V&V Reference Report
L2 ASCDS Version : 7.6.8

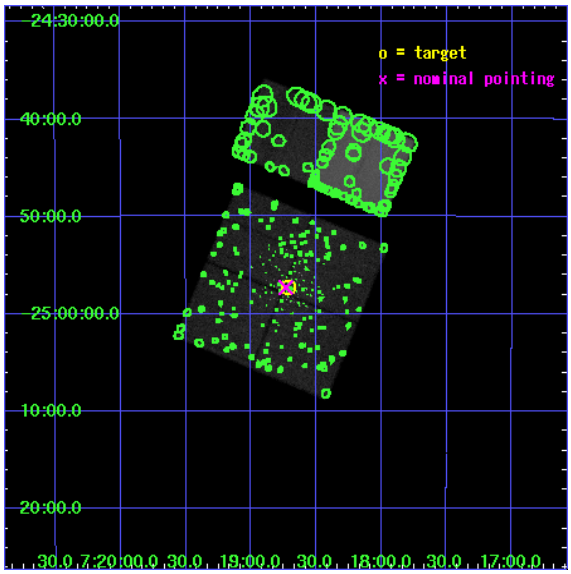
Observation 4469 - L2 Version 001
Chandra X-Ray Center

L2 Processing Date : Jun 22 2006

Contents

1 Front

seq_num	200238
obs_id	4469
title	AN X-RAY STUDY OF THE YOUNG OPEN CLUSTER NGC 2362
observer	Dr. Stephen Murray
object	NGC 2362
dtycycle	0
cycle	P
ra_targ	109.678333
dec_targ	-24.955139
ra_nom	109.68343607986
dec_nom	-24.955194094239
roll_nom	22.312752840564
revision	2
ontime	99139.158640385
livetime	97883.798919246
ontime0	99135.917670101
ontime1	99139.158640385
ontime2	99139.158640414
ontime3	99139.158640385
ontime6	99139.158660382
ontime7	99142.399630666
l2events	650581

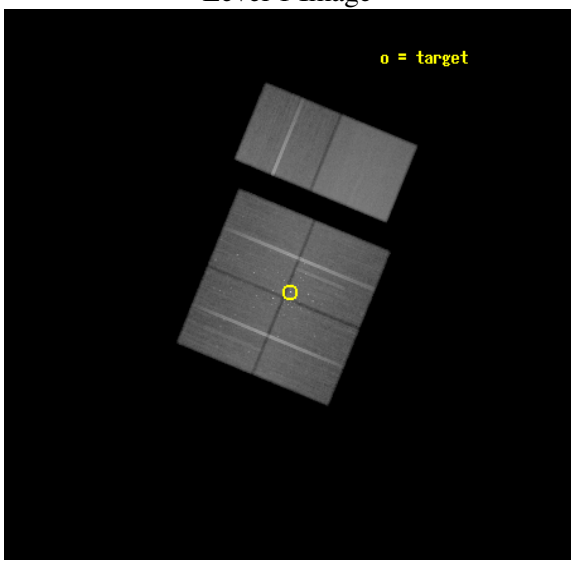


2 OBI

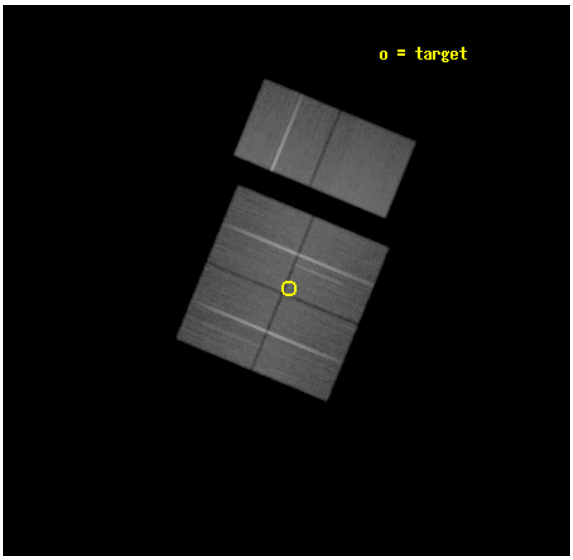
2.1 OBI

2.1.1 Images

Level 1 Image

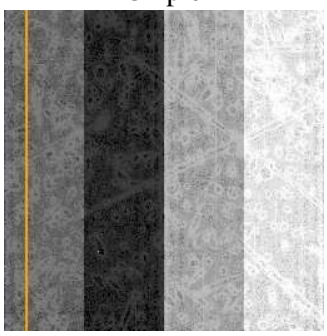


Level 1 Bad Events

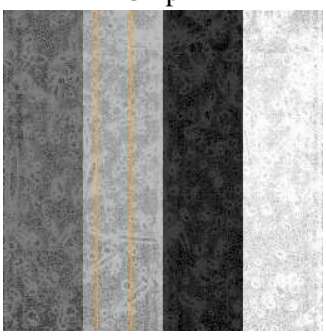


2.1.2 Bias

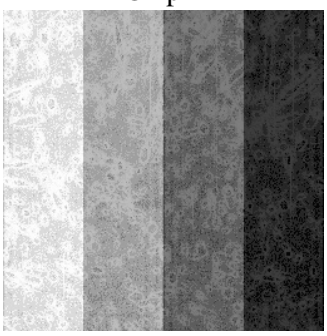
Chip 0



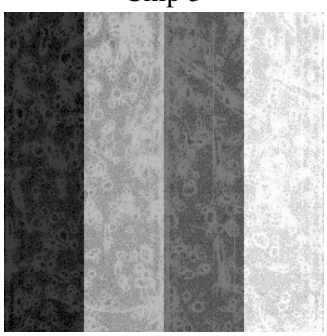
Chip 1



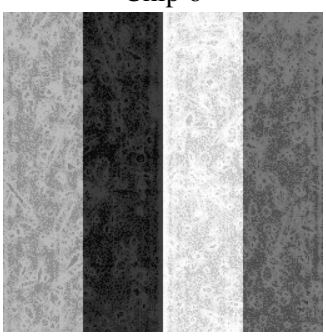
Chip 2



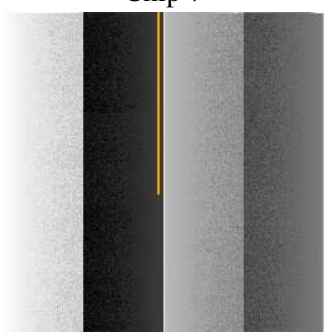
Chip 3



Chip 6



Chip 7



2.1.3 Parameters

obi_num	0
ascdsver	7.6.8
caldbver	3.2.2
date	2006-06-22T10:16:48
revision	2

sched_exp_time	99000.000000
ontime	99181.376392215
ontime0	99178.135421932
ontime1	99181.376392215
ontime2	99181.376392245
ontime3	99181.376392215
ontime6	99181.376412213
ontime7	99184.617382497
l1events	3716578

2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	540402	554101	592235	600940	616255	812645
rejected events	461832	472719	513362	512721	543221	504851
rejected %	85%	85%	86%	85%	88%	62%

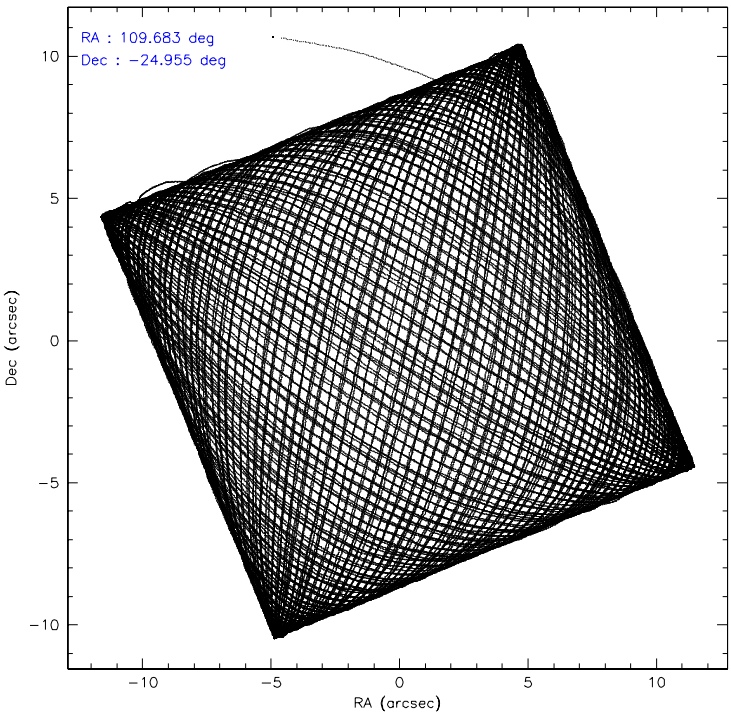
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
grade 0 events	36035	34850	38280	46583	29281	17617
	6%	6%	6%	7%	4%	2%
grade 1 events	338	298	412	697	269	527
	0%	0%	0%	0%	0%	0%
grade 2 events	15753	16677	14985	15004	15130	75712
	2%	3%	2%	2%	2%	9%
grade 3 events	7277	7450	6955	7133	7147	15841
	1%	1%	1%	1%	1%	1%
grade 4 events	6742	7553	6874	7262	6838	15404
	1%	1%	1%	1%	1%	1%
grade 5 events	24691	25233	23441	27183	28727	53975
	4%	4%	3%	4%	4%	6%
grade 6 events	12799	14882	11806	12287	14679	183363
	2%	2%	1%	2%	2%	22%
grade 7 events	436767	447158	489482	484791	514184	450206
	80%	80%	82%	80%	83%	55%

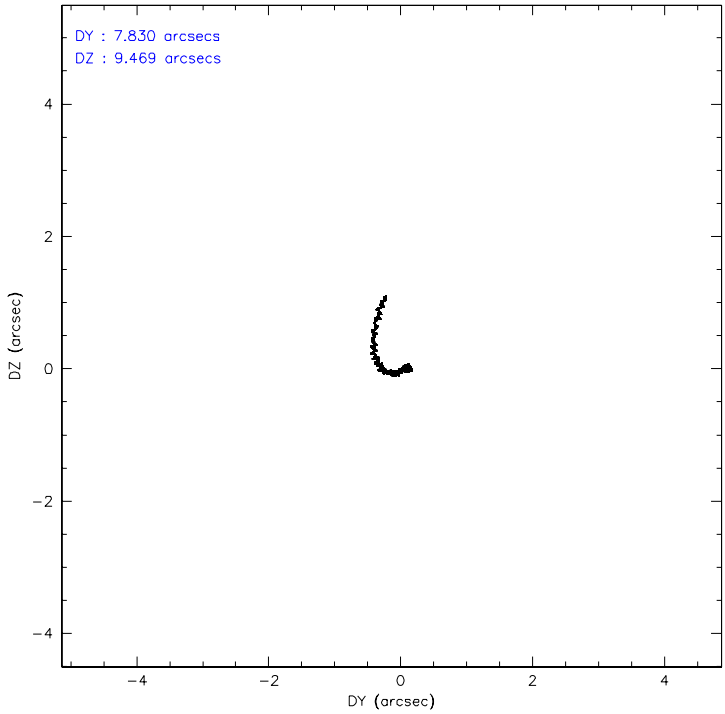
2.2 Compared Parameters

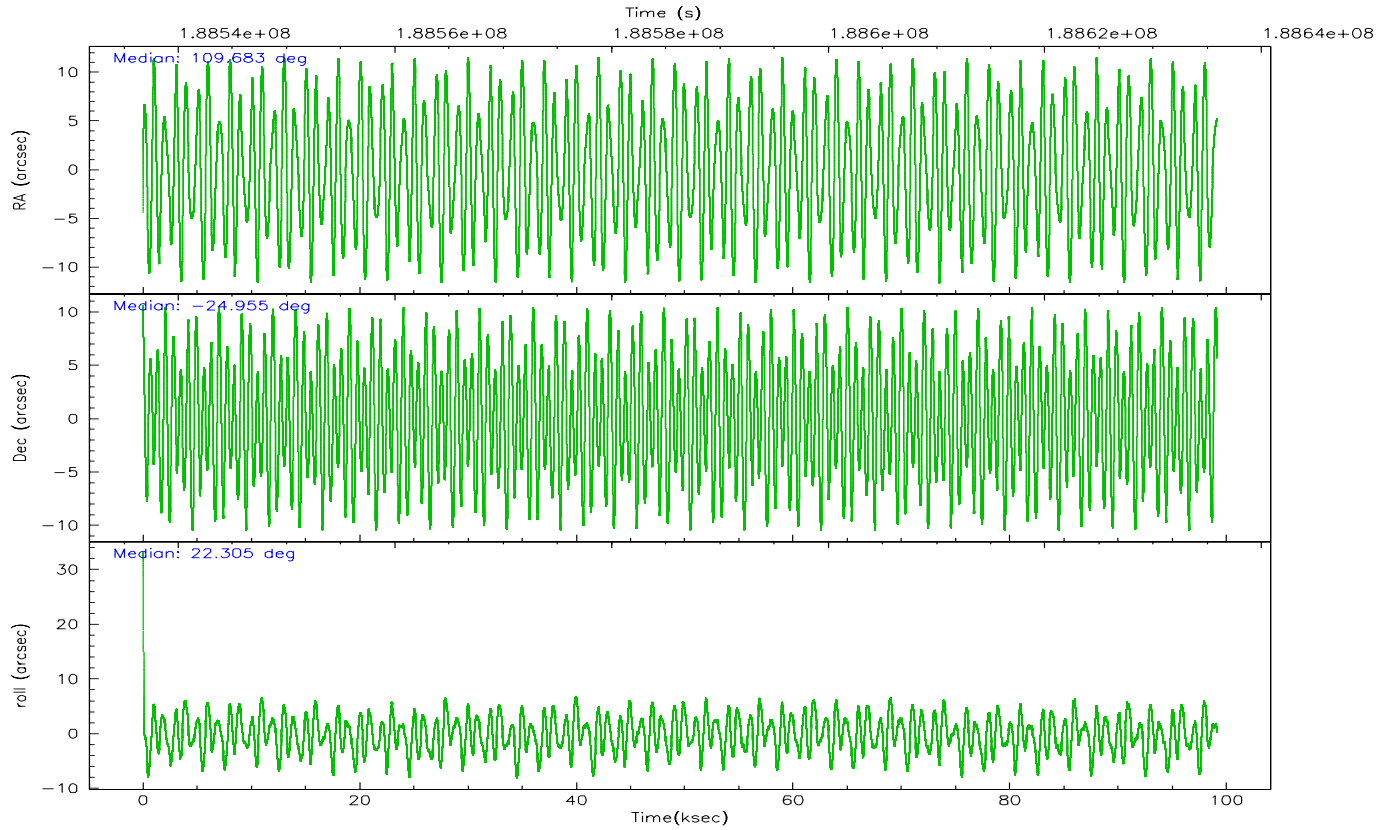
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-012367	ACIS-012367
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
Pointing RA	109.665080	109.6834360798552
Pointing Dec	-24.976932	-24.95519409423945
Pointing Roll	22.096315	22.31275284056386
SIM focus pos (mm)	-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	188536907.184000	188535838.52712
Observation start date	2003-12-23T03:20:43	2003-12-23T03:03:58
Observation end time	188635907.184000	188636593.9815
Observation end date	2003-12-24T06:50:43	2003-12-24T07:03:13
Read mode	TIMED	TIMED

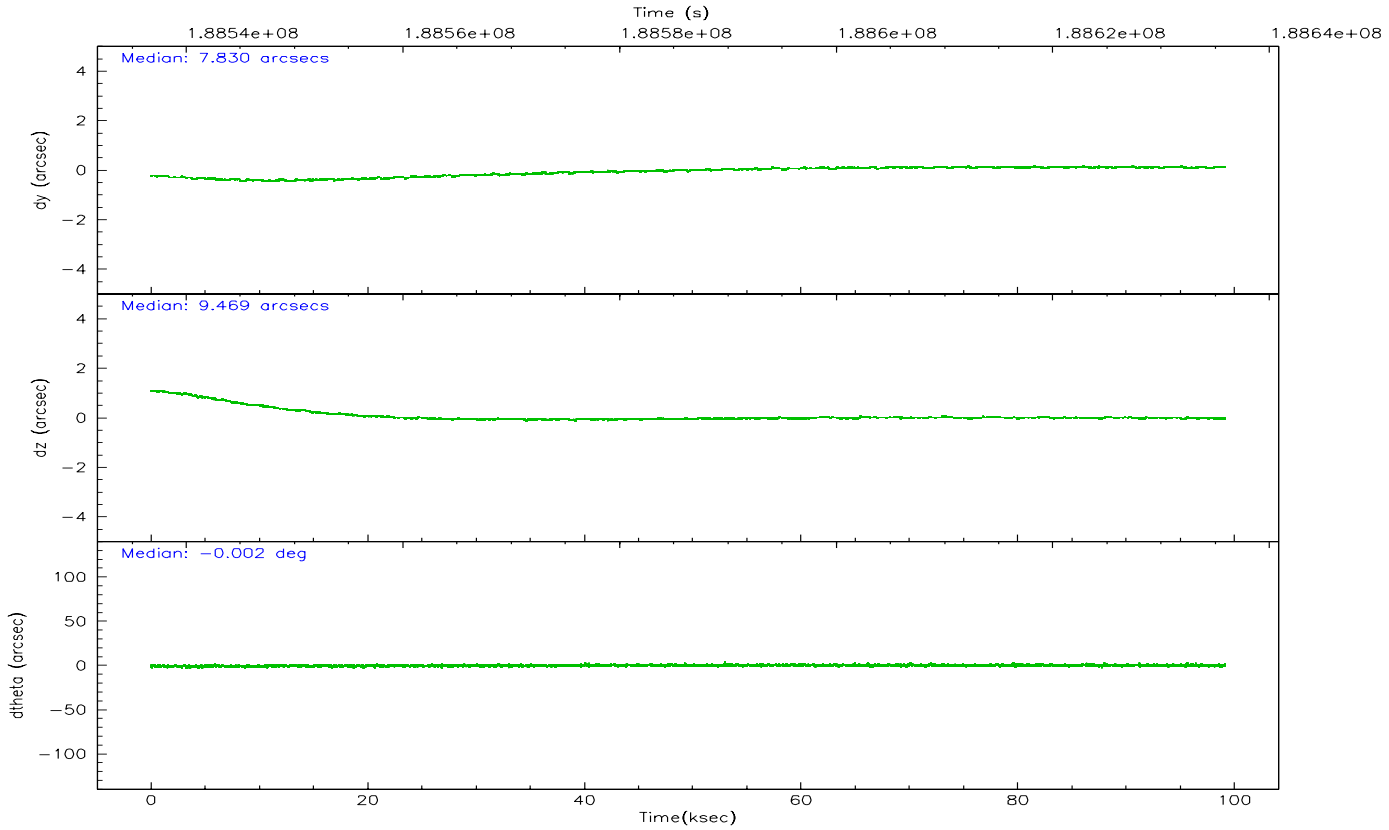
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
Primary exposure time	0.000000	3.2

2.3 Aspect


RA : 109.683 deg
Dec : −24.955 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10
−10
−5
0
5
10


DY : 7.830 arcsecs
DZ : 9.469 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
1.8854e+08
1.8856e+08
1.8858e+08
1.886e+08
1.8862e+08
1.8864e+08
Median: 109.683 deg
RA (arcsec)
Median: −24.955 deg
Dec (arcsec)
Median: 22.305 deg
roll (arcsec)
Time(ksec)

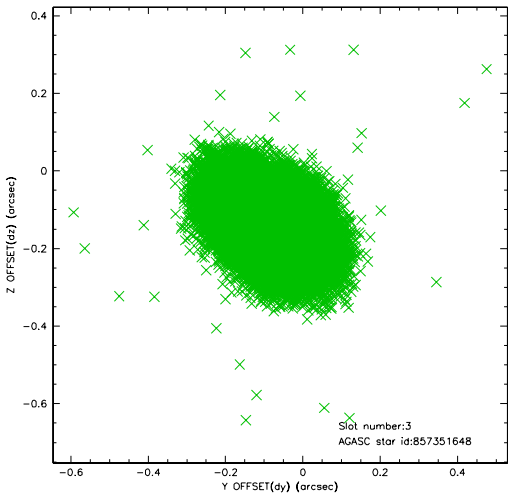

Time (s)
1.8854e+08
1.8856e+08
1.8858e+08
1.886e+08
1.8862e+08
1.8864e+08
Median: 7.830 arcsecs
dy (arcsec)
Median: 9.469 arcsecs
dz (arcsec)
Median: −0.002 deg
dtheta (arcsec)
Time(ksec)

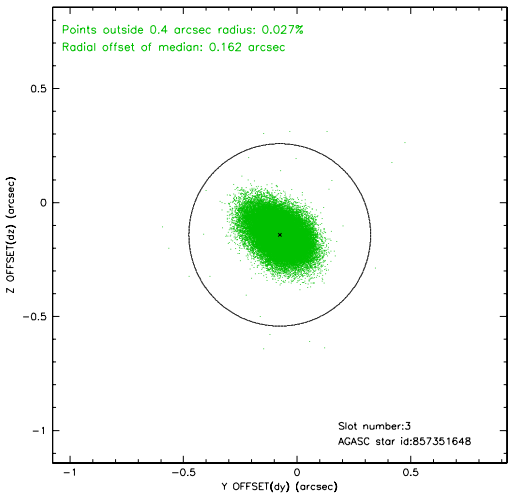
Slot Statistics

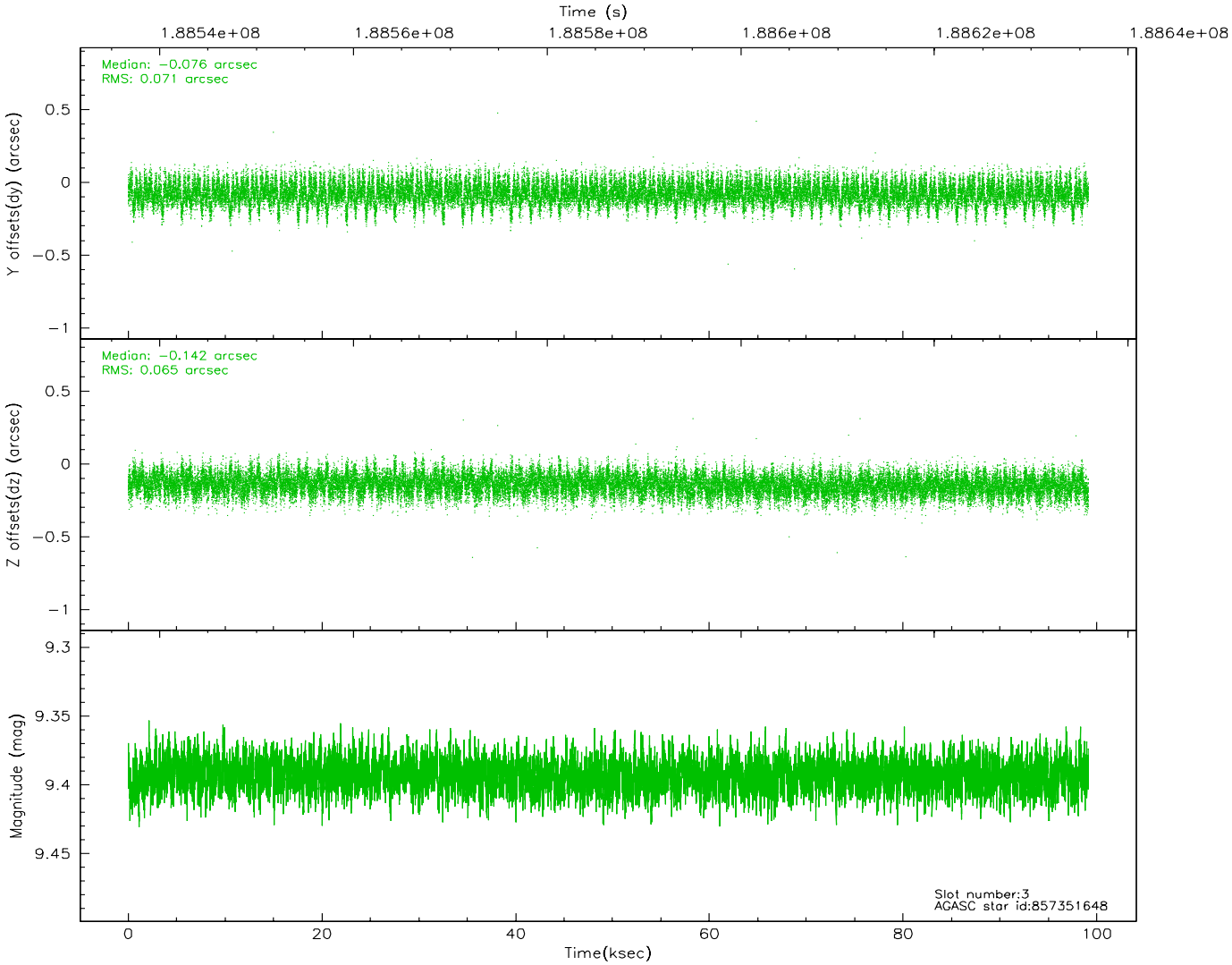
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-2	7.14	24181	-0.051	-0.035	0.013	0.024	0.000000	0.000000	-762.33	-839.41
1	FID	ACIS-I-4	7.18	24181	0.113	0.045	0.014	0.025	0.000000	0.000000	2151.95	1066.86
2	FID	ACIS-I-5	7.22	24184	-0.164	0.059	0.015	0.029	0.000000	0.000000	-1816.36	1064.66
3	GUIDE	857351648	9.39	48341	-0.076	-0.142	0.102	0.169	109.161947	-24.543697	-941.24	2061.94
4	GUIDE	857355920	8.54	48352	-0.091	0.027	0.068	0.107	109.209605	-24.691775	-995.26	1509.35
5	GUIDE	857363000	8.01	48357	-0.048	0.125	0.073	0.117	109.327654	-25.773588	-2092.54	-2247.16
6	GUIDE	857375848	8.80	48350	0.154	-0.111	0.078	0.130	109.695507	-24.655080	528.29	1036.16
7	GUIDE	857369368	9.36	24130	0.124	0.199	0.095	0.153	110.148795	-25.173974	1192.88	-1252.16

2.4 Star Slots

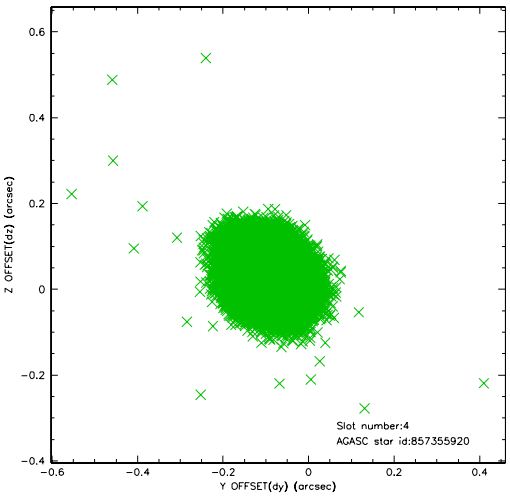
2.4.1 Slot 3

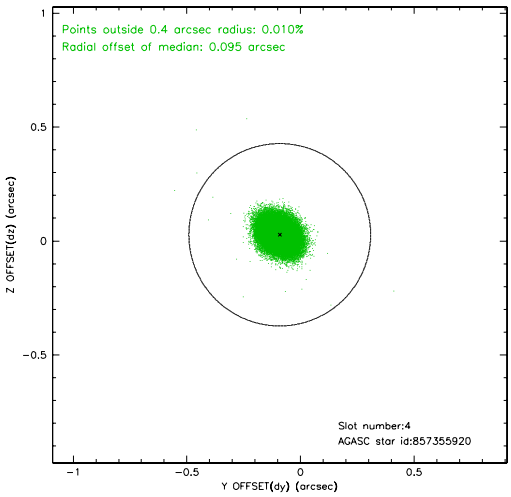


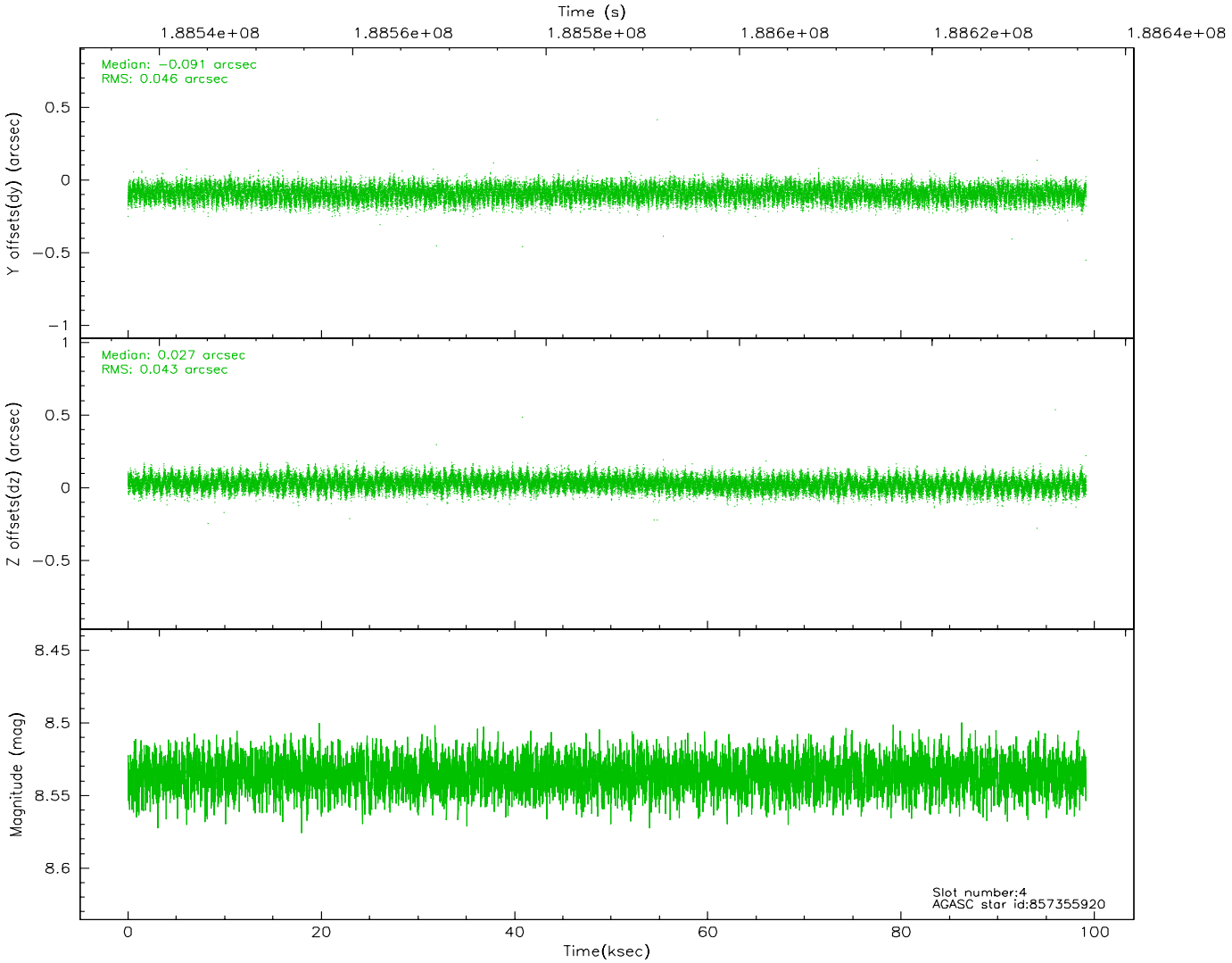




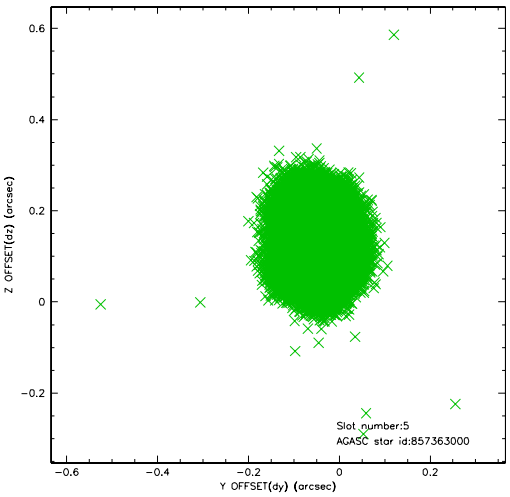
2.4.2 Slot 4

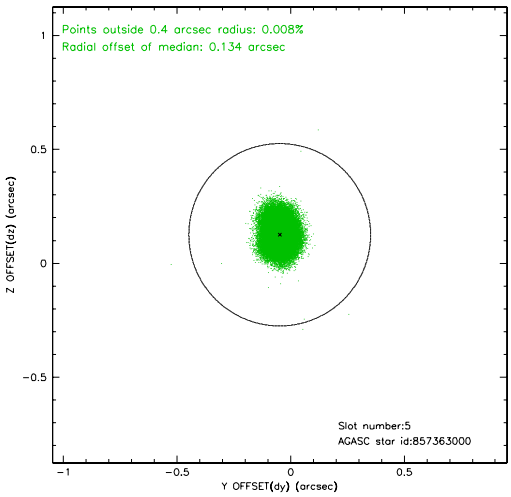

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:857355920

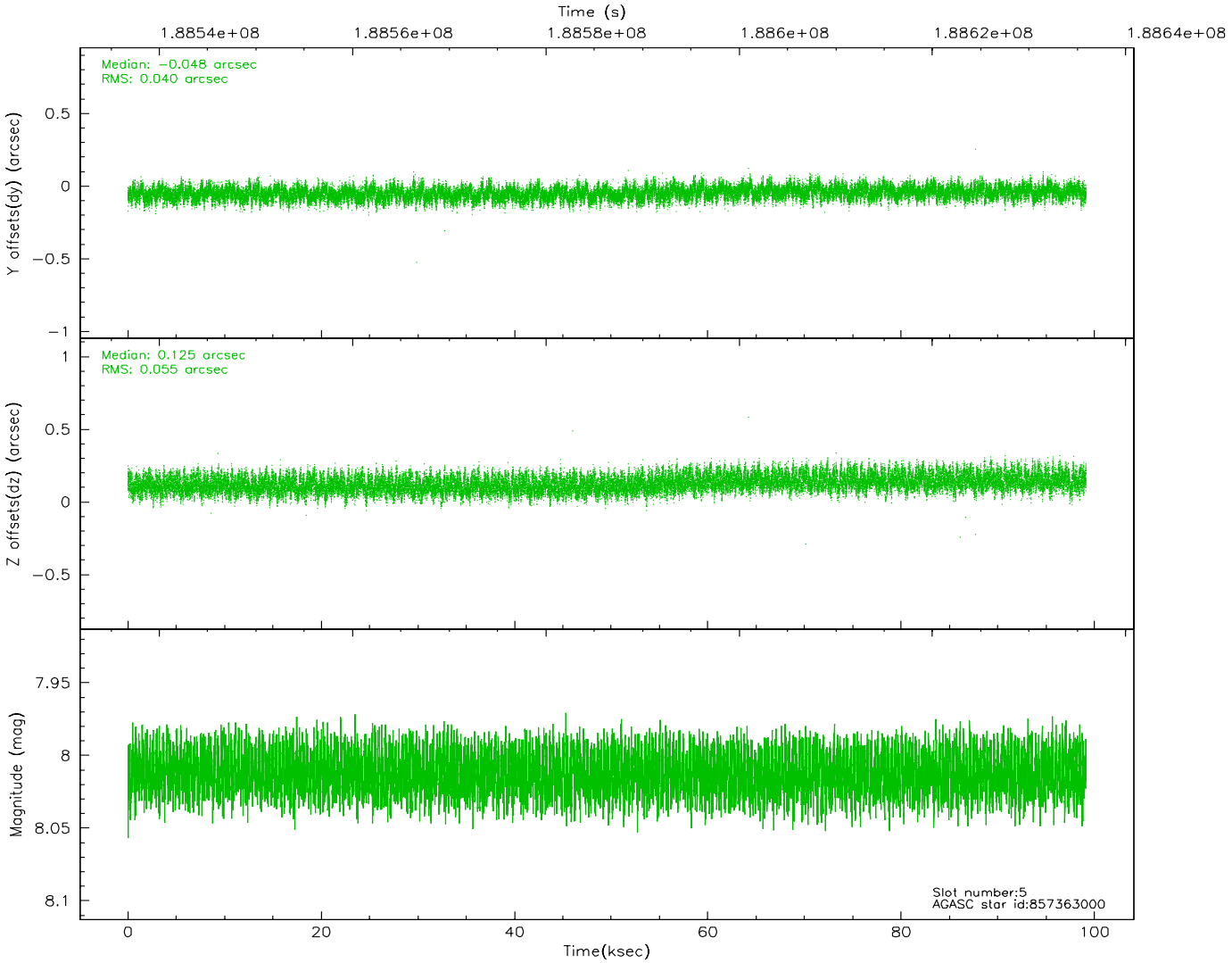

Points outside 0.4 arcsec radius: 0.010%
Radial offset of median: 0.095 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:857355920


Time (s)
Median: −0.091 arcsec
RMS: 0.046 arcsec
Y offsets(dy) (arcsec)
Median: 0.027 arcsec
RMS: 0.043 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:857355920
Time(ksec)

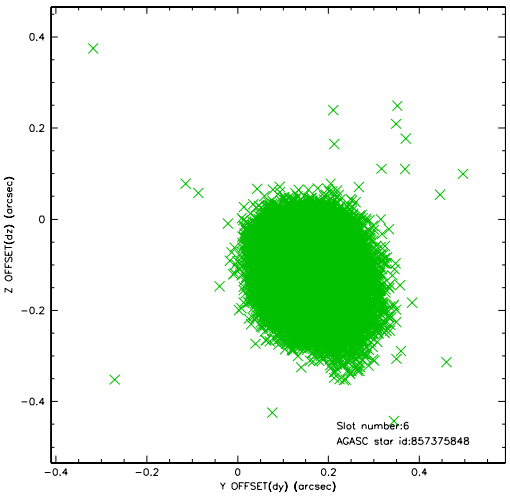
2.4.3 Slot 5

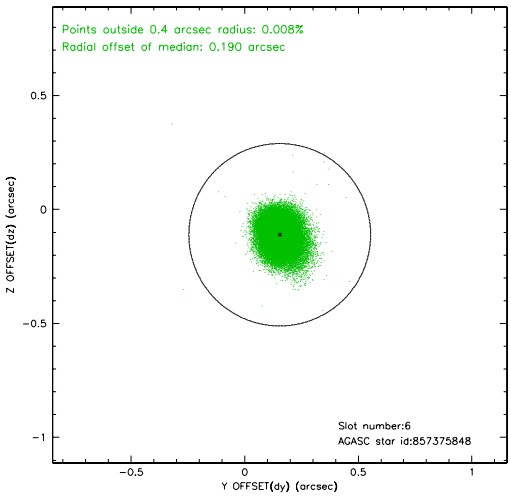

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:857363000

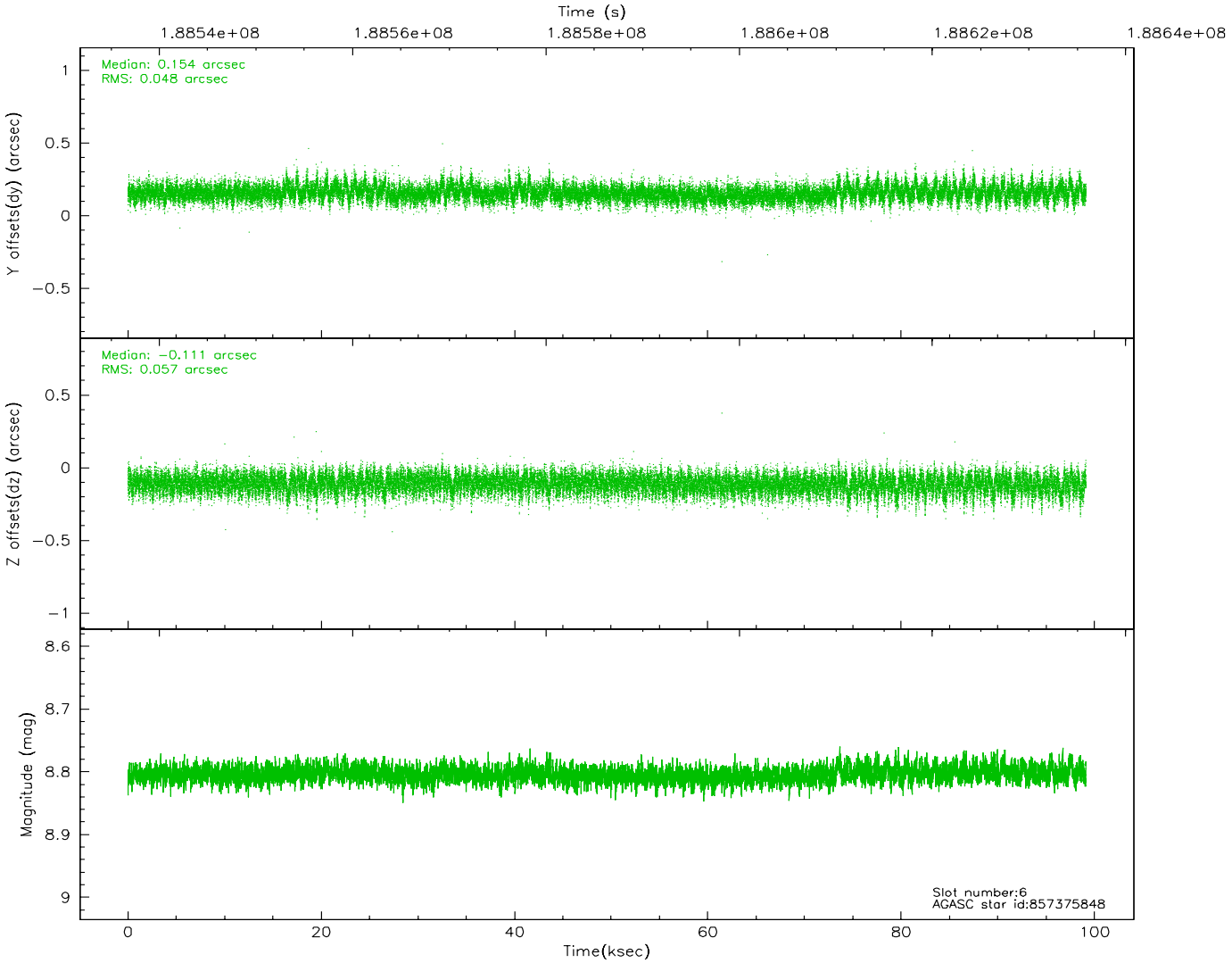

Points outside 0.4 arcsec radius: 0.008%
Radial offset of median: 0.134 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:857363000


Time (s)
Median: −0.048 arcsec
RMS: 0.040 arcsec
Y offsets(dy) (arcsec)
Median: 0.125 arcsec
RMS: 0.055 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:857363000
Time(ksec)

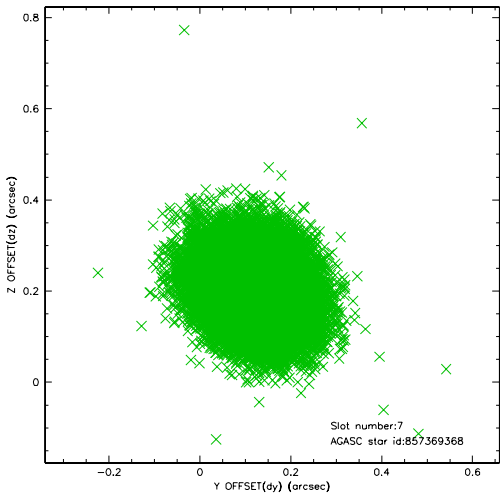
2.4.4 Slot 6

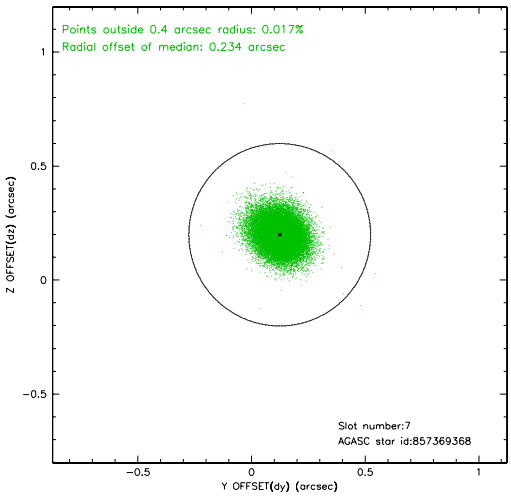

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:857375848

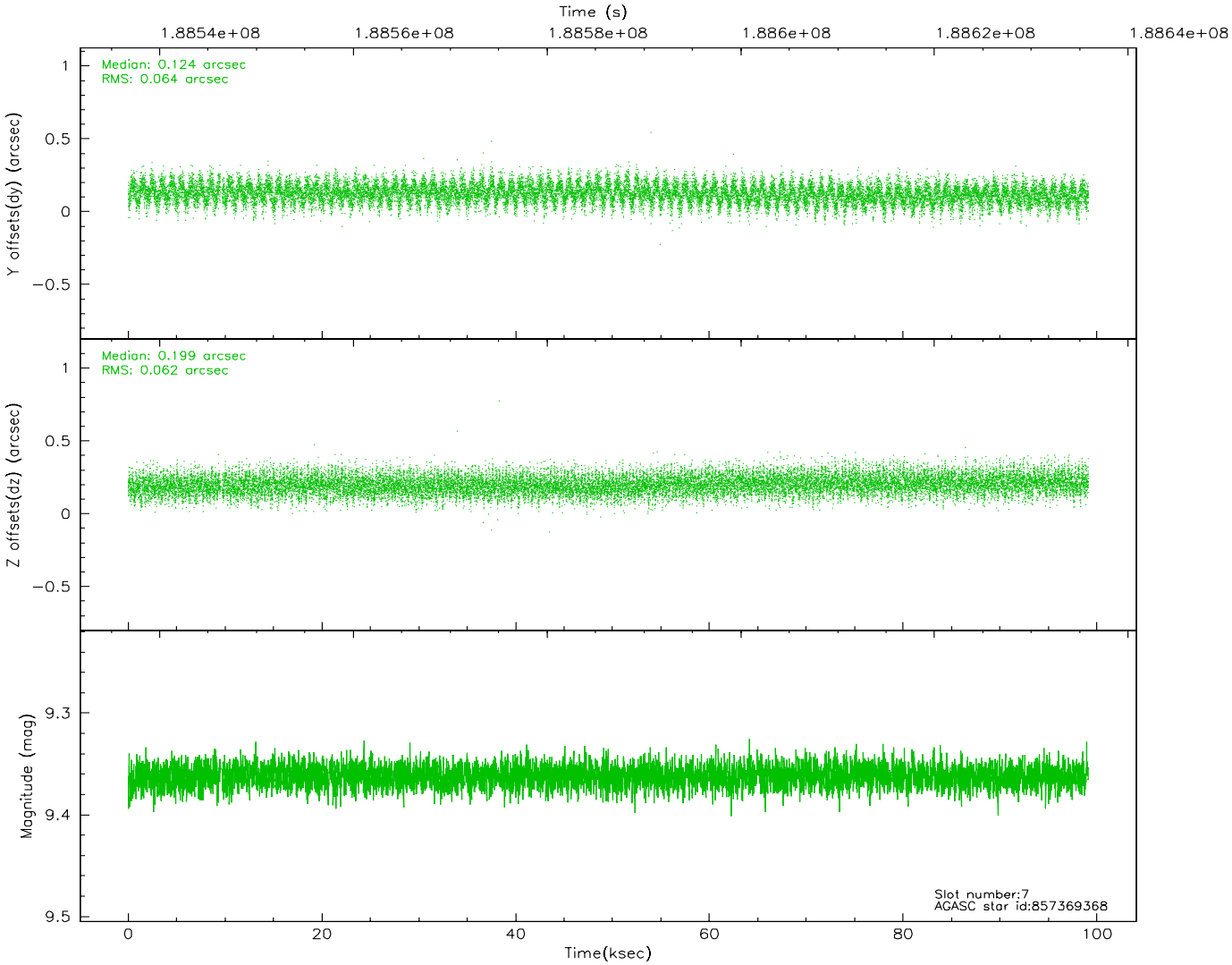

Points outside 0.4 arcsec radius: 0.008%
Radial offset of median: 0.190 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:857375848


Time (s)
Median: 0.154 arcsec
RMS: 0.048 arcsec
Y offsets(dy) (arcsec)
Median: −0.111 arcsec
RMS: 0.057 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:857375848
Time(ksec)

2.4.5 Slot 7

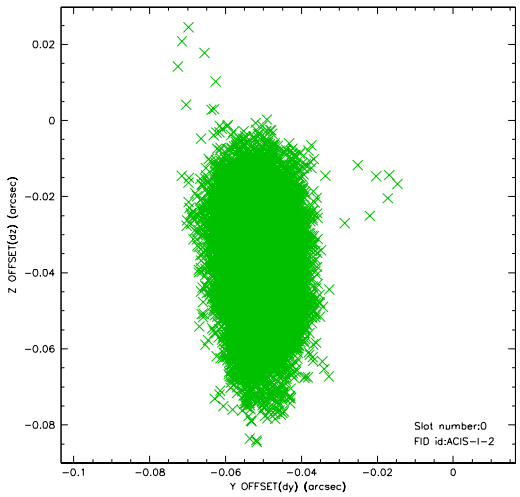

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:857369368

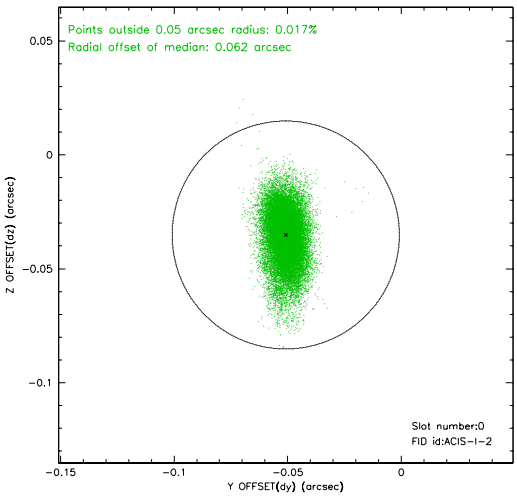

Points outside 0.4 arcsec radius: 0.017%
Radial offset of median: 0.234 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:857369368

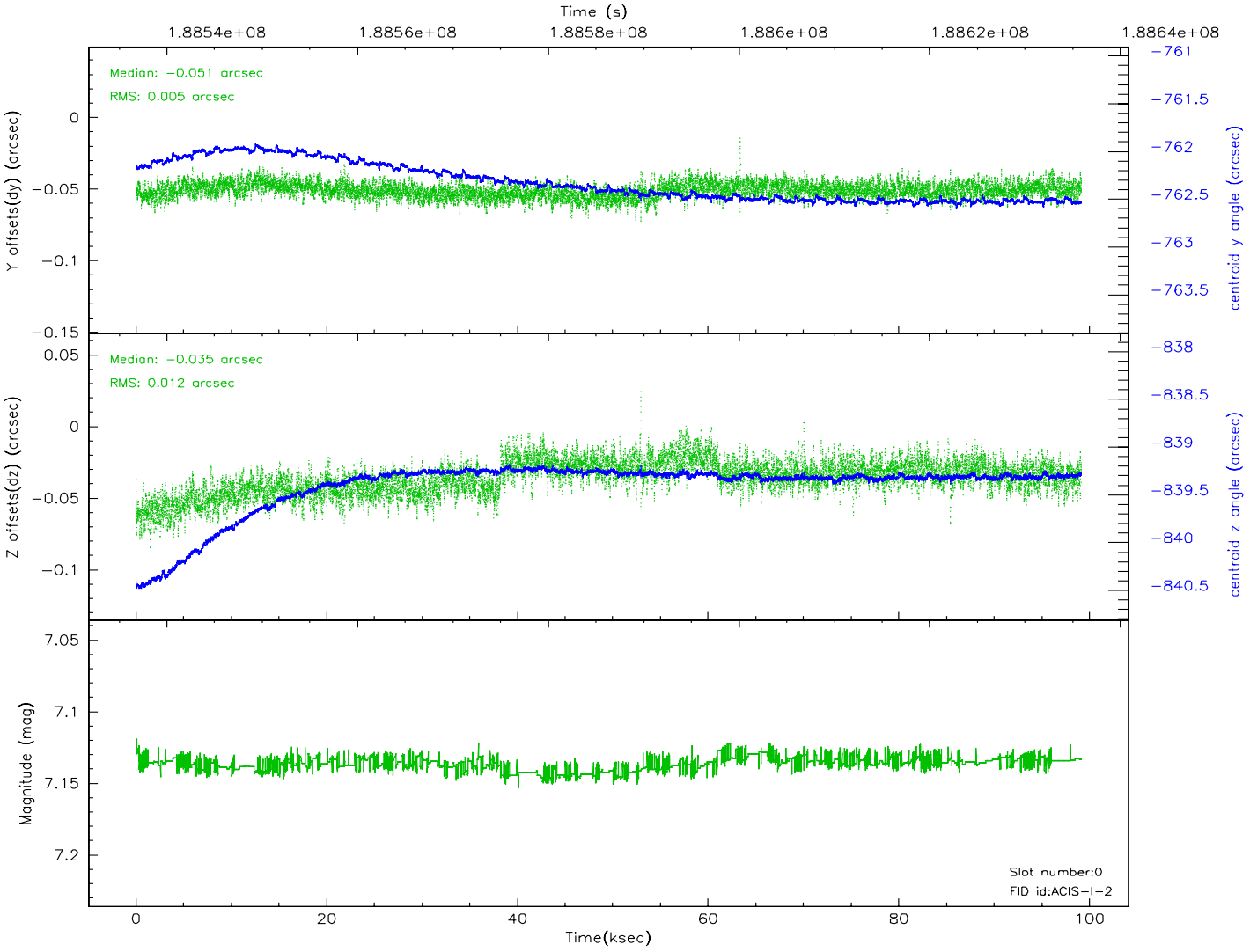

Time (s)
Median: 0.124 arcsec
RMS: 0.064 arcsec
Y offsets(dy) (arcsec)
Median: 0.199 arcsec
RMS: 0.062 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:857369368
Time(ksec)

2.5 FID Slots

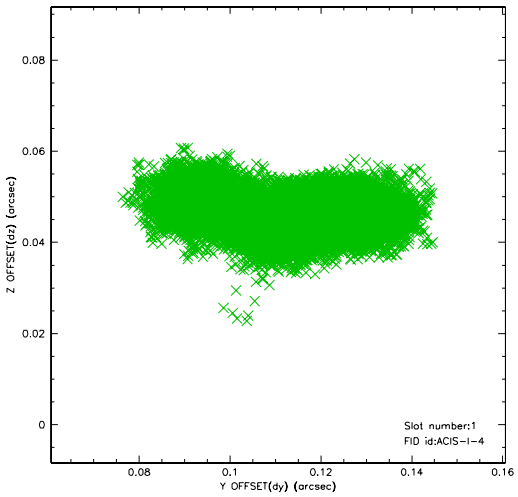
2.5.1 Slot 0

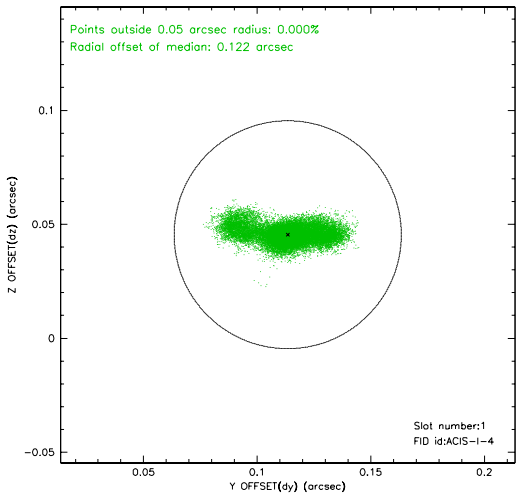


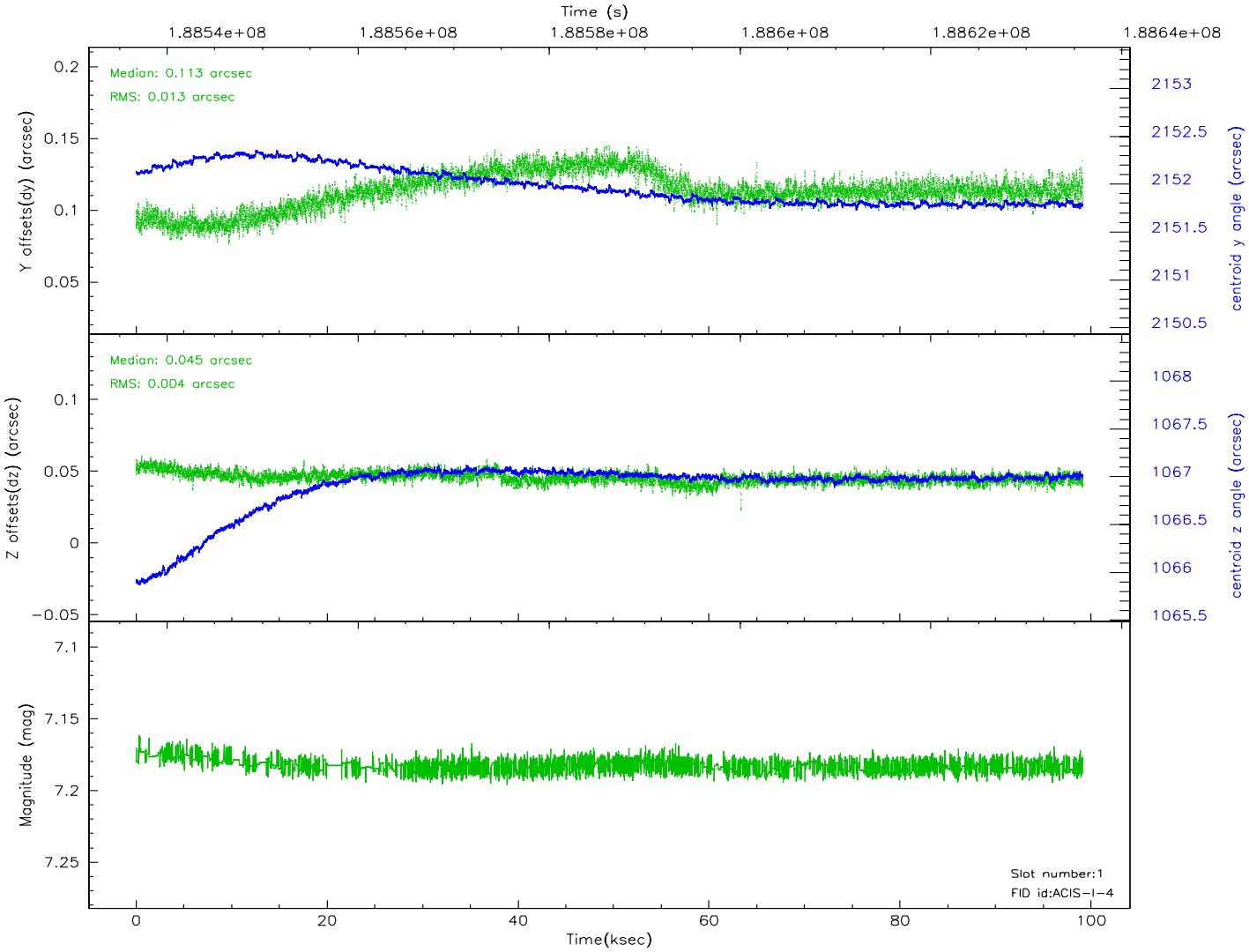




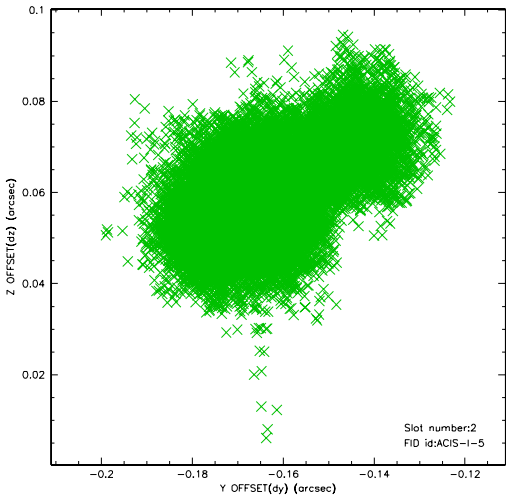
2.5.2 Slot 1

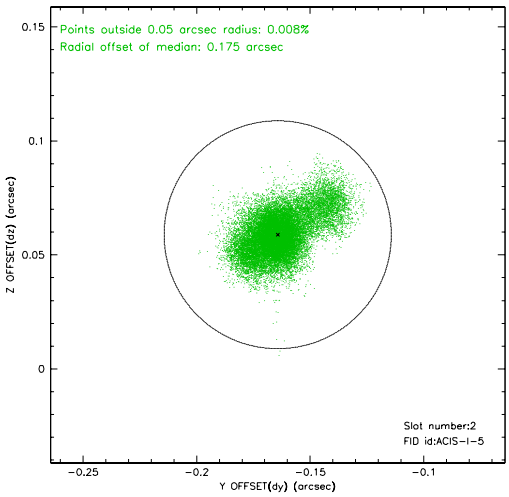

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-I-4

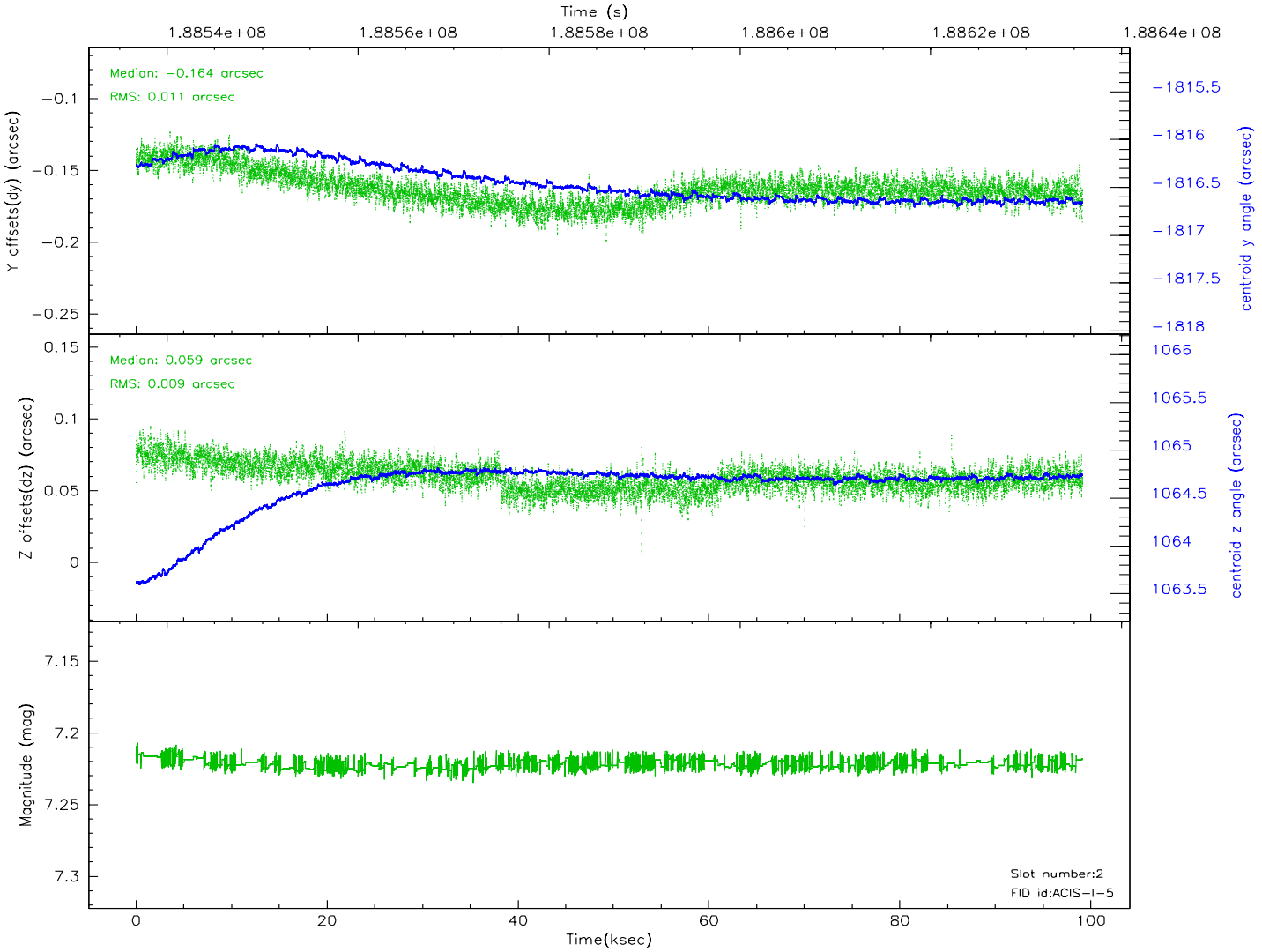

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.122 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-I-4


Time (s)
Median: 0.113 arcsec
RMS: 0.013 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.045 arcsec
RMS: 0.004 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:1
FID id:ACIS-I-4
Time(ksec)

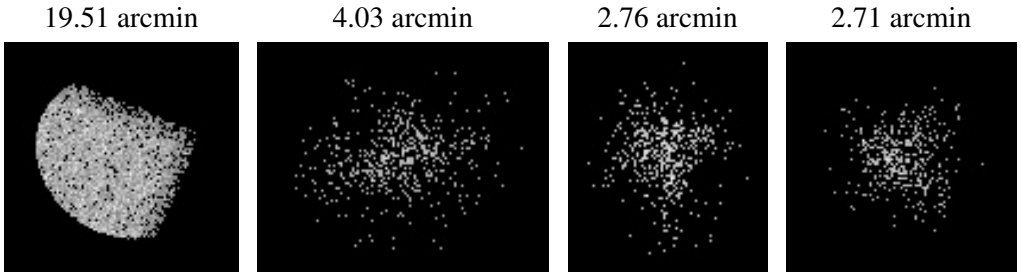
2.5.3 Slot 2


Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:ACIS-I-5


Points outside 0.05 arcsec radius: 0.008%
Radial offset of median: 0.175 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:ACIS-I-5


Time (s)
Median: −0.164 arcsec
RMS: 0.011 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.059 arcsec
RMS: 0.009 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:2
FID id:ACIS-I-5
Time(ksec)

3 Point Sources



A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2006.06.22
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	99.142

A.2 Comments

```
On day 356 at about 00:30, the OBA heater stuck in the 'on' position.
This situation affected obsid 4901 and all subsequent observations
to this point. The result of this anomaly could be a displacement
of the target on the chip in the z direction. The displacement
will be small because everything is still within spec, but the target
may be spatially displaced, have a different point spread function, or
trail across the chip.
```