

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 14530 - L2 Version 3  
Chandra X-Ray Center

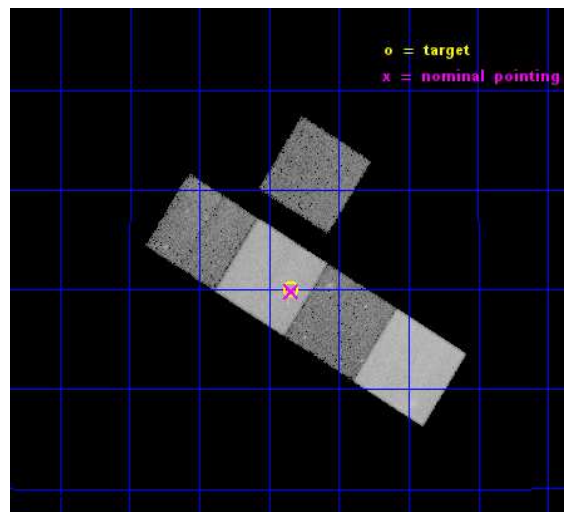
L2 Processing Date : Dec 3 2014

## Contents

<b>1</b>	<b>Front</b>	<b>2</b>
<b>2</b>	<b>OBI</b>	<b>3</b>
2.1	OBI . . . . .	3
2.1.1	Images . . . . .	3
2.1.2	Bias . . . . .	3
2.1.3	Parameters . . . . .	4
2.1.4	Events . . . . .	4
2.2	Compared Parameters . . . . .	5
2.3	Aspect . . . . .	6
2.4	Star Slots . . . . .	9
2.4.1	Slot 3 . . . . .	9
2.4.2	Slot 4 . . . . .	10
2.4.3	Slot 6 . . . . .	11
2.4.4	Slot 7 . . . . .	12
2.5	FID Slots . . . . .	13
2.5.1	Slot 0 . . . . .	13
2.5.2	Slot 1 . . . . .	14
2.5.3	Slot 2 . . . . .	15
<b>A</b>	<b>Summary</b>	<b>16</b>
A.1	Status . . . . .	16
A.2	Comments . . . . .	16

# 1 Front

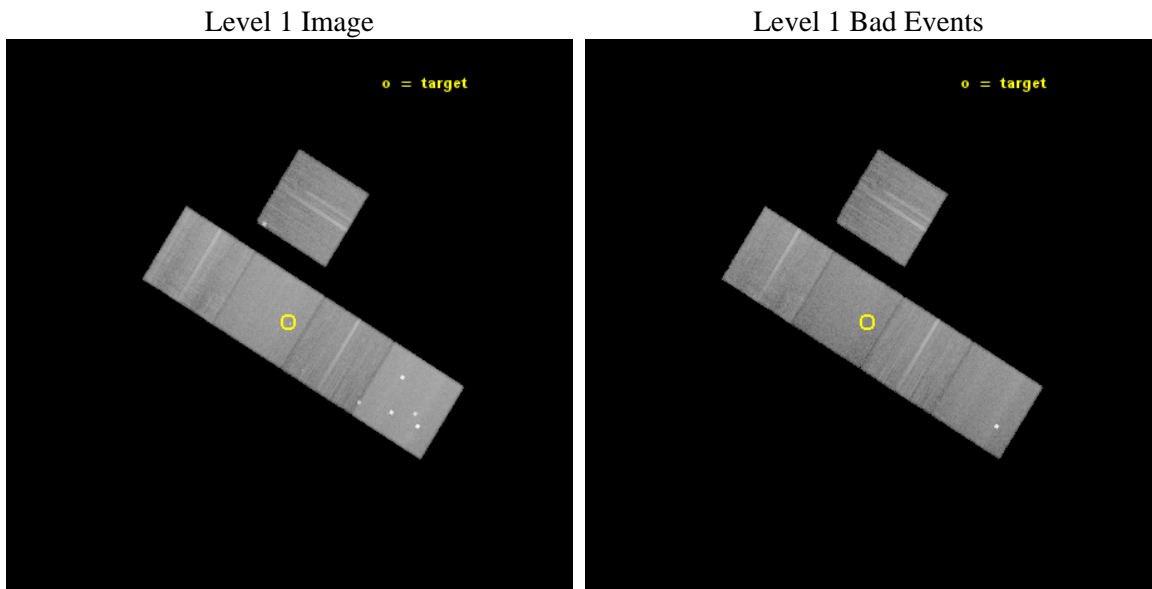
seq_num	200833	Sequence number
obs_id	14530	Observation id
title	The Topology of Magnetic Fields and Coronae at the Bottom of the Main Sequence	Proposal title
observer	Prof. Edo Berger	Principal investigator
object	2M1314+1320	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	198.585	Observer's specified target RA [deg]
dec_targ	13.333667	Observer's specified target Dec [deg]
ra_nom	198.58496428755	Nominal RA [deg]
dec_nom	13.330630858613	Nominal Dec [deg]
roll_nom	211.95364873083	Nominal Roll [deg]
revision	3	Processing version of data
ontime	36059.200277328	Sum of GTIs [s]
livetime	35588.060279308	Livetime [s]
ontime3	36056.059216976	Sum of GTIs [s]
ontime5	36059.200277328	Sum of GTIs [s]
ontime6	36052.918156624	Sum of GTIs [s]
ontime7	36059.200277328	Sum of GTIs [s]
ontime8	36056.042618811	Sum of GTIs [s]
l2events	320606	Number of level 2 events



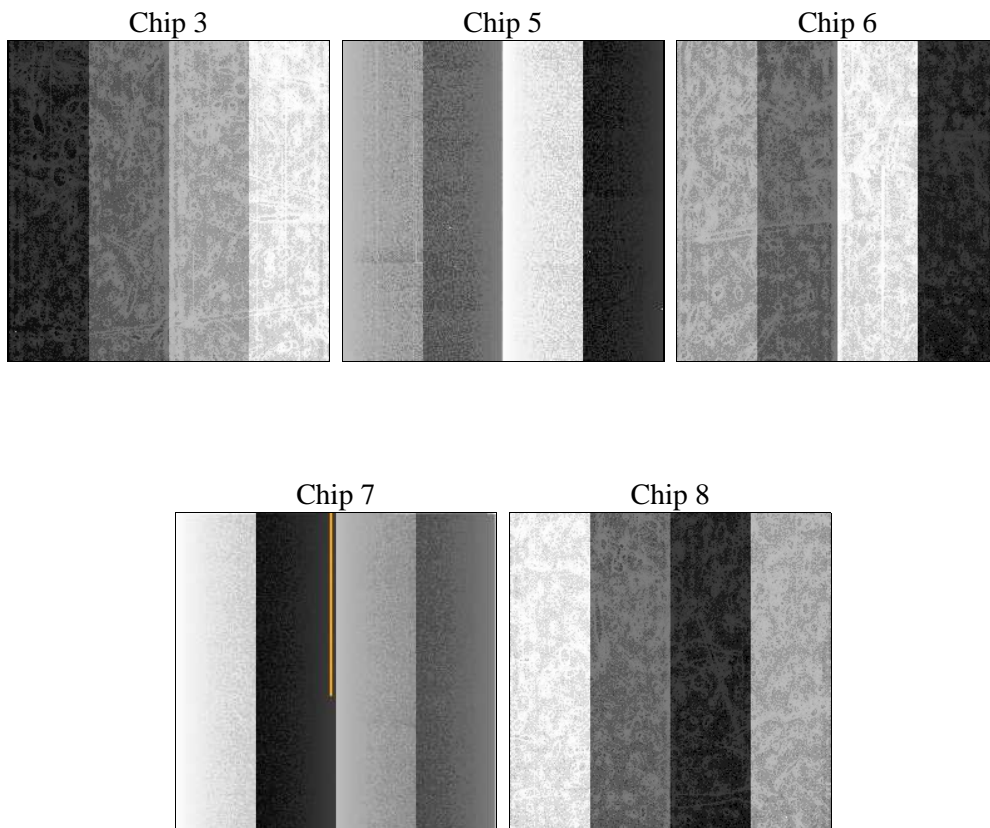
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	36000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	36059.200277328	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime3	36056.059216976	Sum of GTIs [s]
date	2014-12-04T00:12:32	Date and time of file creation	ontime5	36059.200277328	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	36052.918156624	Sum of GTIs [s]
			ontime7	36059.200277328	Sum of GTIs [s]
			ontime8	36056.042618811	Sum of GTIs [s]
			l1events	1274117	Number of level 1 events

### 2.1.4 Events

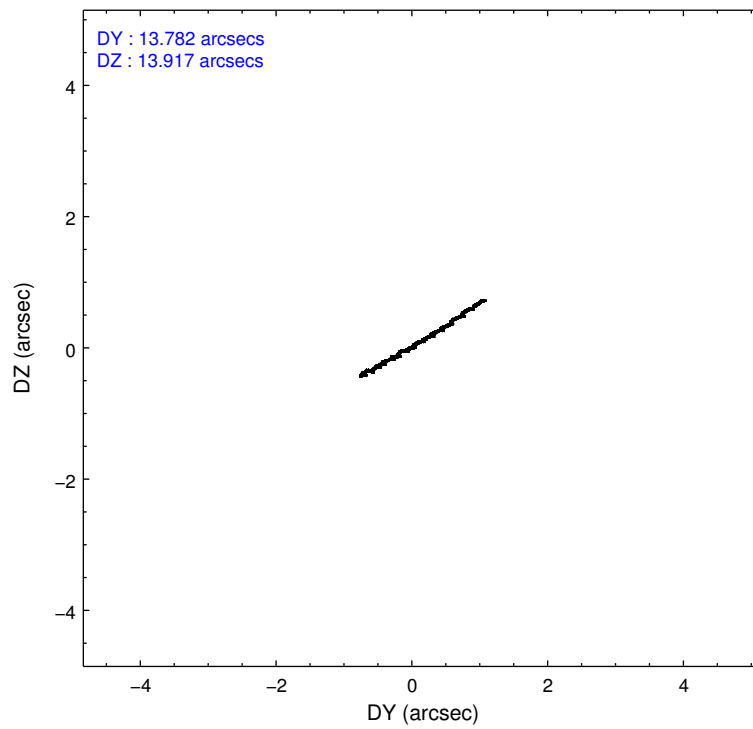
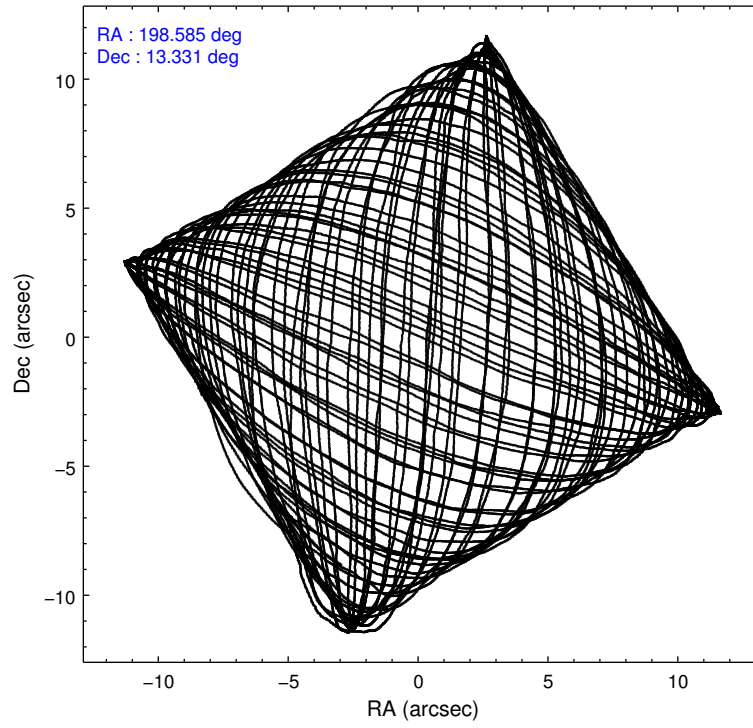
	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	189331	355937	204206	265232	259411
rejected events	166131	177906	179573	150249	193828
rejected %	87%	49%	87%	56%	74%

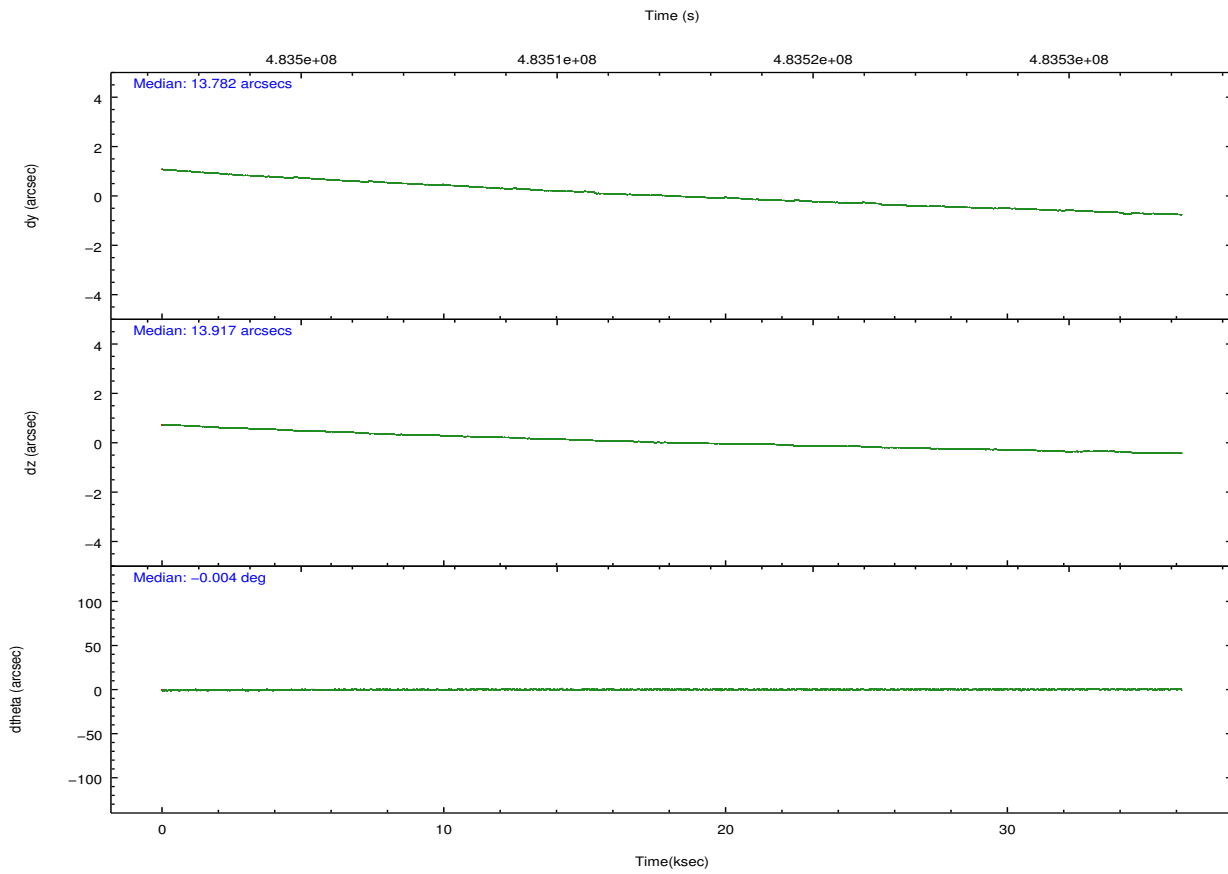
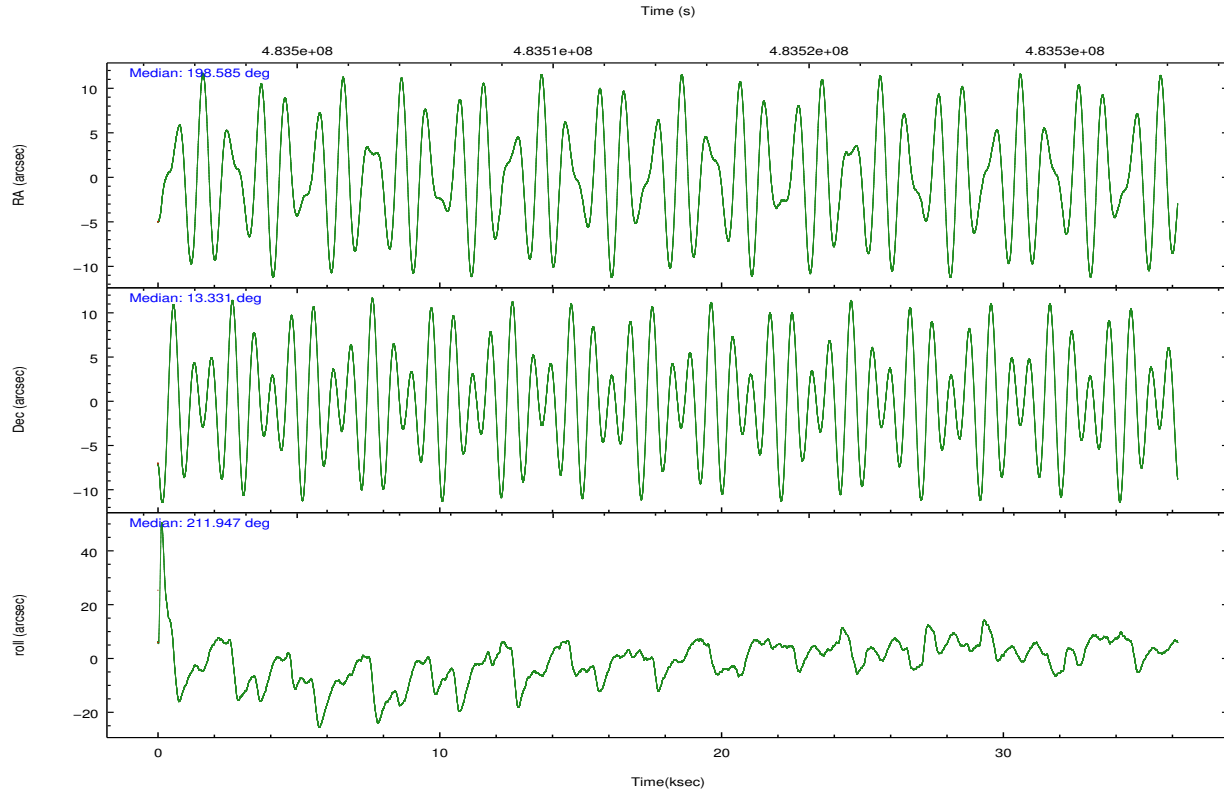
	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	9481	35327	8708	10372	18423
	5%	9%	4%	3%	7%
grade 1 events	130	637	114	274	187
	0%	0%	0%	0%	0%
grade 2 events	4519	48253	5523	23735	15585
	2%	13%	2%	8%	6%
grade 3 events	2338	4928	2337	9388	6986
	1%	1%	1%	3%	2%
grade 4 events	2321	4670	2391	9325	6558
	1%	1%	1%	3%	2%
grade 5 events	10018	22031	9910	26350	14382
	5%	6%	4%	9%	5%
grade 6 events	4547	84895	5679	62177	18033
	2%	23%	2%	23%	6%
grade 7 events	155977	155196	169544	123611	179257
	82%	43%	83%	46%	69%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-35678	ACIS-35678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	198.597846	198.5849642875534	CCD I2 on	N	N
[deg] Pointing Dec	13.354939	13.33063085861325	CCD I3 on	O1	Y
[deg] Pointing Roll	211.794064	211.9536487308272	CCD S0 on	N	N
[s] Window start time (MET)	479692867.184000	479692867.184000	CCD S1 on	Y	Y
[s] Window stop time (MET)	484963267.184000	484963267.184000	CCD S2 on	Y	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S3 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S4 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S5 on	N	N
[mm] SIM translation stage offset	0	0.00754346686406393	Number of optional ACIS chips dropped	0	0
[s] Observation start time (MET)	483496571.184000	483495618.83771	On-chip summing requested	N	N
Observation start date	2013-04-28T00:35:04	2013-04-28T00:20:18	Subarray requested	NONE	NONE
[s] Observation end time (MET)	483532571.184000	483533450.05226	Alternating exposures requested	N	N
Observation end date	2013-04-28T10:35:04	2013-04-28T10:50:50	[s] Primary exposure time	0.000000	3.1
Read mode	TIMED	TIMED			

## 2.3 Aspect





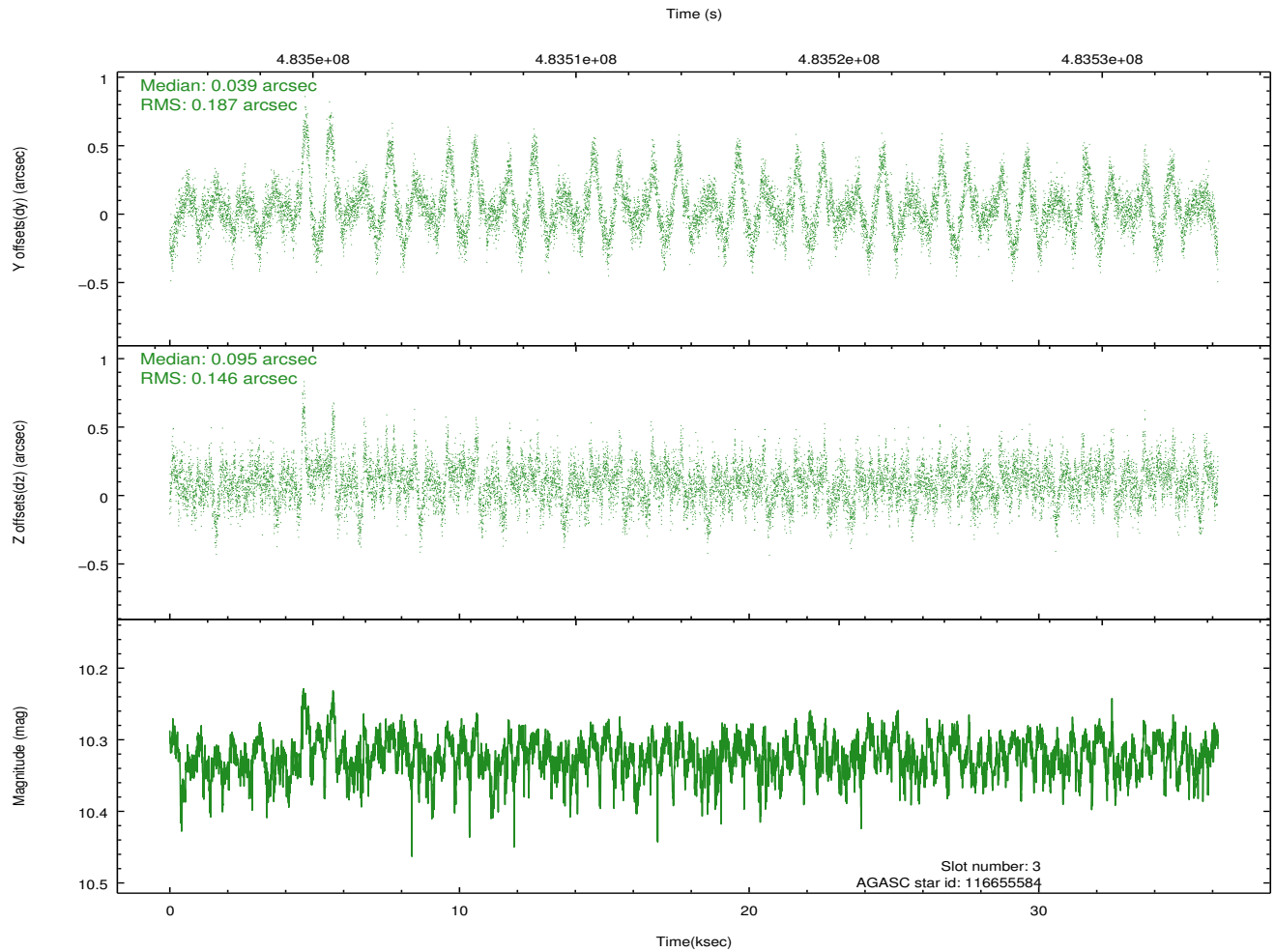
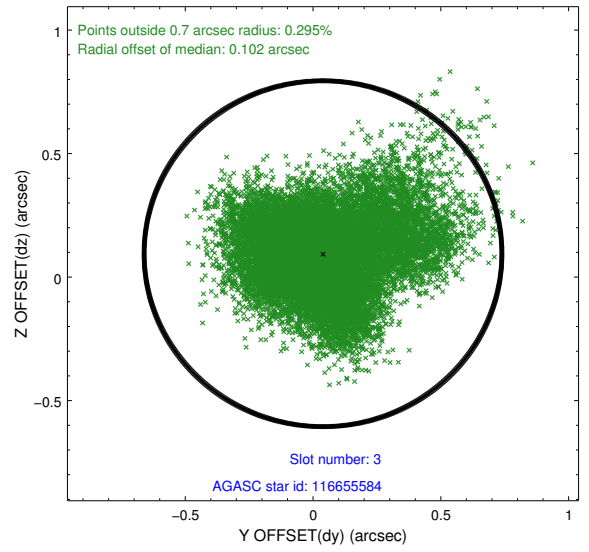
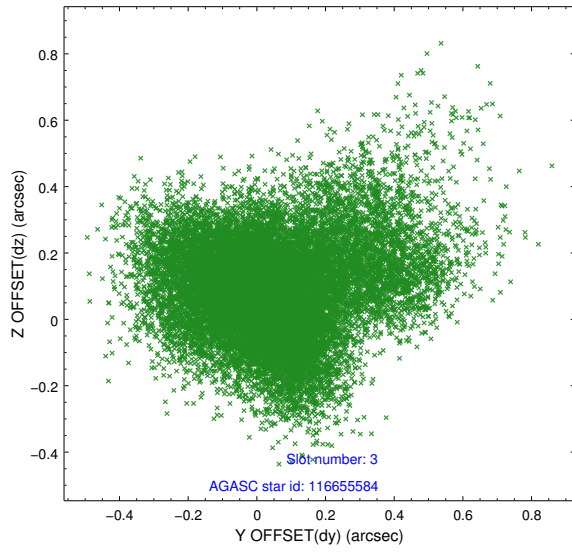
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.02	8827	-0.072	-0.052	0.028	0.044	0.000000	0.000000	-766.85	-1735.37
1	FID		ACIS-S-4	7.10	8827	0.244	0.050	0.028	0.055	0.000000	0.000000	2146.73	173.15
2	FID		ACIS-S-5	7.13	8826	-0.192	0.015	0.019	0.037	0.000000	0.000000	-1819.76	166.85
3	GUIDE	used	116655584	10.32	17608	0.039	0.095	0.244	0.424	198.674707	13.891792	-1245.96	-1501.30
4	GUIDE	used	116657880	9.99	17627	0.084	0.155	0.207	0.329	198.545564	14.005228	-1077.33	-2085.70
5	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
6	GUIDE	used	116658080	7.14	17653	-0.059	-0.045	0.085	0.179	198.326343	13.391387	739.31	-612.25
7	GUIDE	used	116656656	9.17	17594	-0.070	-0.196	0.136	0.223	198.916647	12.776827	145.01	2358.23

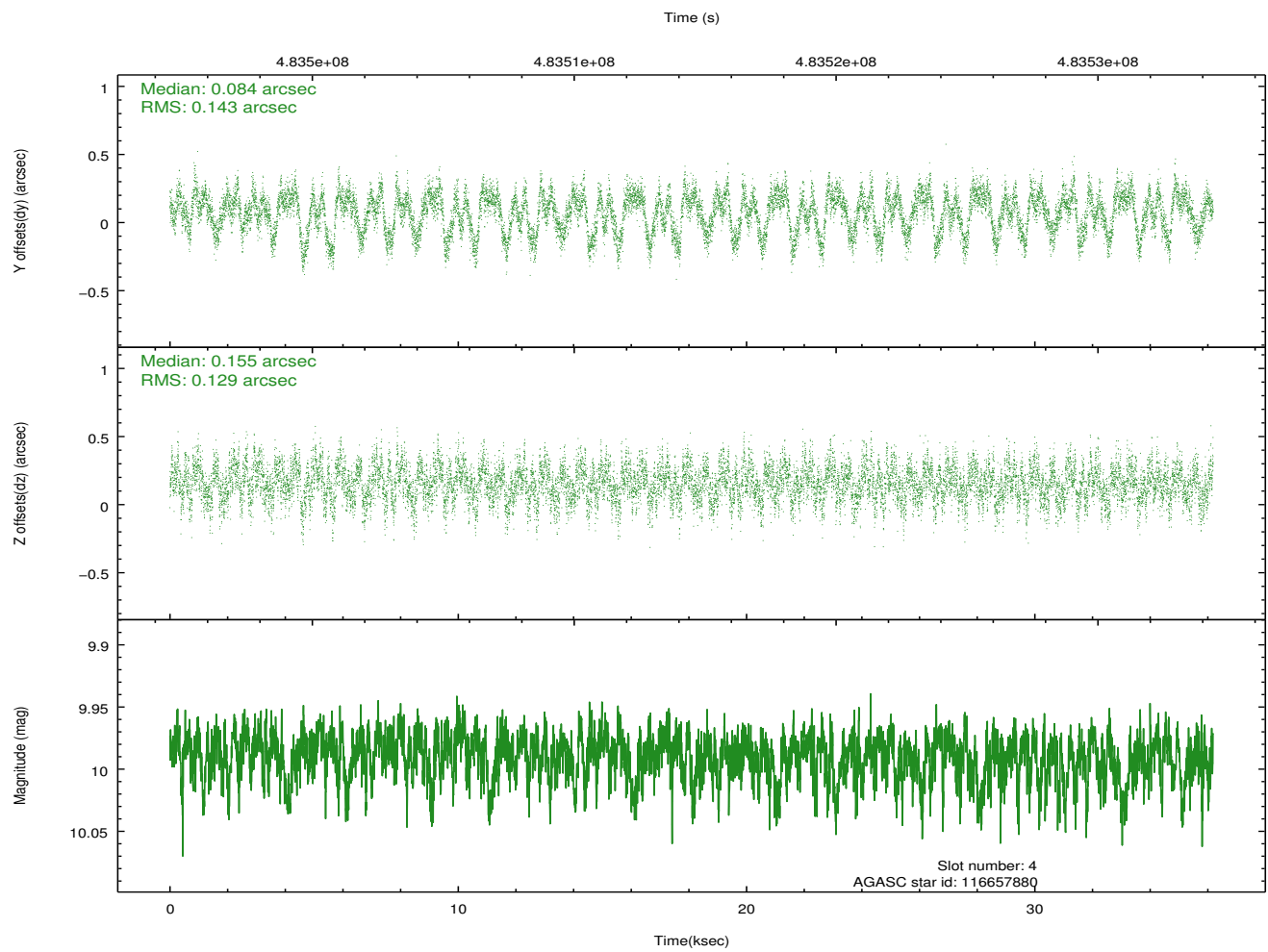
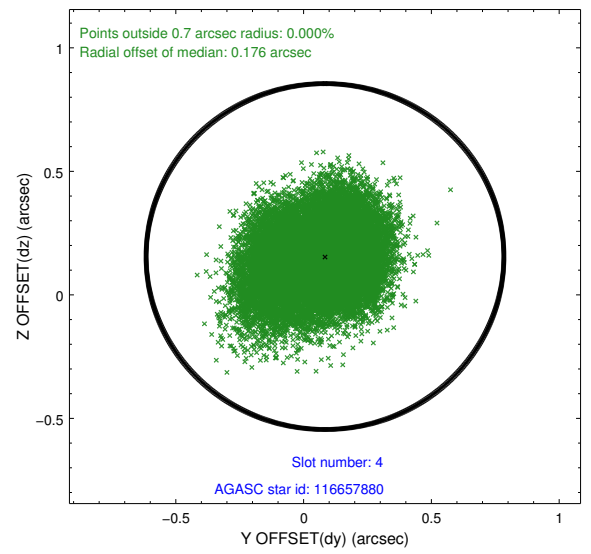
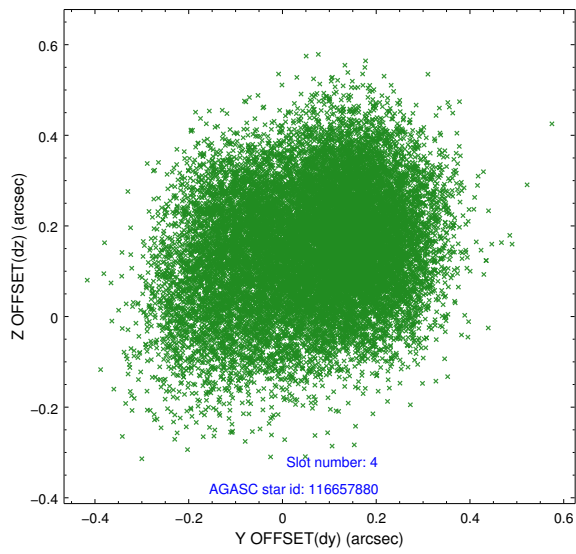
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## 2.4 Star Slots

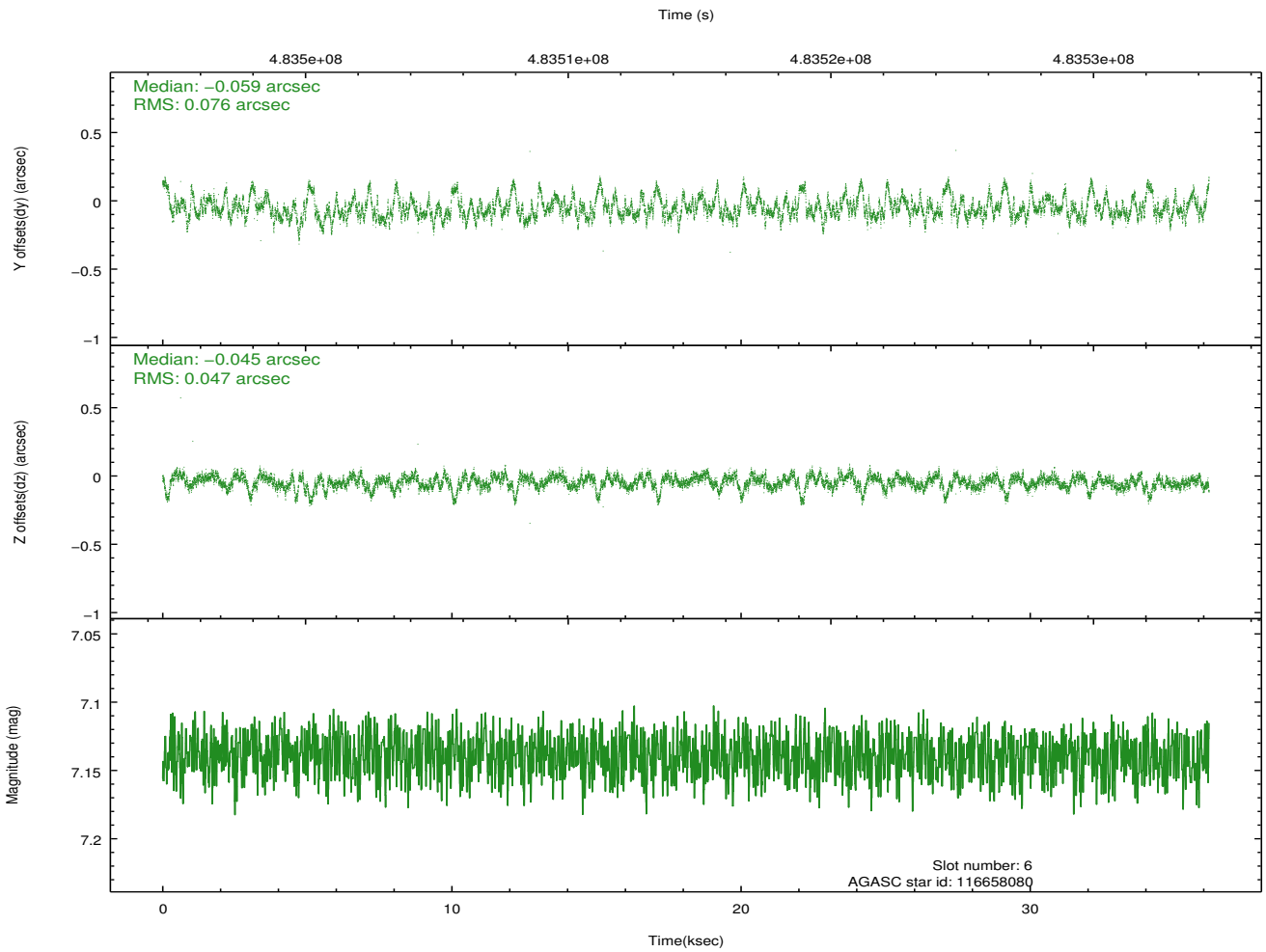
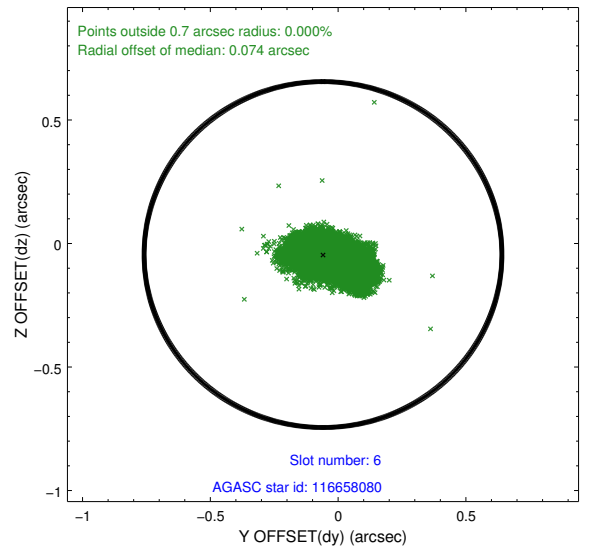
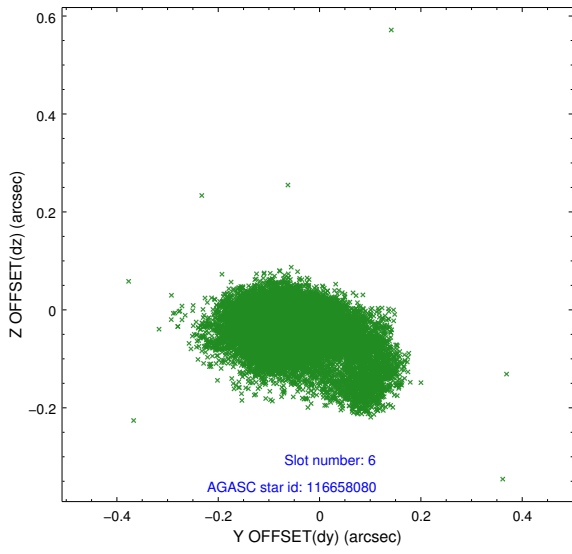
### 2.4.1 Slot 3



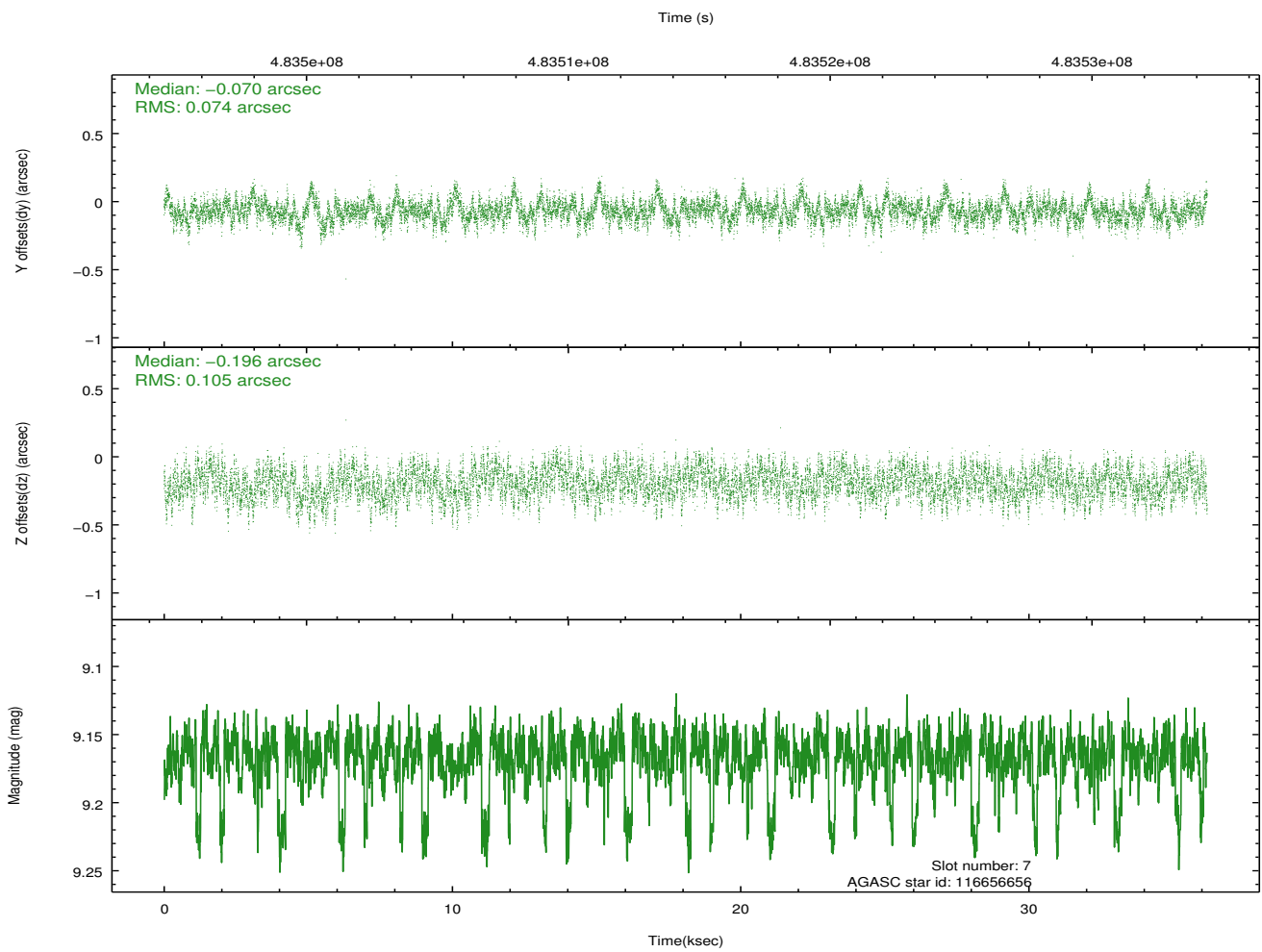
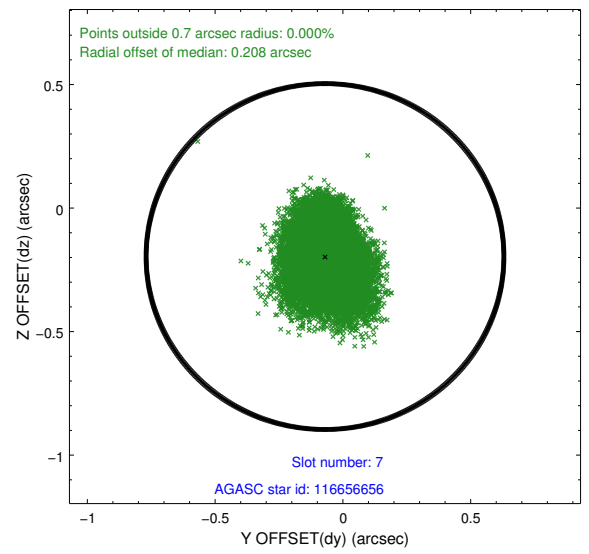
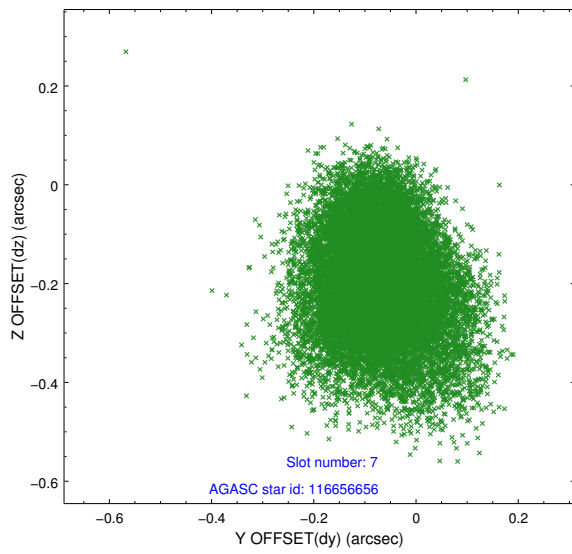
## 2.4.2 Slot 4



### 2.4.3 Slot 6

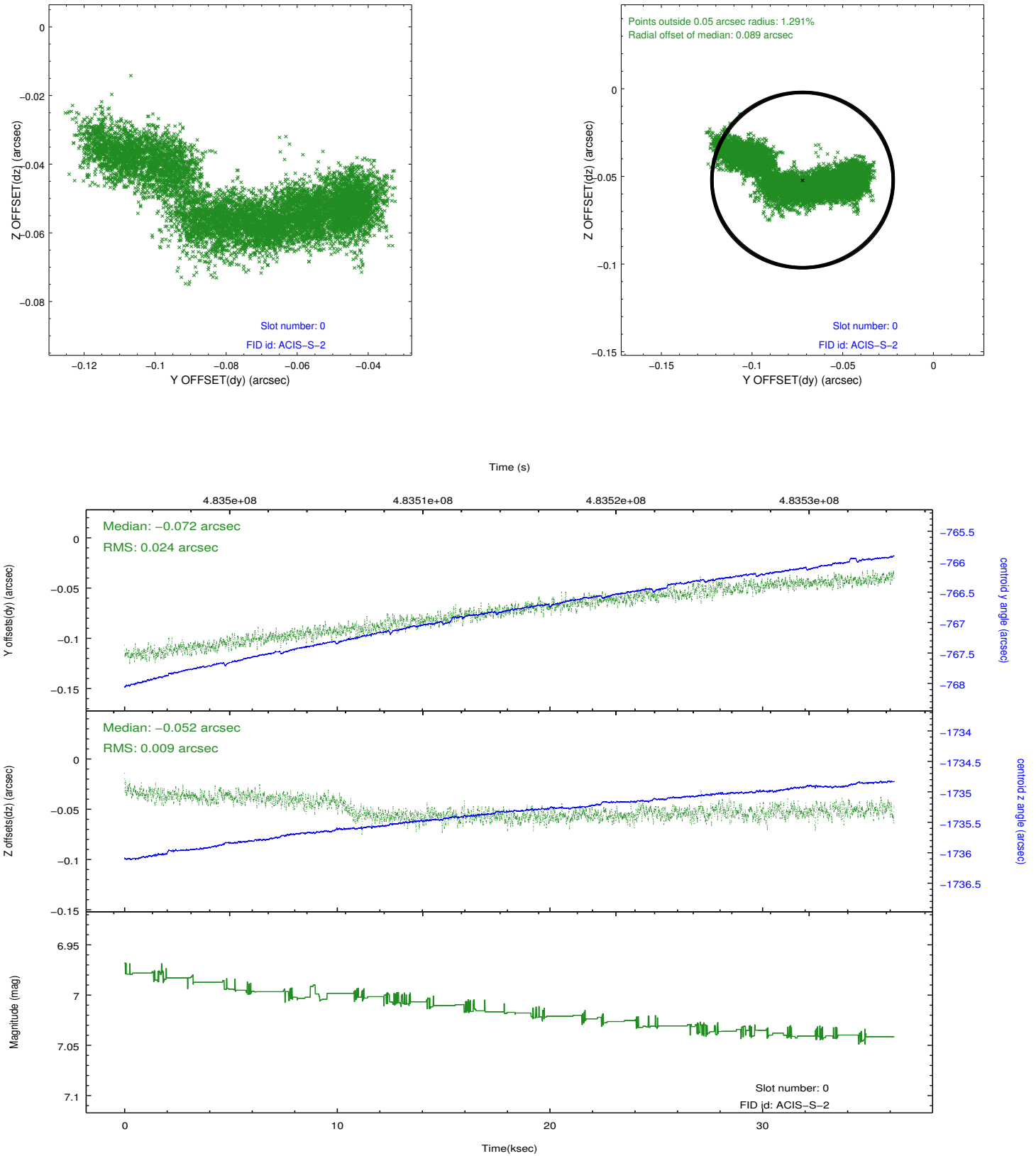


## 2.4.4 Slot 7

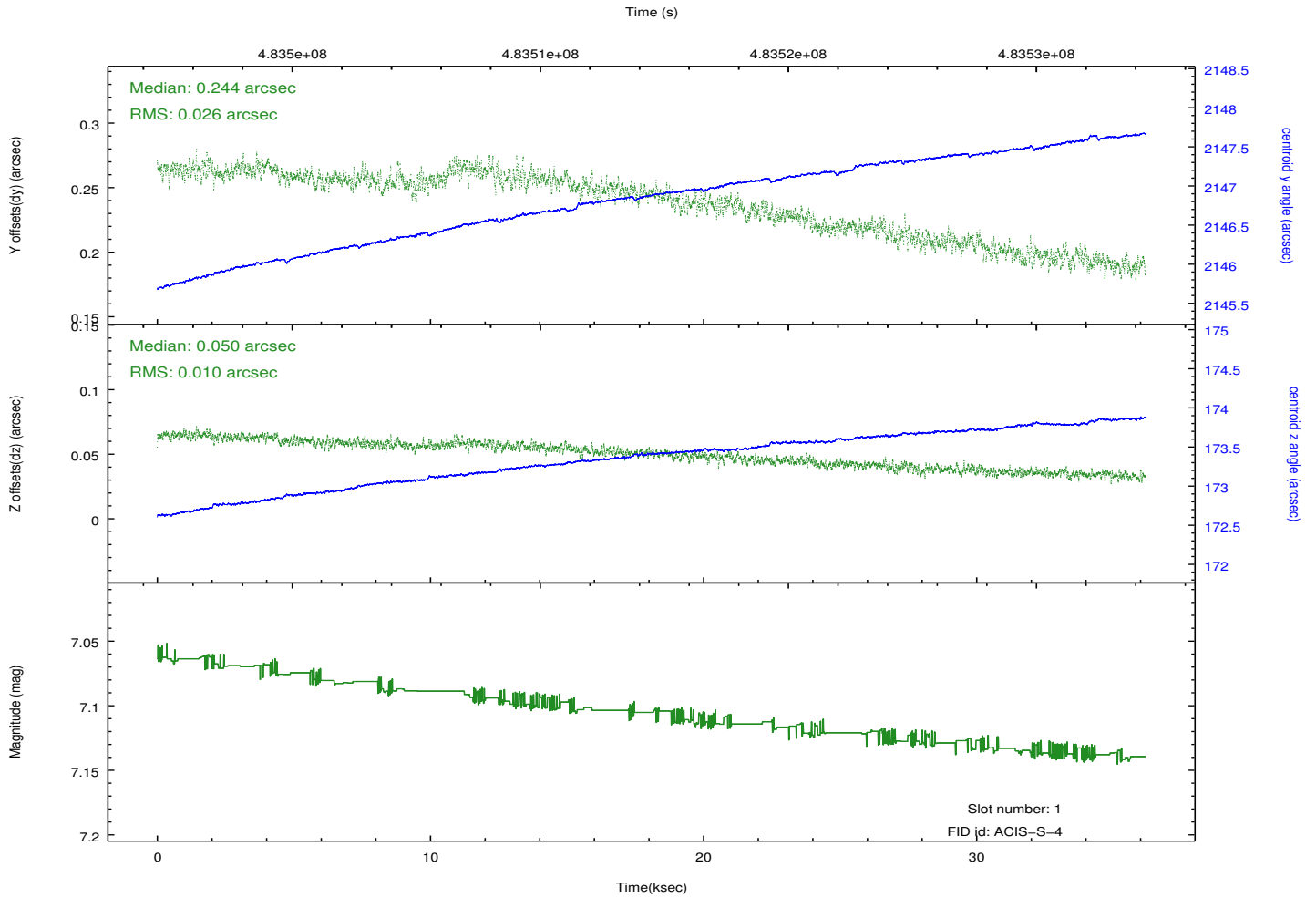
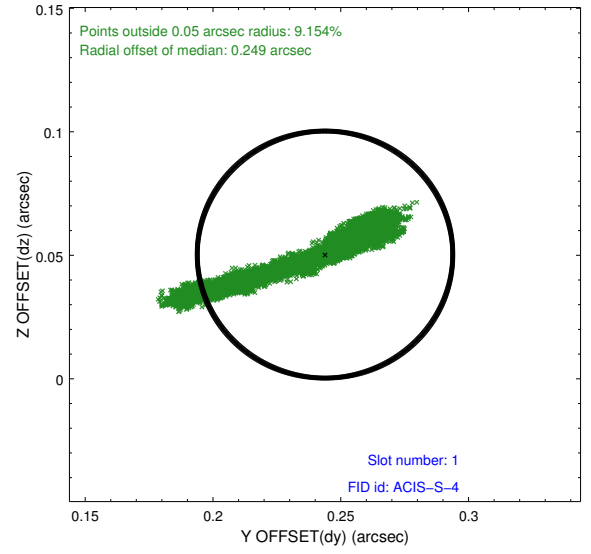
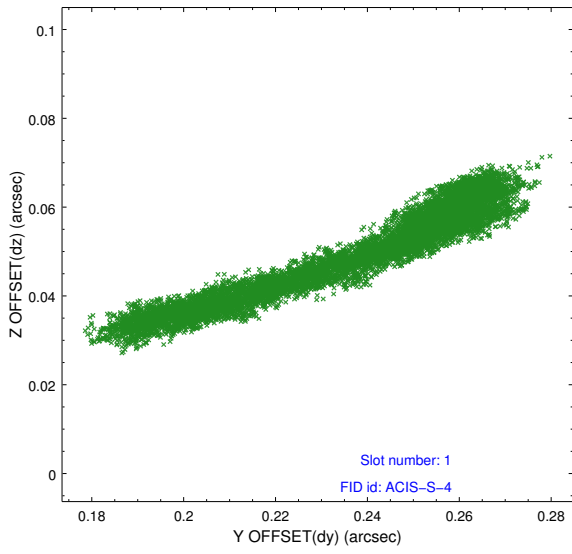


## 2.5 FID Slots

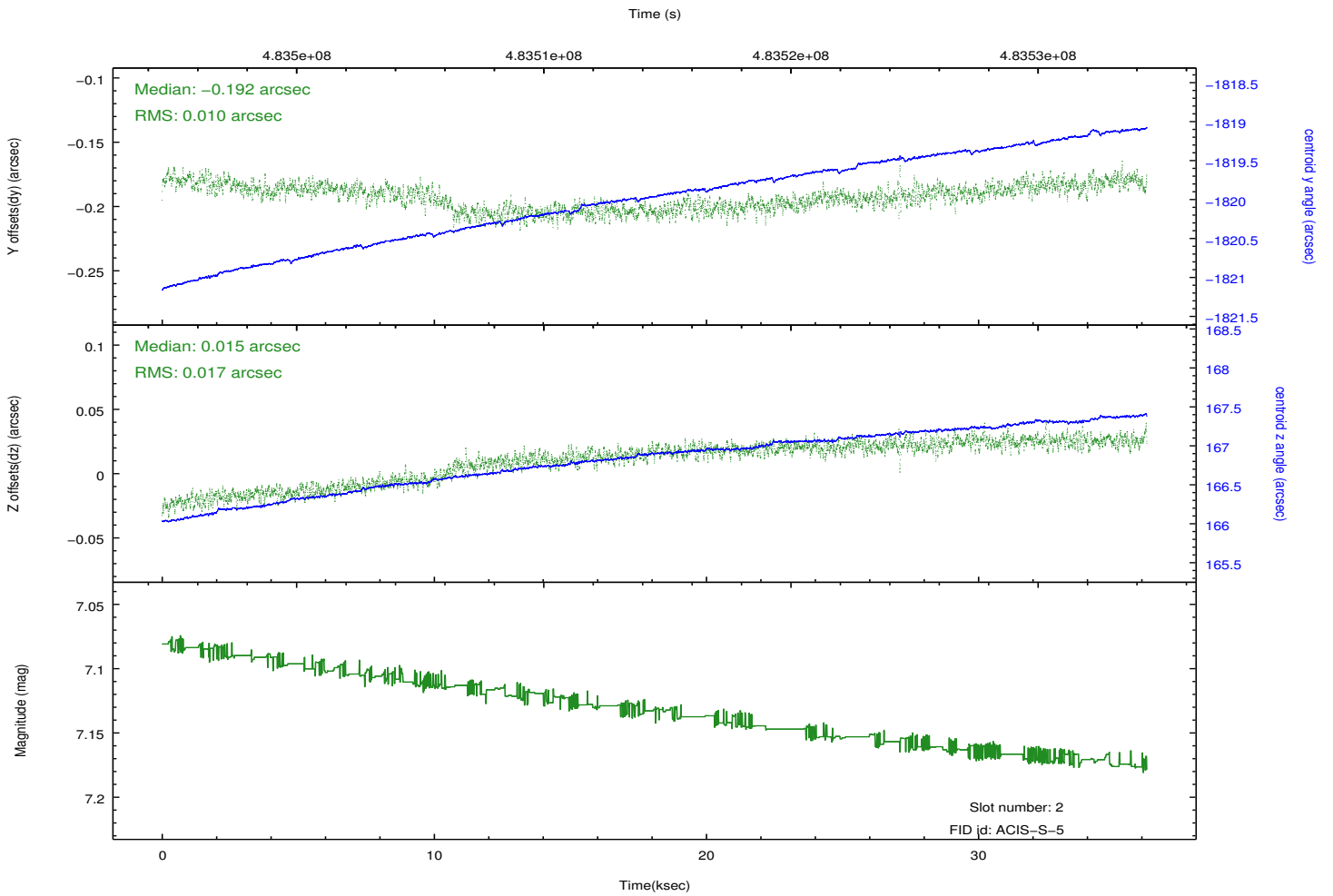
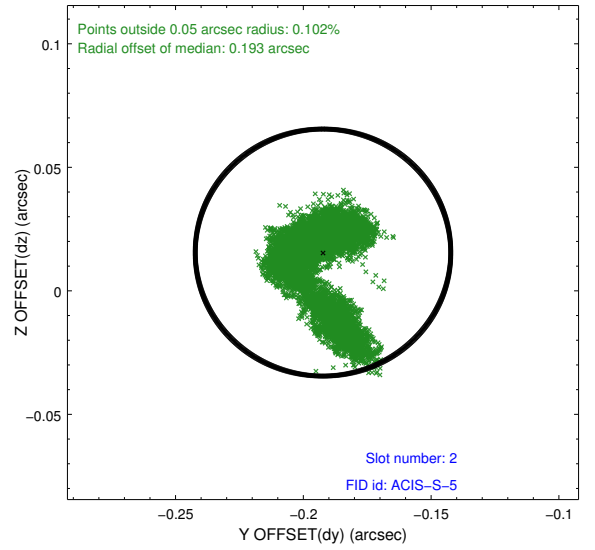
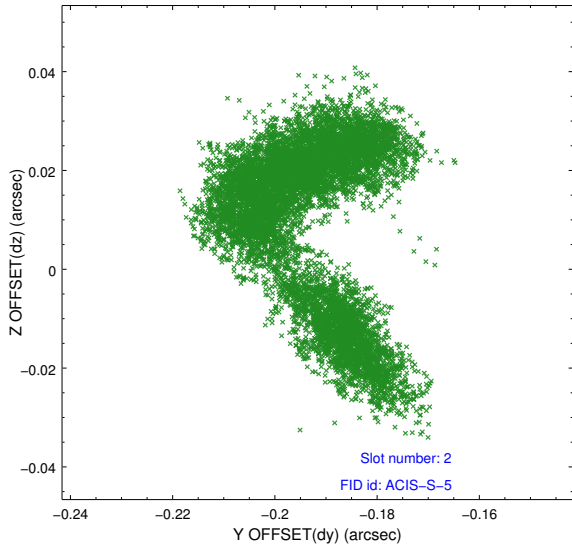
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2014.12.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	36.059200277328

## A.2 Comments

Joint proposal with NRAO.

Observation coordinated with EVLA.

Window preference met.

The guide star in slot 5 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this star from the solution.

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.