

# V&V Reference Report

## L2 ASCDS Version : 10

Observation 15441 - L2 Version 2  
Chandra X-Ray Center

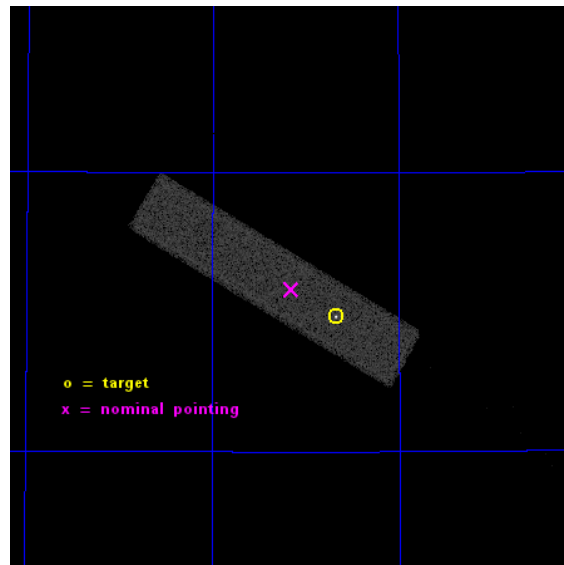
L2 Processing Date : Dec 6 2014

## 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	Parameters . . . . .	4
2.1.3	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 5 . . . . .	11
2.4.4	Slot 6 . . . . .	12
2.4.5	Slot 7 . . . . .	13
2.5	FID Slots . . . . .	14
2.5.1	Slot 0 . . . . .	14
2.5.2	Slot 1 . . . . .	15
2.5.3	Slot 2 . . . . .	16
<b>A</b>	<b>Summary</b>	<b>17</b>
A.1	Status . . . . .	17
A.2	Comments . . . . .	17

# 1 Front

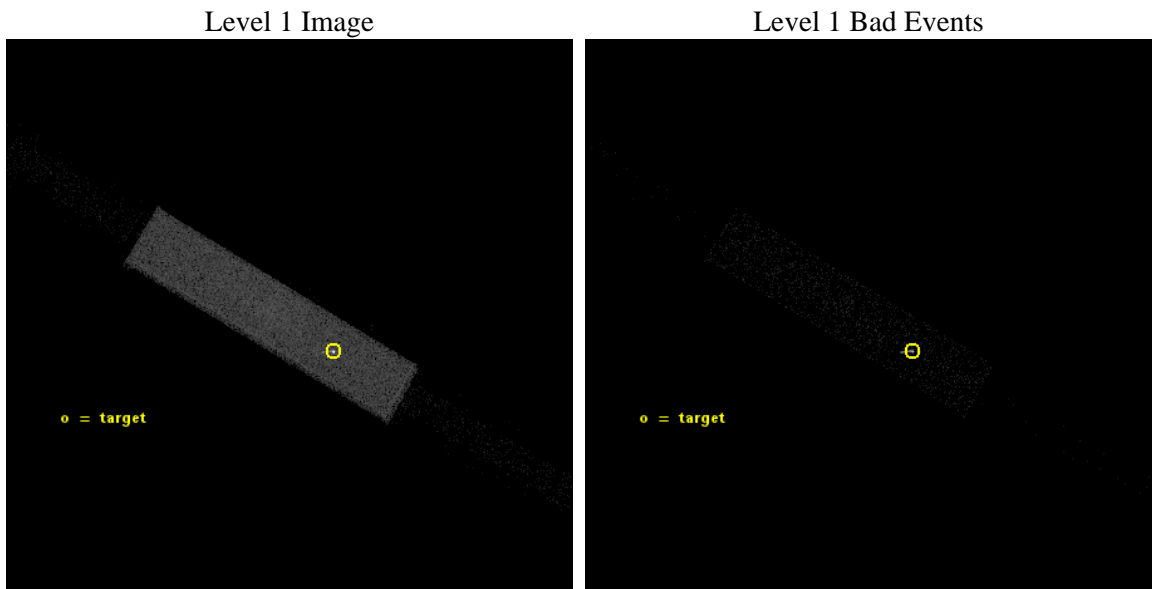
seq_num	291120	Sequence number
obs_id	15441	Observation id
title	AO-14 Calibration Observations to Monitor the Spatial Variations in the HRC-S Gain	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	ArLac	Source name
ra_targ	332.17	Observer's specified target RA [deg]
dec_targ	45.742306	Observer's specified target Dec [deg]
ra_nom	332.28796944356	Nominal RA [deg]
dec_nom	45.791016917206	Nominal Dec [deg]
roll_nom	210.24627302617	Nominal Roll [deg]
revision	2	Processing version of data
ontime	1151.3313128948	[s]
livetime	1144.6955753627	Ontime multiplied by DTCOR
l2events	47721	Number of level 2 events



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	1000.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	1151.3313128948	[s]
caldsver	4.6.4	&#160	l1events	76840	Number of level 1 events
date	2014-12-06T14:14:19	Date and time of file creation			
revision	2	Processing version of data			

### 2.1.3 Events

Level 1 Events

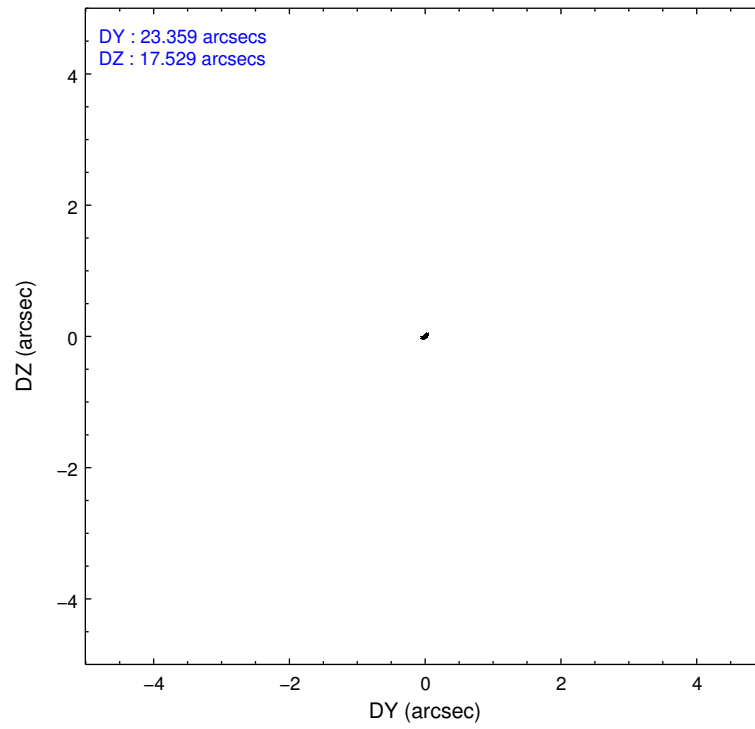
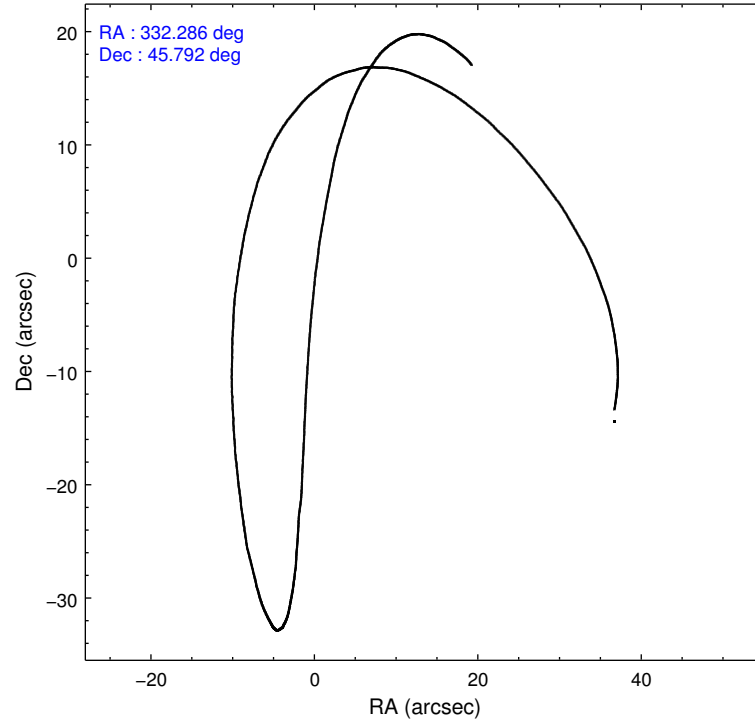
	segment 1	segment 2	segment 3
level 1 events	651	75598	591
rejected events	651	17509	580
rejected %	100%	23%	98%

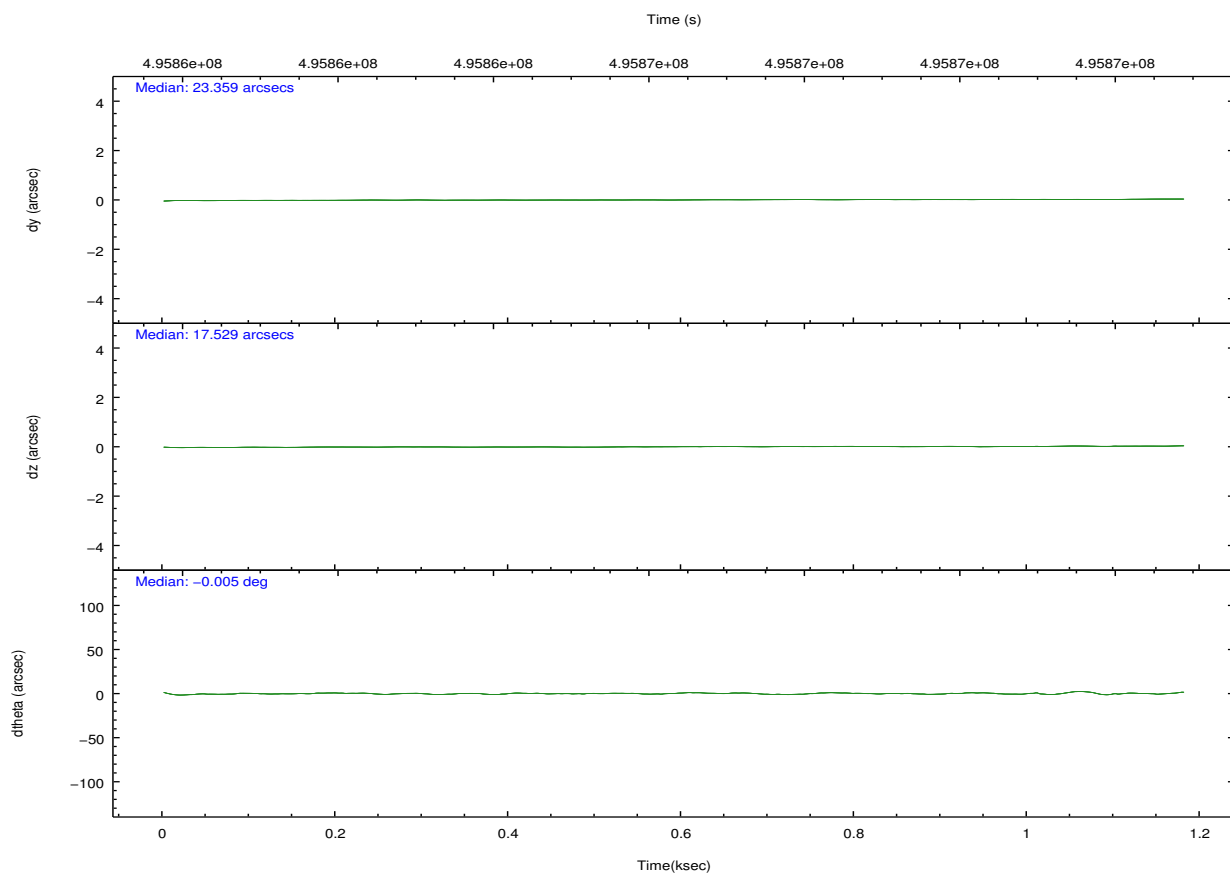
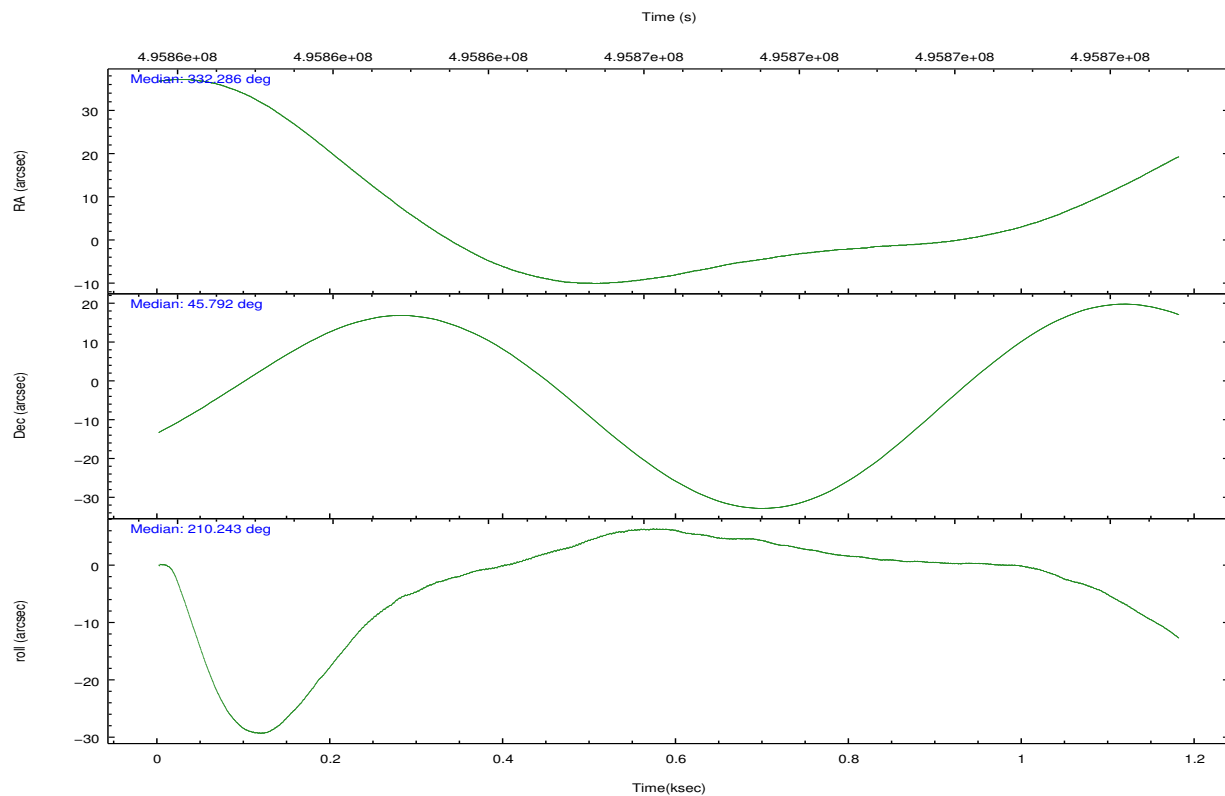
## 2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-S	HRC-S
Grating	NONE	NONE
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
[deg] Pointing RA	332.306549	332.2879694435607
[deg] Pointing Dec	45.815903	45.79101691720621
[deg] Pointing Roll	210.165482	210.2462730261684
[mm] SIM focus pos	-1.533336	-1.526339935833849
[mm] SIM defocus	7.710433287538843e-07	0.006996703570447904
[mm] SIM translation stage pos	250.455976	250.466033080201
[mm] SIM translation stage offset	0	-0.01005468664627074
[s] Observation start time (MET)	495864822.184000	495864446.72288
Observation start date	2013-09-18T04:12:35	2013-09-18T04:07:26
[s] Observation end time (MET)	495865822.184000	495865956.54796
Observation end date	2013-09-18T04:29:15	2013-09-18T04:32:36

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

## 2.3 Aspect





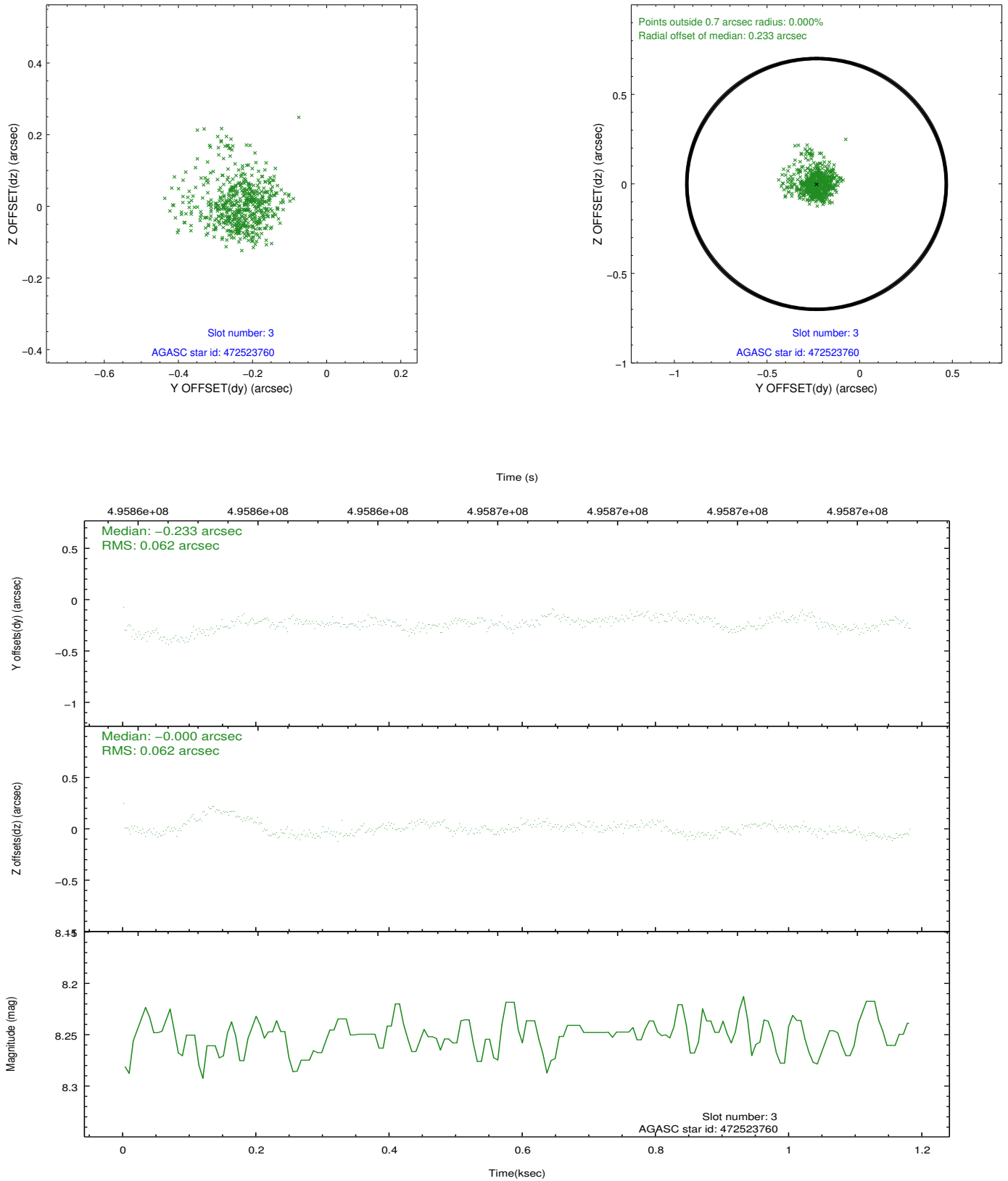
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		HRC-S-1	7.02	288	0.025	-0.140	0.007	0.013	0.000000	0.000000	-1178.02	-466.49
1	FID		HRC-S-2	7.00	287	0.256	-0.110	0.005	0.010	0.000000	0.000000	1217.76	-460.66
2	FID		HRC-S-3	7.03	288	0.107	-0.053	0.007	0.014	0.000000	0.000000	-1176.46	561.51
3	GUIDE	used	472523760	8.25	577	-0.233	-0.000	0.086	0.172	331.645363	45.403260	2189.61	441.23
4	GUIDE	used	472533912	9.13	574	0.059	0.343	0.140	0.261	331.791136	46.368695	110.71	-2363.95
5	GUIDE	used	472651904	6.16	577	-0.219	-0.362	0.105	0.191	332.170077	45.742257	431.58	53.77
6	GUIDE	used	472655152	9.42	574	0.153	-0.127	0.196	0.652	332.504239	45.862991	-511.31	104.39
7	GUIDE	used	472665256	9.00	573	0.251	0.172	0.139	0.210	332.808125	46.195041	-1767.20	-552.64

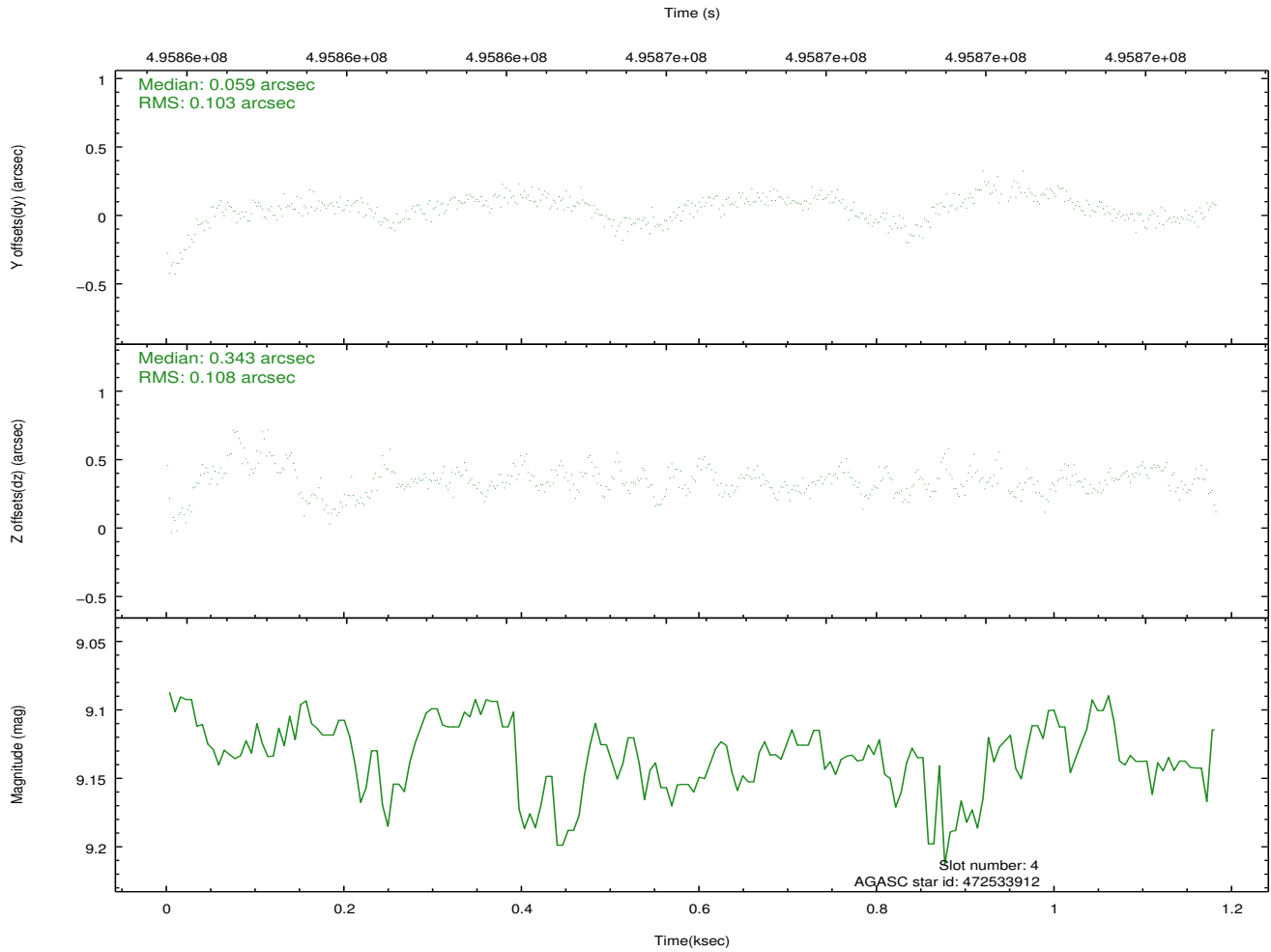
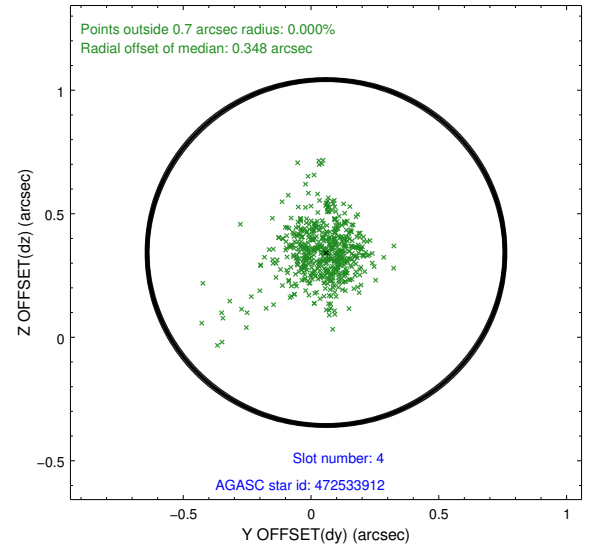
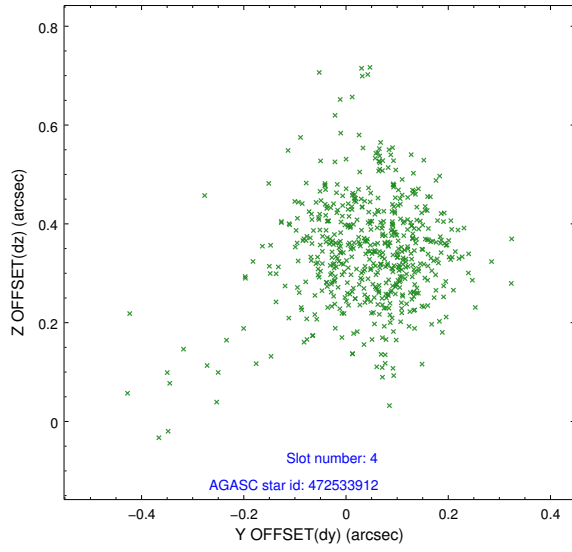


## 2.4 Star Slots

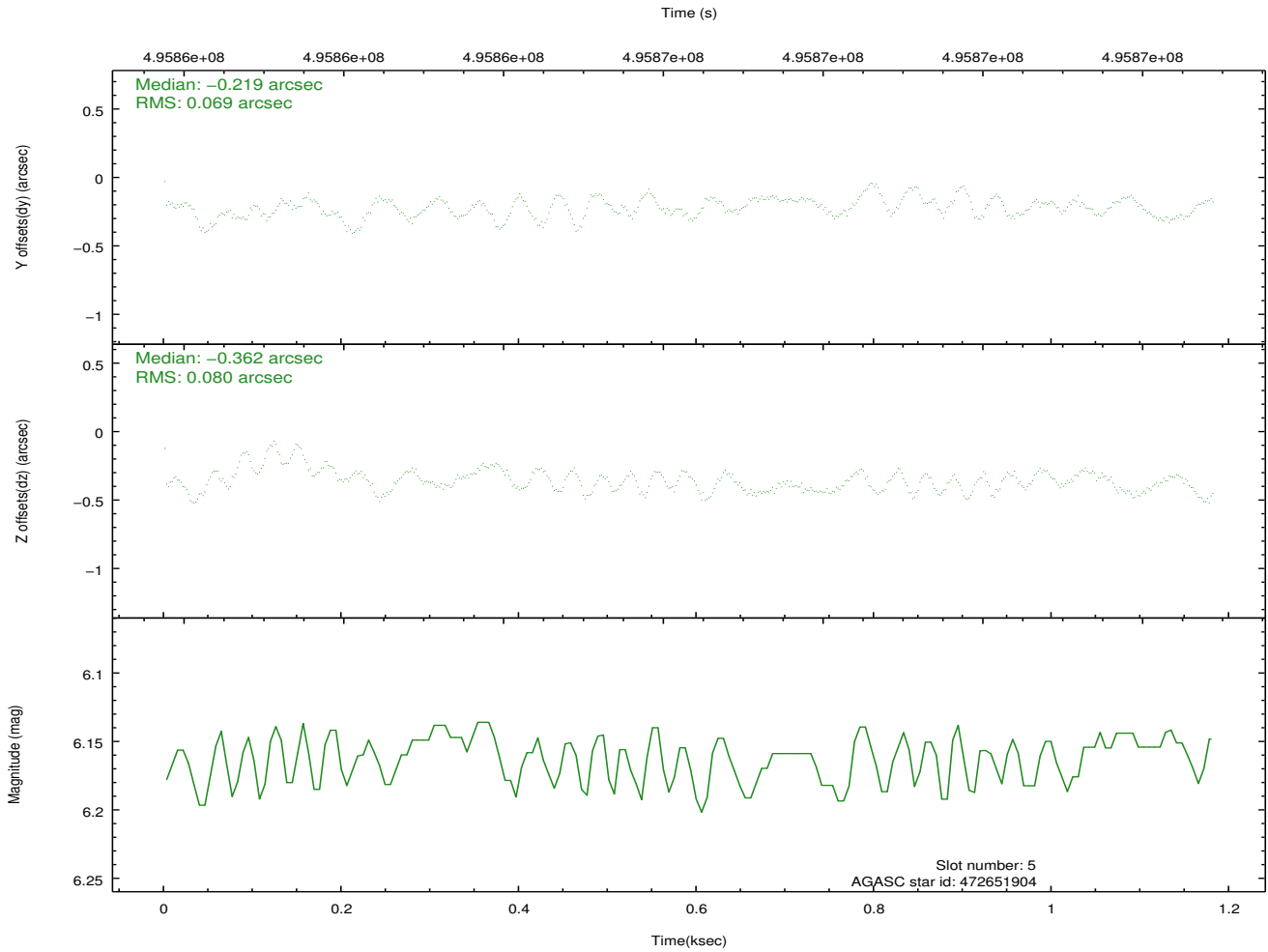
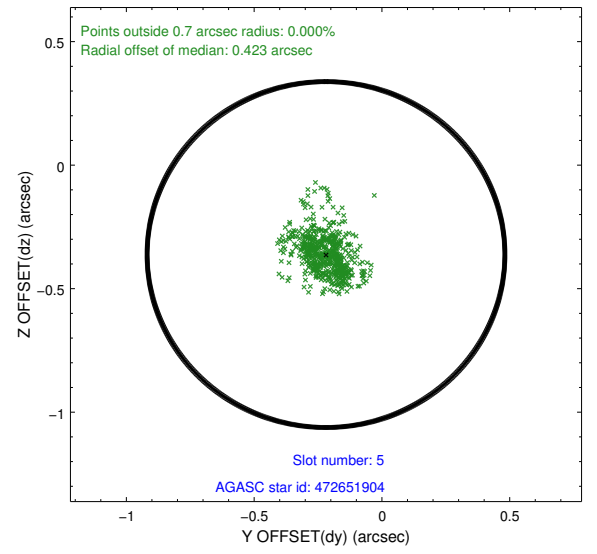
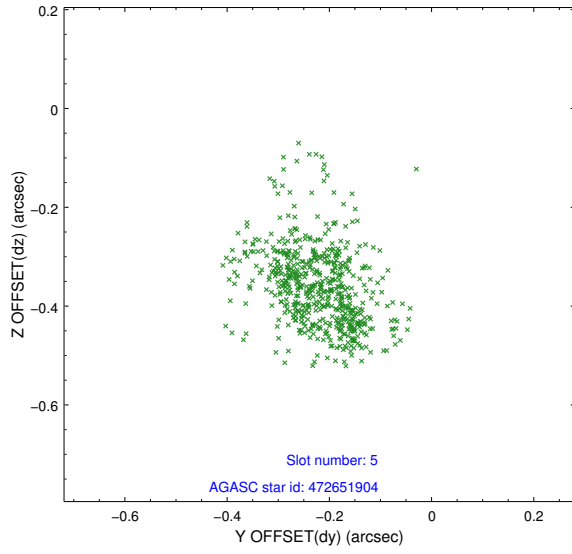
### 2.4.1 Slot 3



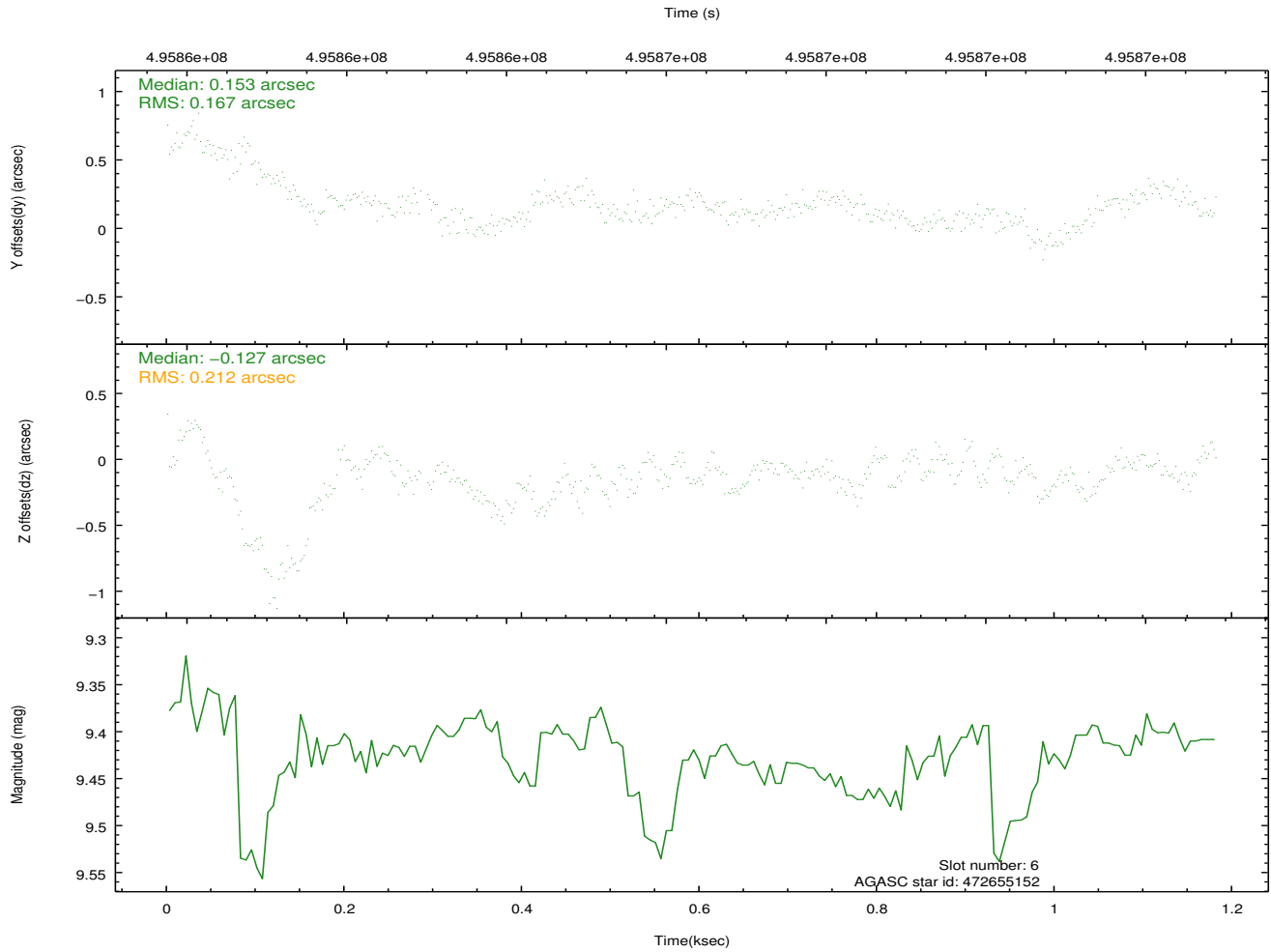
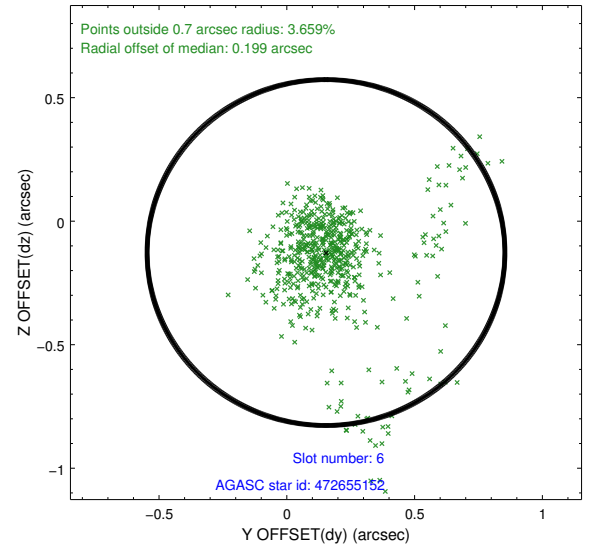
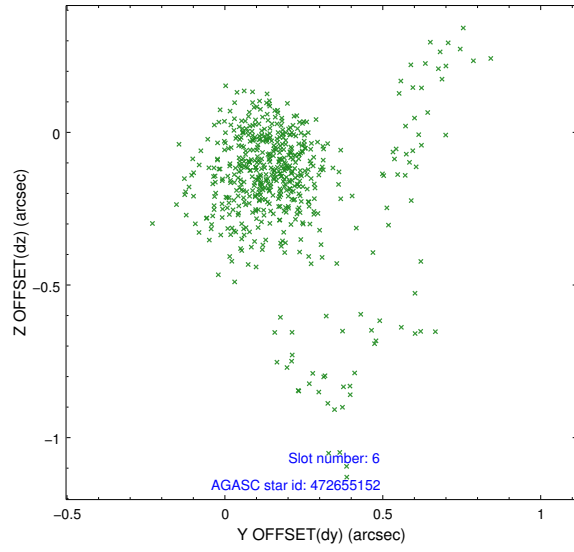
## 2.4.2 Slot 4



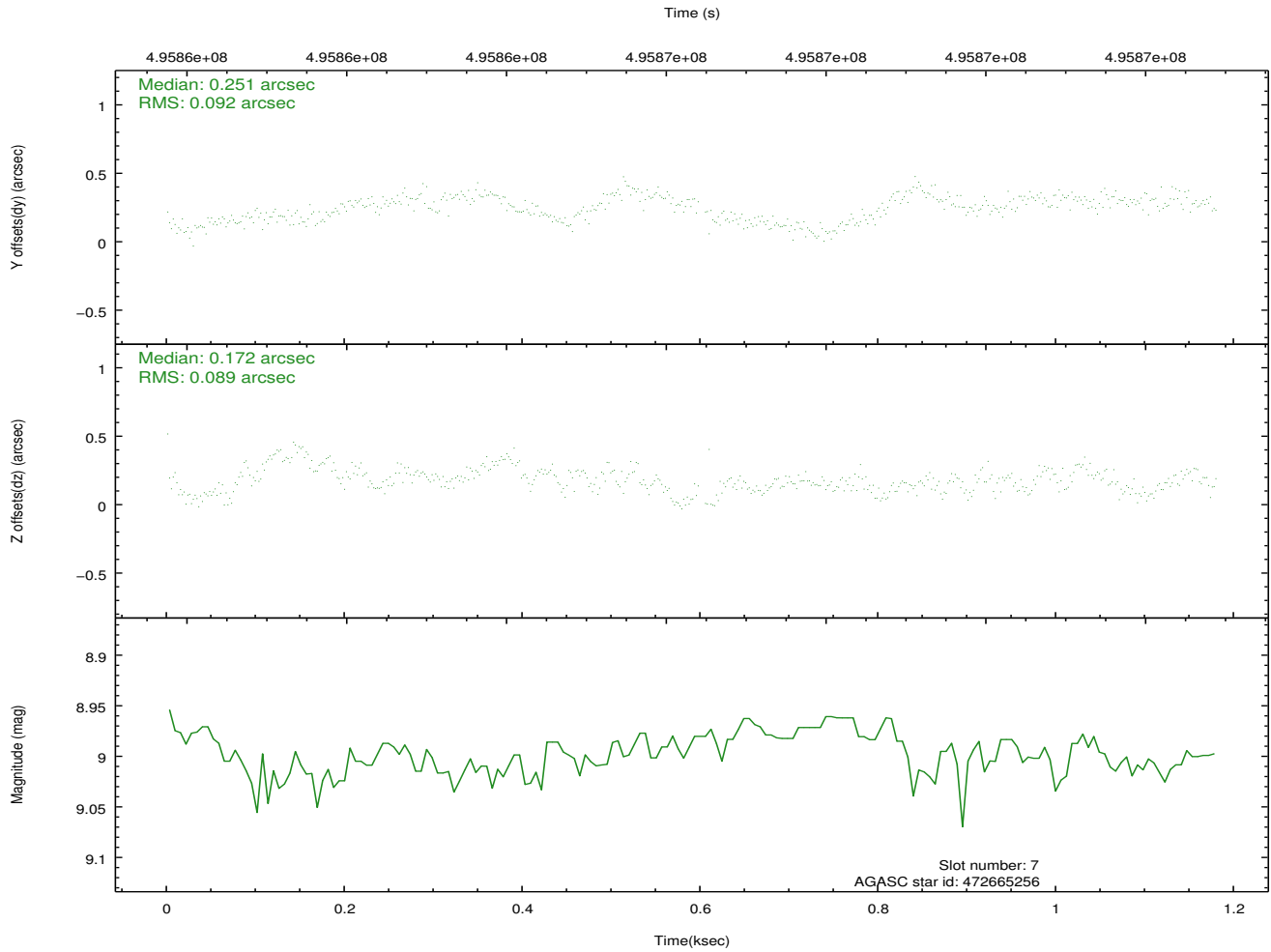
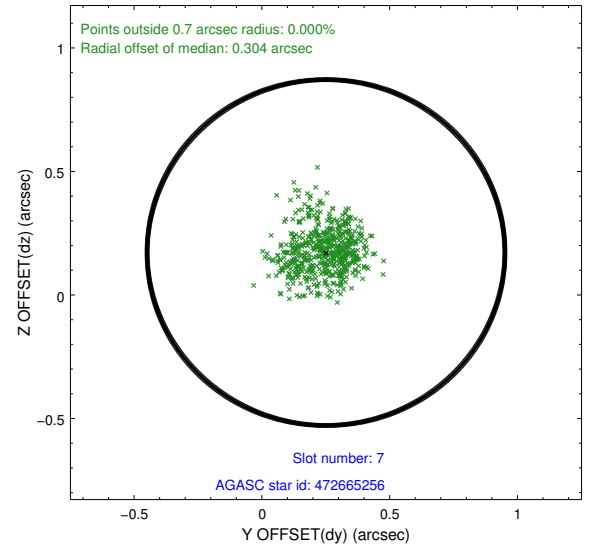
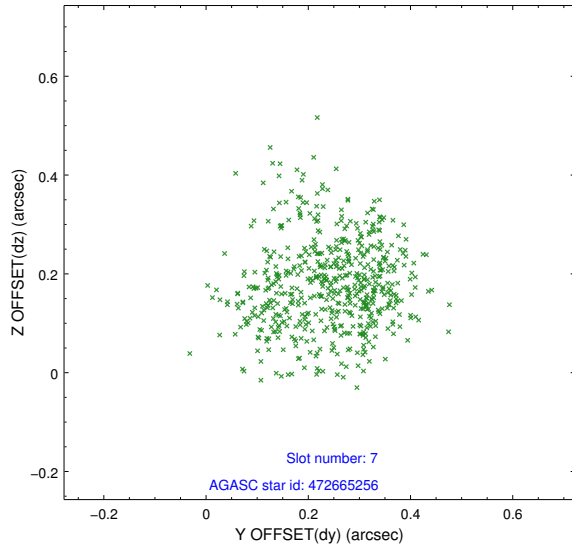
### 2.4.3 Slot 5



## 2.4.4 Slot 6

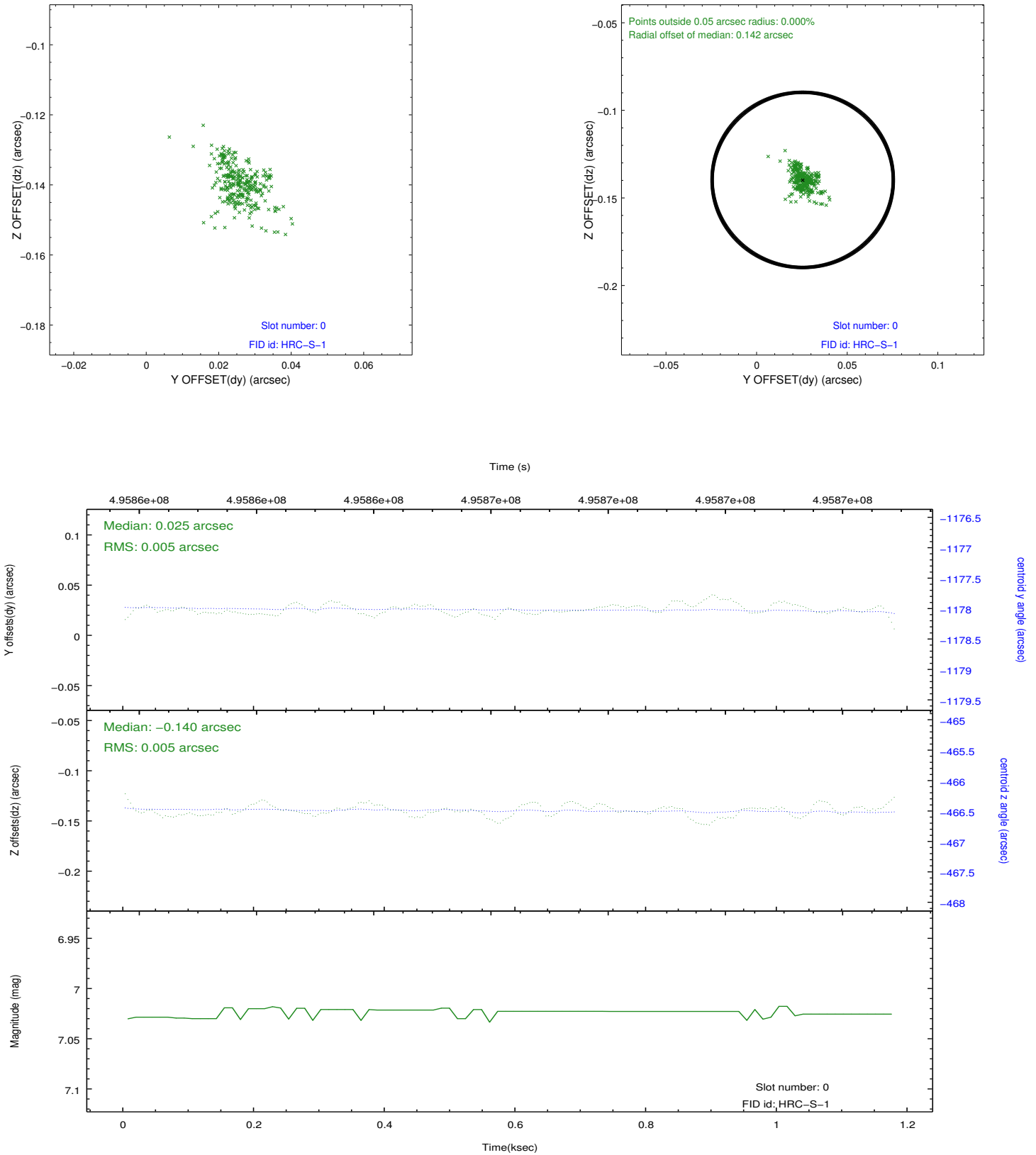


## 2.4.5 Slot 7

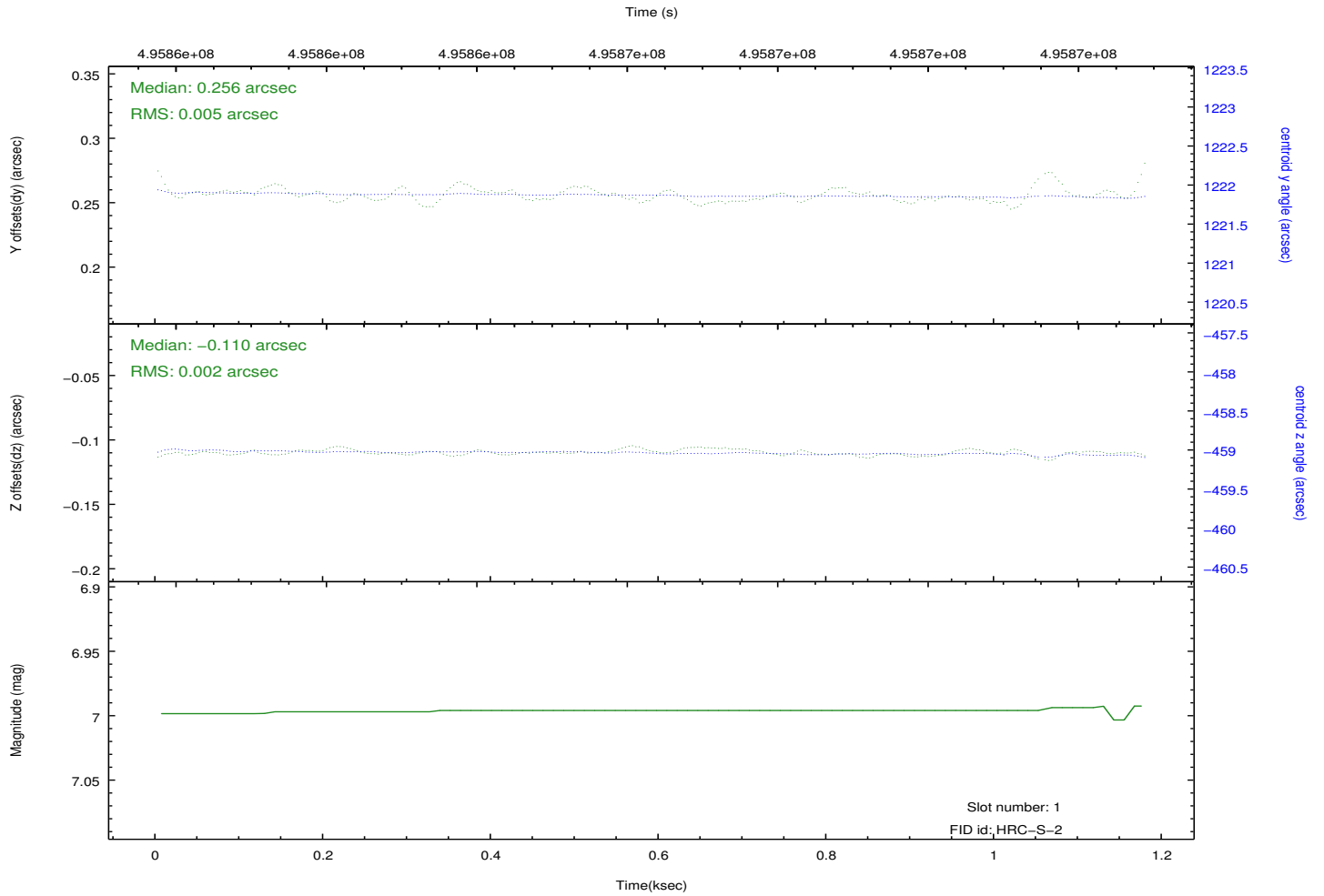
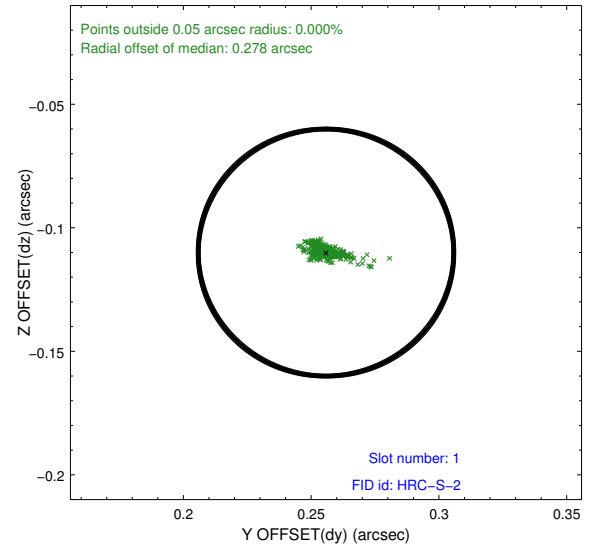
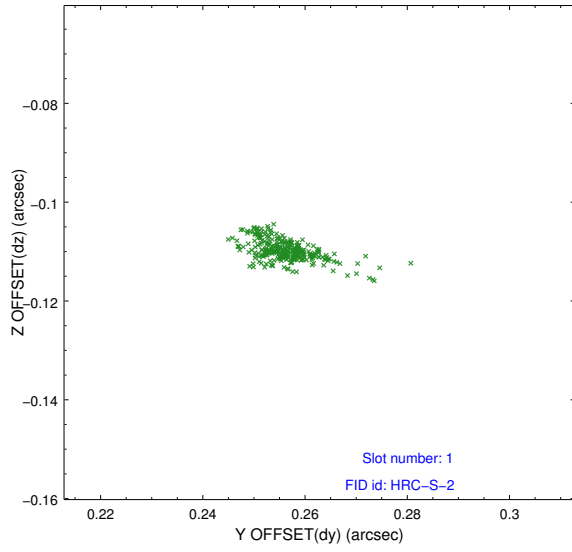


## 2.5 FID Slots

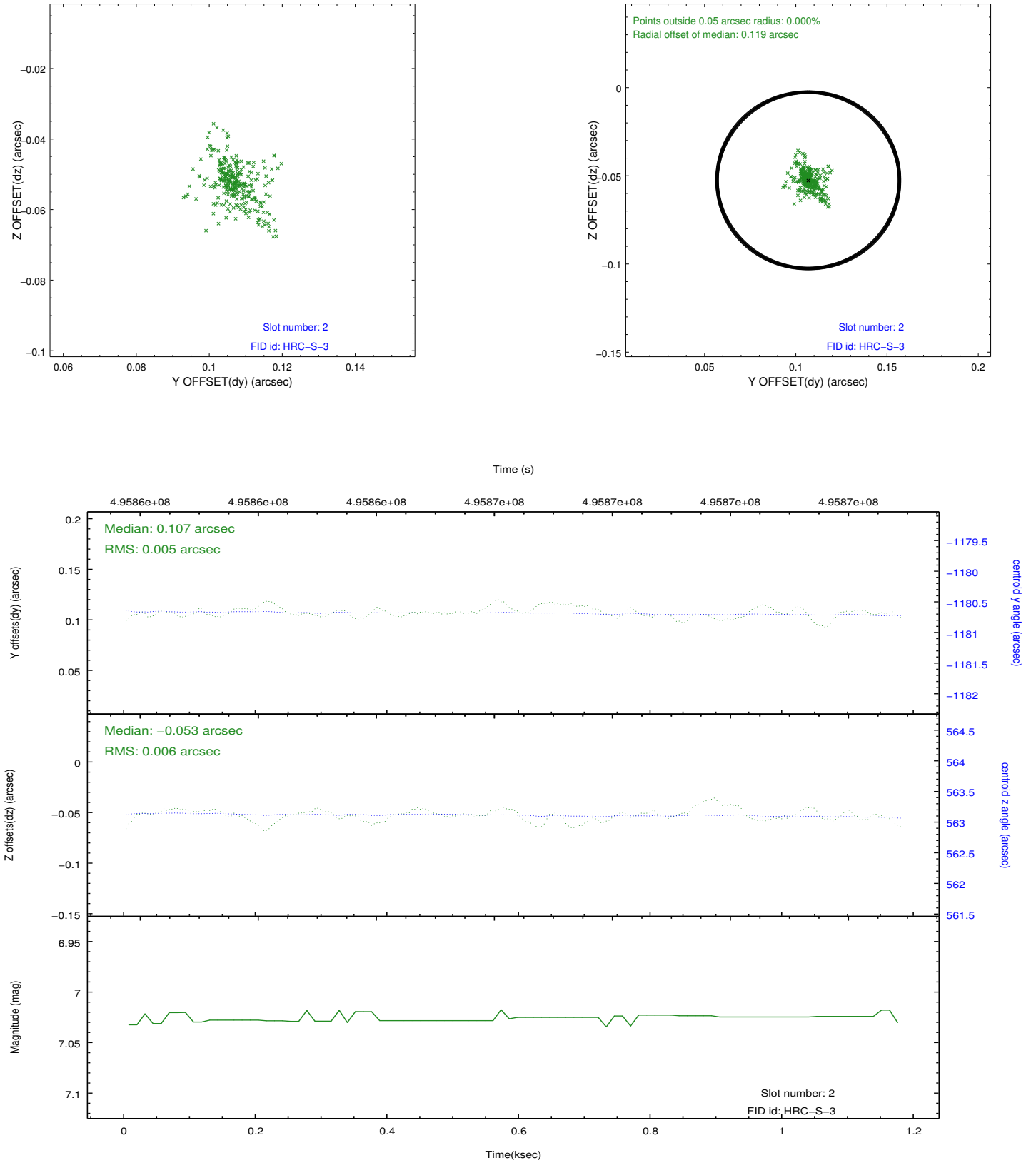
### 2.5.1 Slot 0



## 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)	2014.12.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.1513313128948

## A.2 Comments

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.