

# V&V Reference Report

## L2 ASCDS Version : 8.1.2

Observation 127 - L2 Version 5  
Chandra X-Ray Center

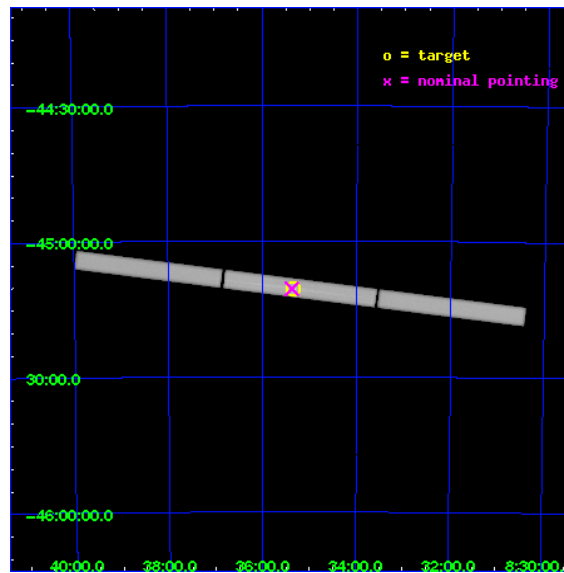
L2 Processing Date : Dec 5 2009

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# 1 Front

seq_num	500014	Sequence number
obs_id	127	Observation id
title	THE VELA PULSAR	Proposal title
observer	Prof Gordon Garmire	Principal investigator
object	VELA PULSAR	Source name
ra_targ	128.83625	Observer's specified target RA
dec_targ	-45.176667	Observer's specified target Dec
ra_nom	128.84351000763	Nominal RA
dec_nom	-45.176370166167	Nominal Dec
roll_nom	7.0724938548922	Nominal Roll
revision	5	Processing version of data
ontime	25121.982163772	[s]
livetime	24928.786877311	Ontime multiplied by DTCOR
l2events	1429864	Number of level 2 events

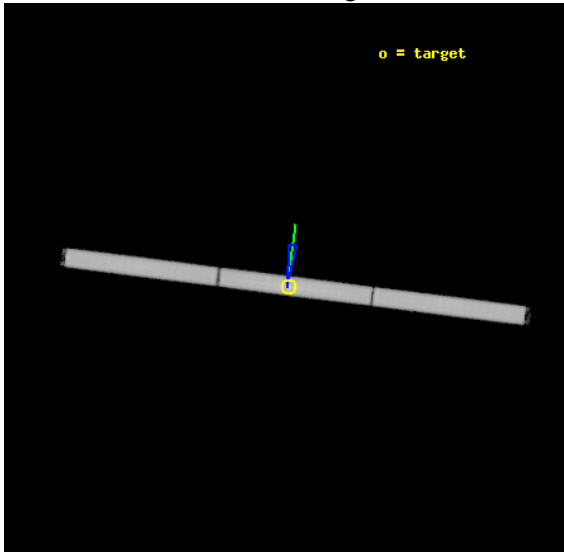


## 2 OBI

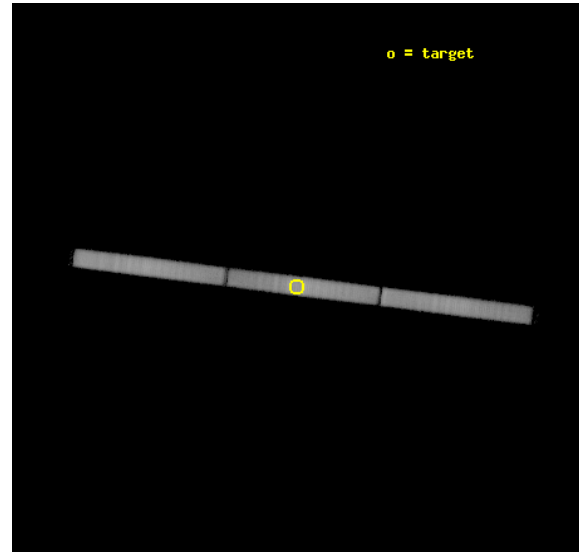
### 2.1 OBI

#### 2.1.1 Images

Level 1 Image



Level 1 Bad Events



## 2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	25000.000000	Scheduled observation exposure time
ascdsver	8.1.2	Processing system revision	ontime	25121.982163772	[s]
caldbver	4.1.4	&#160	ll events	2202455	Number of level 1 events
date	2009-12-05T12:09:53	Date and time of file creation			
revision	5	Processing version of data			

## 2.1.3 Events

### Level 1 Events

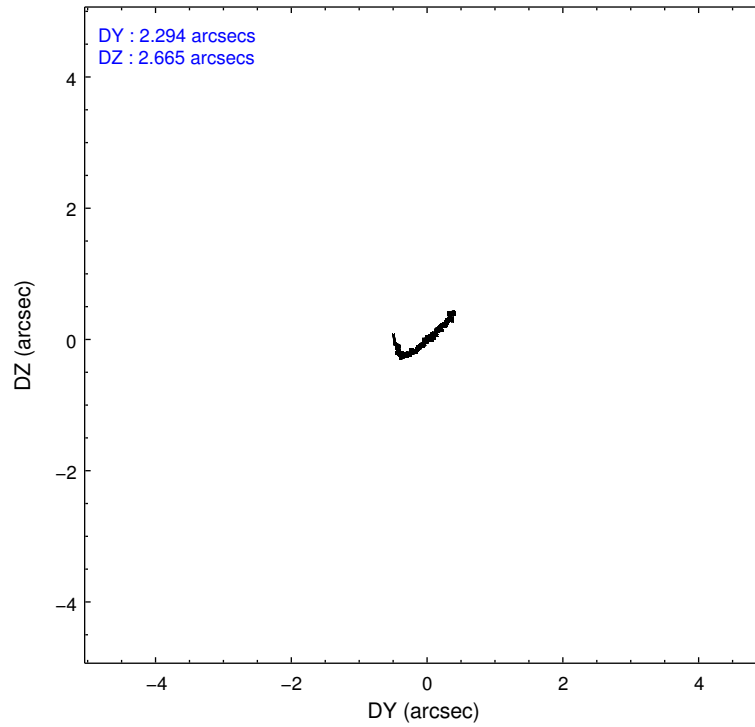
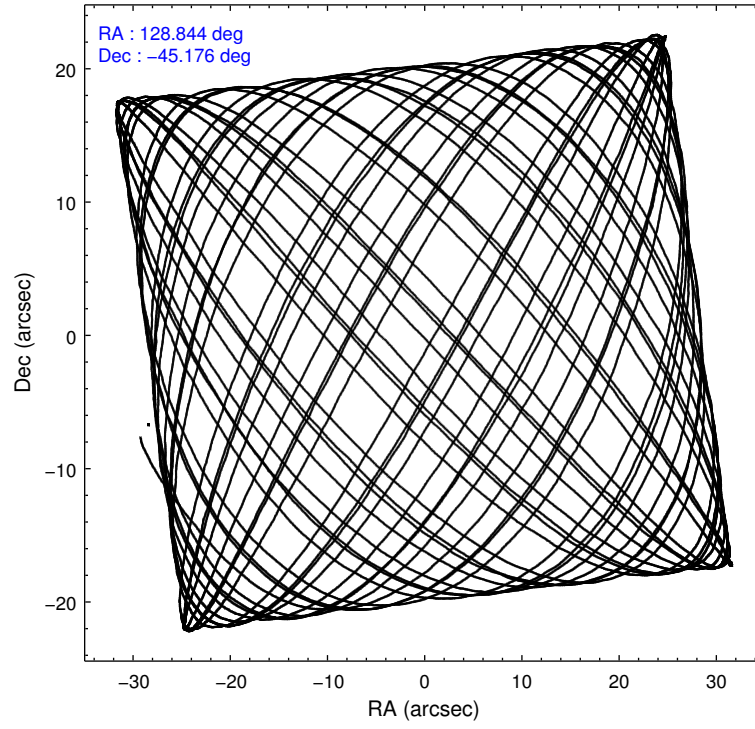
	<b>segment 1</b>	<b>segment 2</b>	<b>segment 3</b>
level 1 events	730327	762231	709897
rejected events	181618	193220	220631
rejected %	24%	25%	31%

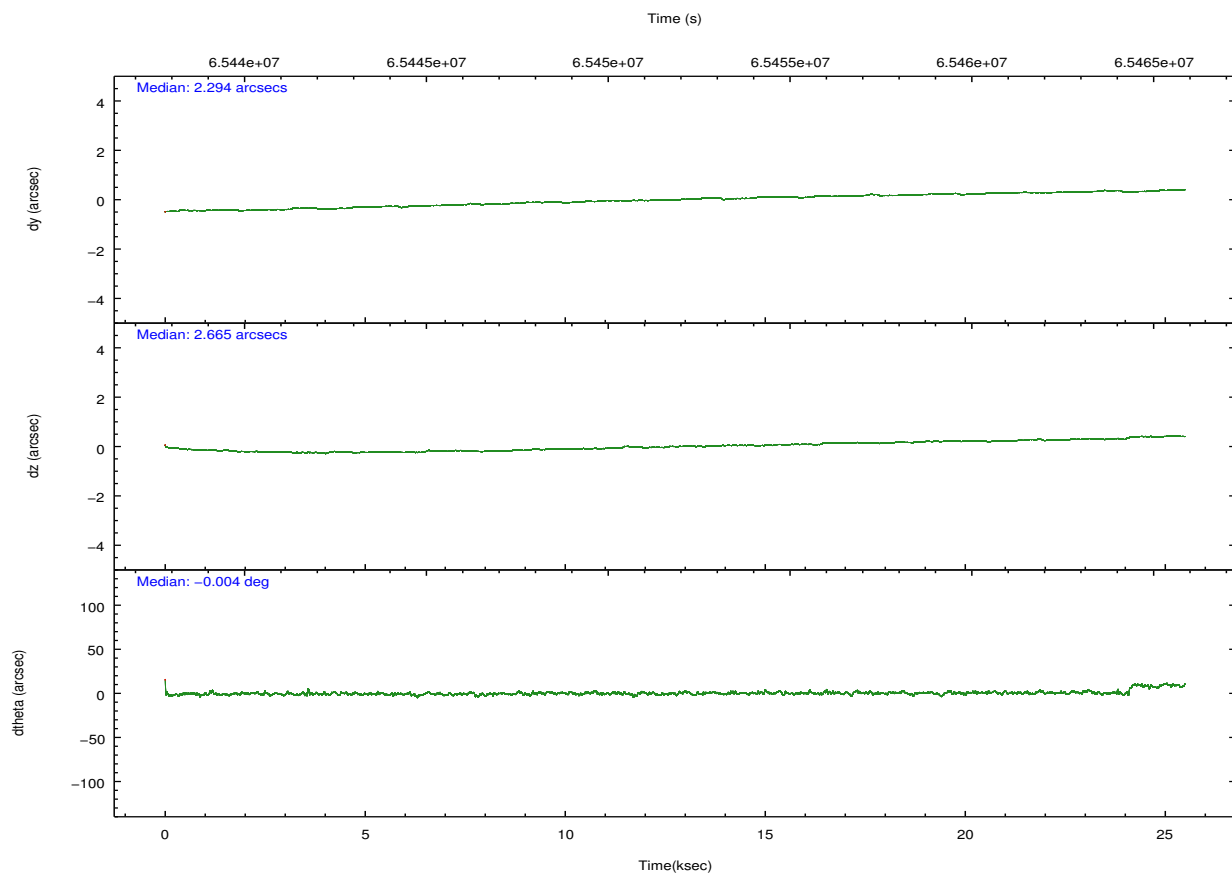
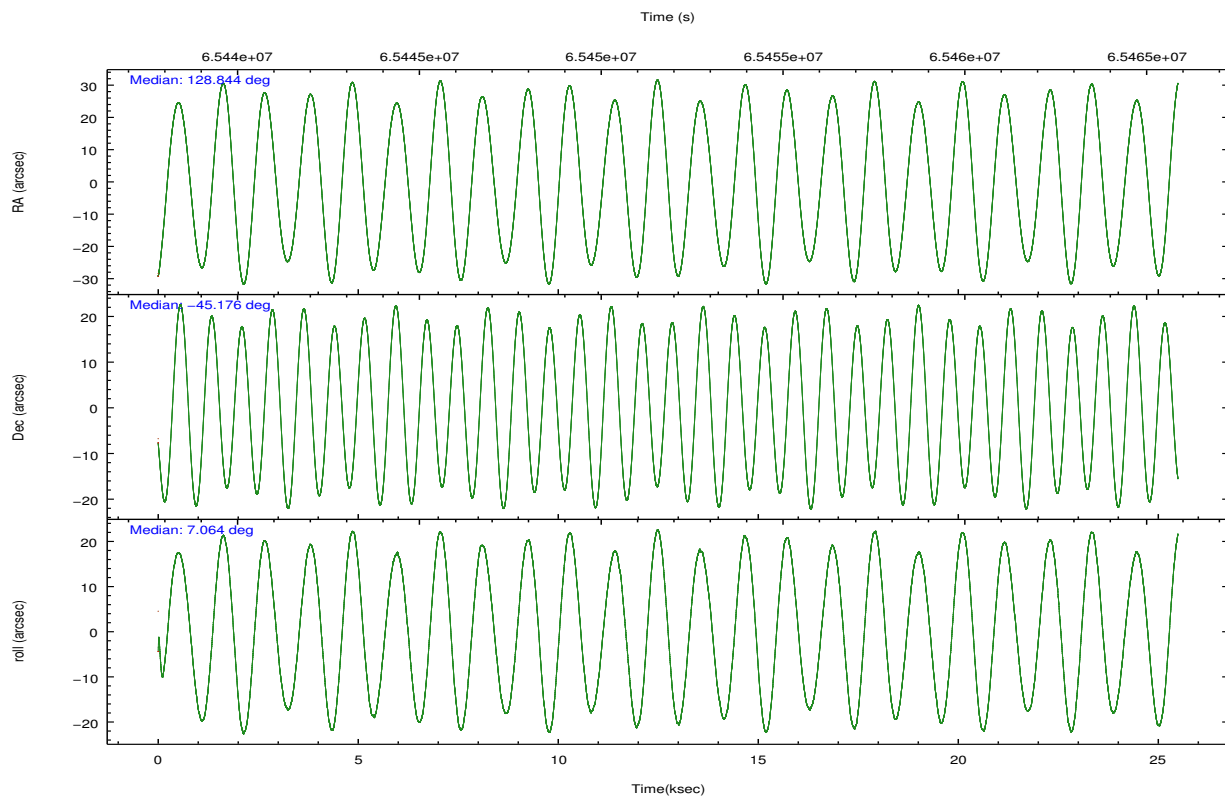
## 2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-S	HRC-S
Grating	LETG	LETG
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
Pointing RA	128.811737	128.8435100076343
Pointing Dec	-45.194571	-45.17637016616749
Pointing Roll	6.982612	7.07249385489217
Roll angle	7.000000	7.000000
Roll tolerance	5.000000	5.000000
Roll constraint allows 180D rotation	N	N
SIM focus pos (mm)	-1.429586	-1.428180813131781
SIM defocus (mm)	0.1037507710433287	0.1051558262725154
SIM translation stage pos (mm)	250.455976	250.466033080201
SIM translation stage offset (mm)	0	-0.01005468664627074
Observation start time	65439584.184000	65438410.883829
Observation start date	2000-01-28T09:38:40	2000-01-28T09:20:10
Observation end time	65464584.184000	65465197.209804
Observation end date	2000-01-28T16:35:20	2000-01-28T16:46:37

Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

## 2.3 Aspect



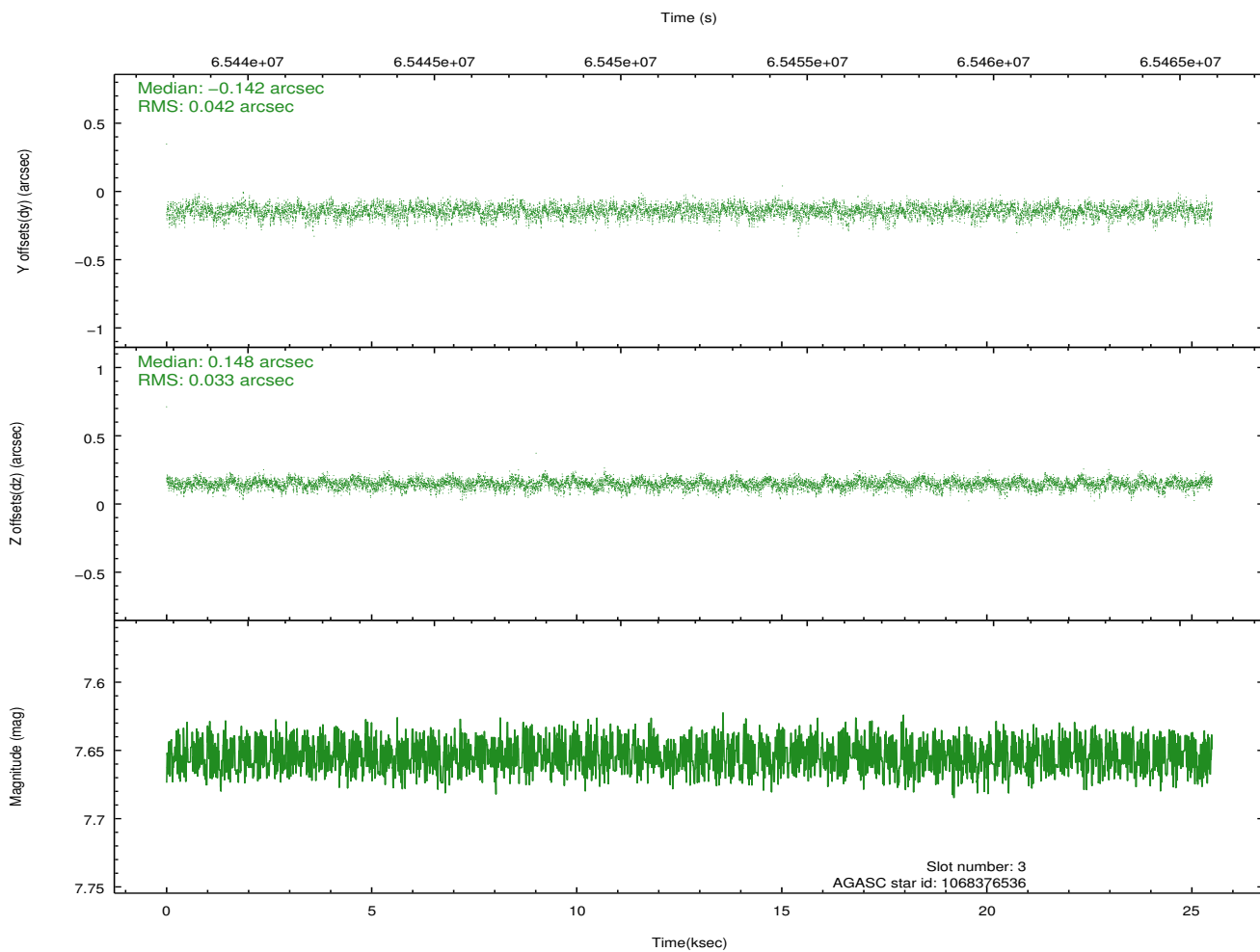
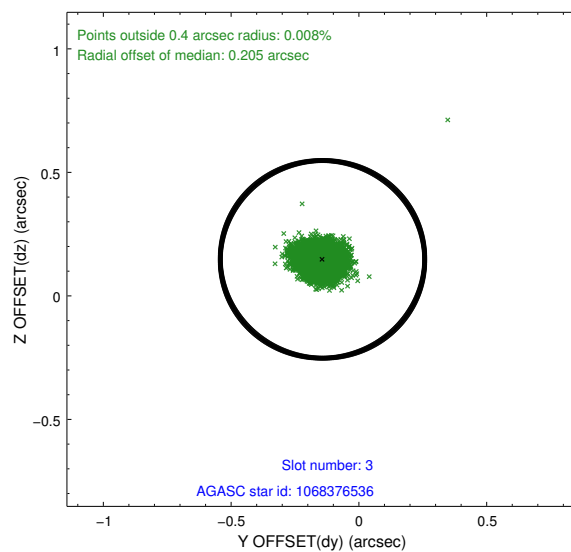
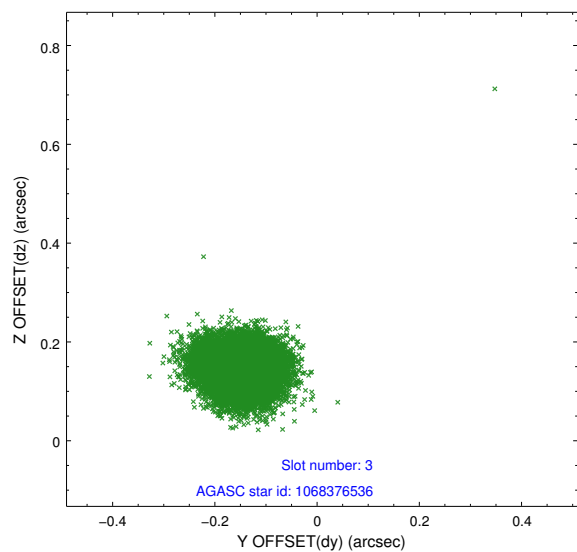


### Slot Statistics

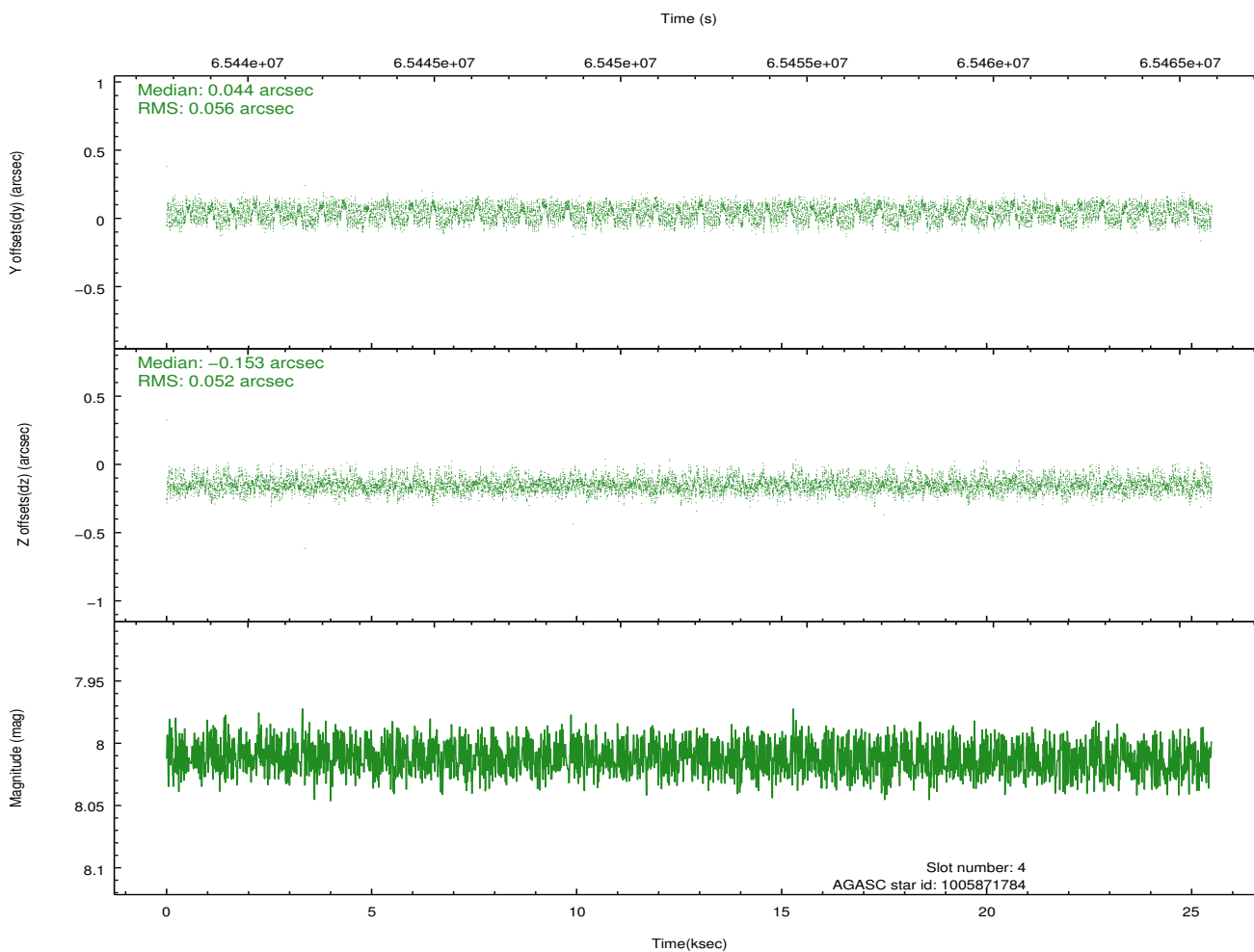
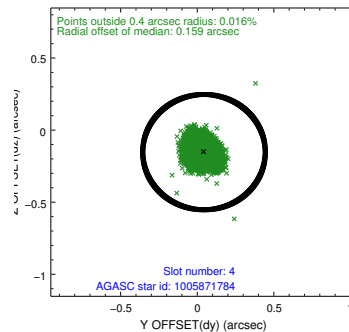
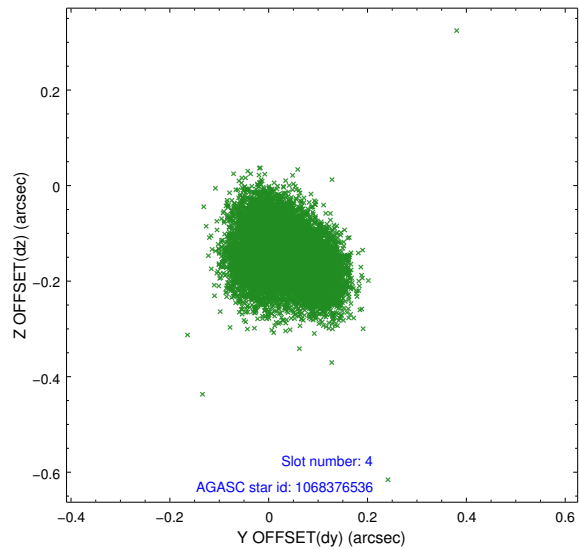
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	6.95	6215	0.094	-0.050	0.010	0.019	0.000000	0.000000	-1156.35	-451.04
1	FID	HRC-S-3	6.97	6212	0.136	-0.162	0.015	0.033	0.000000	0.000000	-1159.22	578.31
2	FID	HRC-S-4	6.90	6216	0.158	-0.085	0.010	0.019	0.000000	0.000000	1241.78	581.12
3	GUIDE	1068376536	7.65	12429	-0.142	0.148	0.056	0.093	129.556408	-45.593502	1686.50	-1661.86
4	GUIDE	1005871784	8.01	12429	0.044	-0.153	0.083	0.129	128.533947	-44.544833	-423.43	2406.72
5	GUIDE	1005862984	8.80	12425	0.029	-0.199	0.071	0.113	128.482680	-44.577316	-567.97	2306.36
6	GUIDE	1068270344	8.51	12425	-0.038	0.104	0.084	0.127	128.097487	-45.785157	-2039.06	-1900.41
7	GUIDE	1068399176	9.10	12418	0.111	0.102	0.089	0.137	129.539137	-45.338406	1763.16	-745.84

## 2.4 Star Slots

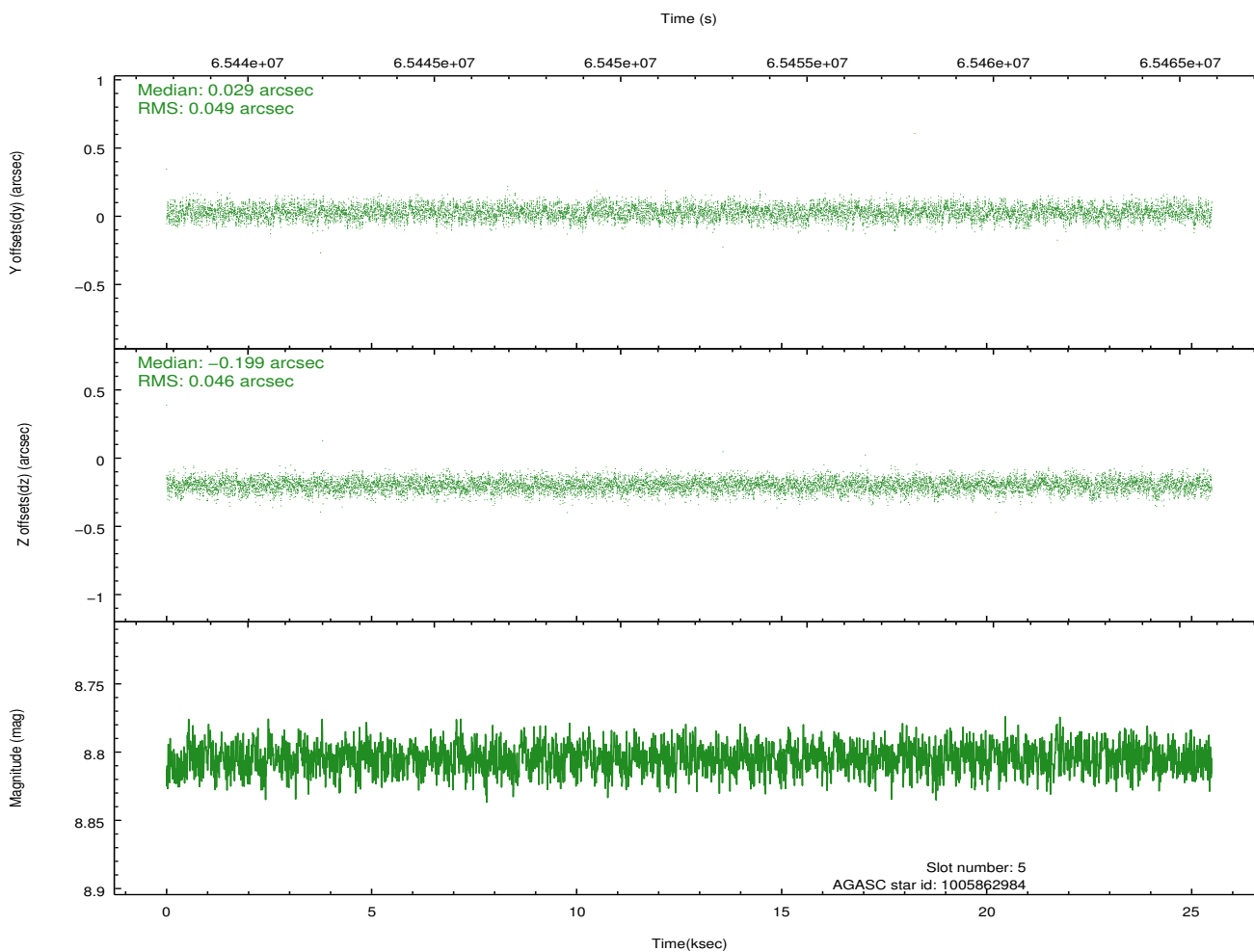
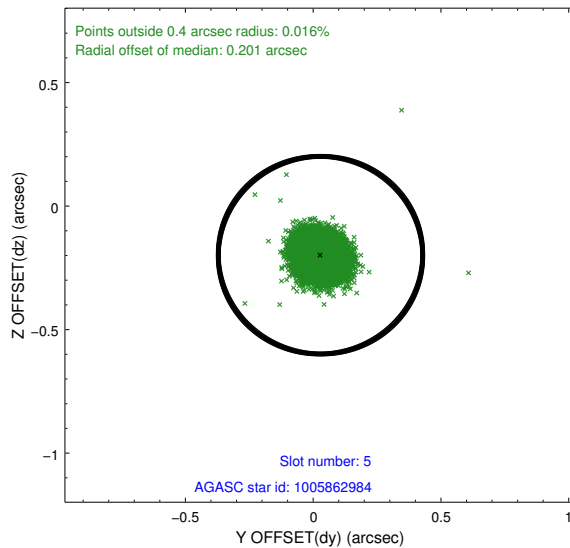
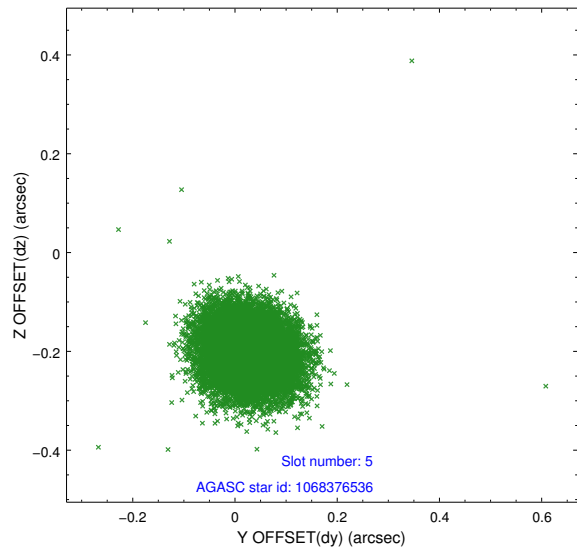
### 2.4.1 Slot 3



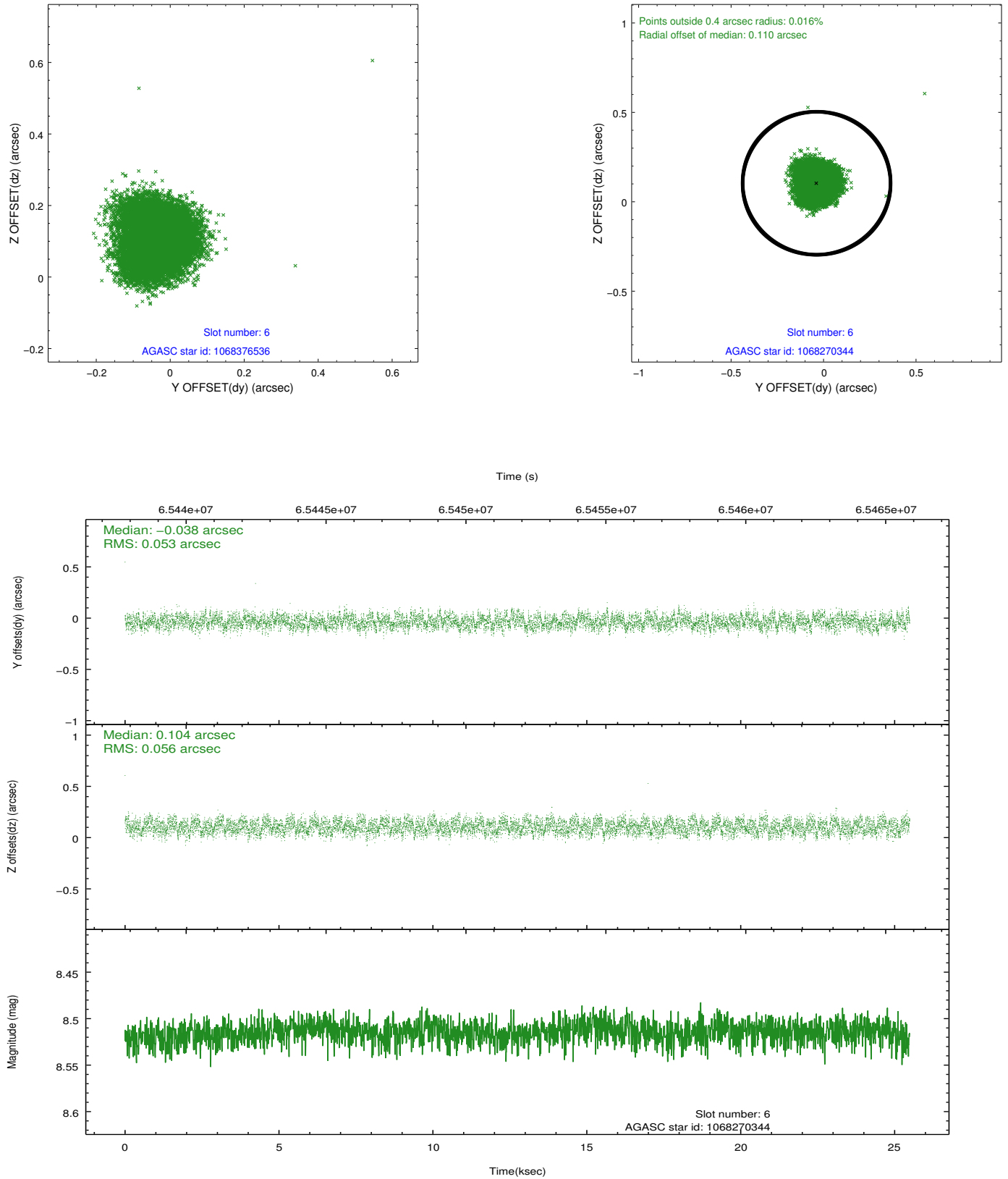
## 2.4.2 Slot 4



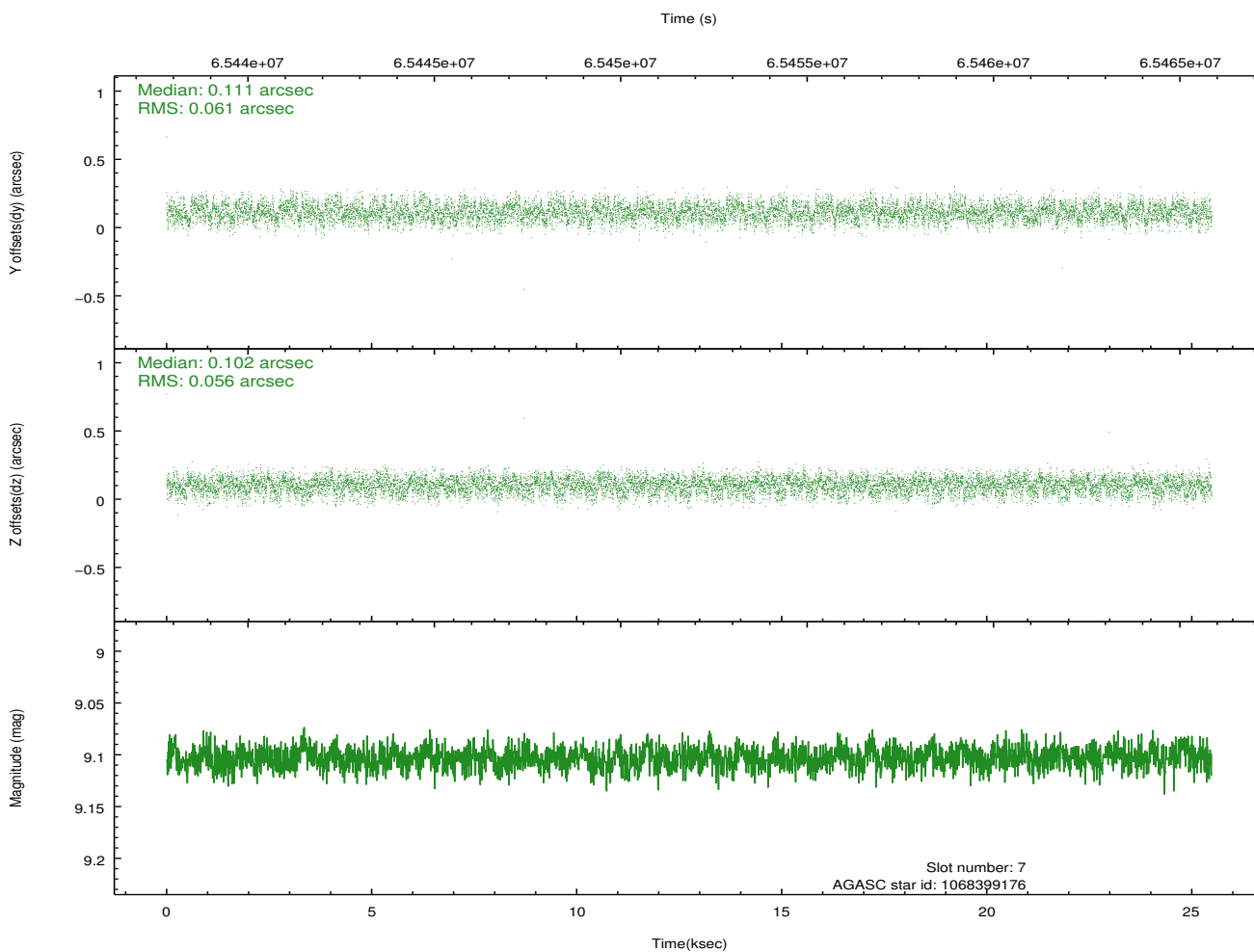
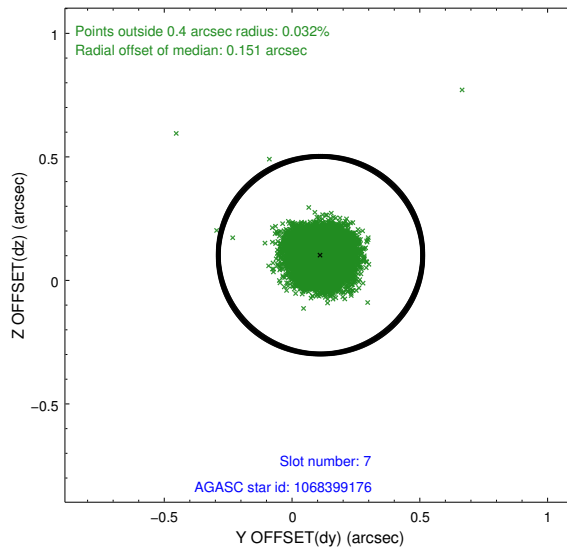
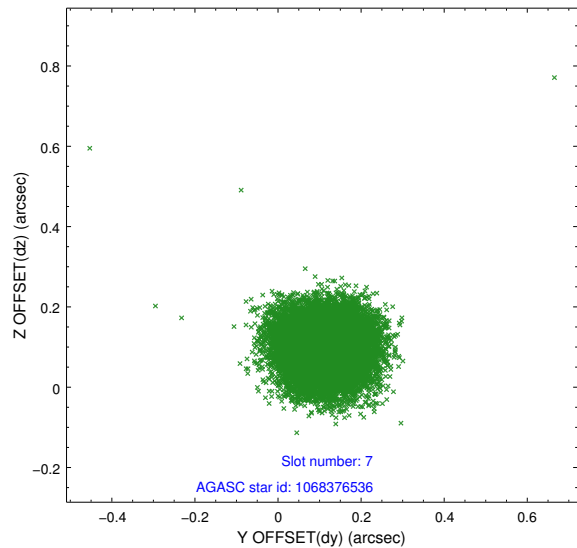
### 2.4.3 Slot 5



## 2.4.4 Slot 6

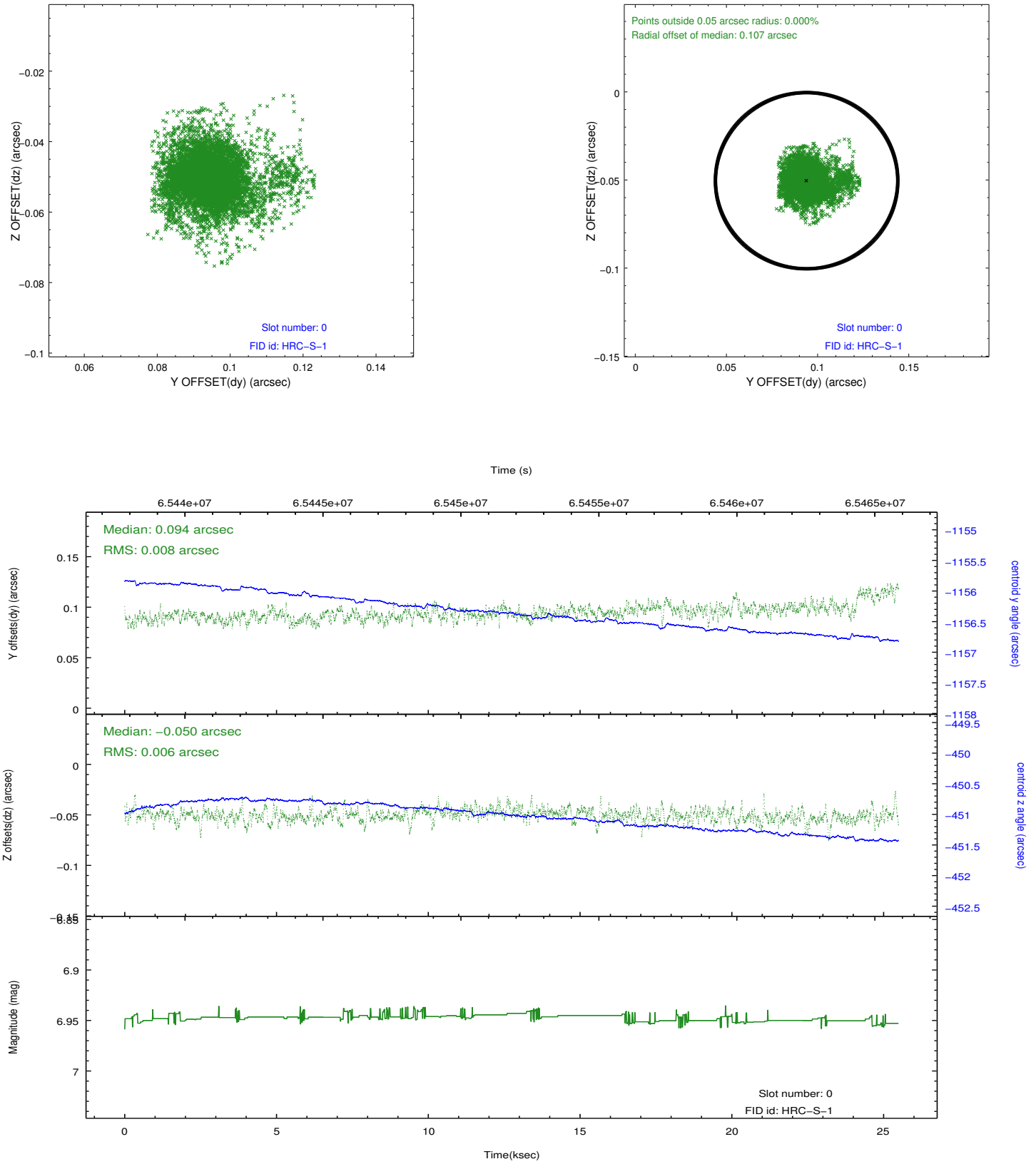


## 2.4.5 Slot 7

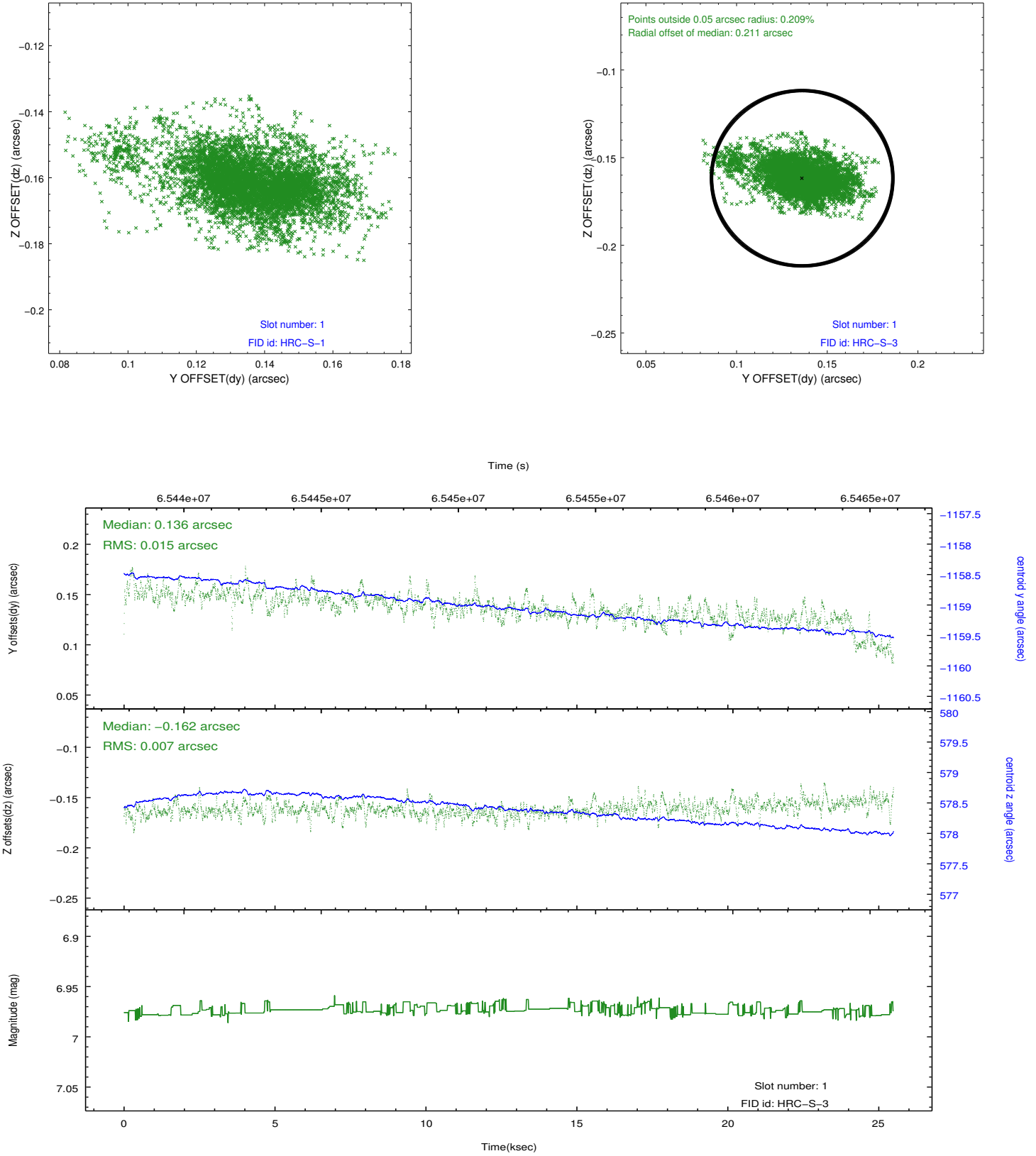


## 2.5 FID Slots

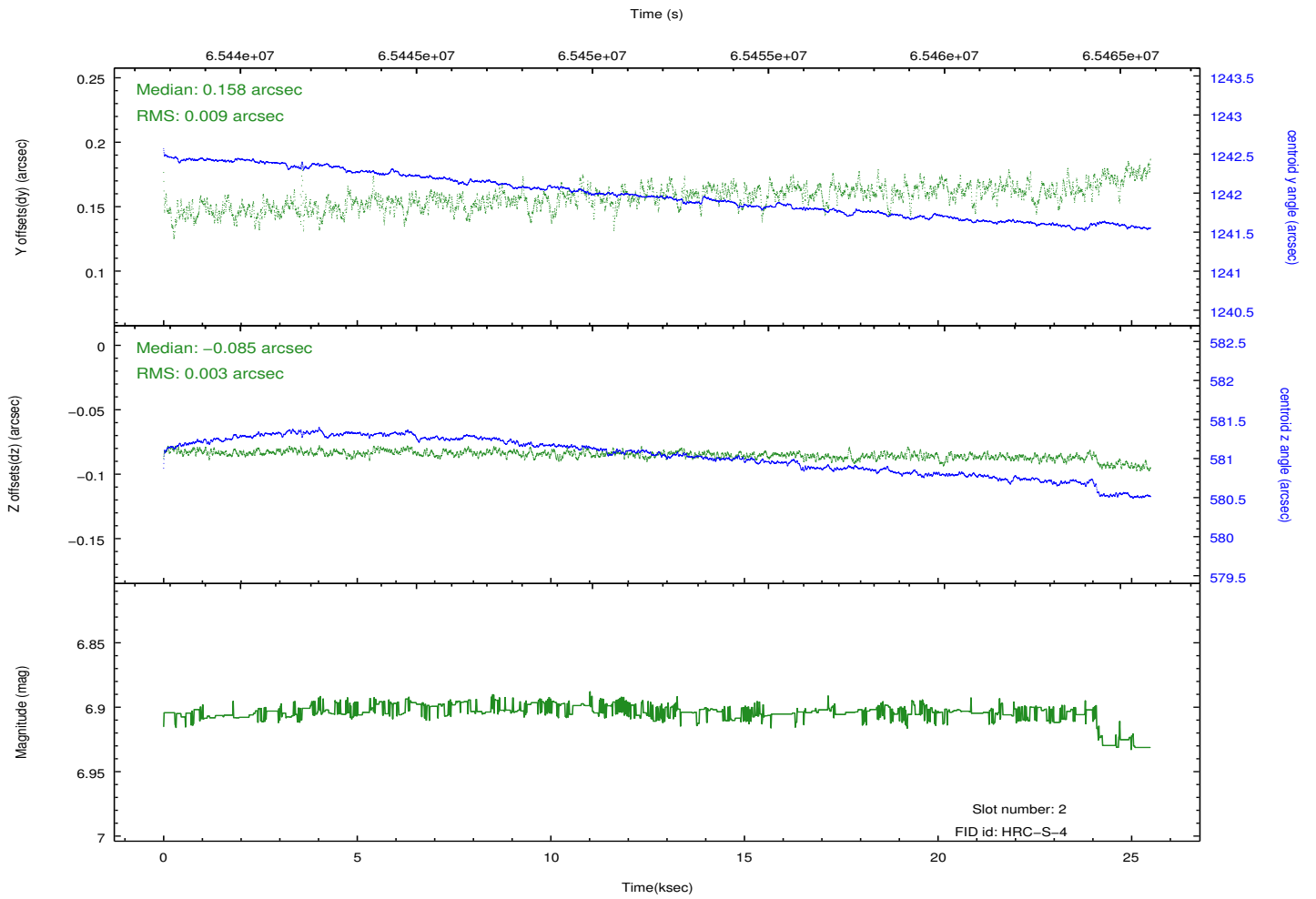
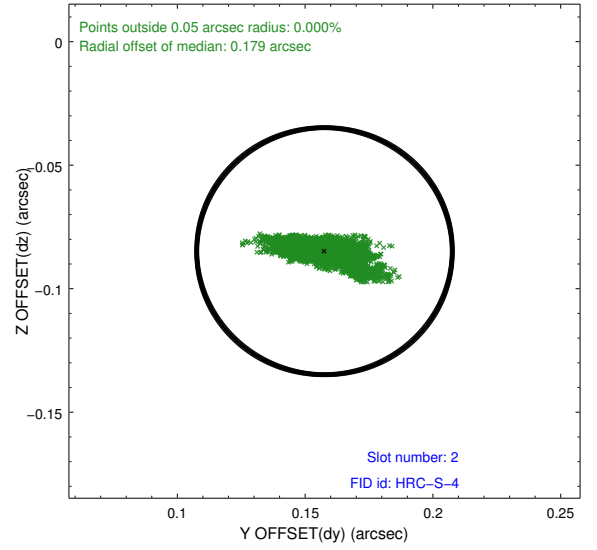
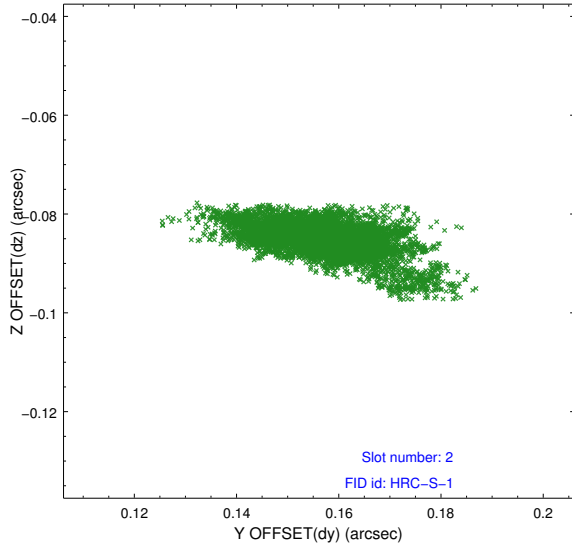
### 2.5.1 Slot 0



## 2.5.2 Slot 1

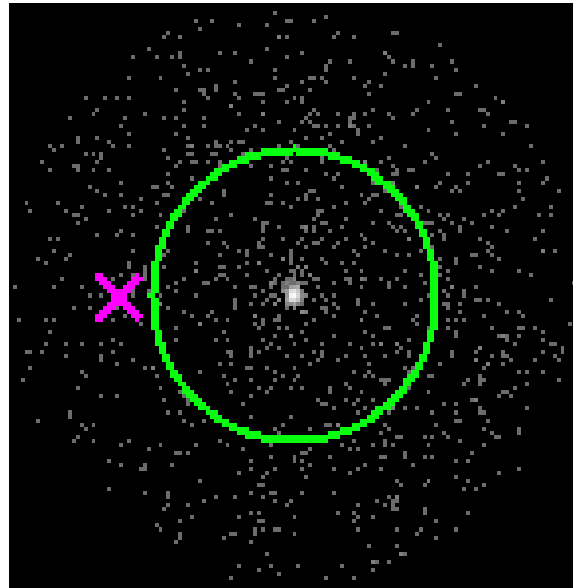


### 2.5.3 Slot 2



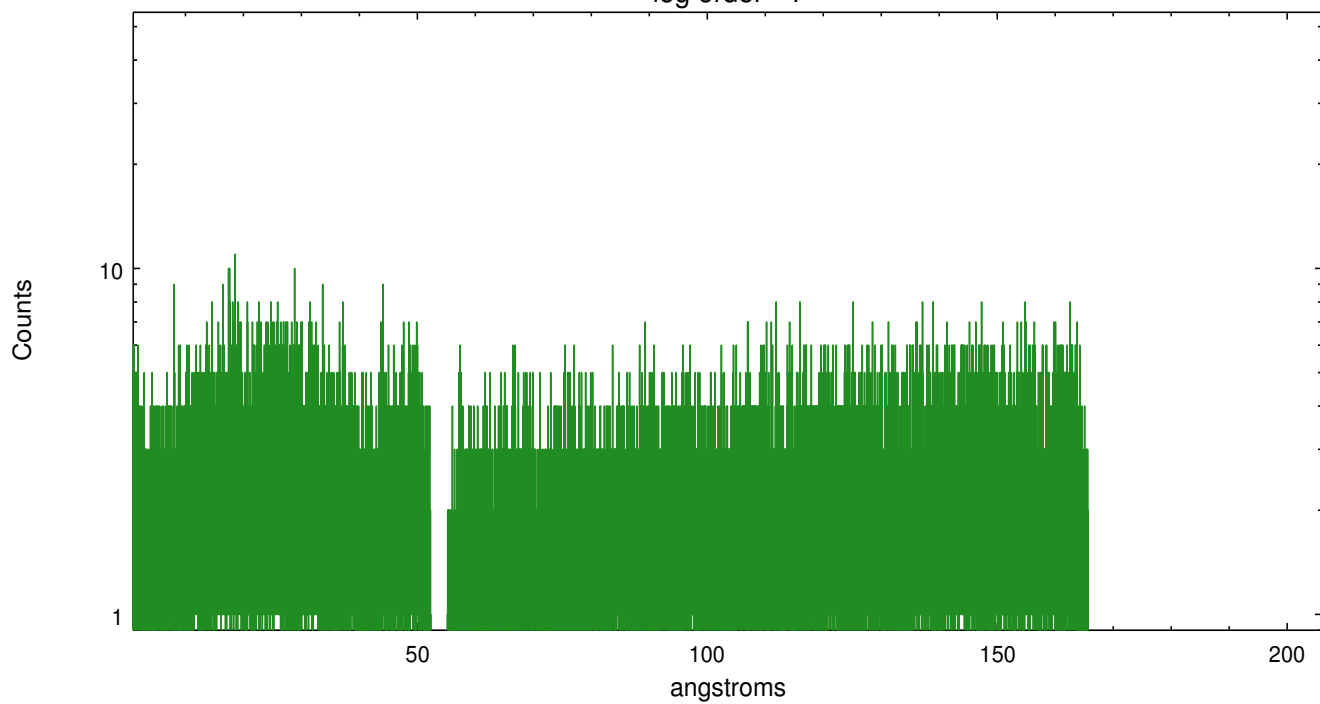
### 3 Gratings

#### 3.1 LETG Arm

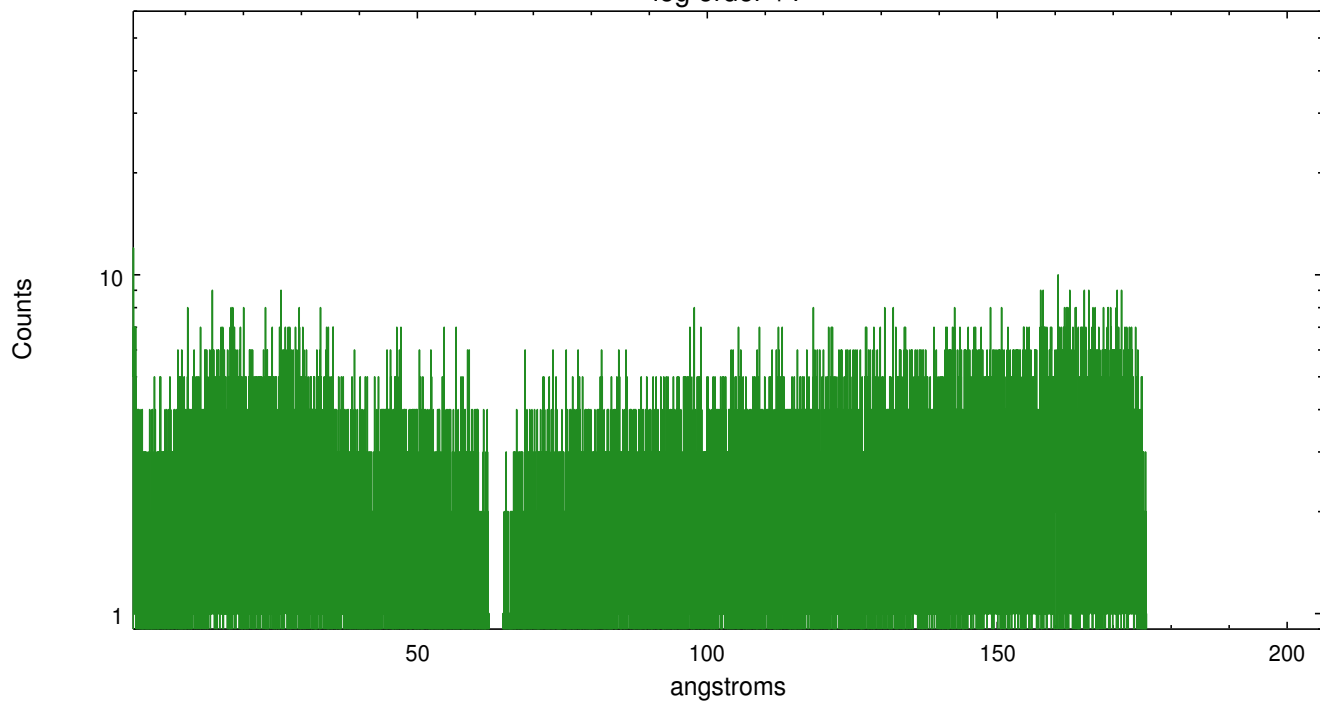


LETG Zero Order

leg order -1



leg order +1



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2010.04.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.013

## A.2 Comments

Charge time for this ObsId remains at original value of 25.013 ks, although with the current processing the charge time would have been 25.121 ksec.

Roll constraint met.===

Vela pulsar wind nebula visible at zeroth order image.

===Several periods of elevated count rate due to a high radiation environment.