V&V Reference Report
L2 ASCDS Version : 8.4.4

Observation 8367 - L2 Version 3
Chandra X-Ray Center

L2 Processing Date : Apr 19 2012

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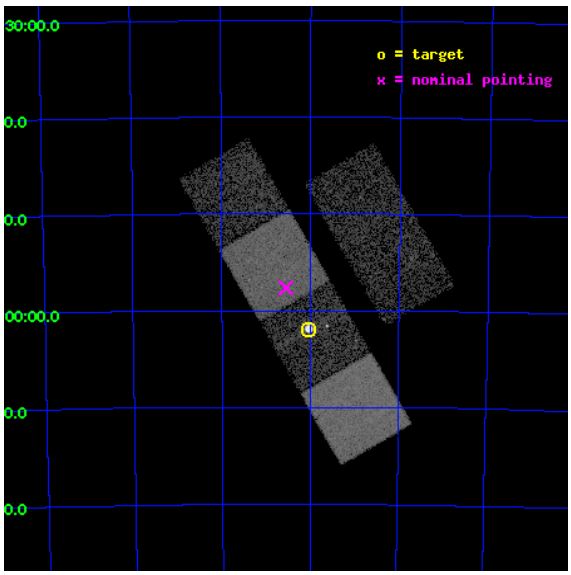
1 Front

seq_num	590460	Sequence number
obs_id	8367	Observation id
title	AO8 Calibration Observations of E0102-72	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	E0102-72[S2,-120,5.15,0,0]	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	16.01	Observer's specified target RA [deg]
dec_targ	-72.032028	Observer's specified target Dec [deg]
ra_nom	16.138451737587	Nominal RA [deg]
dec_nom	-71.960674024742	Nominal Dec [deg]
roll_nom	239.97918203543	Nominal Roll [deg]
revision	3	Processing version of data
ontime	7955.1999704242	Sum of GTIs [s]
livetime	7854.4664383523	Livetime [s]
ontime2	7955.1999704242	Sum of GTIs [s]
ontime3	7955.1999704242	Sum of GTIs [s]
ontime5	7955.1999704242	Sum of GTIs [s]
ontime6	7955.1999704242	Sum of GTIs [s]
ontime7	7955.1999704242	Sum of GTIs [s]
ontime8	7951.959000051	Sum of GTIs [s]
l2events	106562	Number of level 2 events

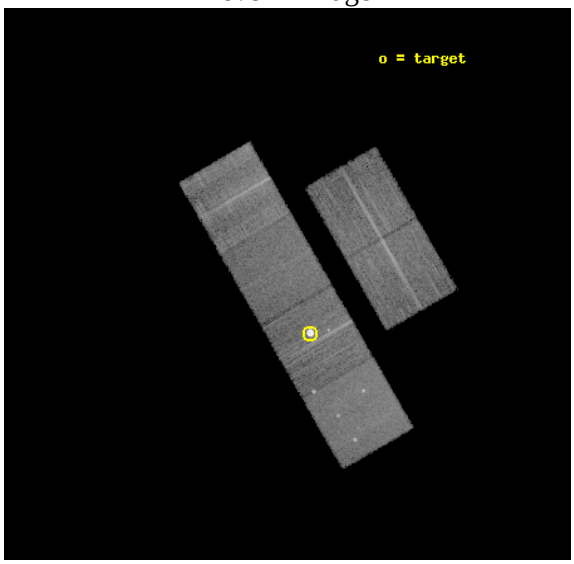


2 OBI

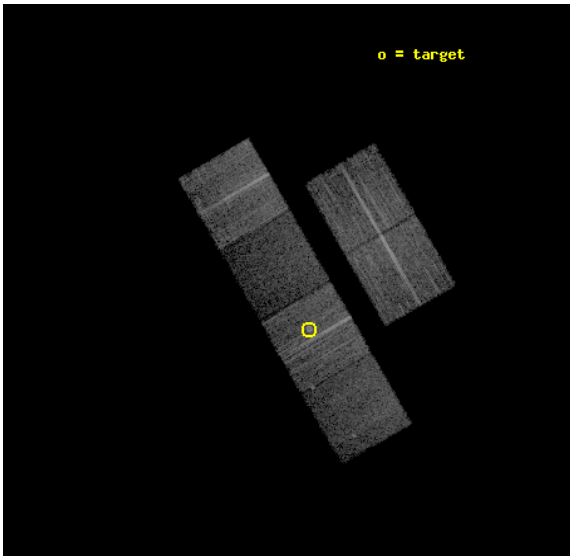
2.1 OBI

2.1.1 Images

Level 1 Image

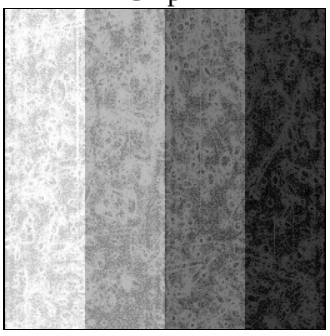


Level 1 Bad Events

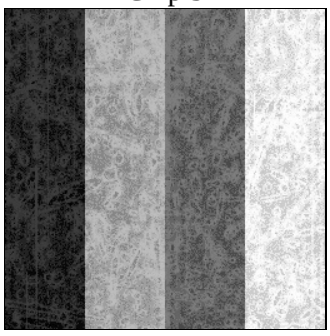


2.1.2 Bias

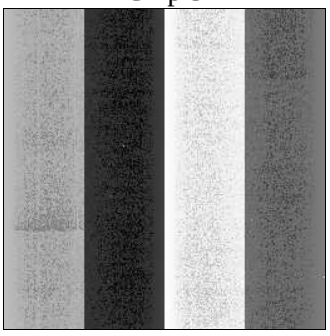
Chip 2



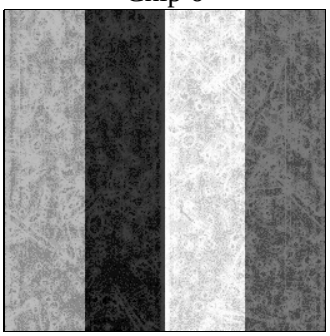
Chip 3



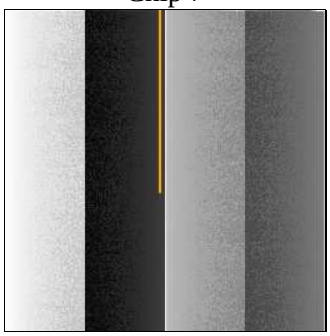
Chip 5



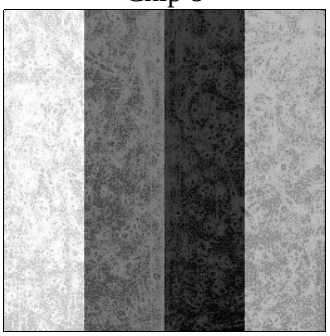
Chip 6



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	2012-04-19T14:33:14	Date and time of file creation
revision	3	Processing version of data

sched_exp_time	8200.000000	[s] Scheduled observation exposure time
ontime	7955.1999704242	Sum of GTIs [s]
ontime2	7955.1999704242	Sum of GTIs [s]
ontime3	7955.1999704242	Sum of GTIs [s]
ontime5	7955.1999704242	Sum of GTIs [s]
ontime6	7955.1999704242	Sum of GTIs [s]
ontime7	7955.1999704242	Sum of GTIs [s]
ontime8	7951.959000051	Sum of GTIs [s]
l1events	397278	Number of level 1 events

2.1.4 Events

	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	58963	54468	72075	84939	53517	73316
rejected events	53393	49474	33614	51325	27073	56280
rejected %	90%	90%	46%	60%	50%	76%

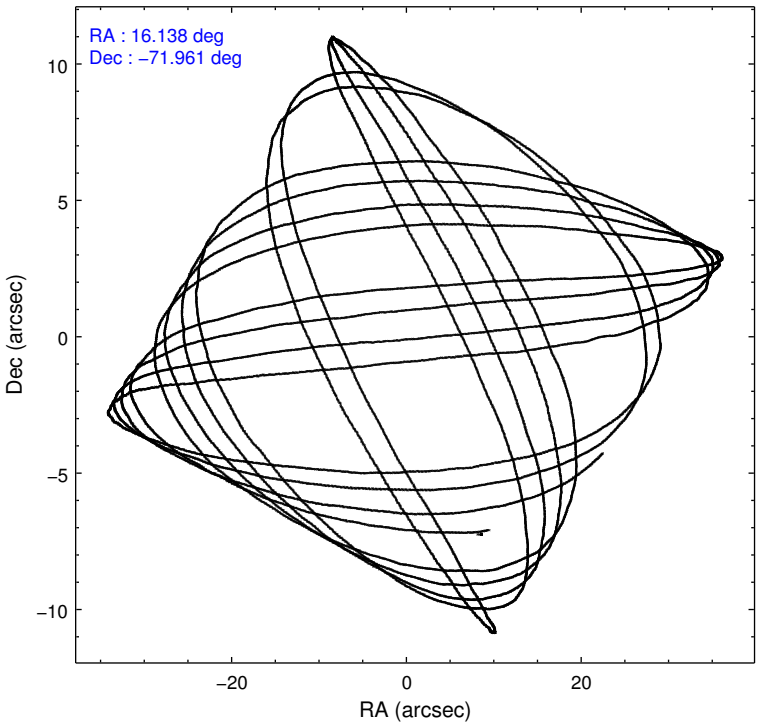
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	2189	1812	4664	26784	2860	4769
	3%	3%	6%	31%	5%	6%
grade 1 events	38	38	253	275	93	60
	0%	0%	0%	0%	0%	0%
grade 2 events	1301	1075	11644	3294	5637	3916
	2%	1%	16%	3%	10%	5%
grade 3 events	602	591	1671	1087	2533	1914
	1%	1%	2%	1%	4%	2%
grade 4 events	580	576	1624	1077	2430	1793
	0%	1%	2%	1%	4%	2%
grade 5 events	1611	1830	5728	1987	5786	2877
	2%	3%	7%	2%	10%	3%
grade 6 events	905	943	18871	1377	13001	4648
	1%	1%	26%	1%	24%	6%
grade 7 events	51737	47603	27620	49058	21177	53339
	87%	87%	38%	57%	39%	72%

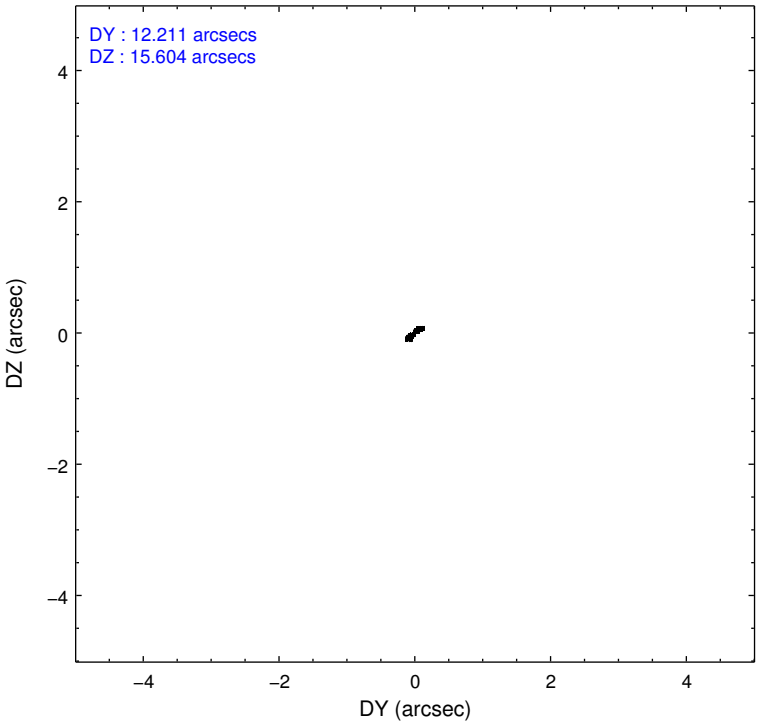
2.2 Compared Parameters

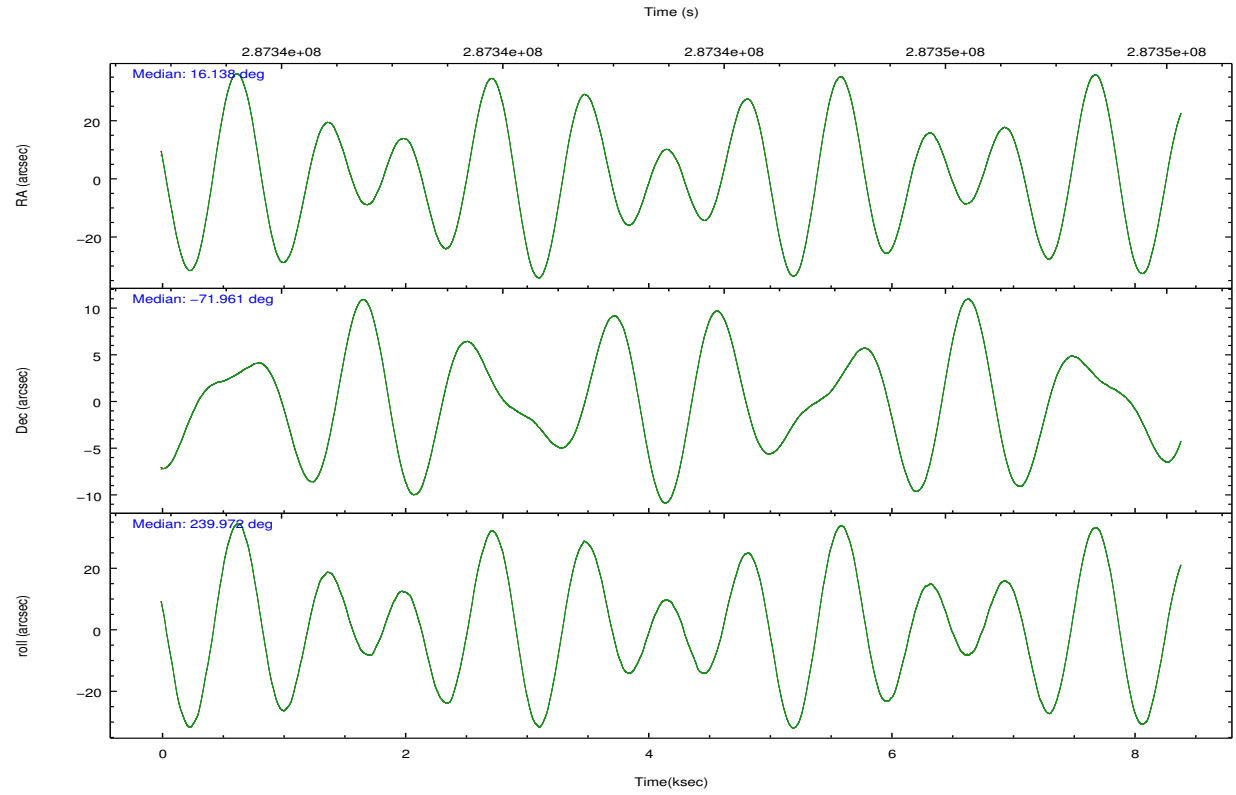
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-235678	ACIS-235678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	16.137479	16.13845173758664
[deg] Pointing Dec	-71.933277	-71.96067402474181
[deg] Pointing Roll	239.821633	239.979182035432
[s] Window start time (MET)	281318465.184000	281318465.184000
[s] Window stop time (MET)	294278465.184000	294278465.184000
[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)	287339505.184000	287339129.80104
Observation start date	2007-02-08T16:30:40	2007-02-08T16:25:29
[s] Observation end time (MET)	287347705.184000	287348425.52648
Observation end date	2007-02-08T18:47:20	2007-02-08T19:00:25
Read mode	TIMED	TIMED

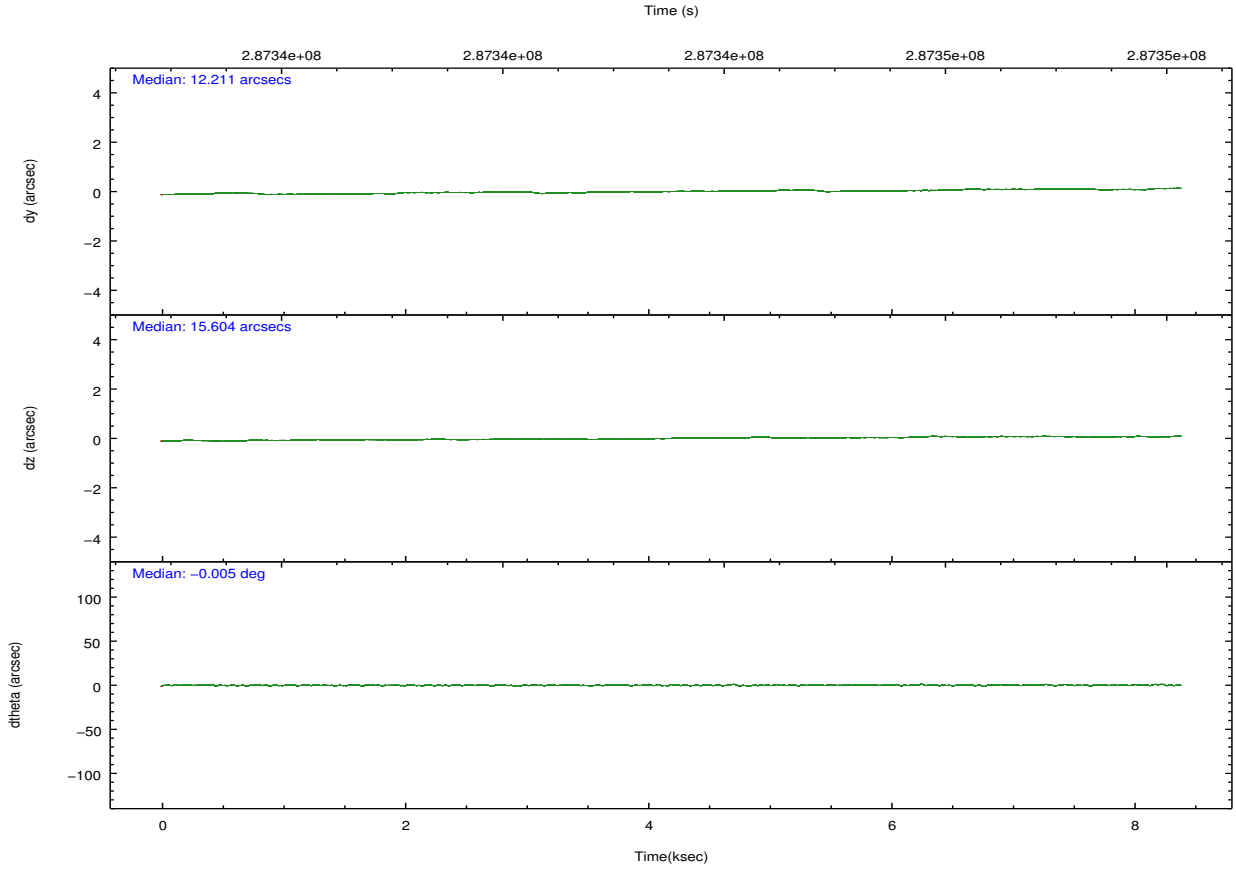
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	Y	Y
CCD I3 on	Y	Y
CCD S0 on	N	N
CCD S1 on	Y	Y
CCD S2 on	Y	Y
CCD S3 on	Y	Y
CCD S4 on	O1	Y
CCD S5 on	N	N
Number of optional ACIS chips dropped	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 : 16.138 deg
Dec : –71.961 deg
Dec (arcsec)
RA (arcsec)
10
5
0
–5
–10
–20
0
20


DY : 12.211 arcsecs
DZ : 15.604 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
–2
–4
–4
–2
0
2
4


Time (s)
2.8734e+08
2.8734e+08
2.8734e+08
2.8735e+08
2.8735e+08
Median: 16.138 deg
RA (arcsec)
Median: −71.961 deg
Dec (arcsec)
Median: 239.978 deg
roll (arcsec)
Time(ksec)

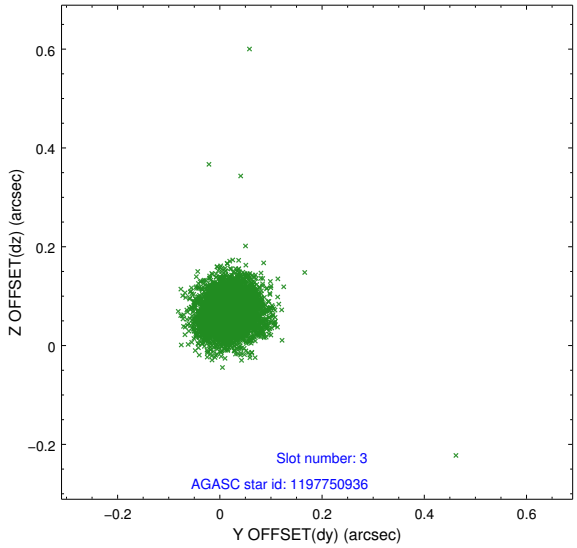

Time (s)
2.8734e+08
2.8734e+08
2.8734e+08
2.8735e+08
2.8735e+08
Median: 12.211 arcsecs
dy (arcsec)
Median: 15.604 arcsecs
dz (arcsec)
Median: −0.005 deg
dtheta (arcsec)
Time(ksec)

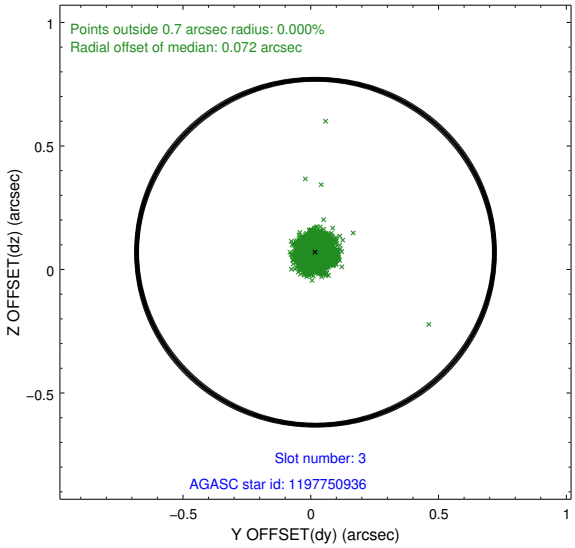
Slot Statistics

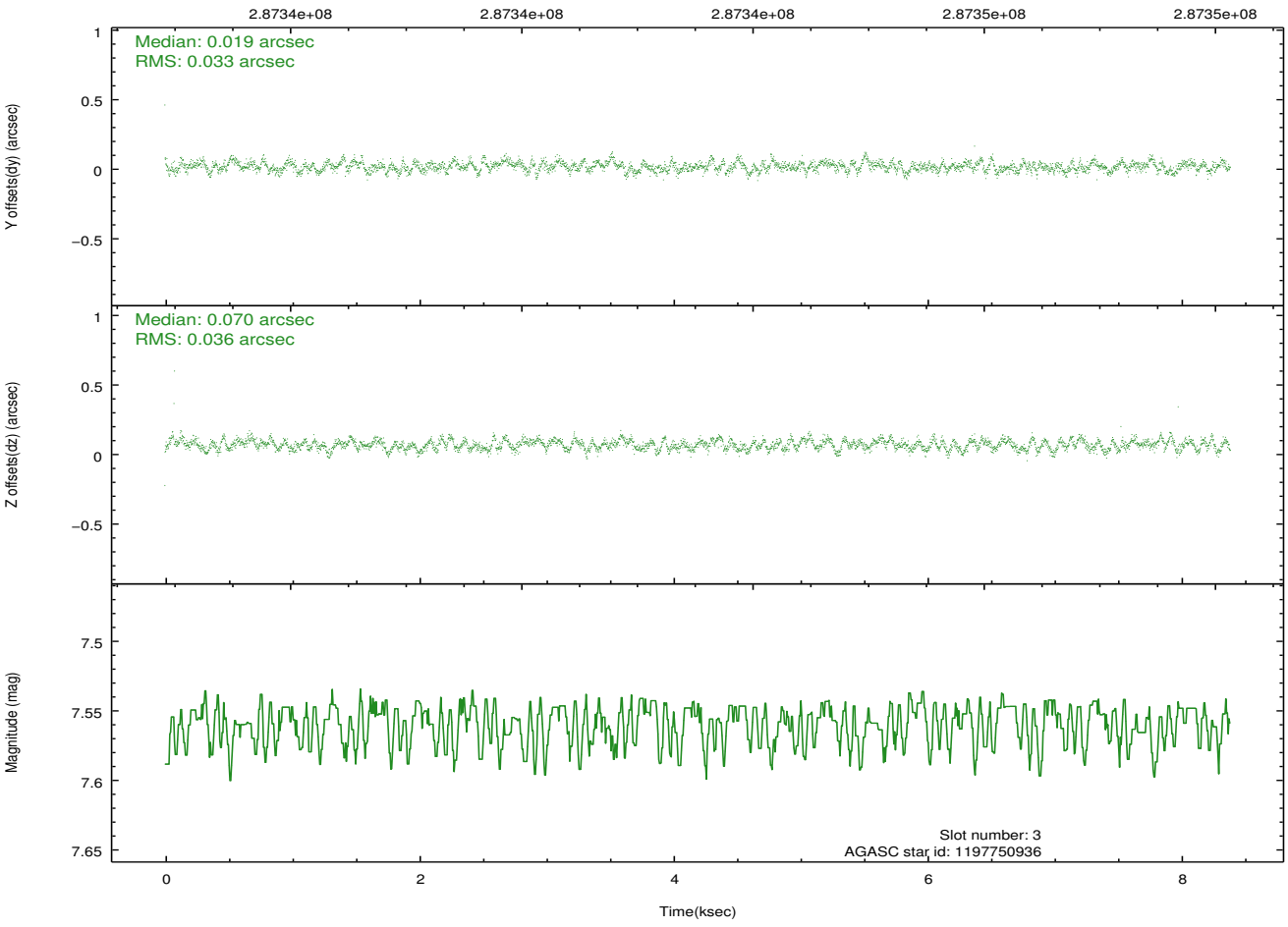
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	2047	-0.045	-0.025	0.007	0.012	0.000000	0.000000	-765.12	-1737.04
1	FID	ACIS-S-4	7.20	2046	0.147	0.029	0.006	0.011	0.000000	0.000000	2148.02	170.86
2	FID	ACIS-S-5	7.23	2047	-0.133	0.006	0.007	0.011	0.000000	0.000000	-1817.23	165.20
3	GUIDE	1197750936	7.56	4093	0.019	0.070	0.050	0.079	15.387940	-71.549550	-760.03	-1429.55
4	GUIDE	1197884536	8.50	4093	-0.047	0.005	0.074	0.119	17.160729	-71.835289	-874.24	820.07
5	GUIDE	1197884712	8.29	4090	0.067	-0.018	0.056	0.091	16.087398	-72.252690	1021.37	531.16
6	GUIDE	1197885104	9.38	4028	0.115	-0.017	0.095	0.155	17.845067	-72.189368	-124.69	2102.51
7	GUIDE	1198283128	7.75	4092	-0.154	-0.044	0.052	0.082	17.272580	-72.642428	1603.52	2343.93

2.4 Star Slots

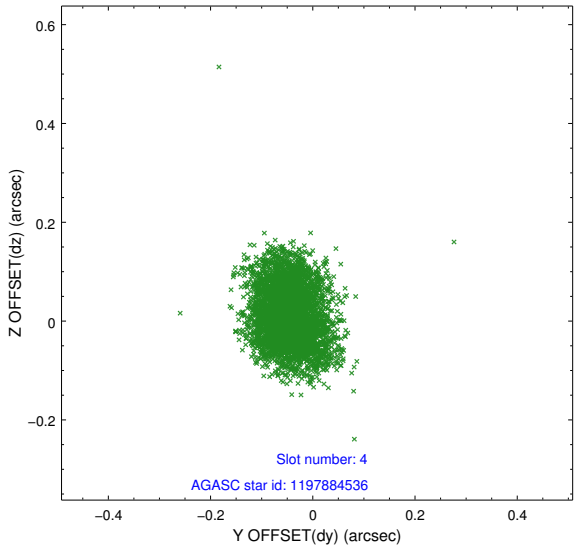
2.4.1 Slot 3

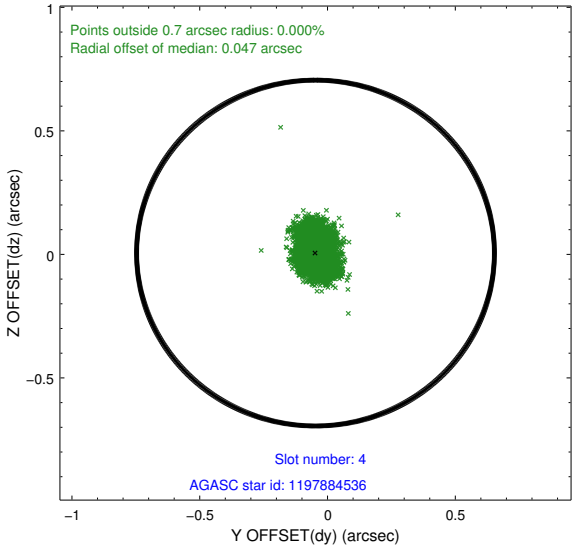


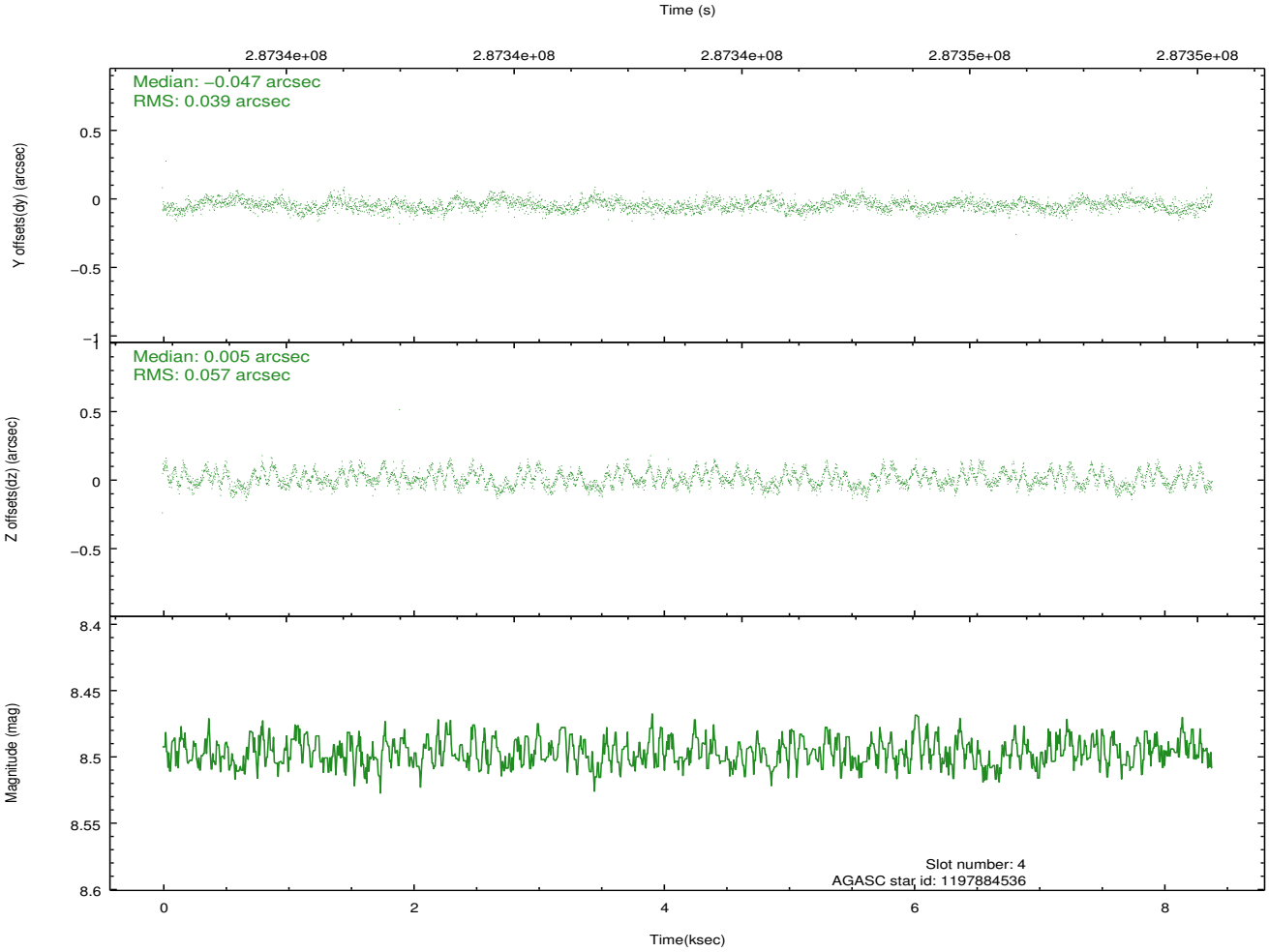




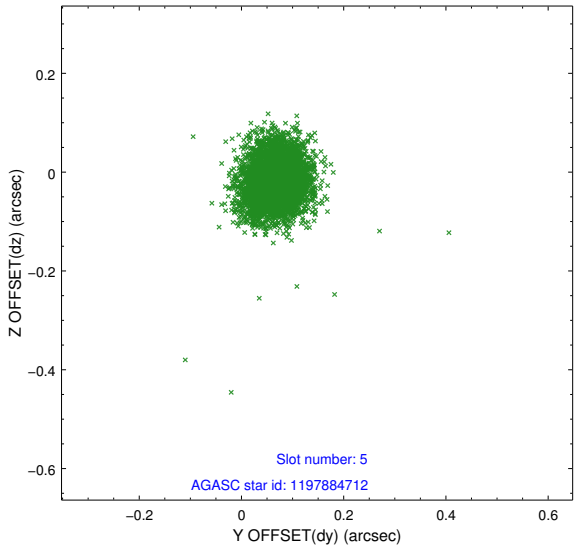
2.4.2 Slot 4

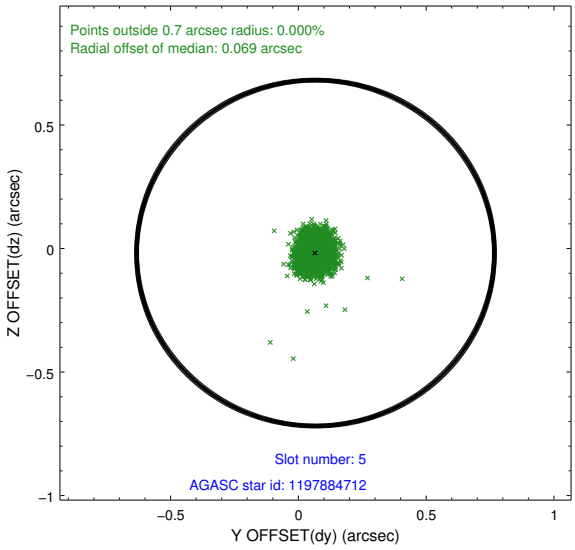

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 1197884536

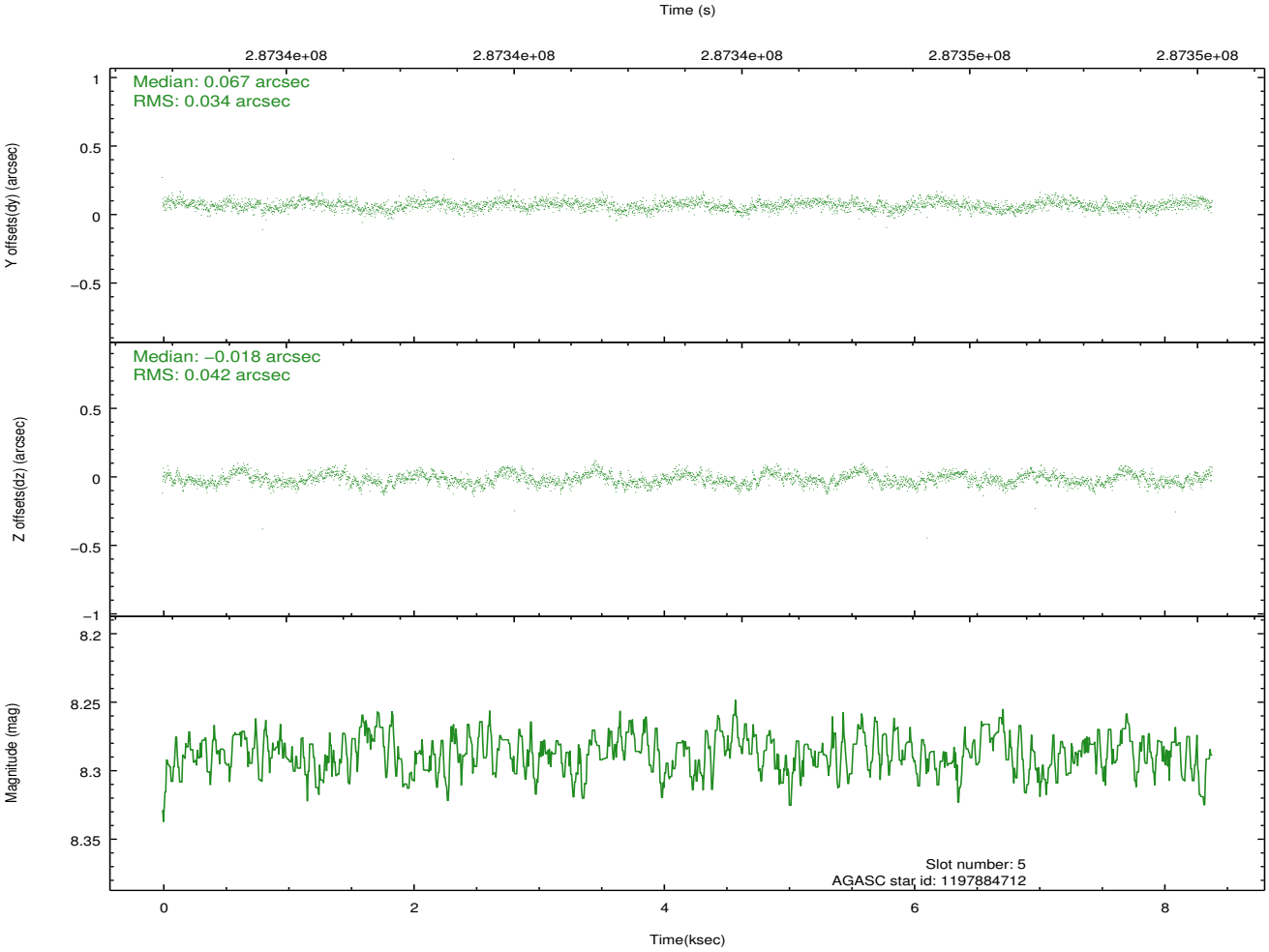

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.047 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 1197884536


Time (s)
Median: −0.047 arcsec
RMS: 0.039 arcsec
Y offsets(dy) (arcsec)
Median: 0.005 arcsec
RMS: 0.057 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 1197884536
Time(ksec)

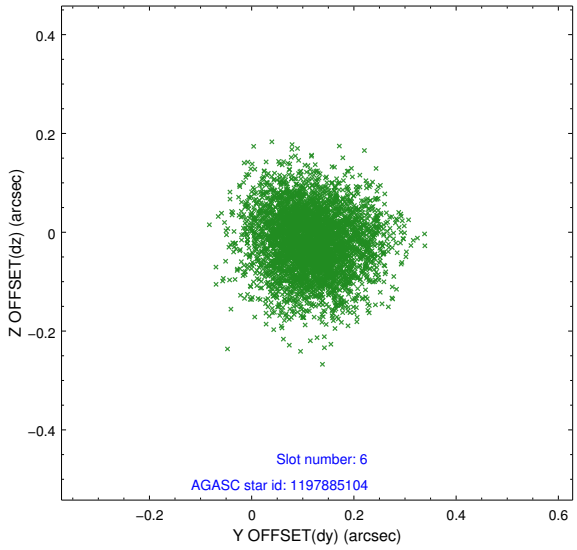
2.4.3 Slot 5

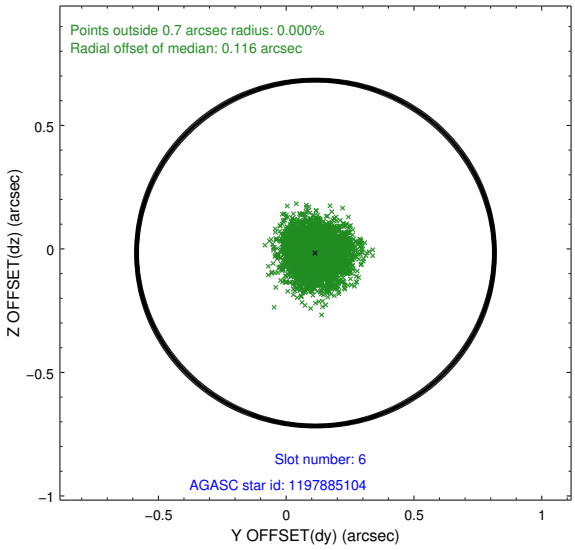

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 1197884712

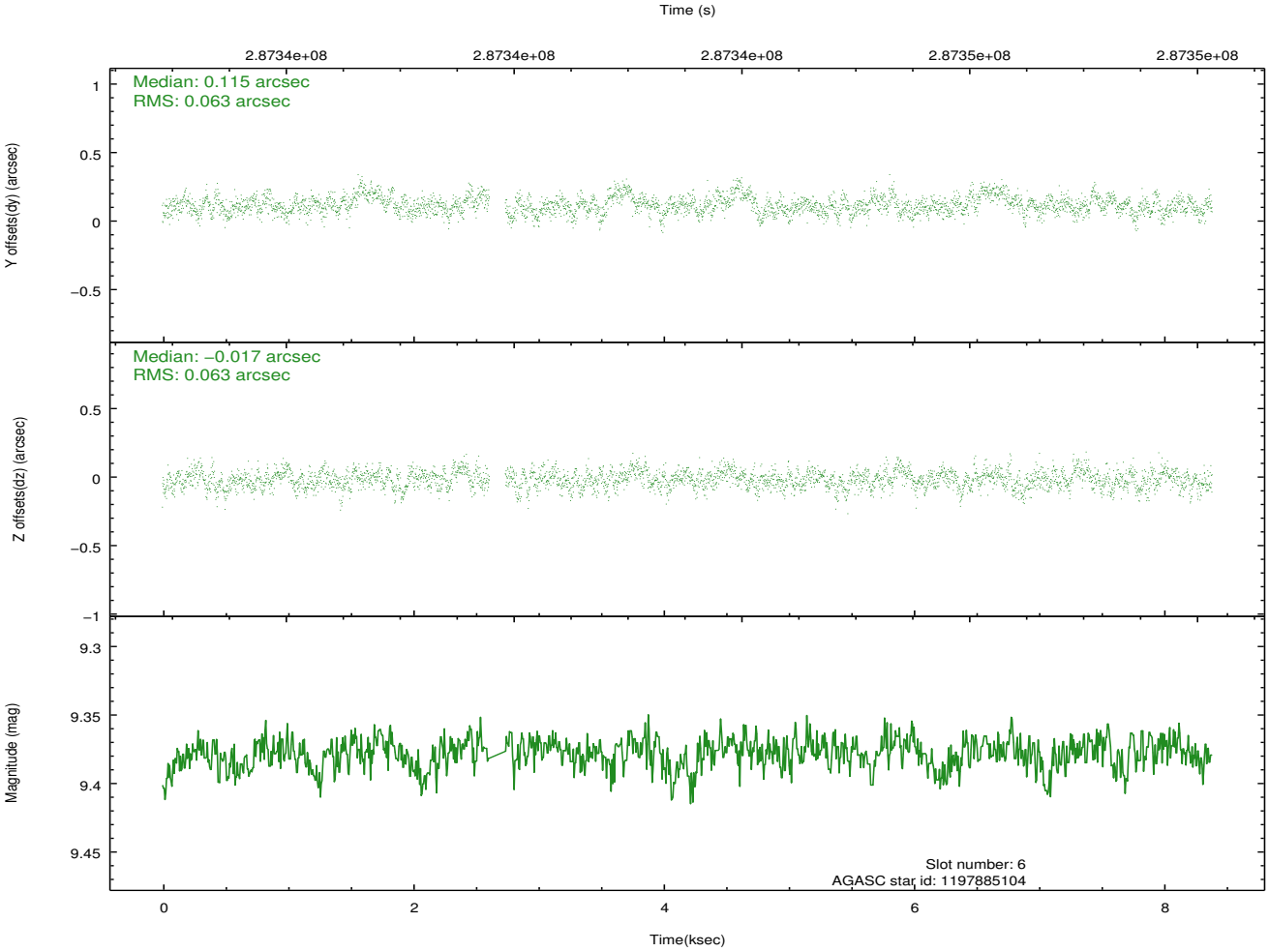

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.069 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 1197884712


Time (s)
Median: 0.067 arcsec
RMS: 0.034 arcsec
Y offsets(dy) (arcsec)
Median: −0.018 arcsec
RMS: 0.042 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 1197884712
Time(ksec)

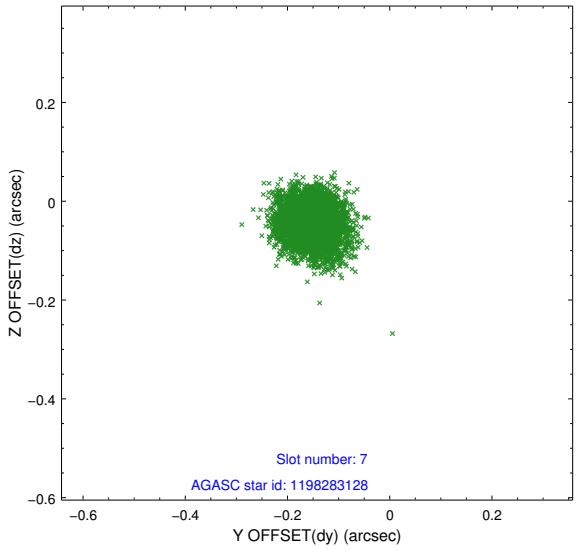
2.4.4 Slot 6

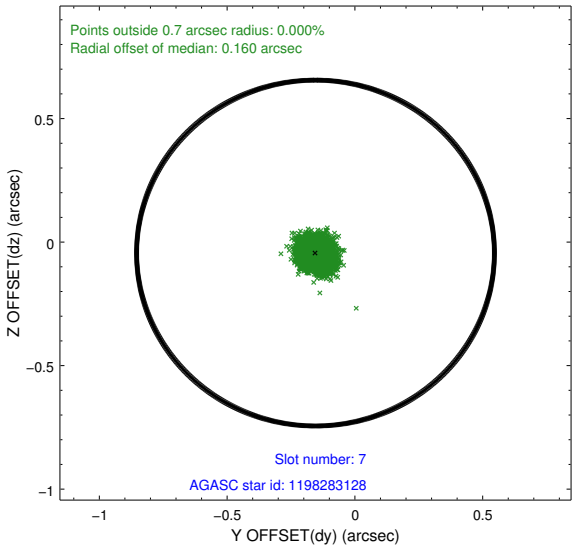

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 1197885104

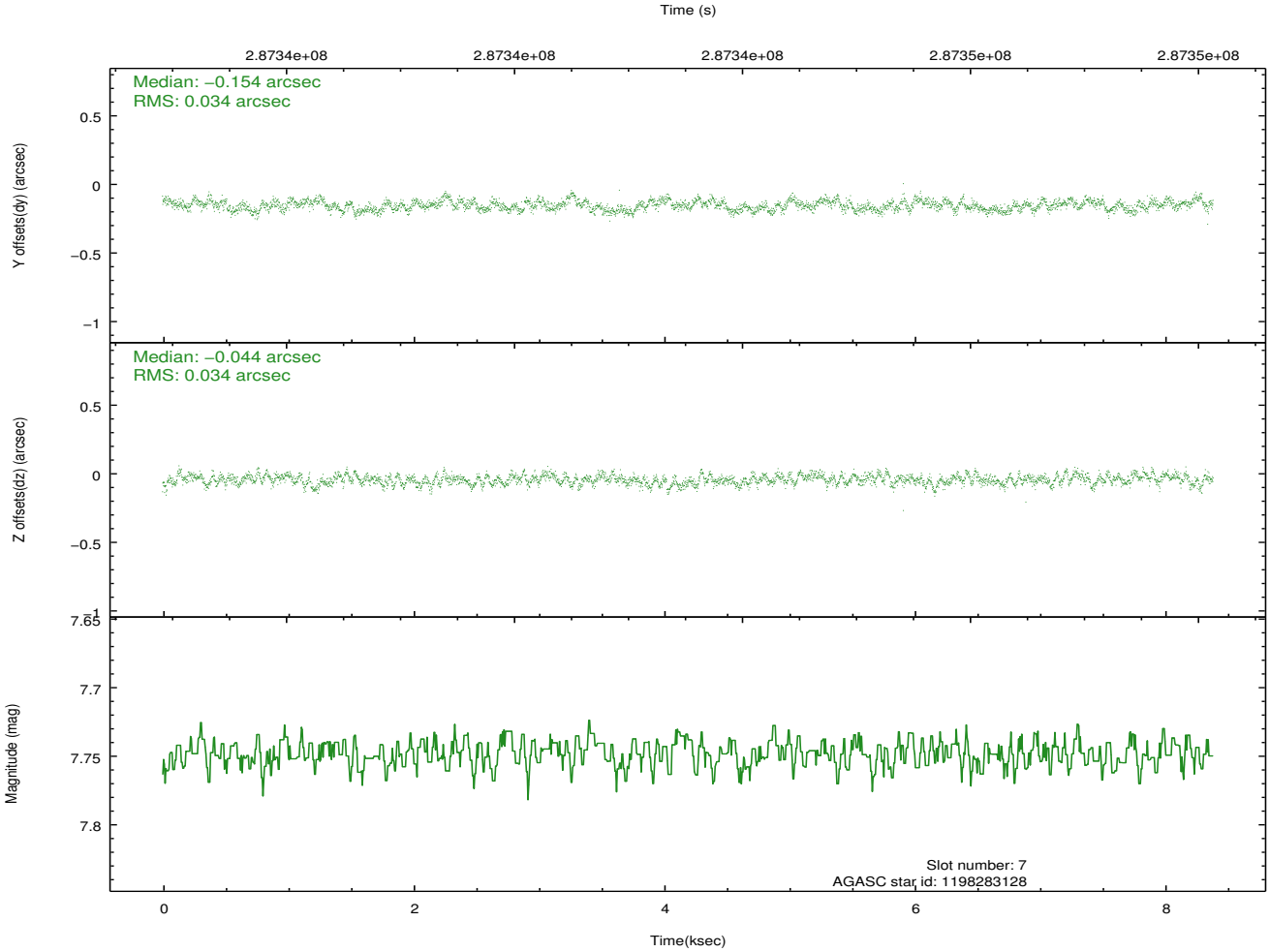

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.116 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 1197885104


Time (s)
Median: 0.115 arcsec
RMS: 0.063 arcsec
Y offsets(dy) (arcsec)
Median: −0.017 arcsec
RMS: 0.063 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 1197885104
Time(ksec)

2.4.5 Slot 7

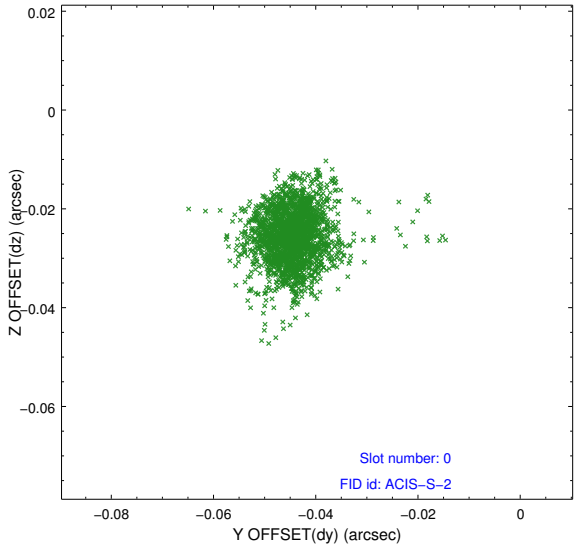

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 1198283128

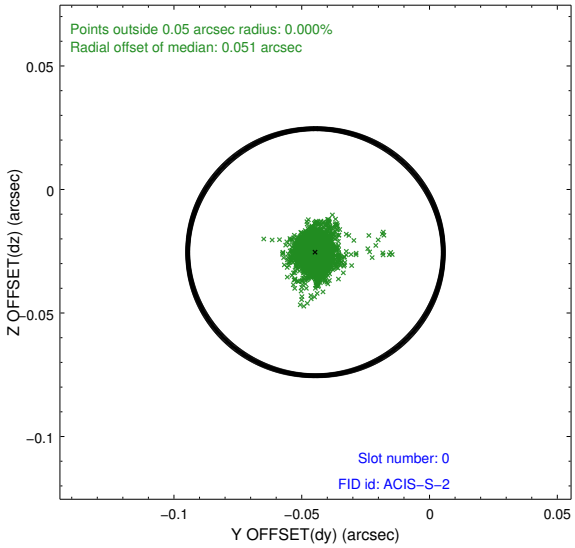

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.160 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 1198283128

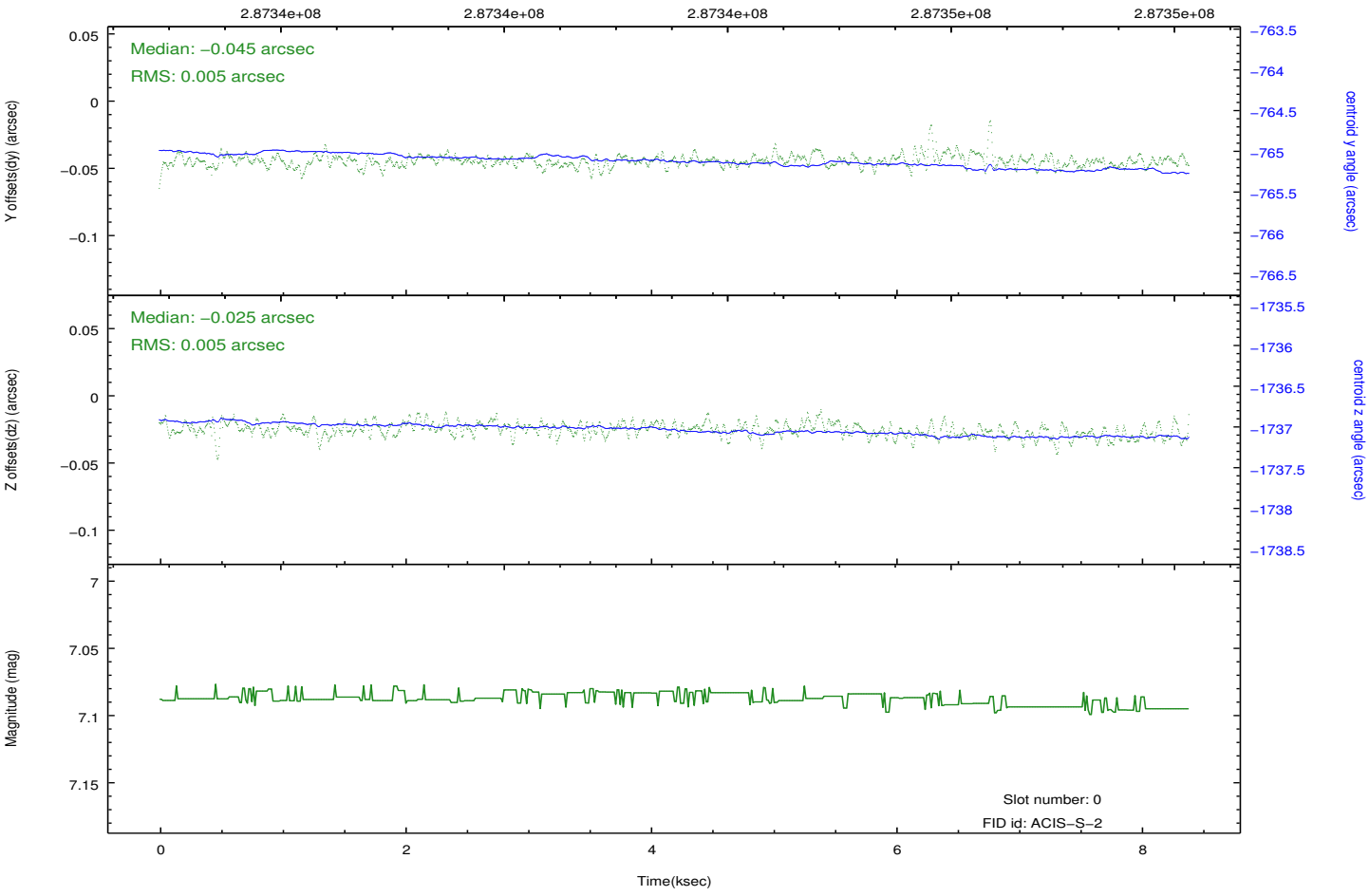

Time (s)
Median: −0.154 arcsec
RMS: 0.034 arcsec
Y offsets(dy) (arcsec)
Median: −0.044 arcsec
RMS: 0.034 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 1198283128
Time(ksec)

2.5 FID Slots

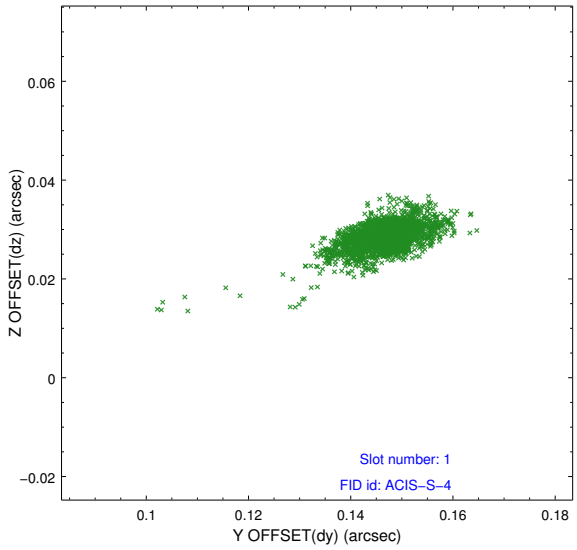
2.5.1 Slot 0

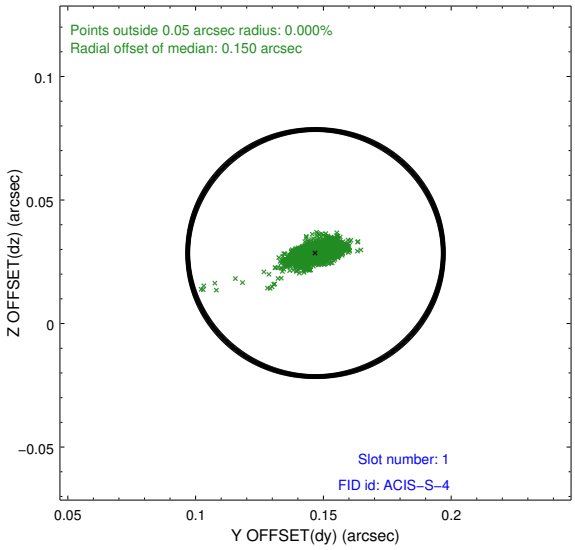


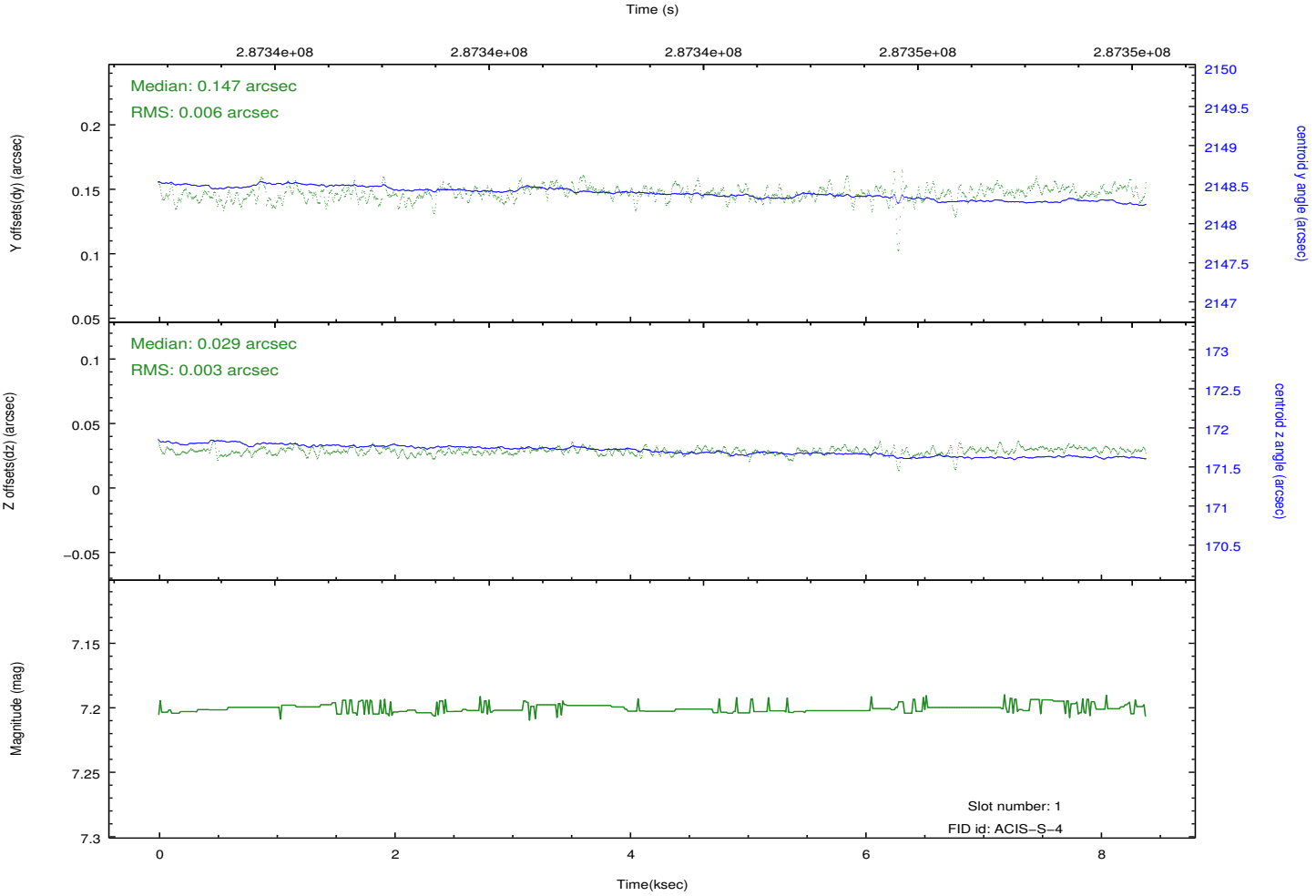




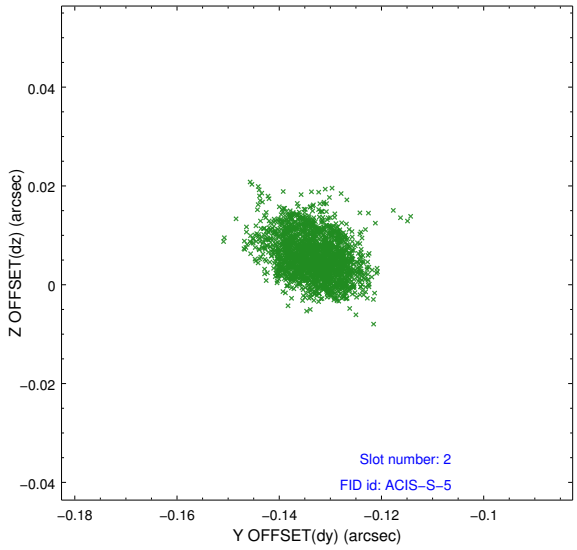
2.5.2 Slot 1

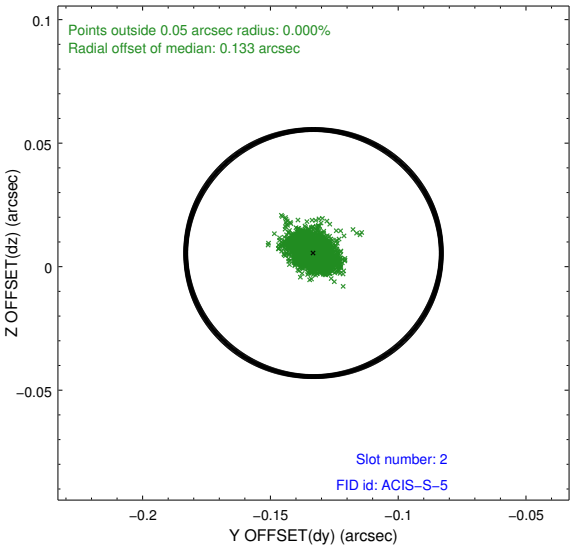

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4

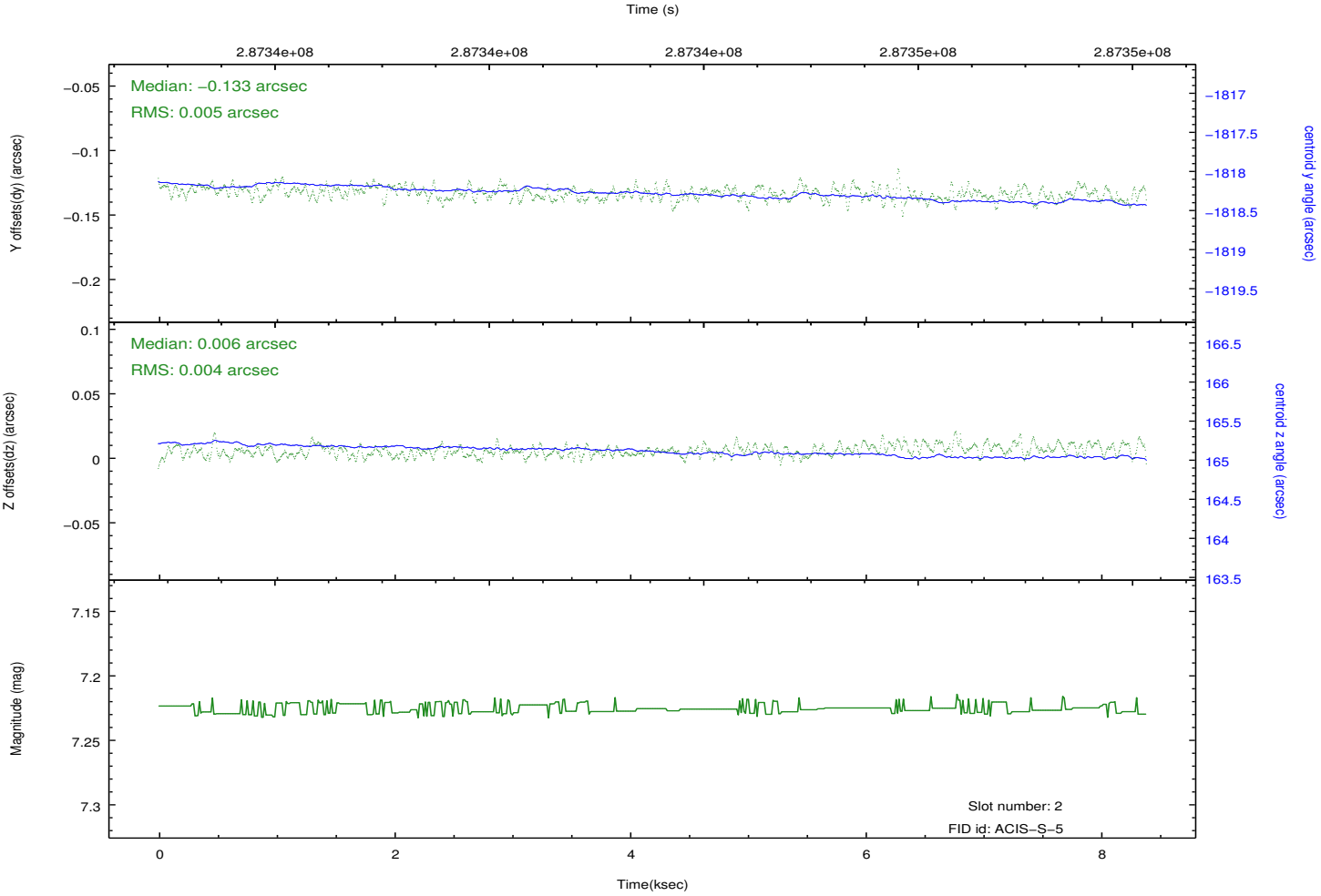

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.150 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4


Time (s)
Median: 0.147 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.029 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: 0.133 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−5


Time (s)
Median: −0.133 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.006 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	Beth Sundheim
V&V Date (YYYY-MM-DD)	2012.04.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	7.95519997

A.2 Comments

```
Window preference met.
```