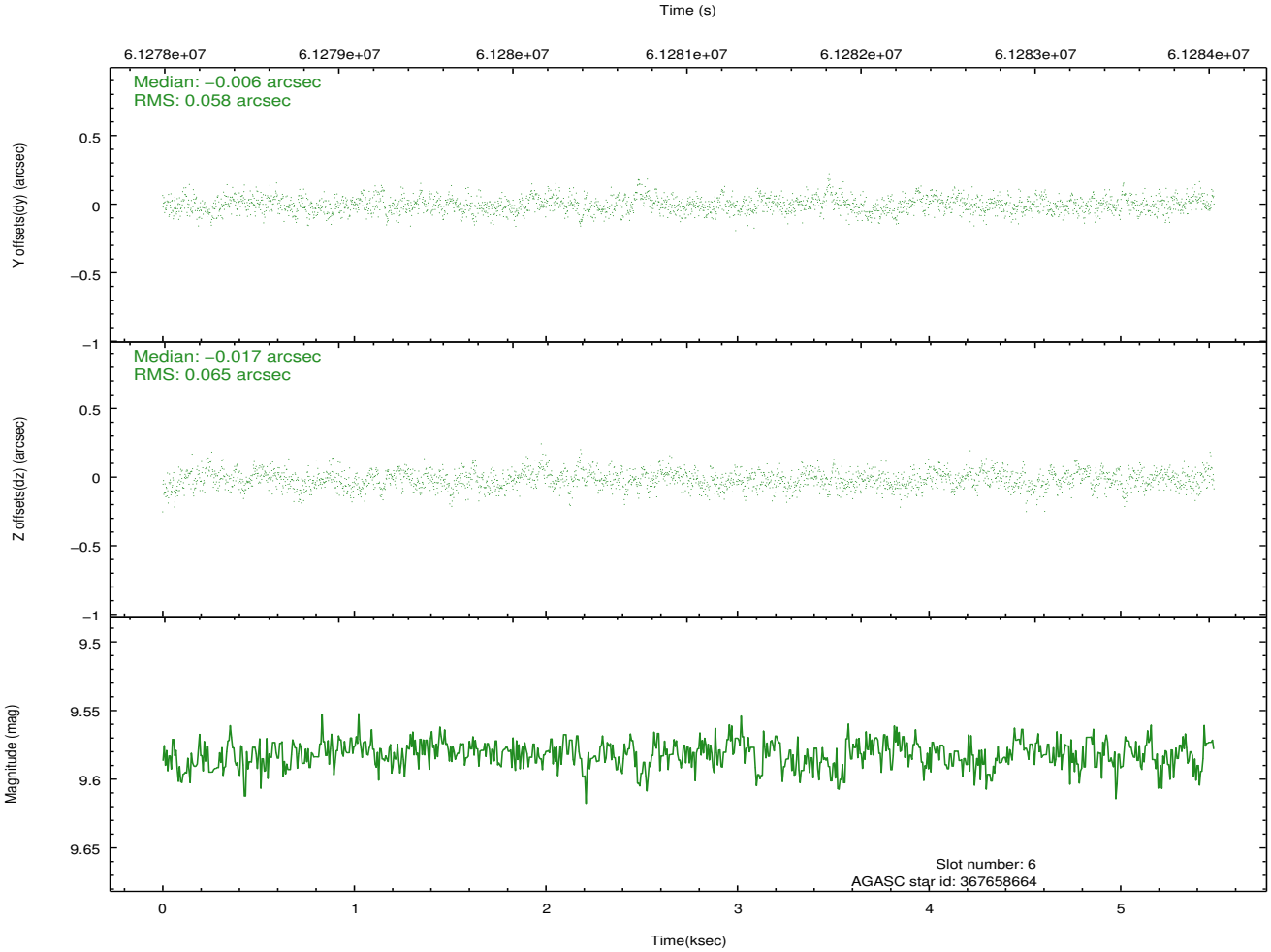

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.030 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 367146616


Time (s)
Median: 0.029 arcsec
RMS: 0.059 arcsec
Y offsets(dy) (arcsec)
Median: −0.009 arcsec
RMS: 0.060 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 367146616
Time(ksec)

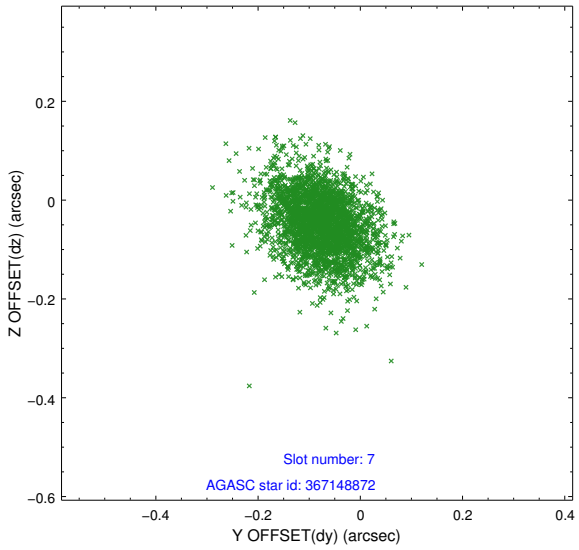
2.4.4 Slot 6

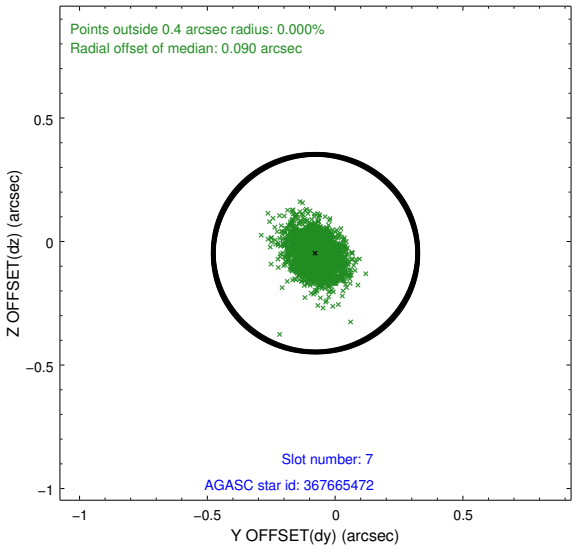

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 367148872

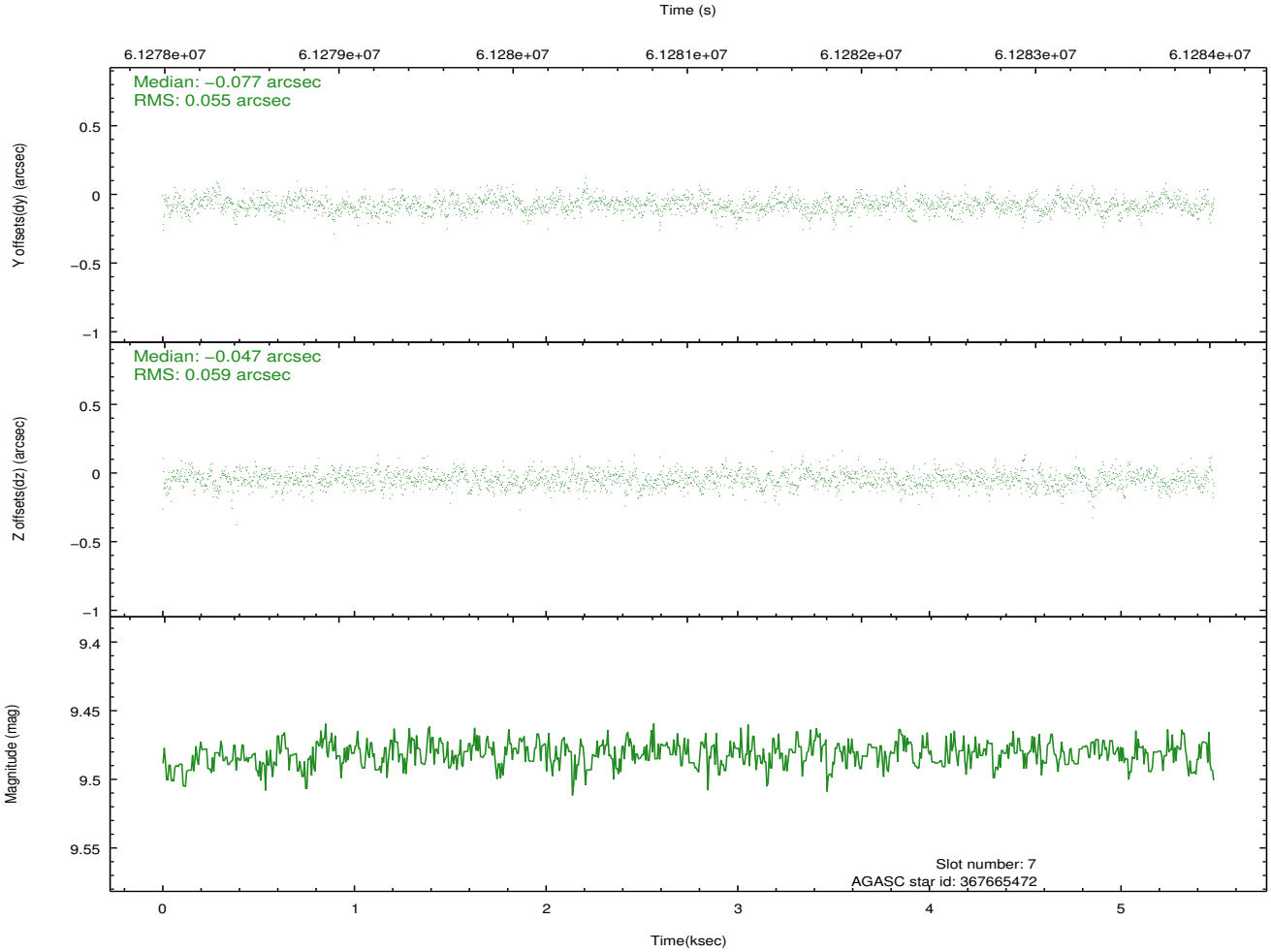

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.018 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 367658664


Time (s)
Median: −0.006 arcsec
RMS: 0.058 arcsec
Y offsets(dy) (arcsec)
Median: −0.017 arcsec
RMS: 0.065 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 367658664
Time(ksec)

2.4.5 Slot 7

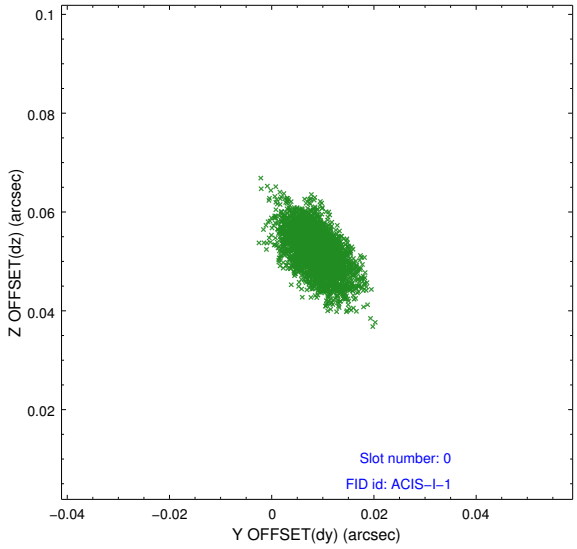

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 367148872

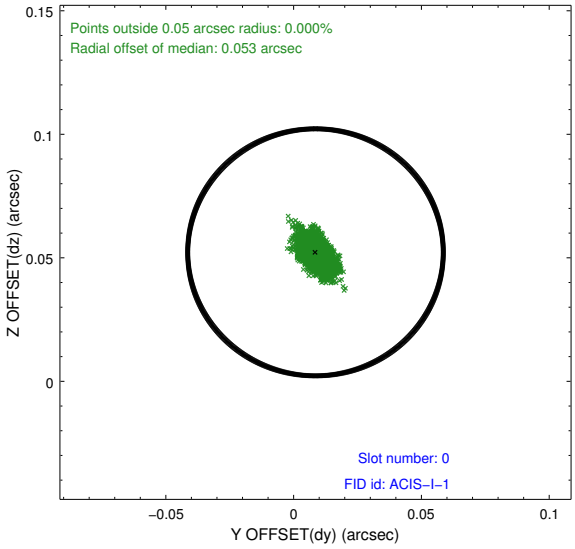

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.090 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 367665472

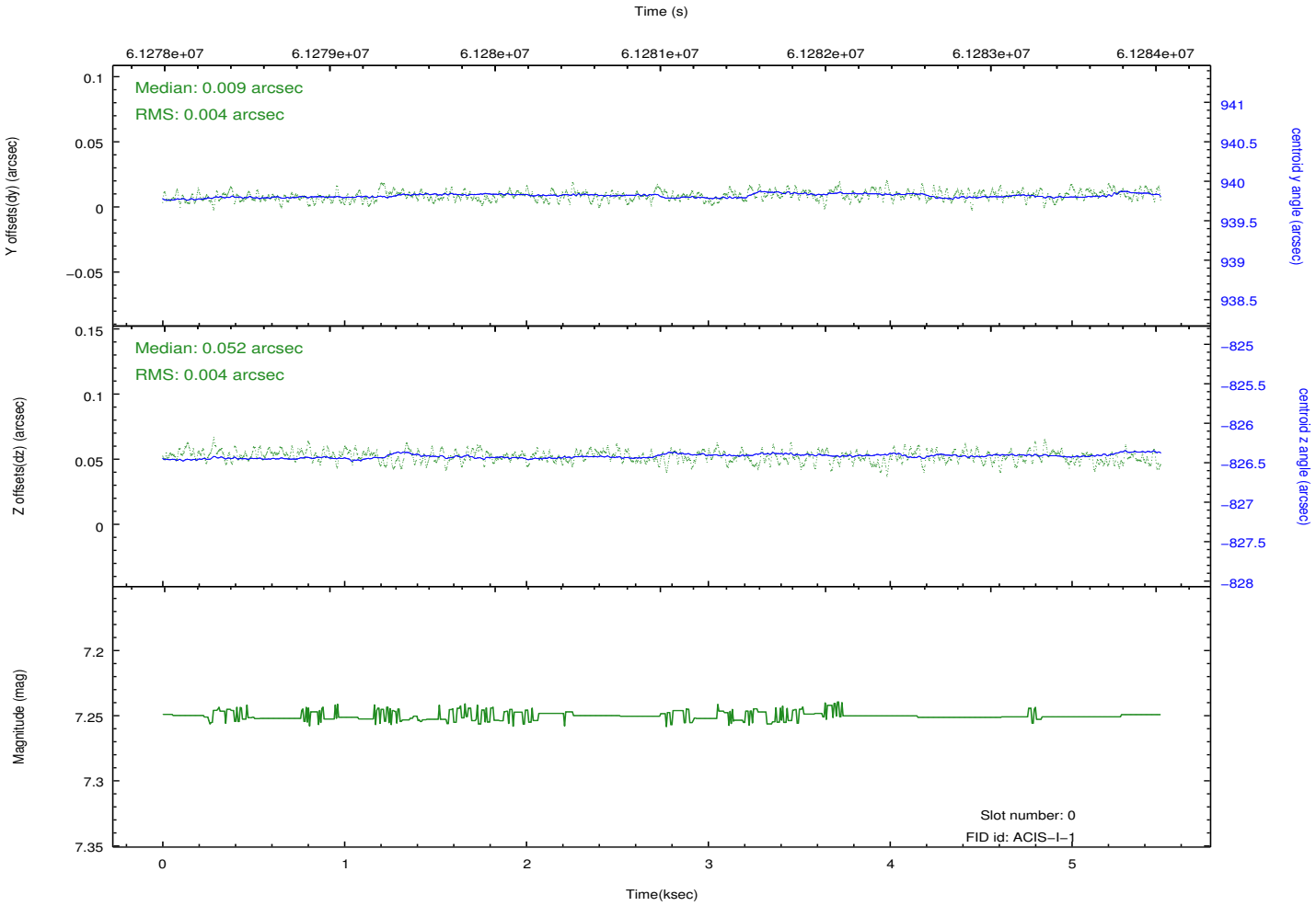

Time (s)
Median: −0.077 arcsec
RMS: 0.055 arcsec
Y offsets(dy) (arcsec)
Median: −0.047 arcsec
RMS: 0.059 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 367665472
Time(ksec)

2.5 FID Slots

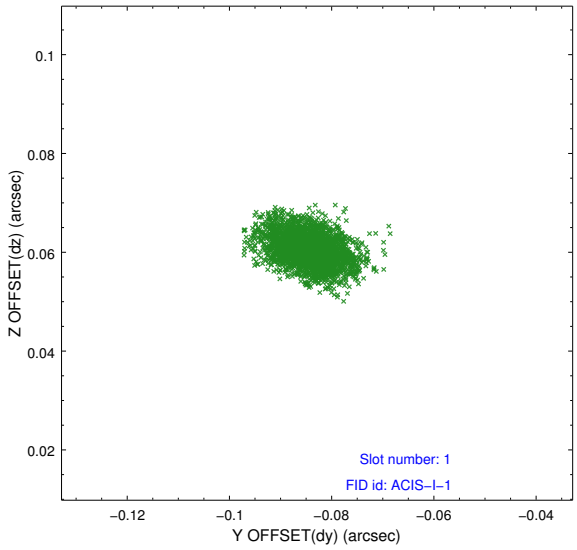
2.5.1 Slot 0

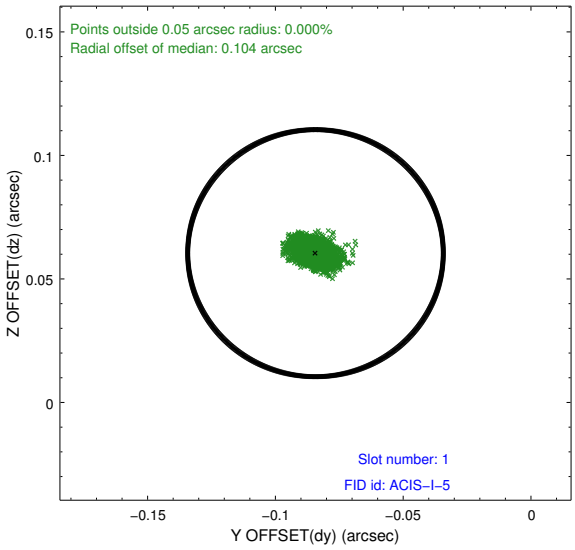


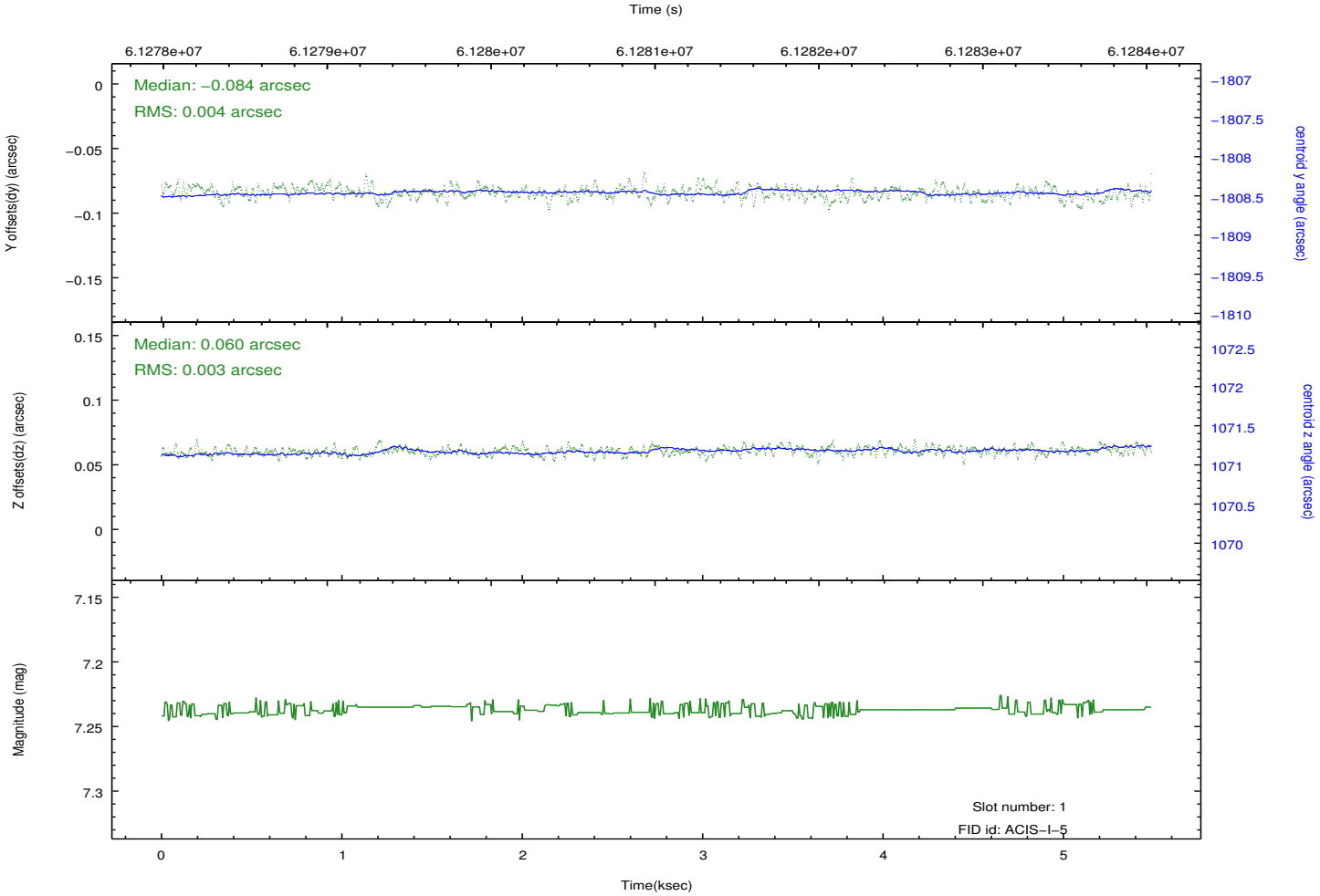




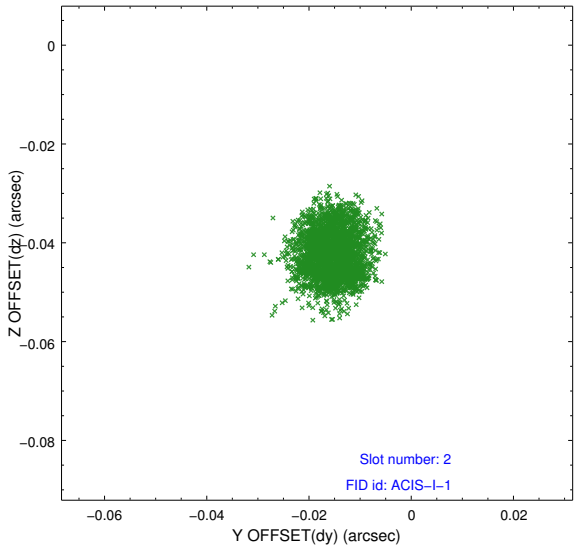
2.5.2 Slot 1

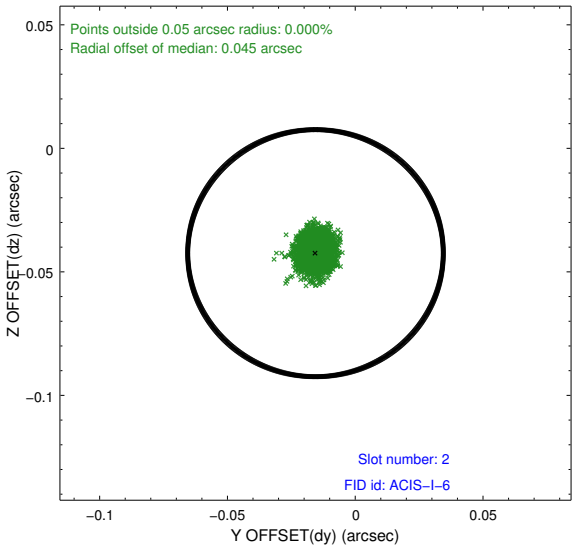

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−I−1

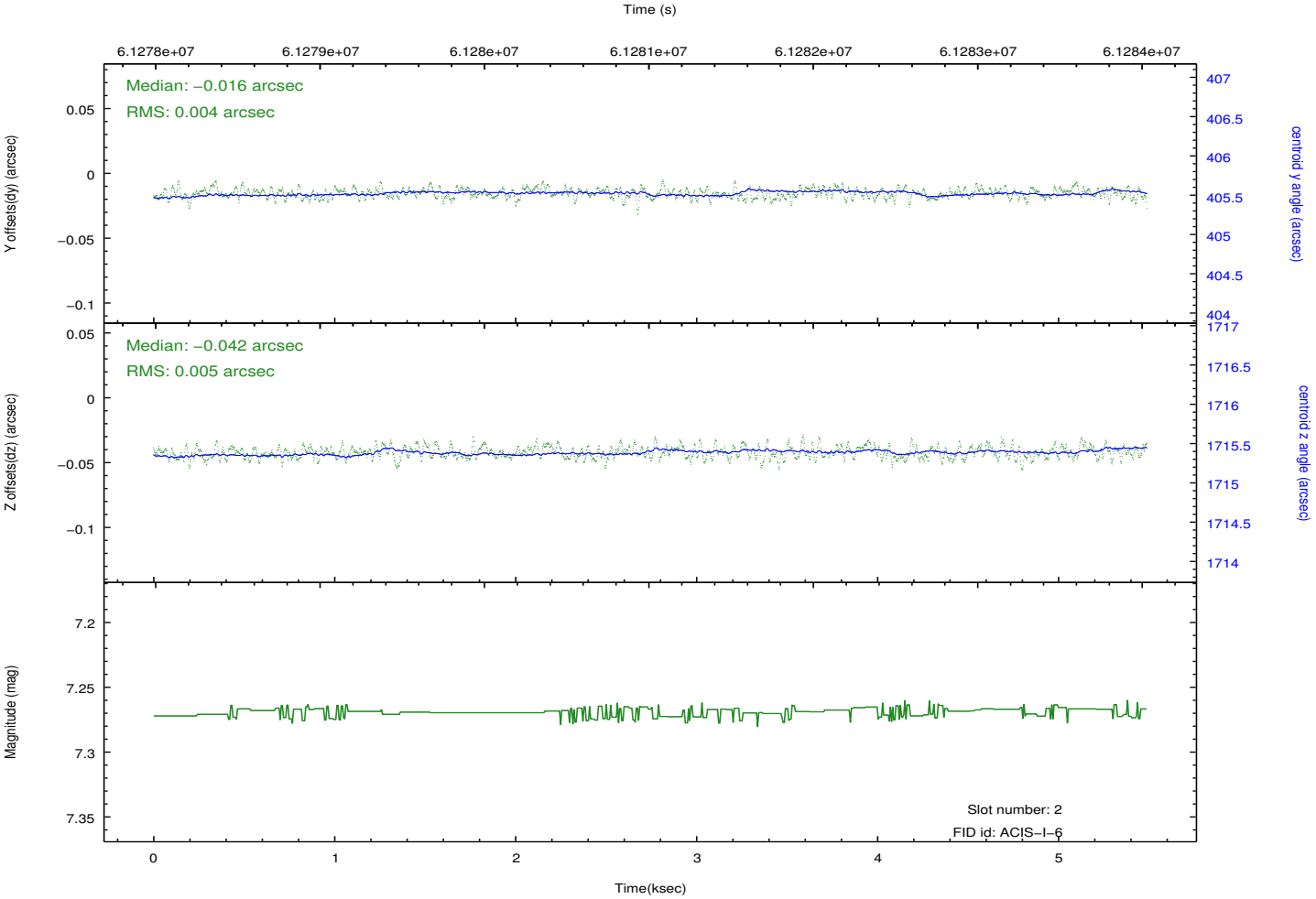

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.104 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−I−5


Time (s)
Median: −0.084 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.060 arcsec
RMS: 0.003 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: ACIS−I−5
Time(ksec)

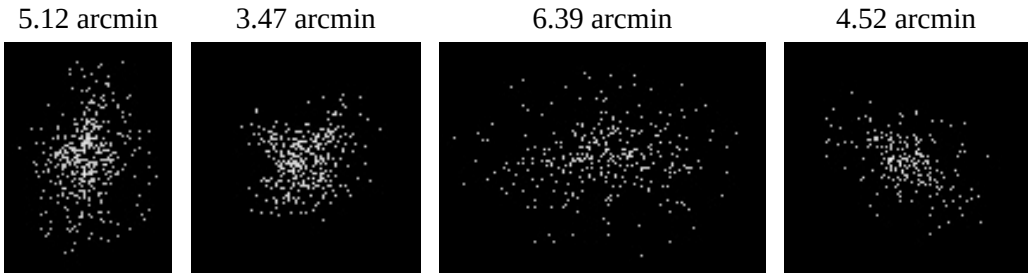
2.5.3 Slot 2


Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−I−1


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.045 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−I−6


Time (s)
Median: −0.016 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.042 arcsec
RMS: 0.005 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: ACIS−I−6
Time(ksec)

3 Point Sources



A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2009.11.27
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.182

A.2 Comments

```
Focal plane temperature is warmer than -118.7 C degrees during the
entire observation. This temperature is the upper limit of the verified
ACIS calibration for the front-illuminated chips. The focal plane
temperature is warmer than -116.7 degrees C for the entire observation.
This temperature is the upper limit of the verified ACIS calibration for
the back-illuminated chips. The ACIS spectral response calibration is
less accurate at these warmer temperatures than it is at -119.7 C. Users
whose science objectives depend on the most accurate spectral response
(ie: fitting line-rich spectra) may notice an effect. Users whose
science objectives do not depend on the most accurate spectral response
should not notice an effect.
==============

This reprocessing of the data applies no CTI correction because none is
available for that temperature.
```