

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 62685 - L2 Version 4  
Chandra X-Ray Center

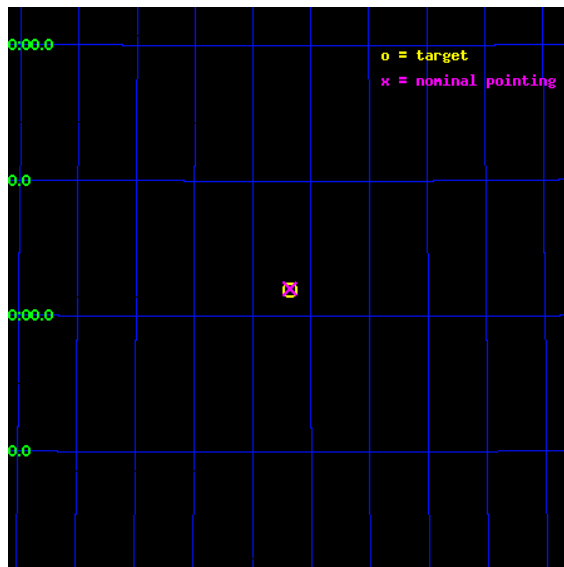
L2 Processing Date : Aug 10 2012

## 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>3</b>	<b>Gratings</b>	<b>17</b>
3.1	LETG Arm . . . . .	17
<b>A</b>	<b>Summary</b>	<b>19</b>
A.1	Status . . . . .	19
A.2	Comments . . . . .	19

# 1 Front

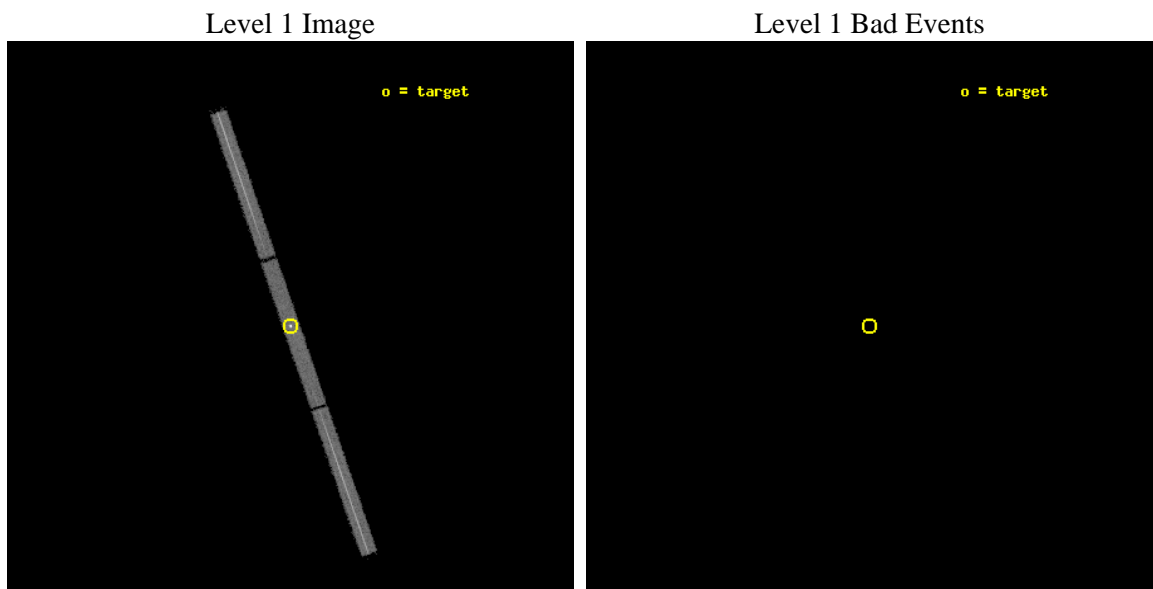
seq_num	0	Sequence number
obs_id	62685	Observation id
title	Determination of HRC-S MCP HV step change	Proposal title
observer	CXC Calibration	Principal investigator
object	HZ43	Source name
ra_targ	199.092083	Observer's specified target RA [deg]
dec_targ	29.099	Observer's specified target Dec [deg]
ra_nom	199.09068430485	Nominal RA [deg]
dec_nom	29.102887737463	Nominal Dec [deg]
roll_nom	70.845916272766	Nominal Roll [deg]
revision	4	Processing version of data
ontime	0.0	[s]
livetime	0.0	Ontime multiplied by DTCOR
l2events	0	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	4800.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	0.0	[s]
caldbver	4.5.1.1	&#160	l1events	65750	Number of level 1 events
date	2012-08-10T05:07:28	Date and time of file creation			
revision	4	Processing version of data			

### 2.1.3 Events

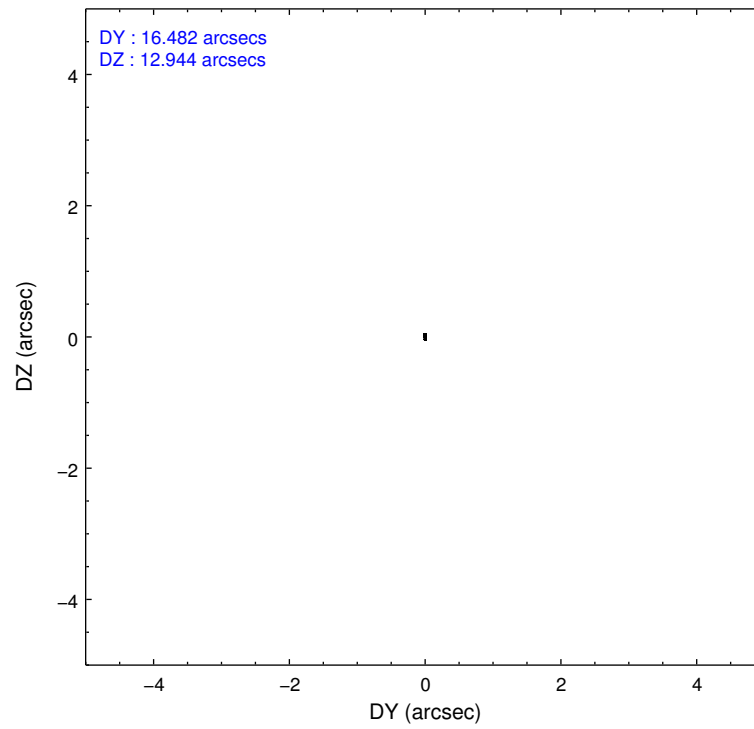
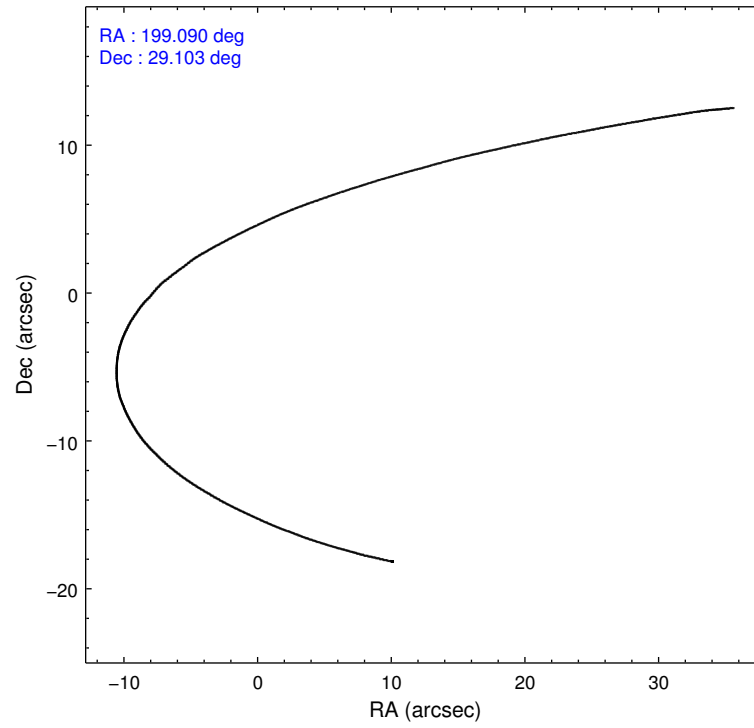
Level 1 Events

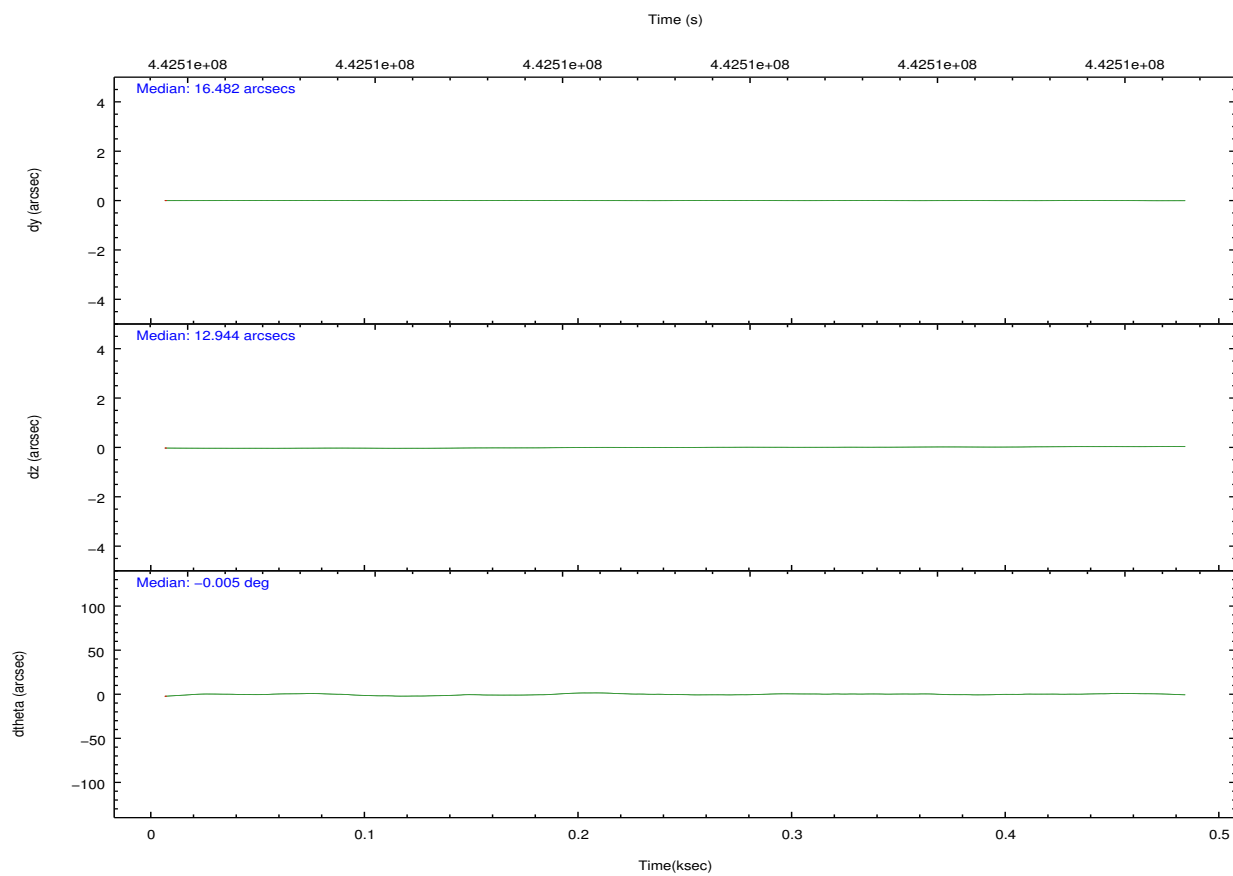
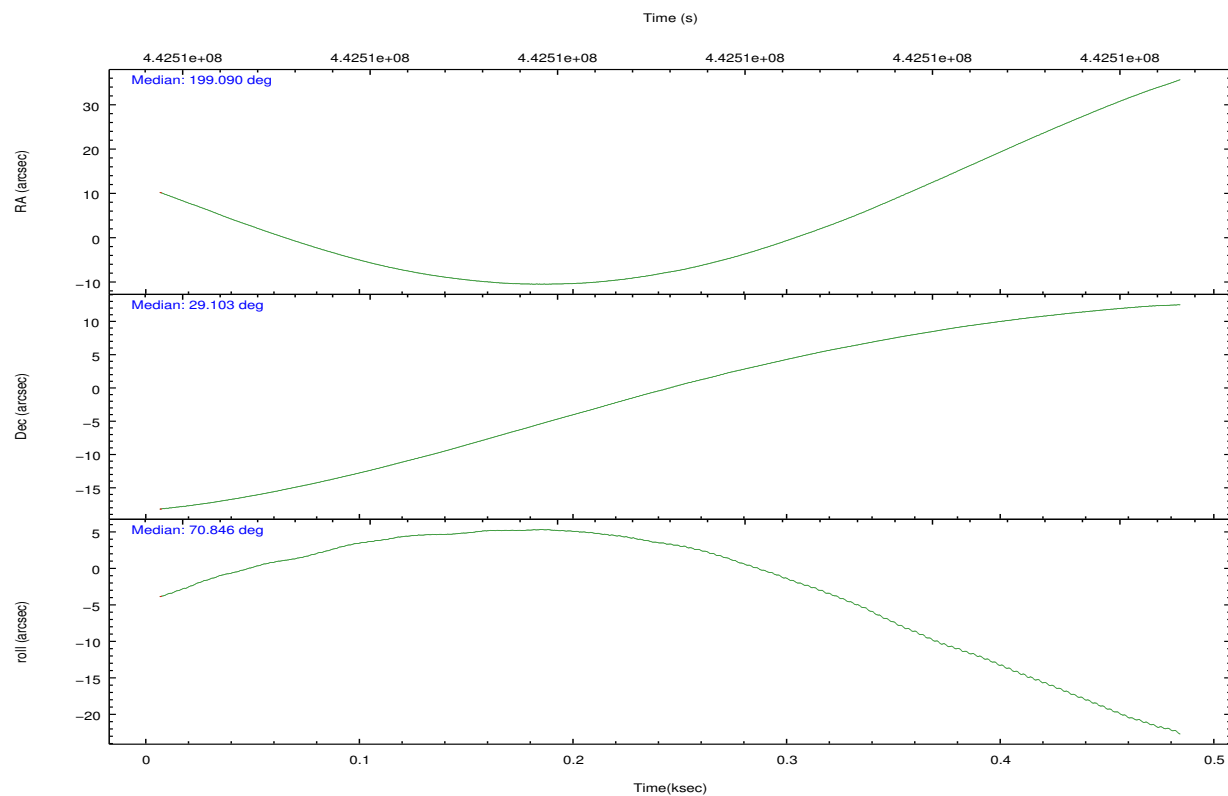
	<b>segment 1</b>	<b>segment 2</b>	<b>segment 3</b>
level 1 events	22930	19659	23161
rejected events	0	0	0
rejected %	0%	0%	0%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	HRC	HRC	Obspar format version number	7	7
Detector	HRC-S	HRC-S	Obspar file type	PREDICTED	ACTUAL
Grating	LETG	LETG	Obspar update status	NONE	UPDATED
Data mode	OBSERVING	OBSERVING			
Observation mode	POINTING	POINTING			
[deg] Pointing RA	199.101721	199.0906843048515			
[deg] Pointing Dec	29.075585	29.1028877374632			
[deg] Pointing Roll	70.773153	70.84591627276593			
[mm] SIM focus pos	-1.429586	-1.428180813131781			
[mm] SIM defocus	0.1037507710433287	0.1051558262725154			
[mm] SIM translation stage pos	250.455976	250.466033080201			
[mm] SIM translation stage offset	0	-0.01005468664627074			
[s] Observation start time (MET)	442505926.610068	442505925.58507			
Observation start date	2012-01-09T13:14:59	2012-01-09T14:18:45			
[s] Observation end time (MET)	442506406.310093	442506405.28509			
Observation end date	2012-01-09T14:34:59	2012-01-09T14:26:45			

## 2.3 Aspect





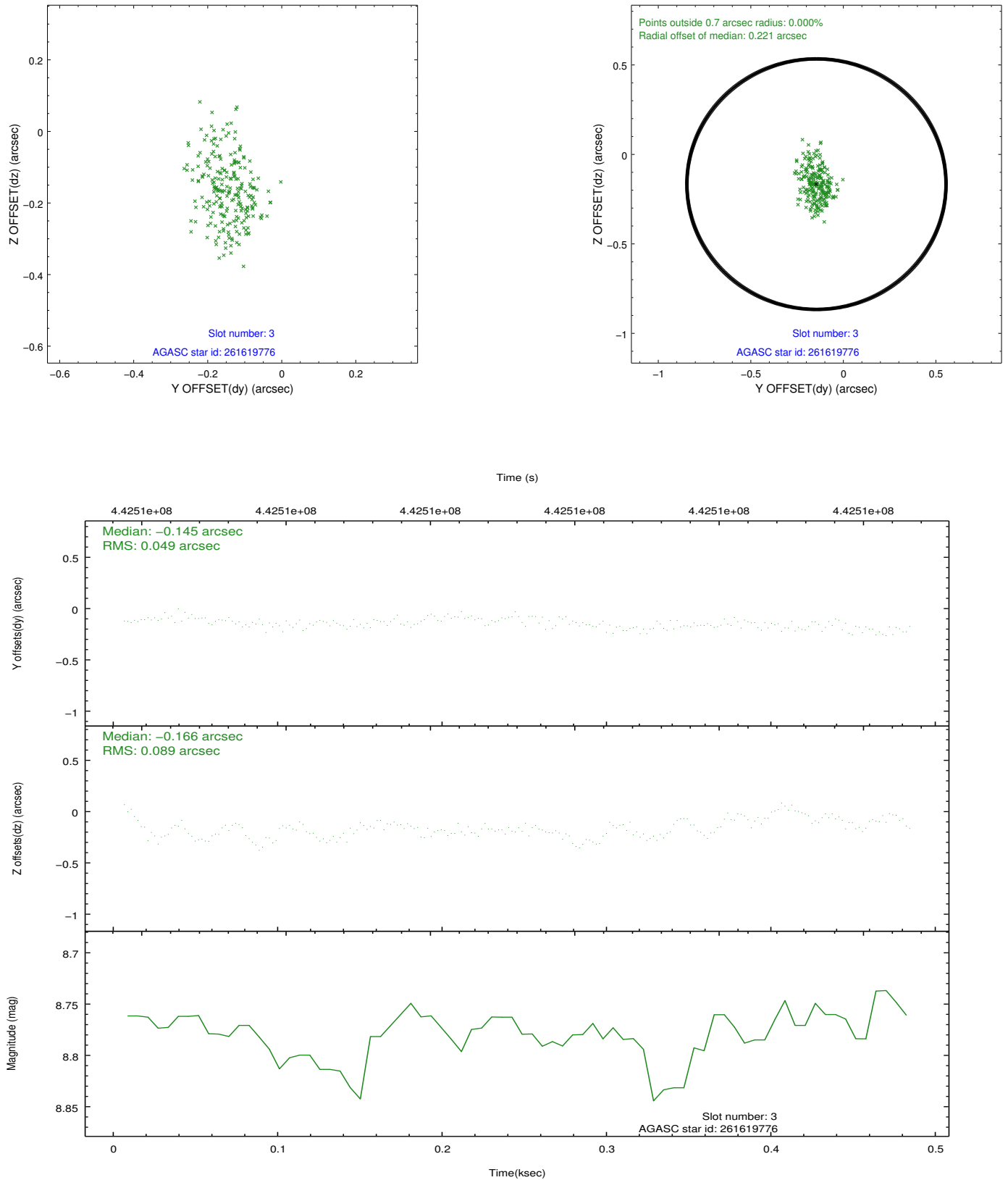
### Slot Statistics

slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	6.98	117	0.022	-0.122	0.006	0.010	0.000000	0.000000	-1170.98	-461.73
1	FID	HRC-S-2	6.96	117	0.307	-0.129	0.005	0.011	0.000000	0.000000	1218.97	-458.27
2	FID	HRC-S-3	6.99	117	0.061	-0.051	0.006	0.010	0.000000	0.000000	-1163.27	563.95
3	GUIDE	261619776	8.78	234	-0.145	-0.166	0.109	0.174	198.654383	29.401174	652.19	1701.92
4	GUIDE	261619992	9.28	233	0.125	-0.274	0.155	0.260	198.395553	28.647634	-2174.84	1599.72
5	GUIDE	261621400	6.97	234	0.102	-0.231	0.082	0.150	198.901600	28.741982	-1345.40	199.36
6	GUIDE	261623040	9.09	234	-0.373	-0.250	0.127	0.199	198.792686	29.757643	2000.86	1712.86
7	GUIDE	261623624	9.09	233	0.227	0.926	0.129	0.234	199.611555	28.454113	-1563.60	-2259.95

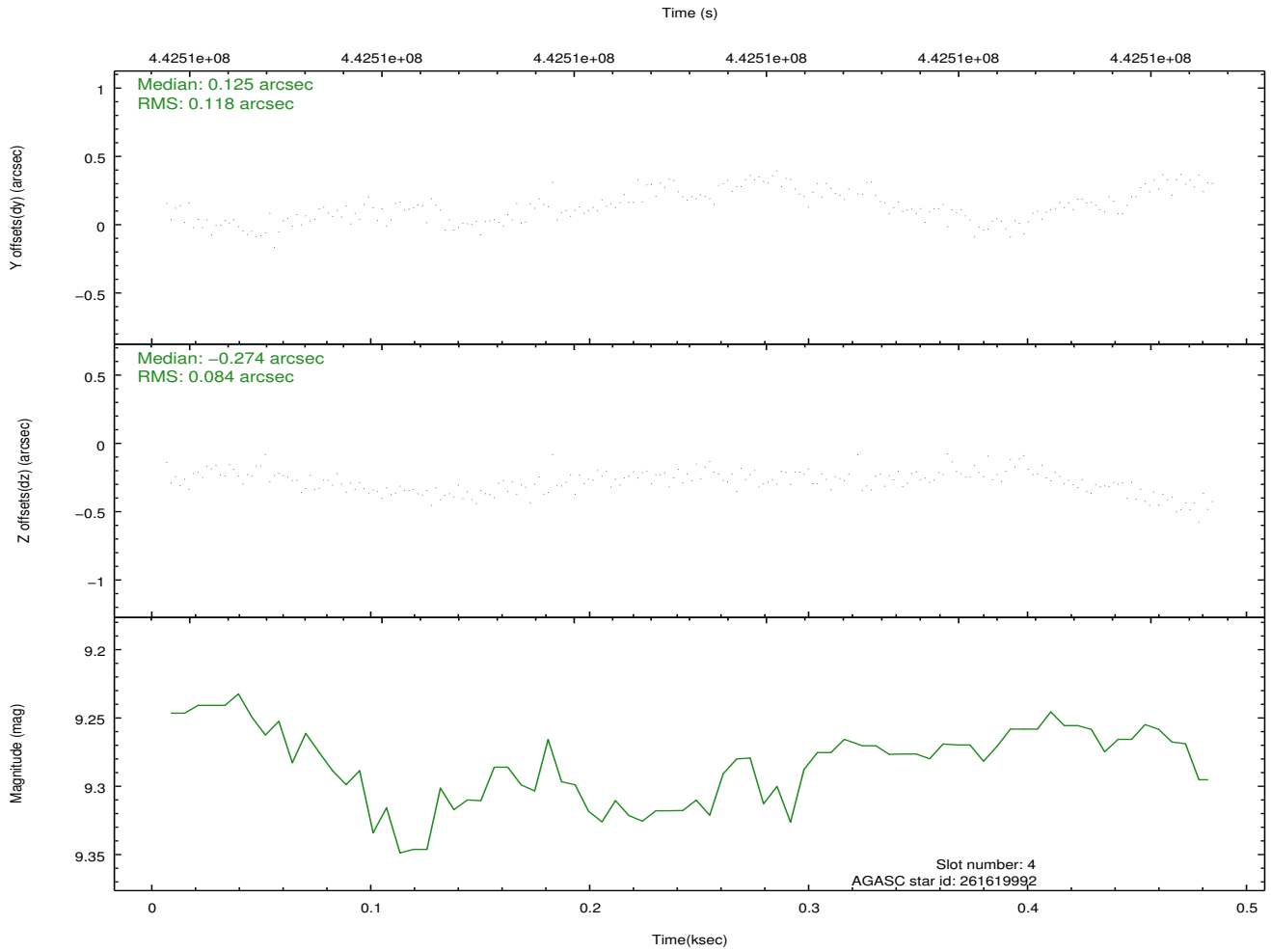
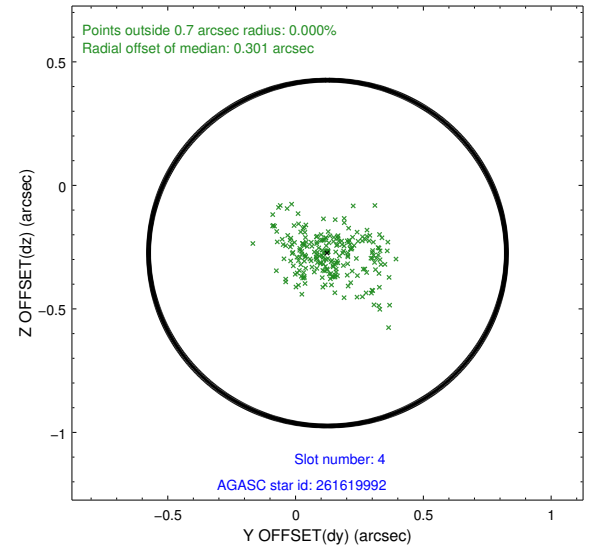
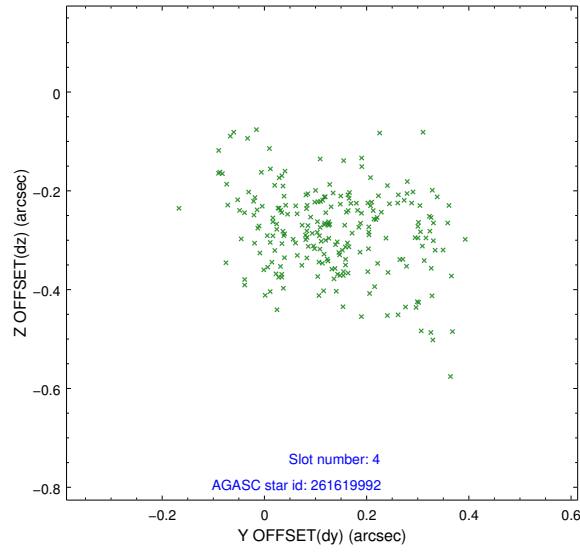


## 2.4 Star Slots

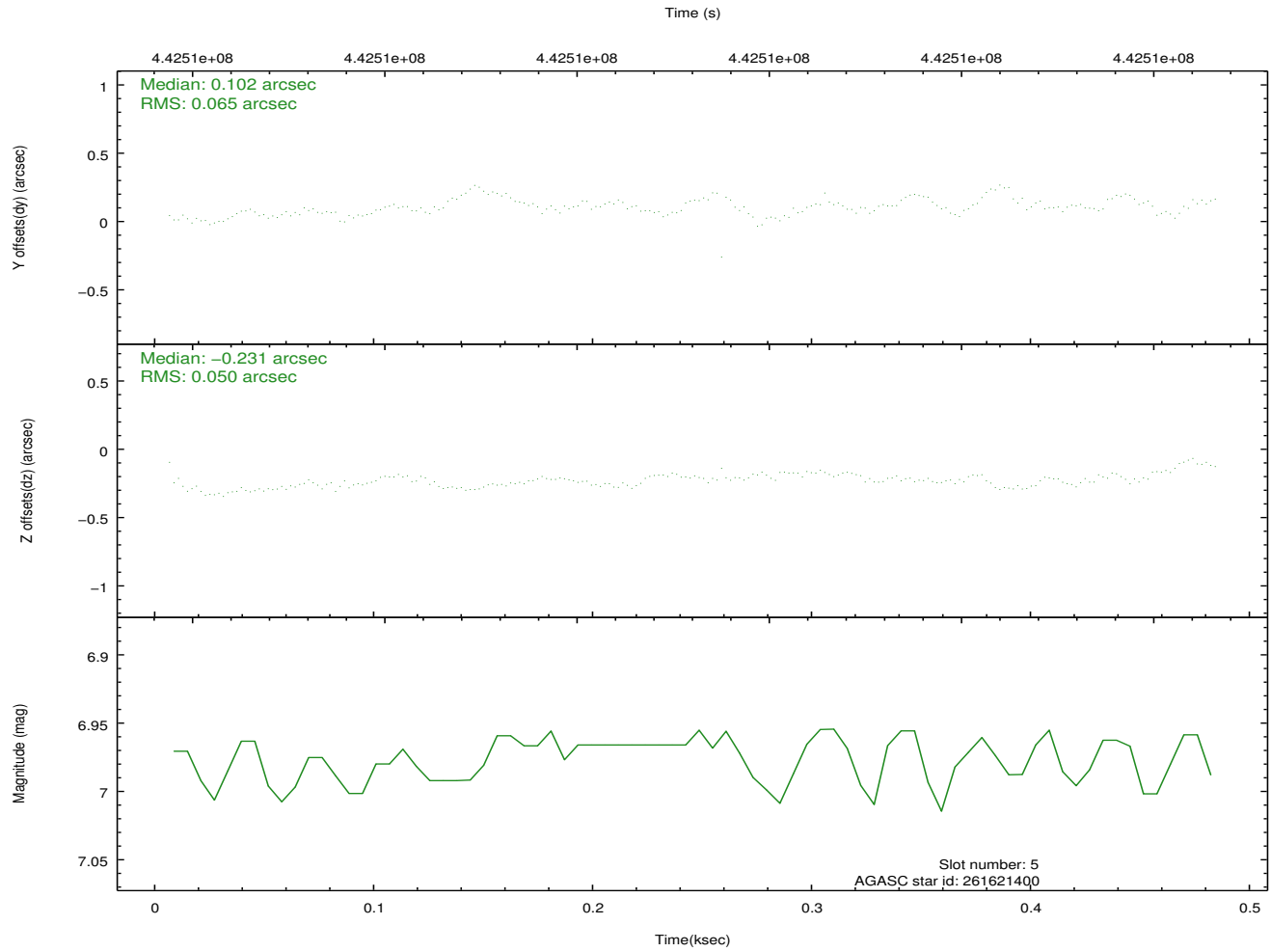
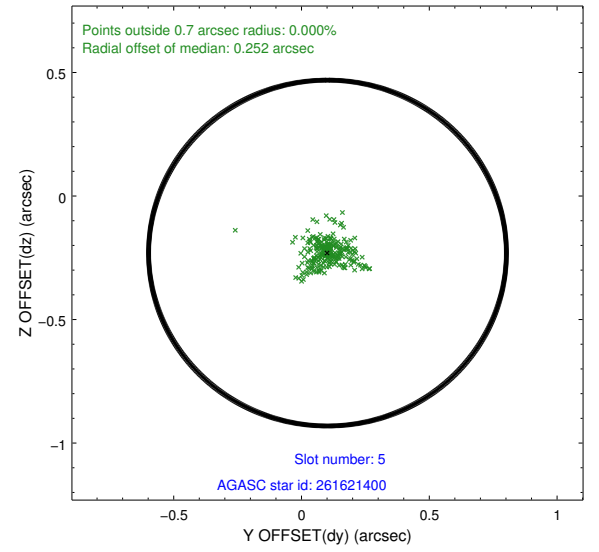
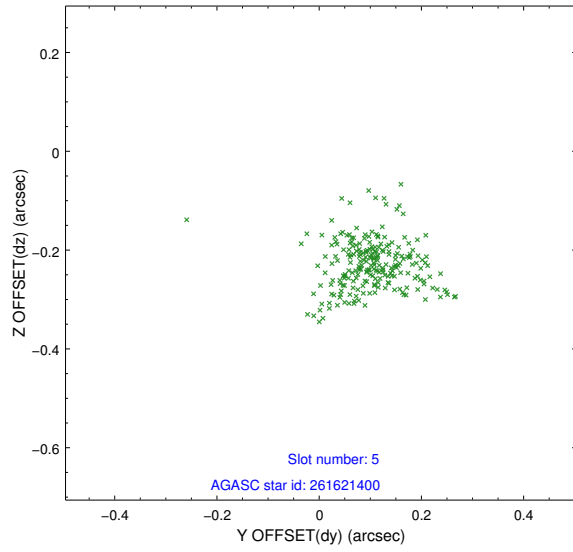
### 2.4.1 Slot 3



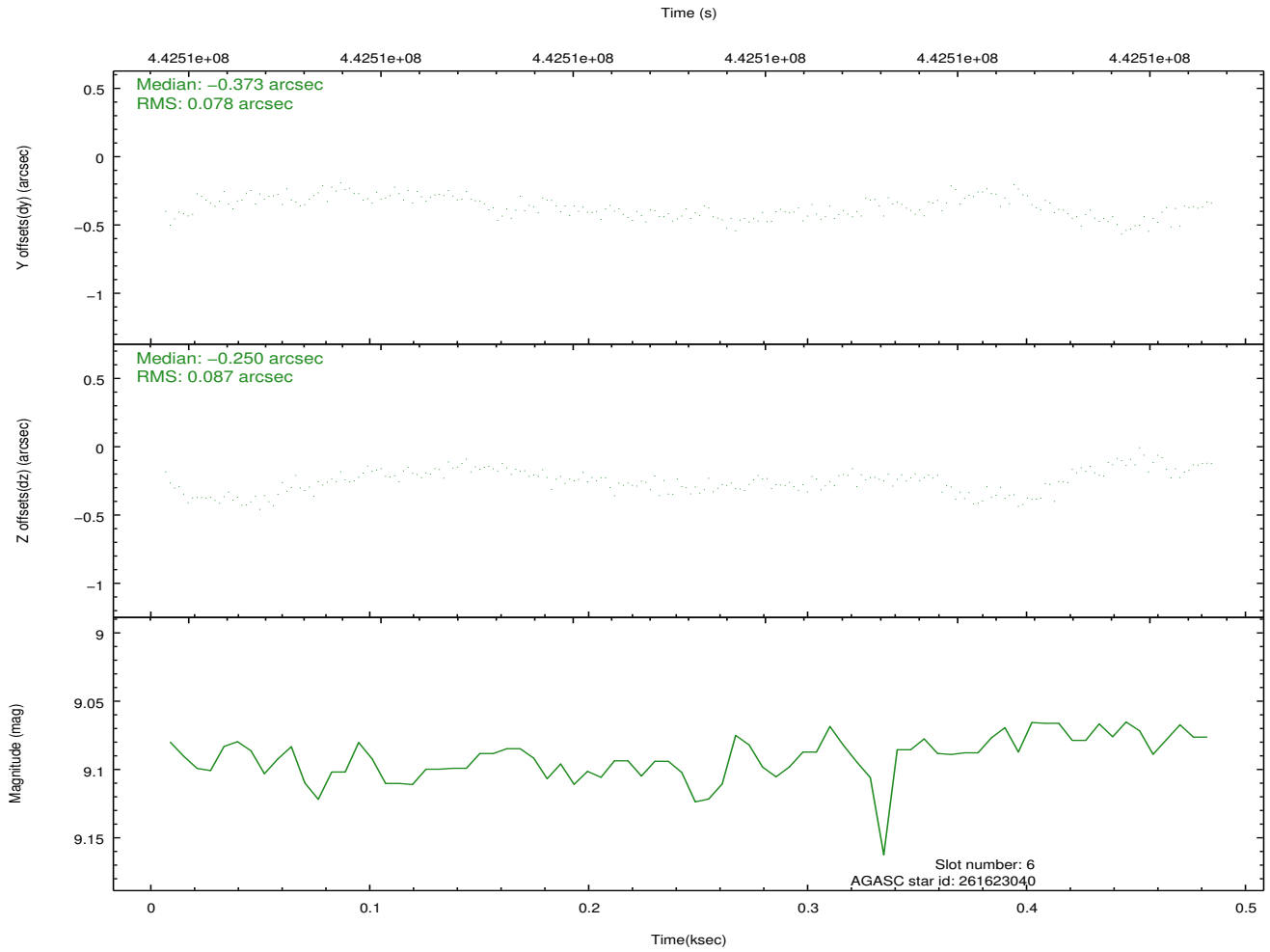
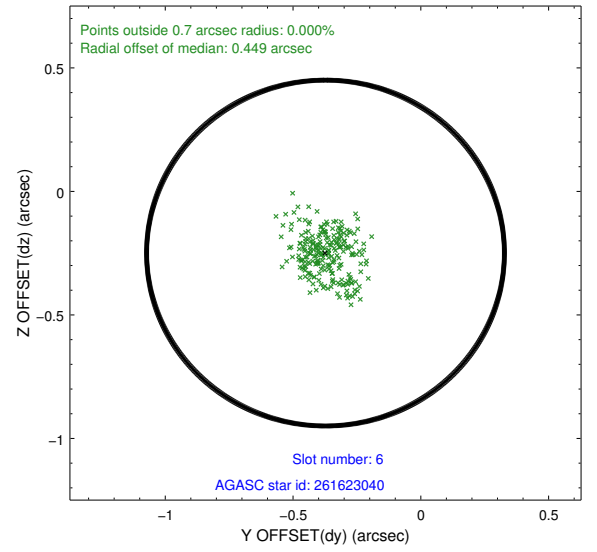
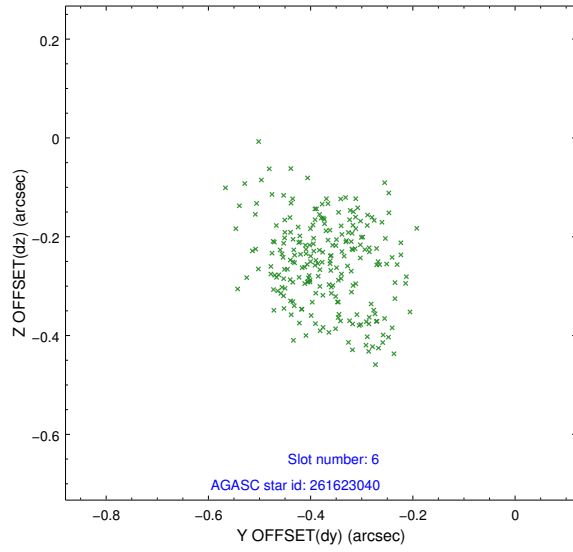
## 2.4.2 Slot 4



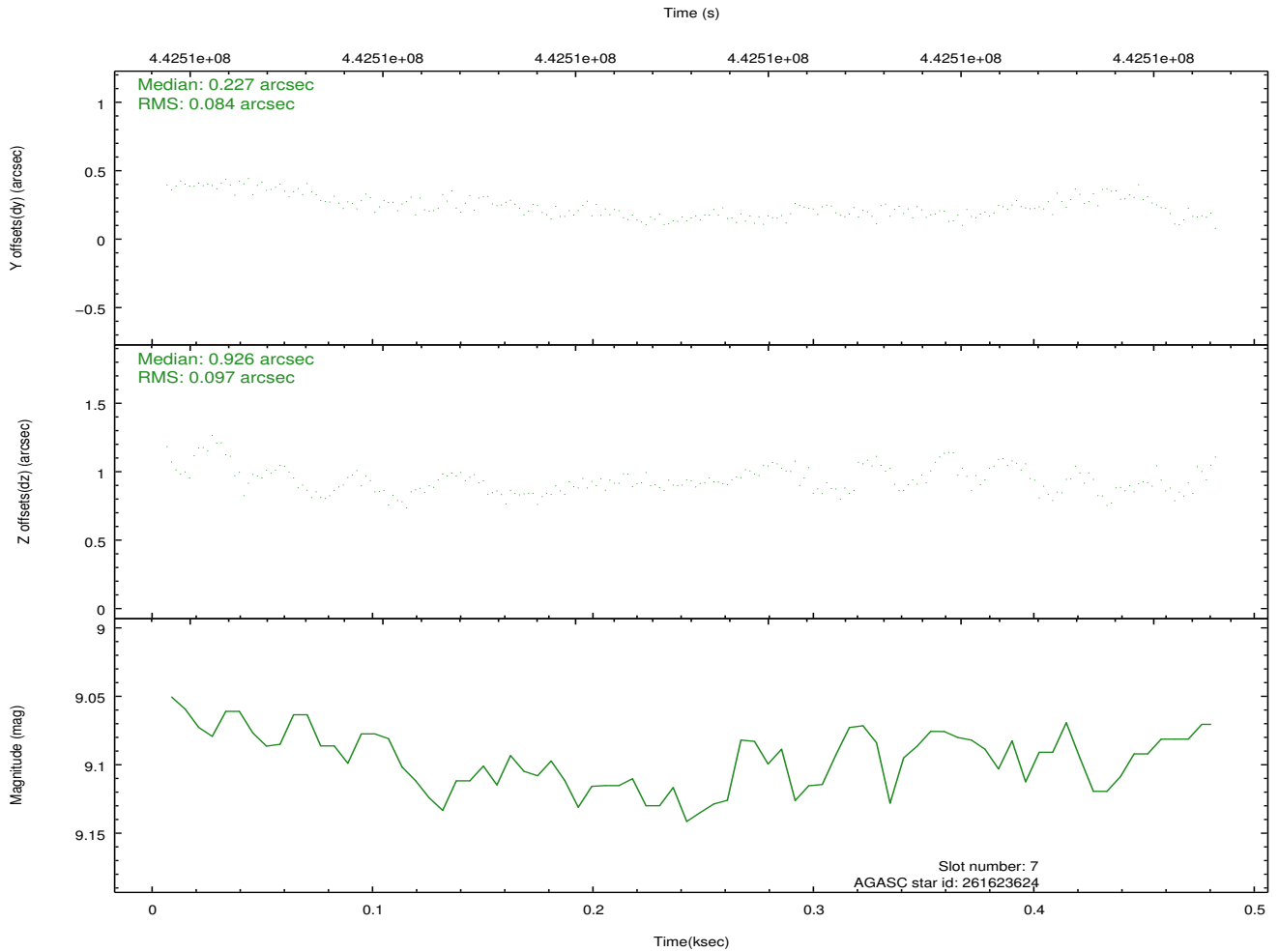
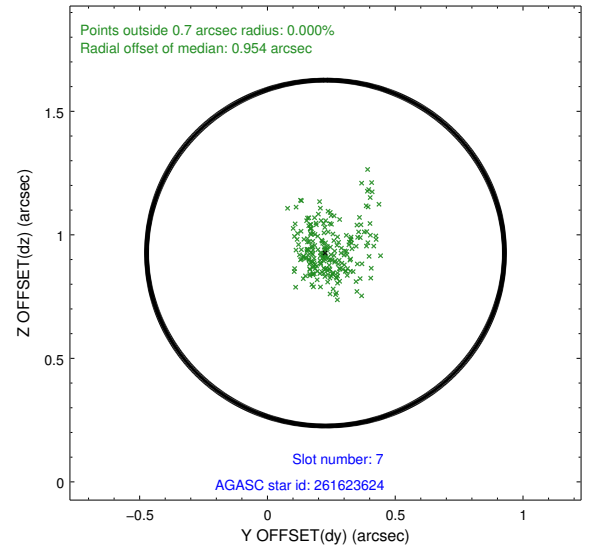
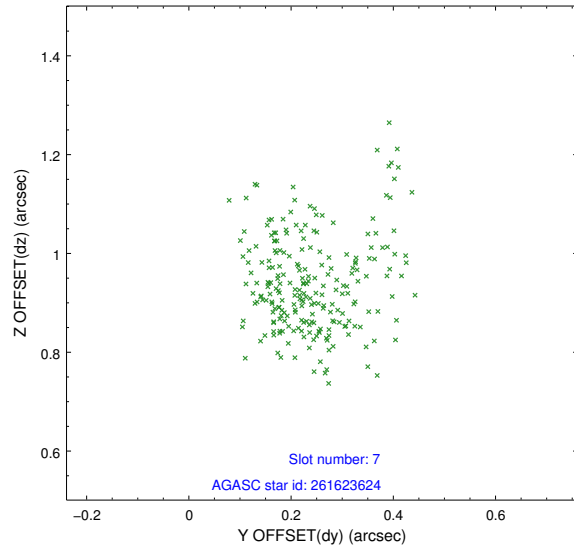
### 2.4.3 Slot 5



## 2.4.4 Slot 6

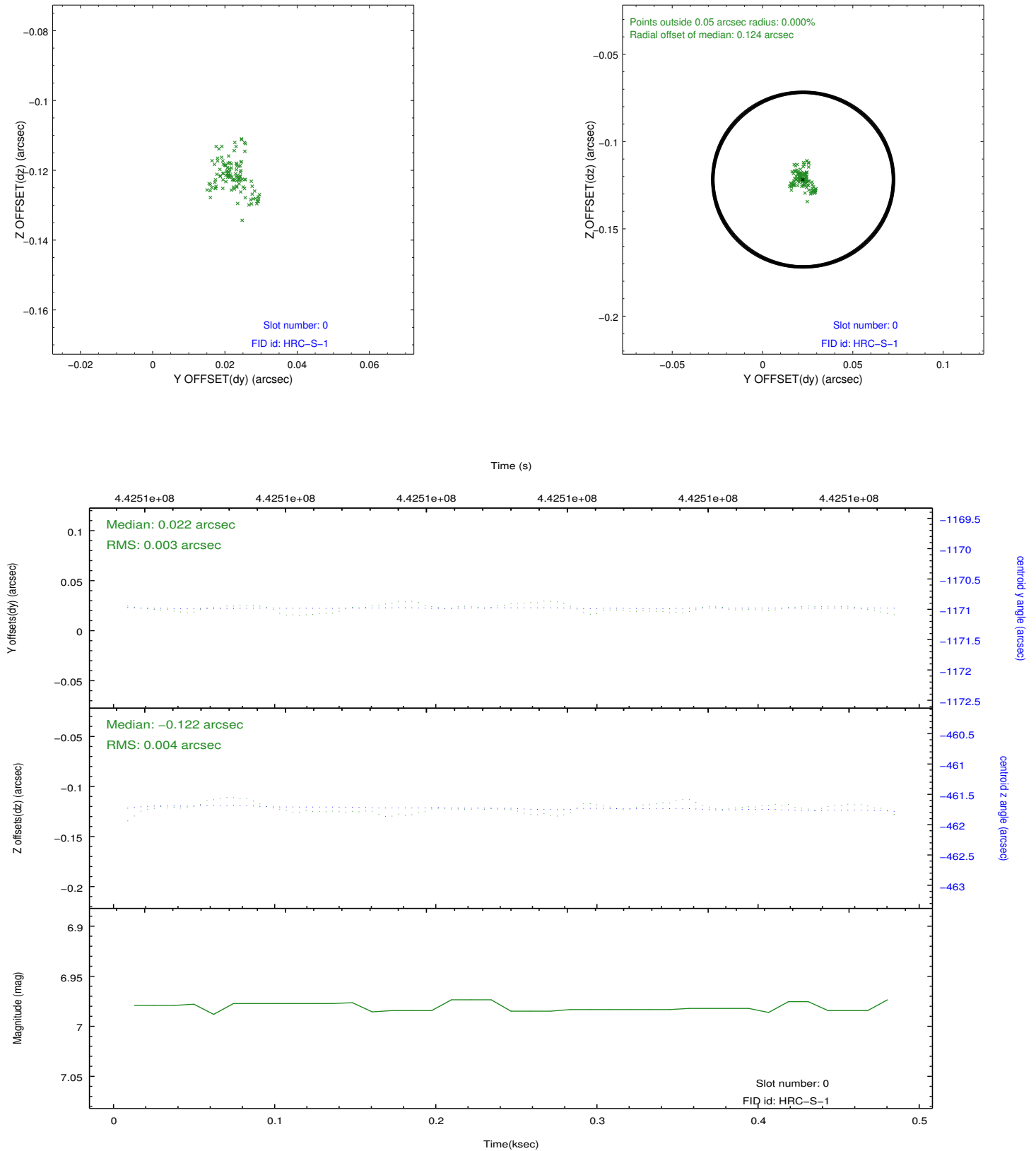


## 2.4.5 Slot 7

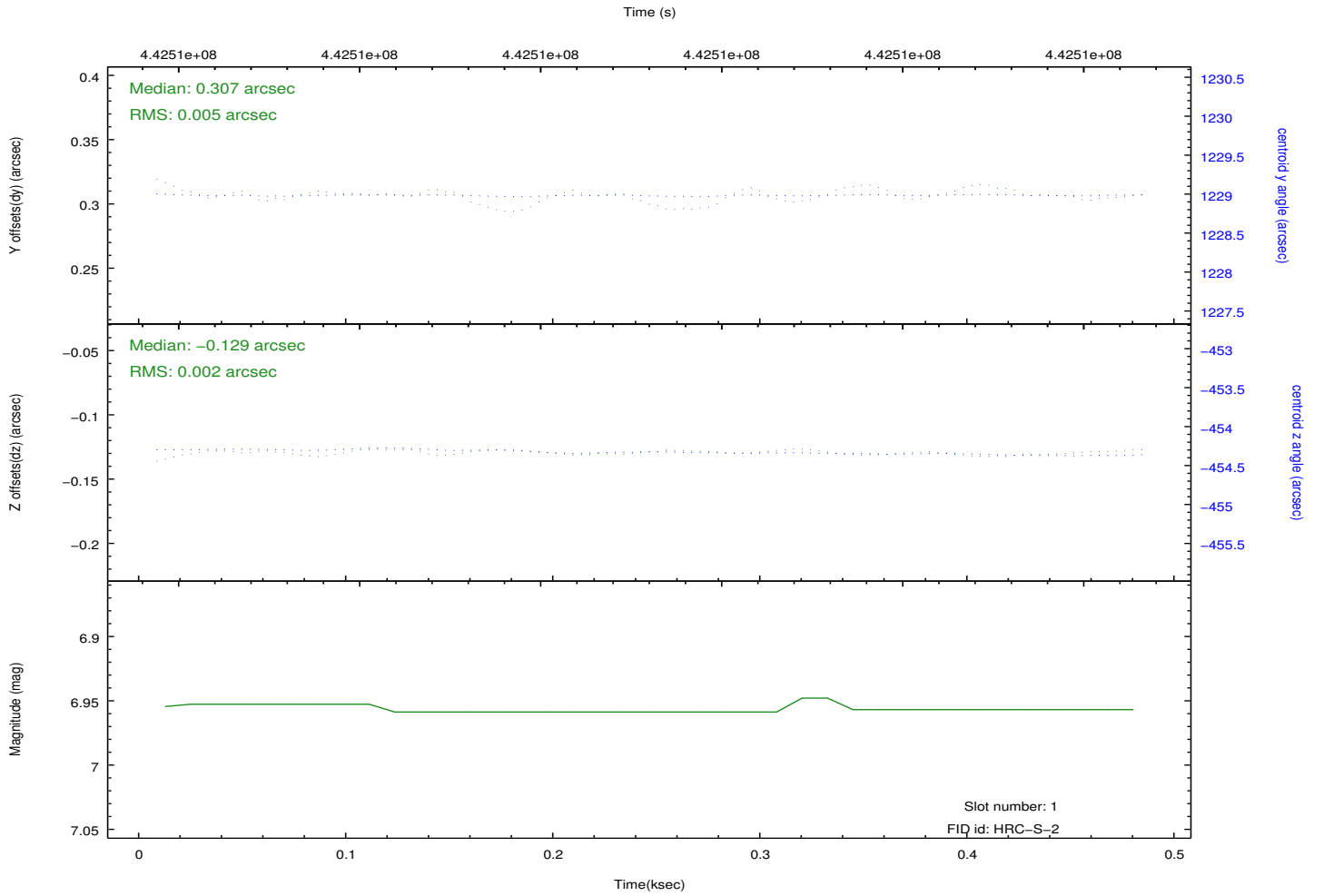
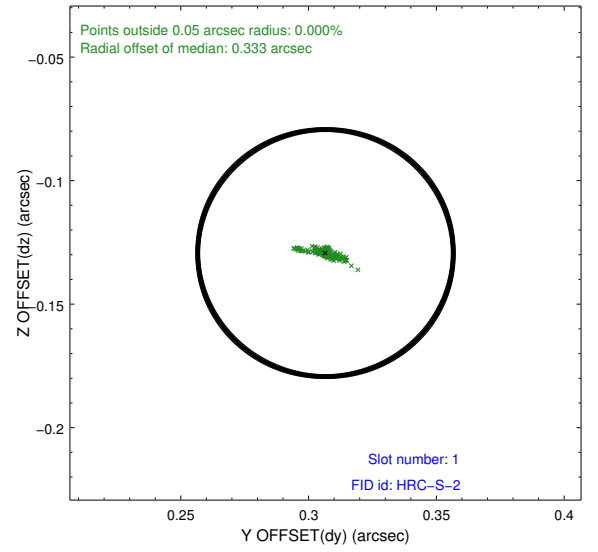
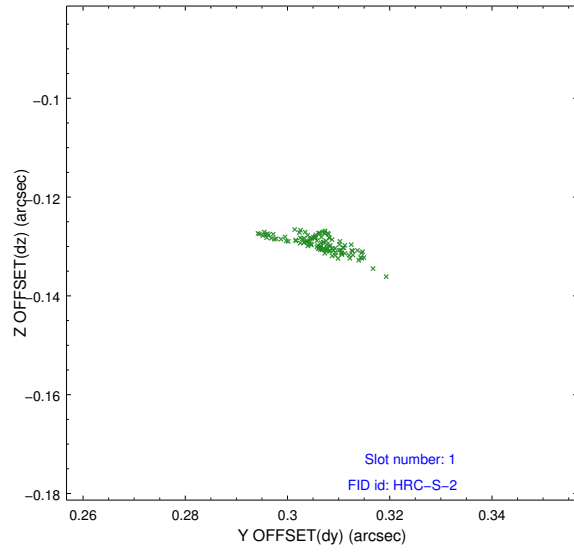


## 2.5 FID Slots

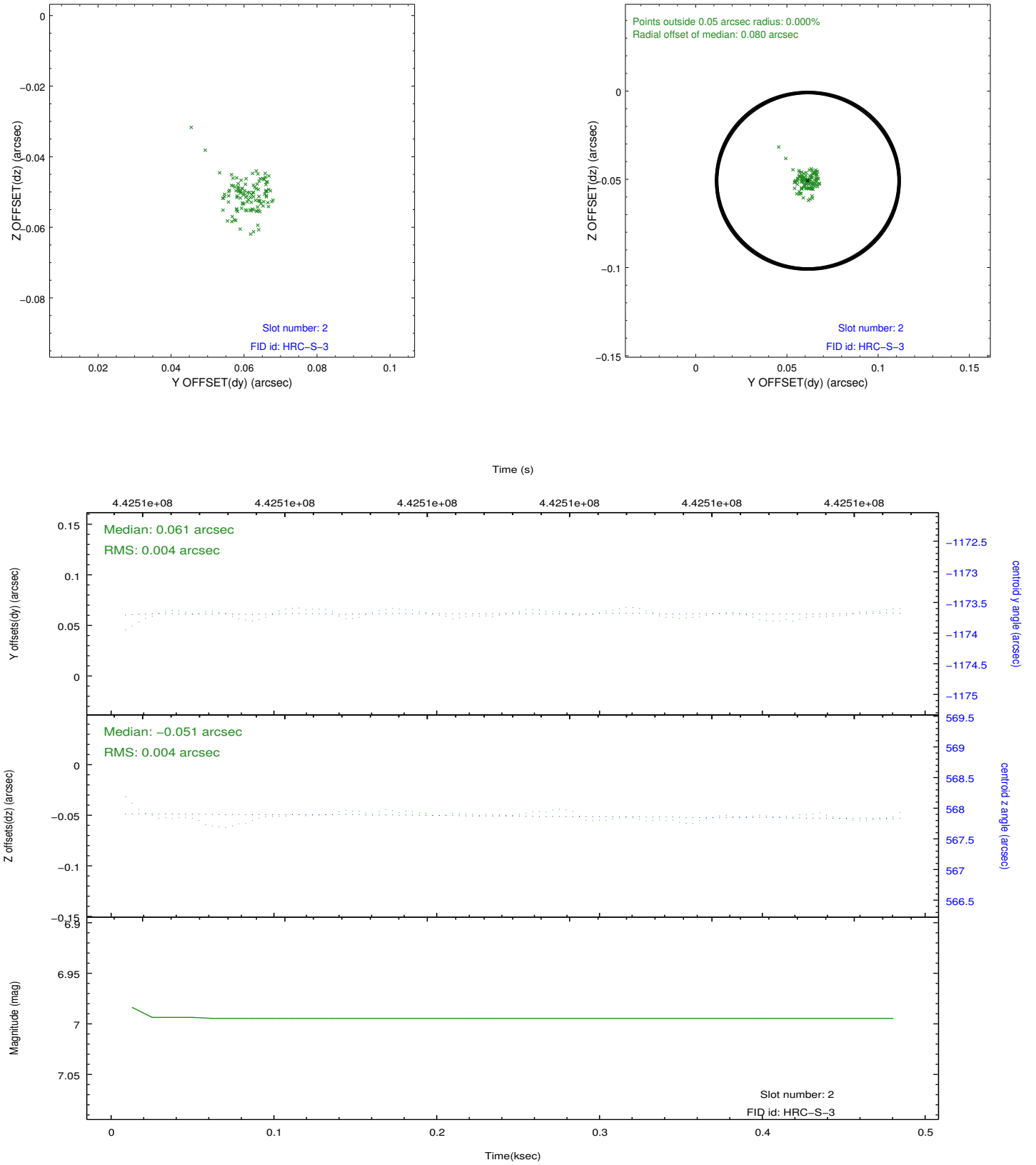
### 2.5.1 Slot 0



## 2.5.2 Slot 1



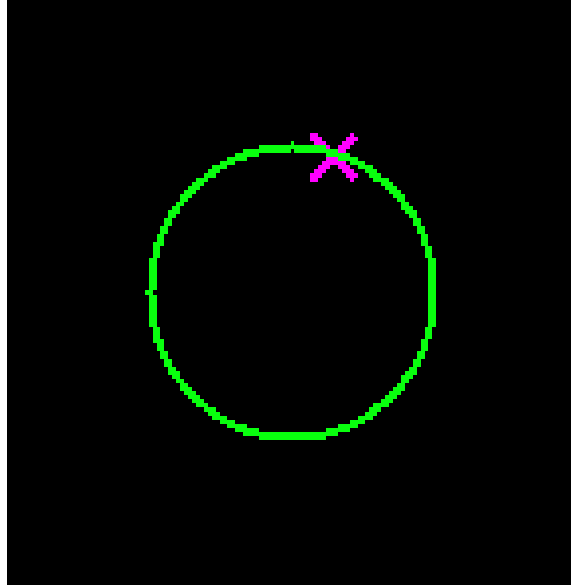
### 2.5.3 Slot 2



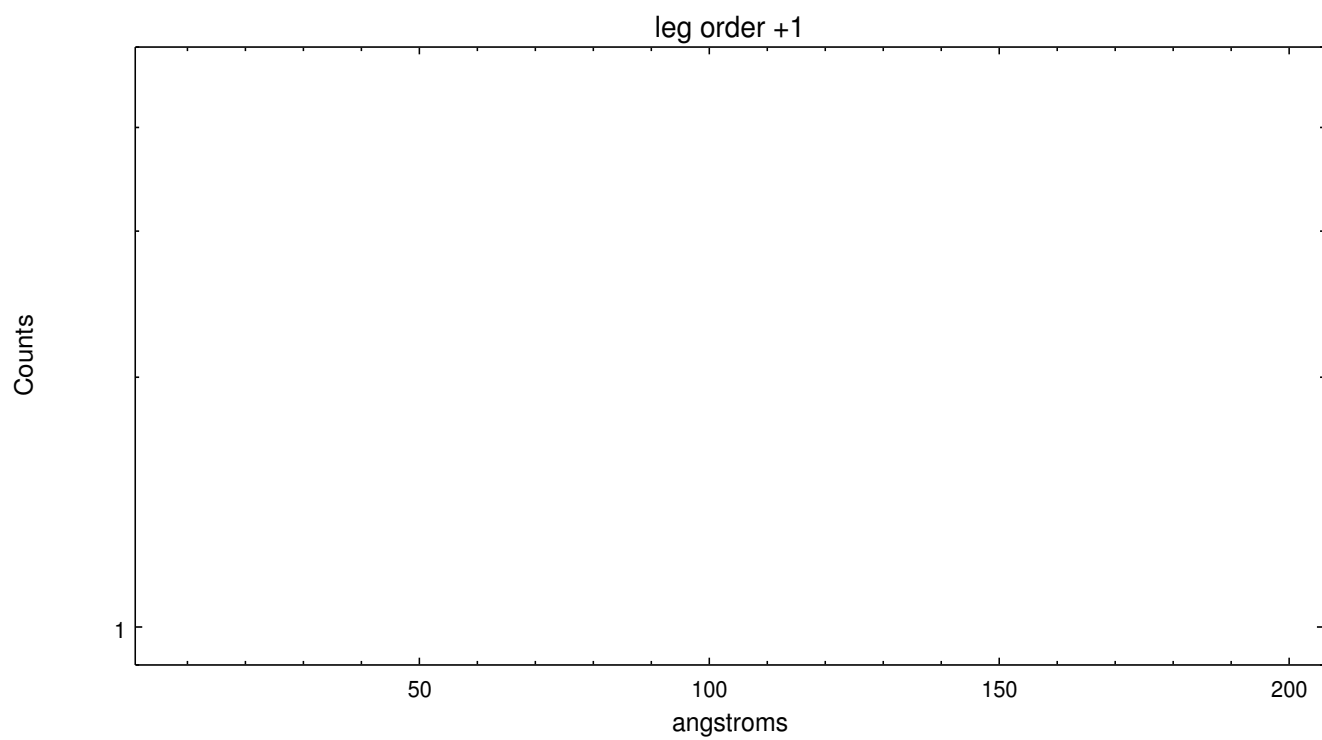
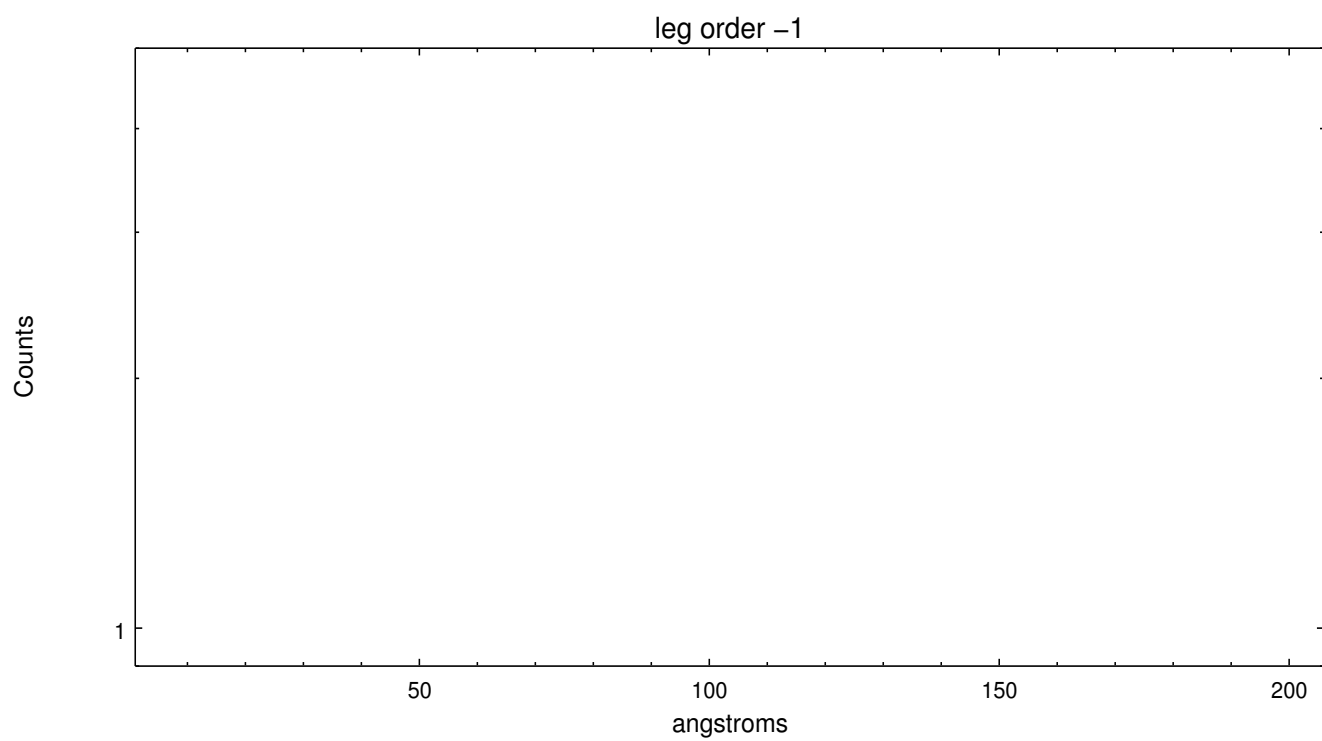


## 3 Gratings

### 3.1 LETG Arm



LETG Zero Order



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.08.17
V&V Edition	3
V&V Disposition and Status	OK
V&V Charge Time	0.45920002430677

## A.2 Comments

Processed with custom gti-limit parameters to allow events from non-standard voltages to be included in gti. During the HRC-S/LETG observation of HZ43 both the bottom and top MCP HV were adjusted up gradually in steps. For each setting we updated the ObsID prior to changing the HV step. Below is a table of the ObsID/HV-step configurations. =====

ObsID Bottom Top Start (approx.)

-----

```
14370 102 90 2012:009:13:10:30 (nominal steps) 62692 103 90
2012:009:13:20:00 62691 103 91 2012:009:13:27:45 62690 104 91
2012:009:13:36:00 62689 104 92 2012:009:13:44:20 62688 105 92
2012:009:13:52:45 62687 105 93 2012:009:14:01:30 62686 106 93
2012:009:14:10:45 62685 106 94 2012:009:14:18:15 62684 102 90
2012:009:14:30:00 (nominal steps)
```