

# V&V Reference Report

## L2 ASCDS Version : 10.6

Observation 20955 - L2 Version 1  
Chandra X-Ray Center

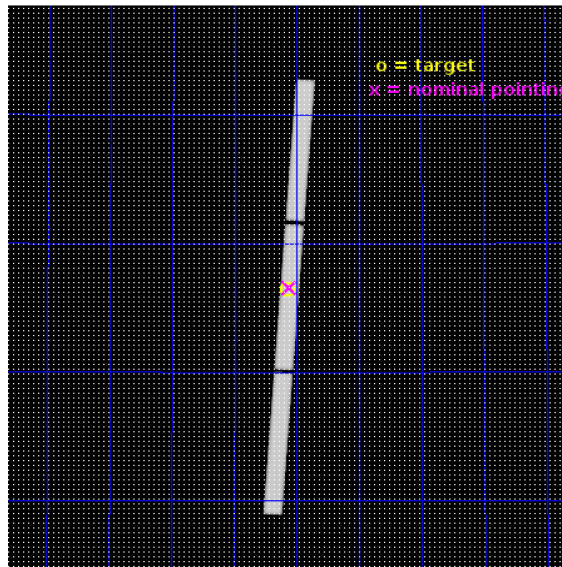
L2 Processing Date : Feb 10 2018

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# 1 Front

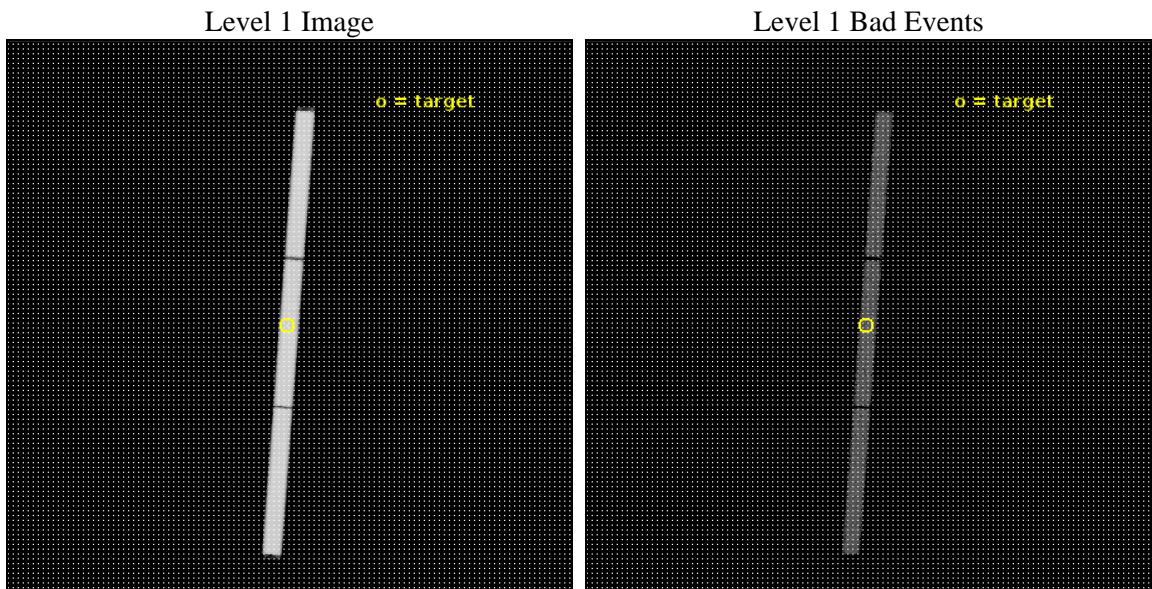
seq_num	703315	Sequence number
obs_id	20955	Observation id
title	Chandra observations of a unique X-ray WHIM absorber towards PG 1116+215	Proposal title
observer	Massimiliano Bonamente	Principal investigator
object	PG 1116+215	Source name
ra_targ	169.78625	Observer's specified target RA [deg]
dec_targ	21.321667	Observer's specified target Dec [deg]
ra_nom	169.77929763613	Nominal RA [deg]
dec_nom	21.329169968557	Nominal Dec [deg]
roll_nom	94.069864904904	Nominal Roll [deg]
revision	1	Processing version of data
ontime	31741.433119774	[s]
livetime	31388.186004678	Ontime multiplied by DTCOR
l2events	2732376	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	32000.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	31741.433119774	[s]
caldbver	4.7.7	&#160	l1events	3547611	Number of level 1 events
date	2018-02-10T21:54:22	Date and time of file creation	tgmethod	TGDETECT	Method used to create src1a file
revision	1	Processing version of data	zo_pos	(32588.12, 32559.23)	src1a sky pixel position

### 2.1.3 Events

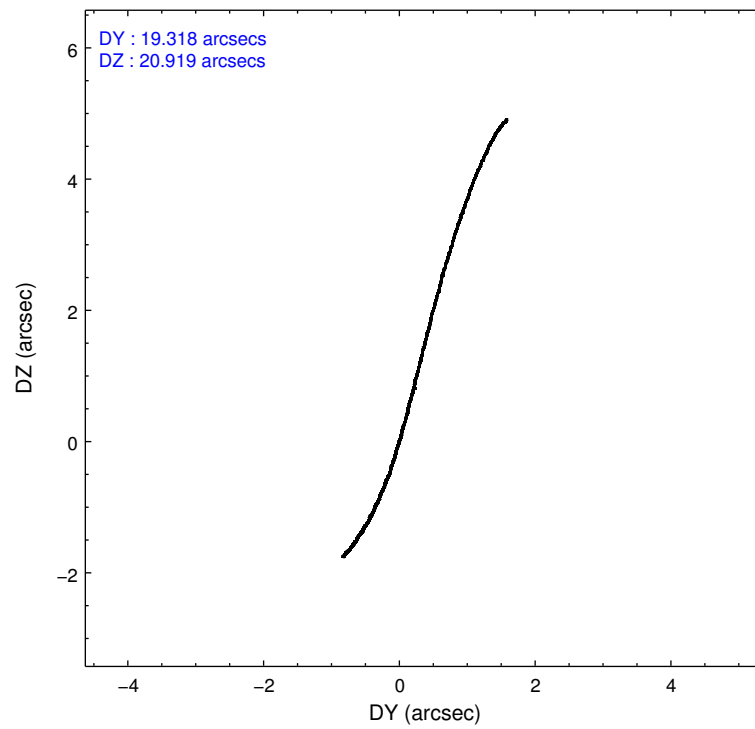
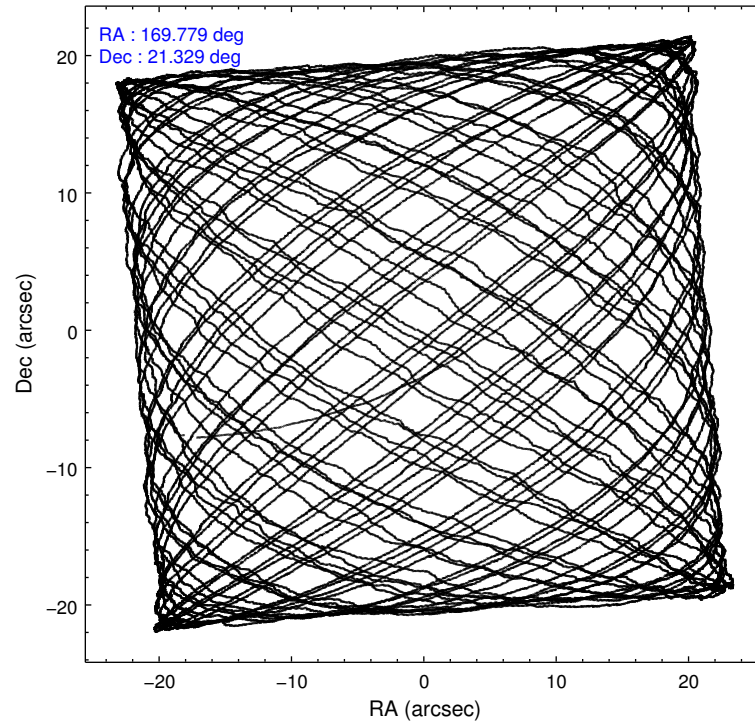
#### Level 1 Events

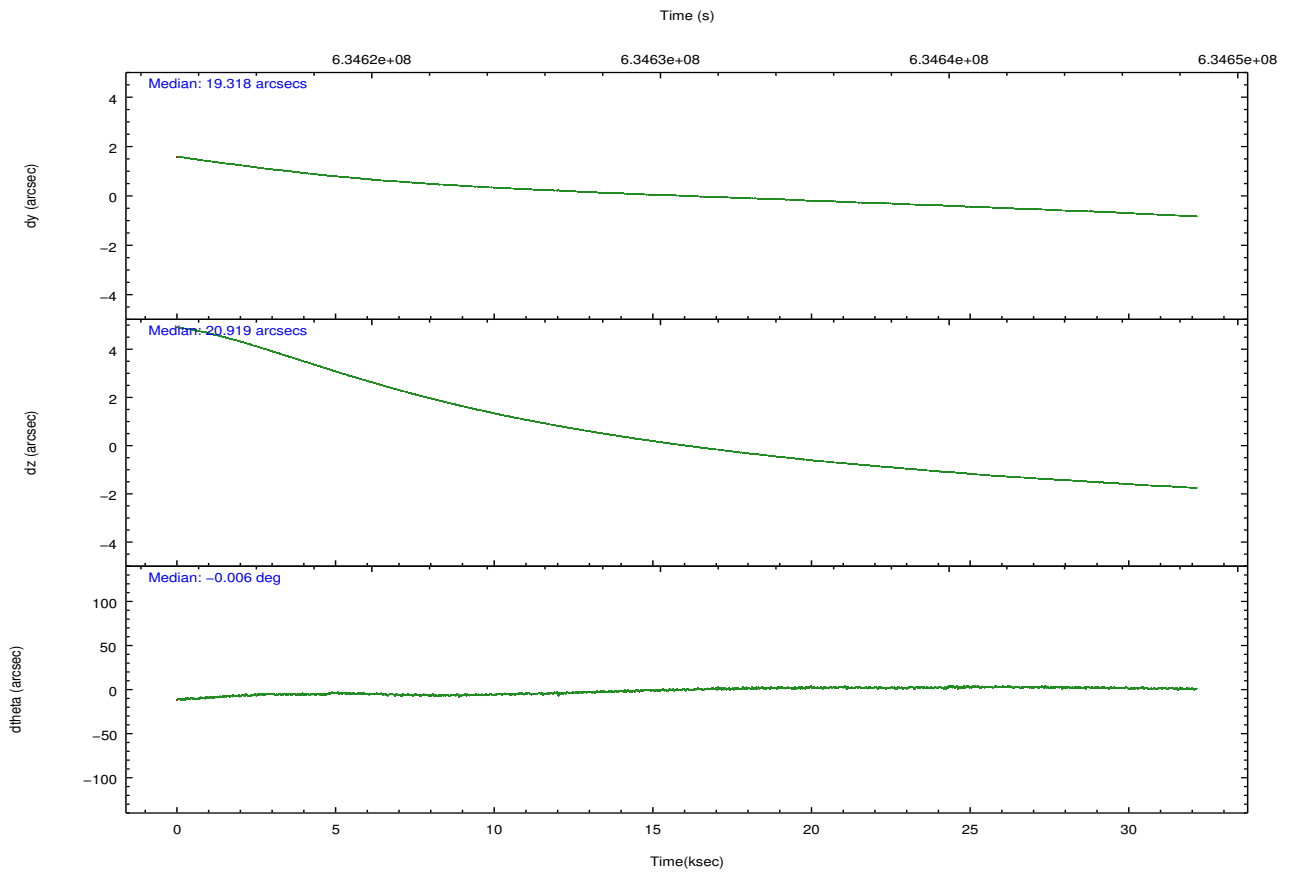
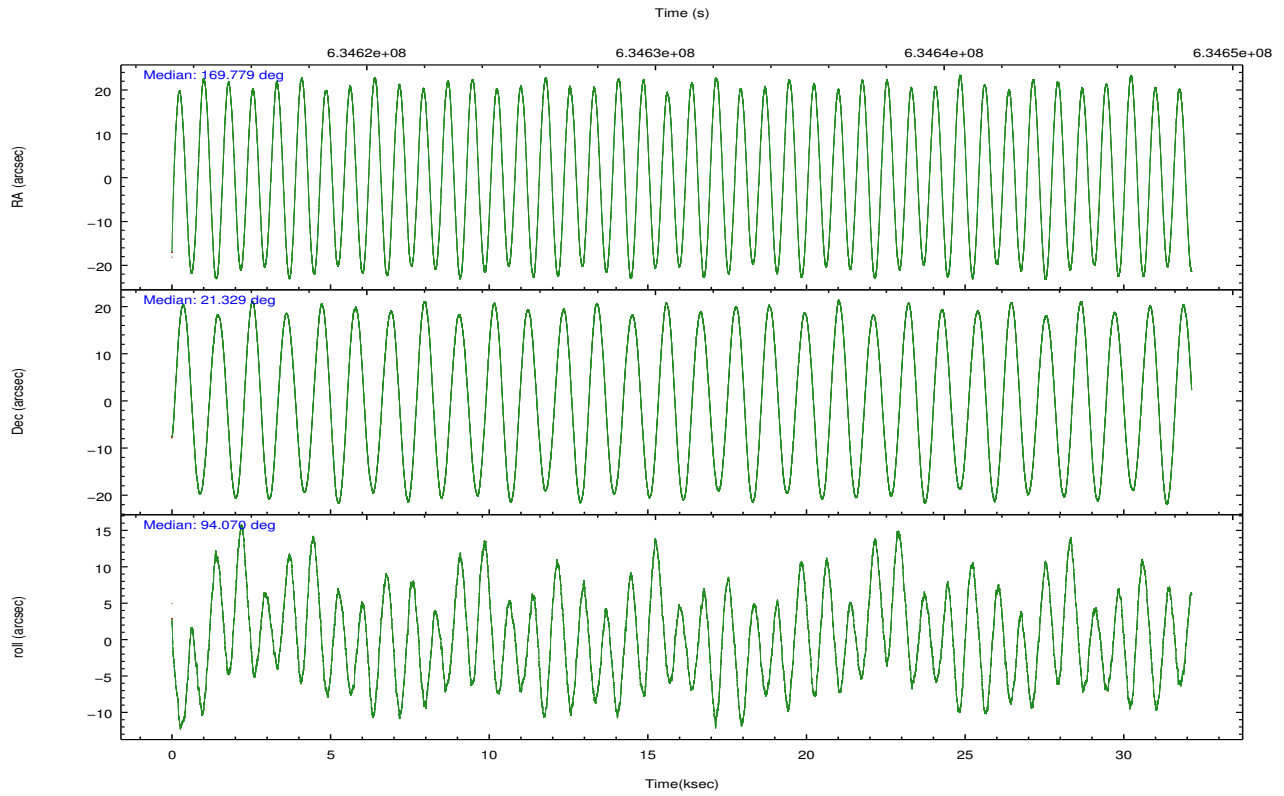
	<b>segment 1</b>	<b>segment 2</b>	<b>segment 3</b>
level 1 events	1181563	1186648	1179400
rejected events	56795	56560	56679
rejected %	4%	4%	4%

## 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	169.797857	169.7792976361328			
[deg] Pointing Dec	21.306011	21.32916996855667			
[deg] Pointing Roll	93.995784	94.06986490490398			
[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)	634614963.184000	634613655.65578			
Observation start date	2018-02-10T01:54:54	2018-02-10T01:34:15			
[s] Observation end time (MET)	634646963.184000	634648029.0328			
Observation end date	2018-02-10T10:48:14	2018-02-10T11:07:09			

## 2.3 Aspect



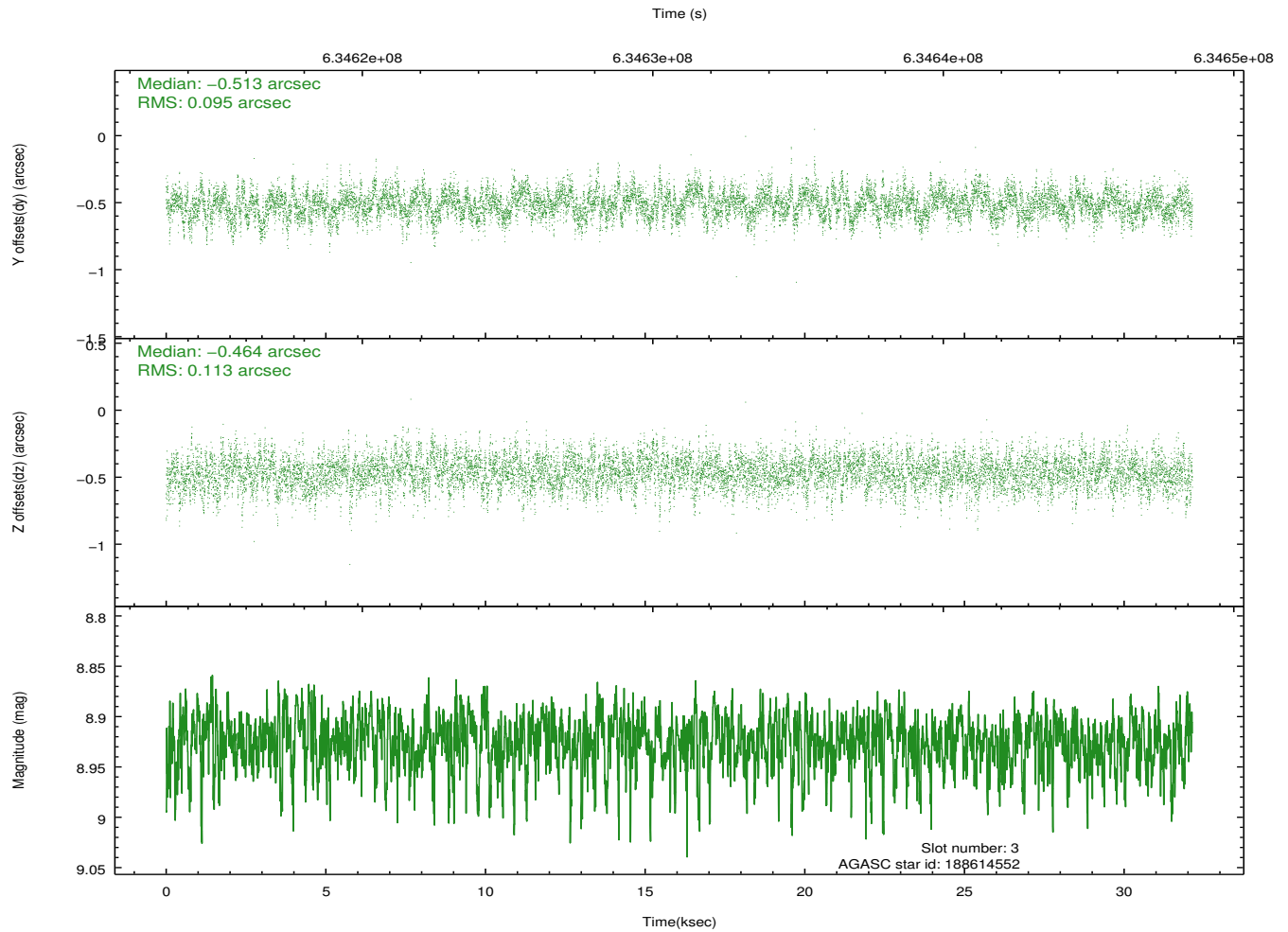
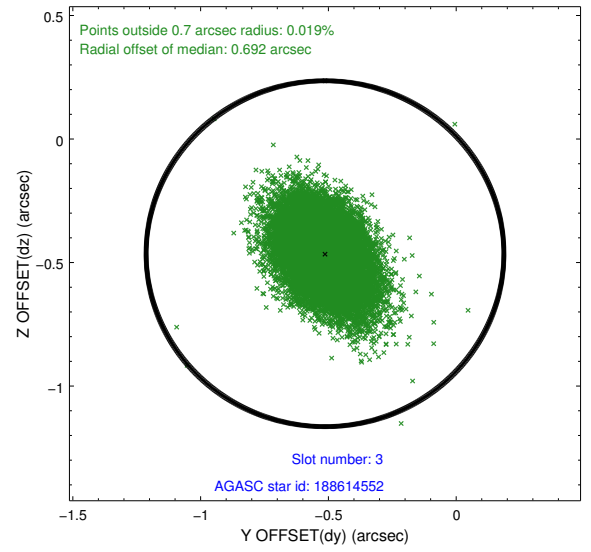
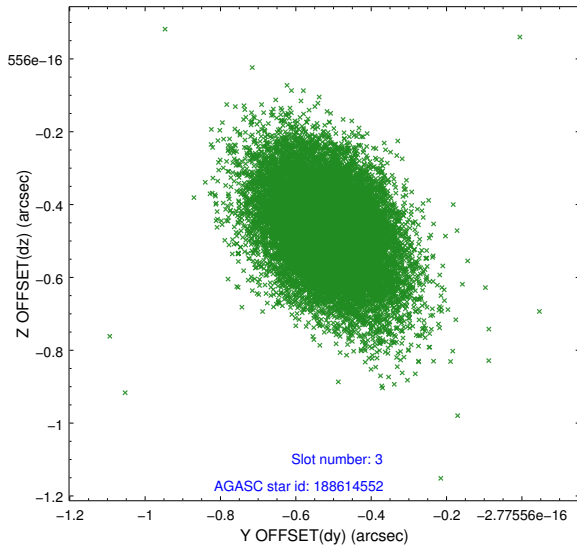


### Slot Statistics

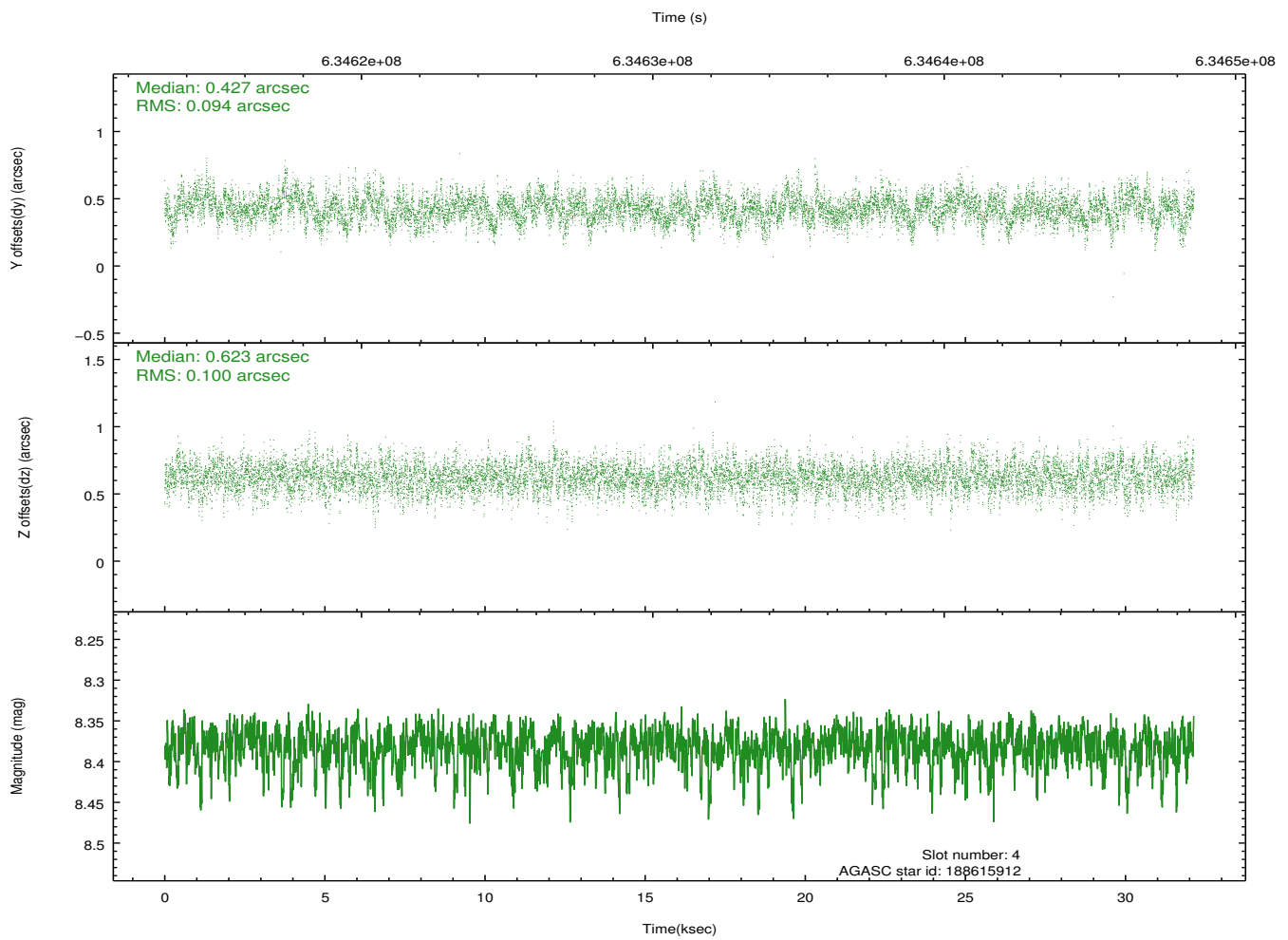
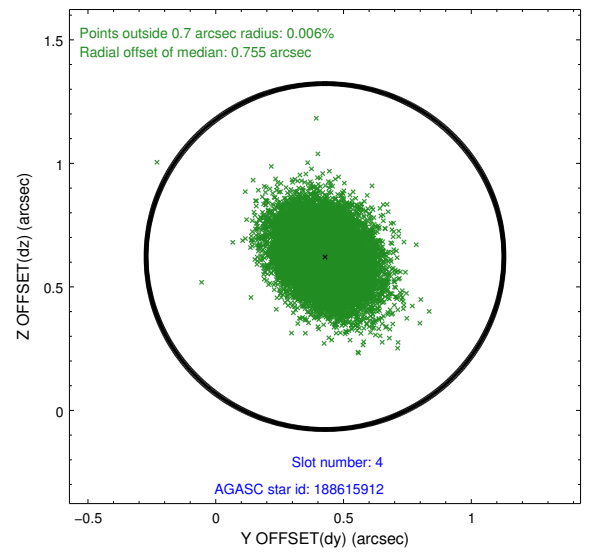
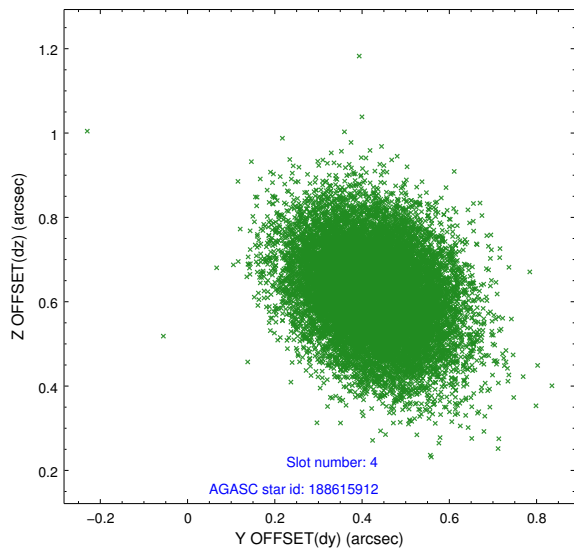
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		HRC-S-1	7.12	7839	-0.063	-0.253	0.054	0.069	0.000000	0.000000	-1174.04	-470.71
1	FID		HRC-S-2	7.08	7839	0.354	-0.114	0.013	0.058	0.000000	0.000000	1225.92	-463.15
2	FID		HRC-S-3	7.09	7838	0.096	0.064	0.053	0.068	0.000000	0.000000	-1176.50	559.08
3	GUIDE	used	188614552	8.92	15652	-0.513	-0.464	0.153	0.260	169.490657	21.468678	656.91	986.23
4	GUIDE	used	188615912	8.38	15672	0.427	0.623	0.145	0.239	170.246329	20.858006	-1711.20	-1391.69
5	GUIDE	used	188622880	7.58	15675	-0.206	-0.037	0.130	0.230	170.025103	21.913955	2130.18	-909.55
6	GUIDE	used	188623472	7.06	15678	0.058	-0.070	0.117	0.208	169.895324	20.725289	-2107.62	-181.03
7	GUIDE	used	188614832	9.11	15569	0.235	-0.046	0.201	0.355	170.375801	21.987686	2317.02	-2095.24

## 2.4 Star Slots

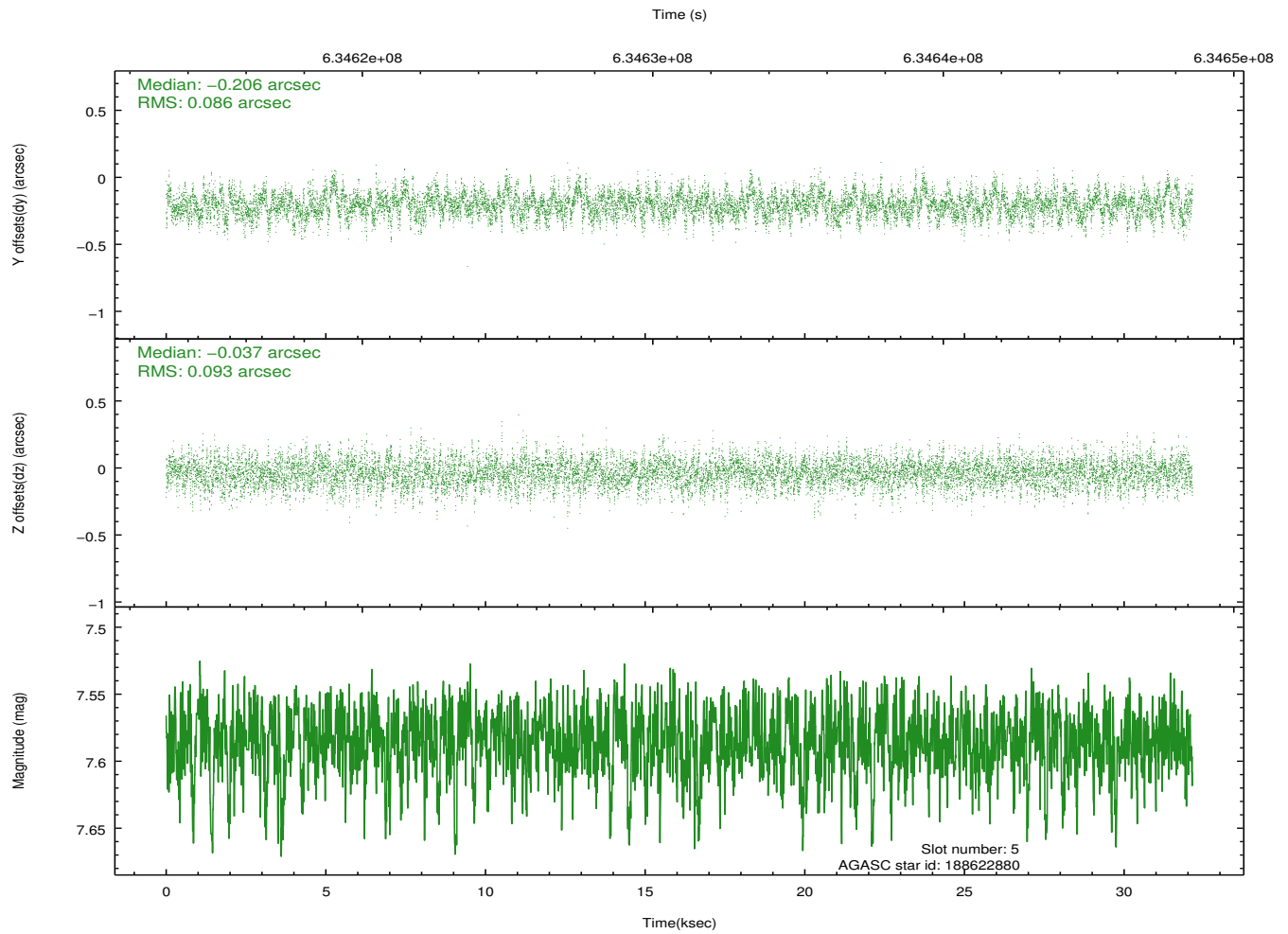
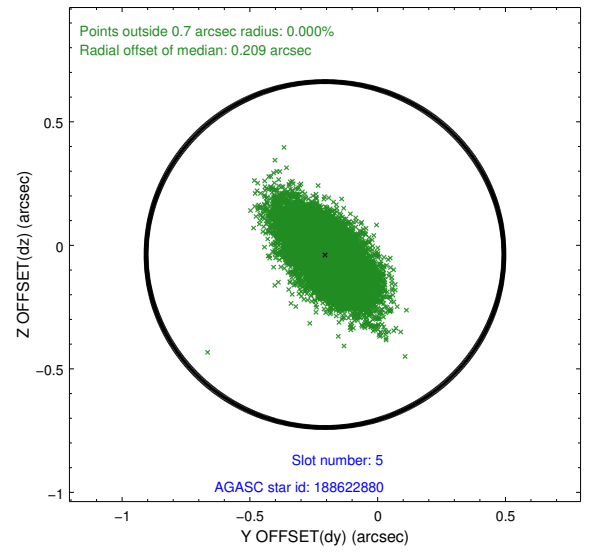
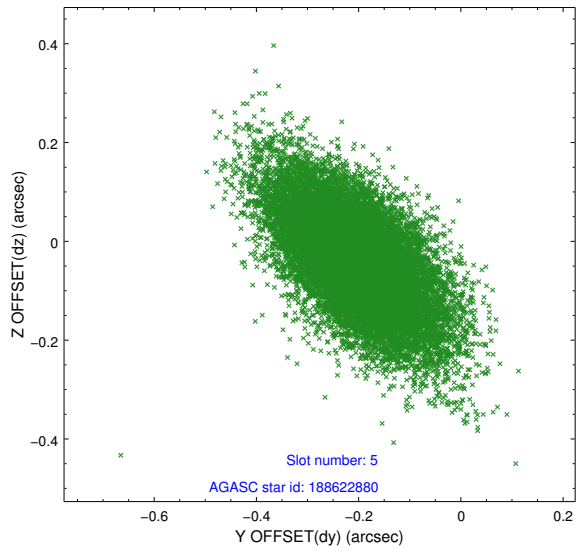
### 2.4.1 Slot 3



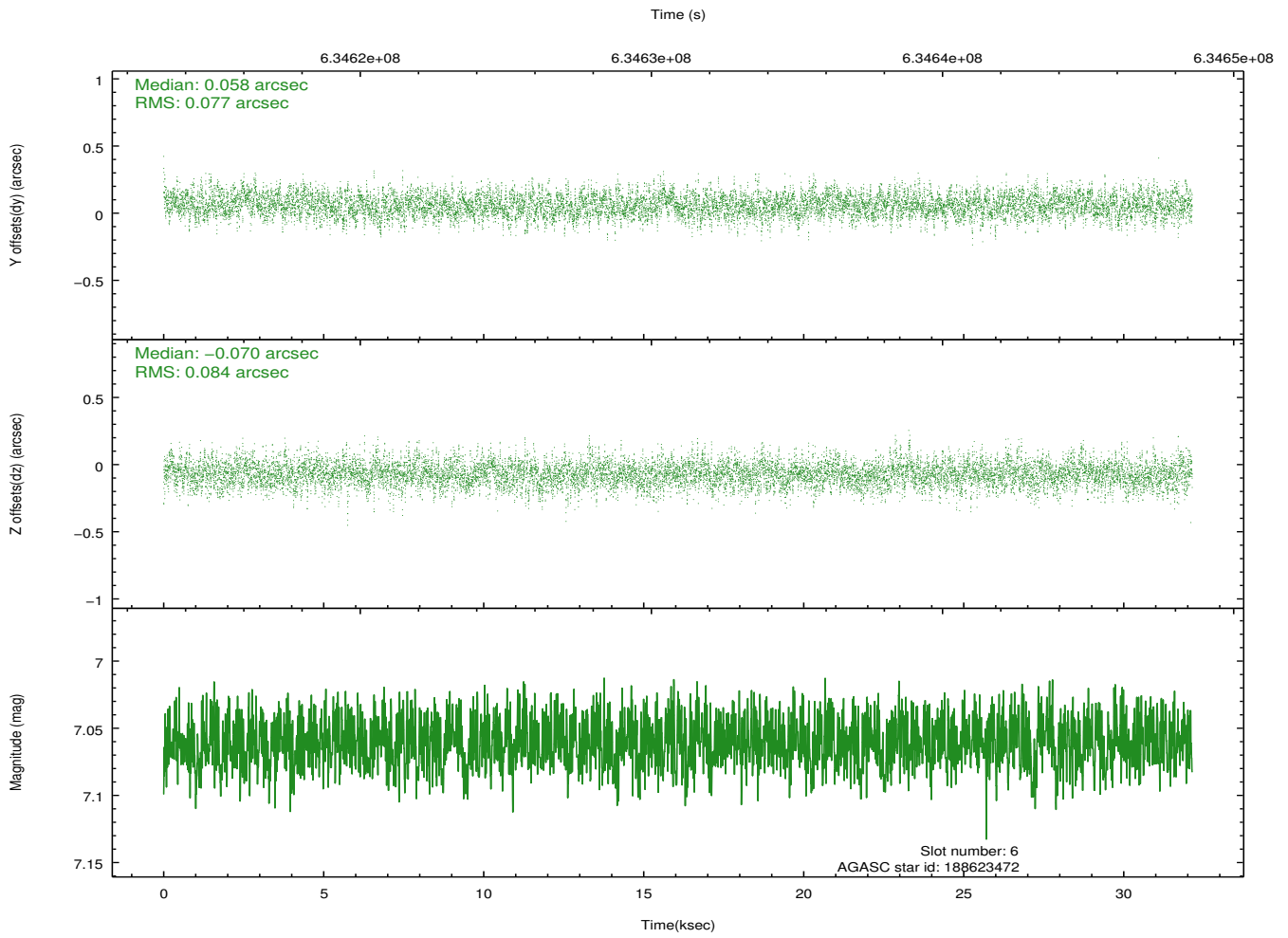
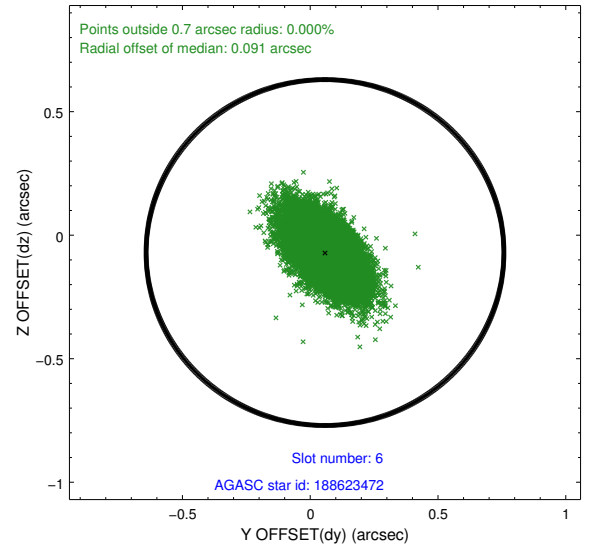
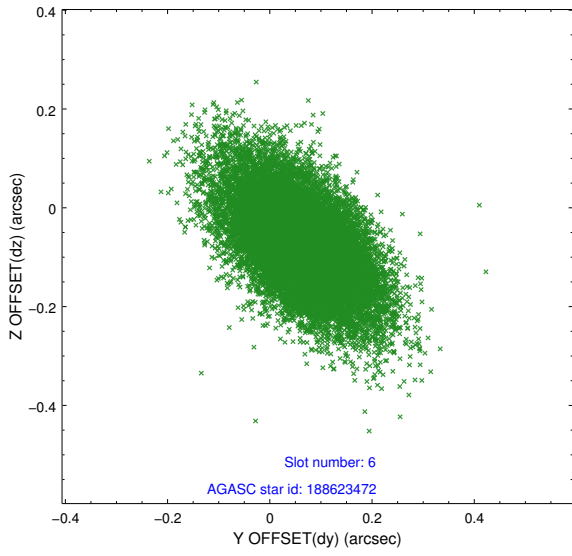
## 2.4.2 Slot 4



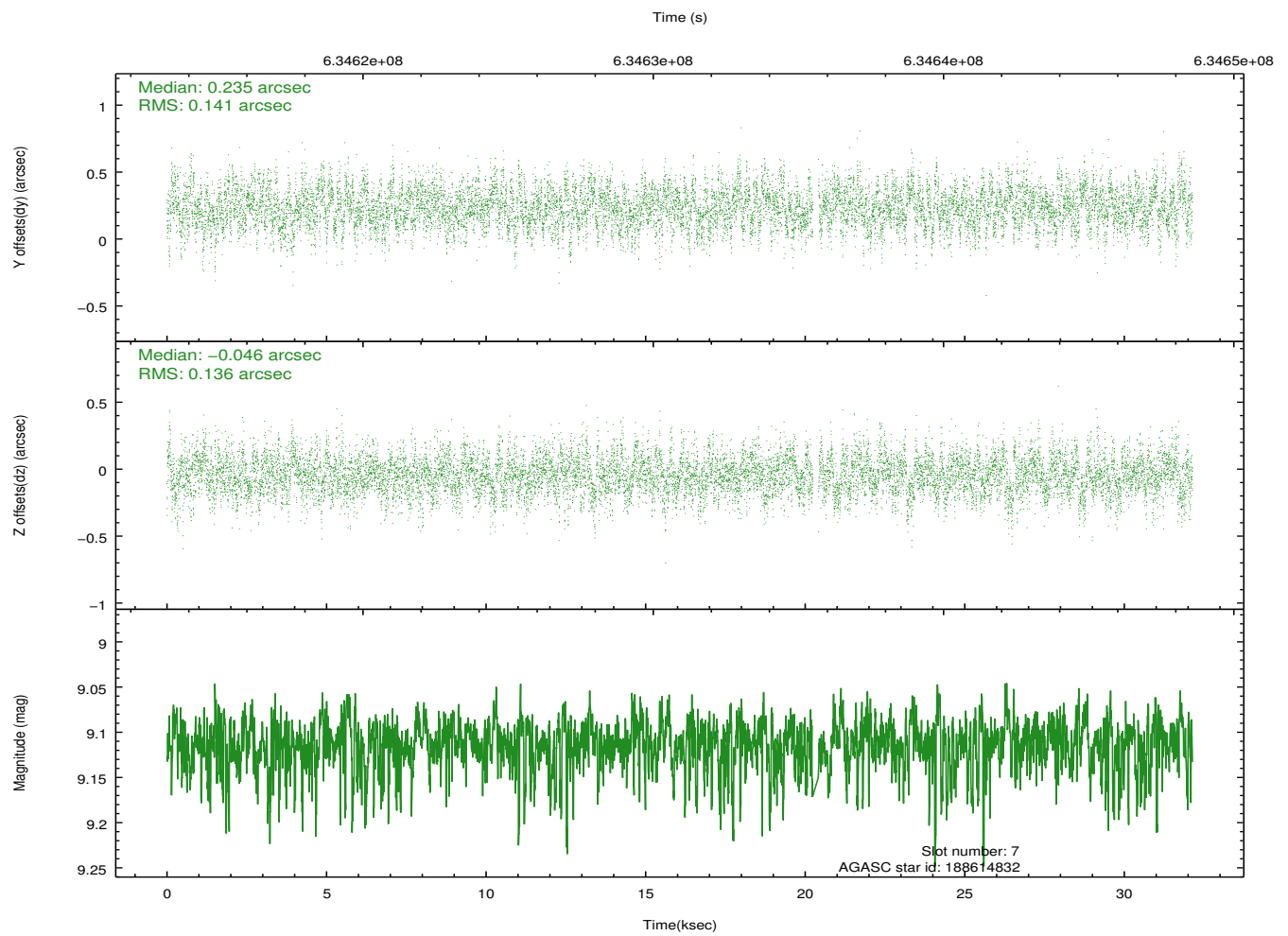
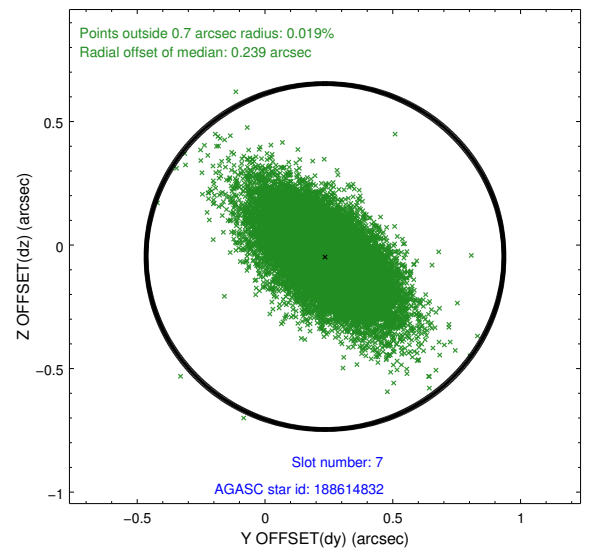
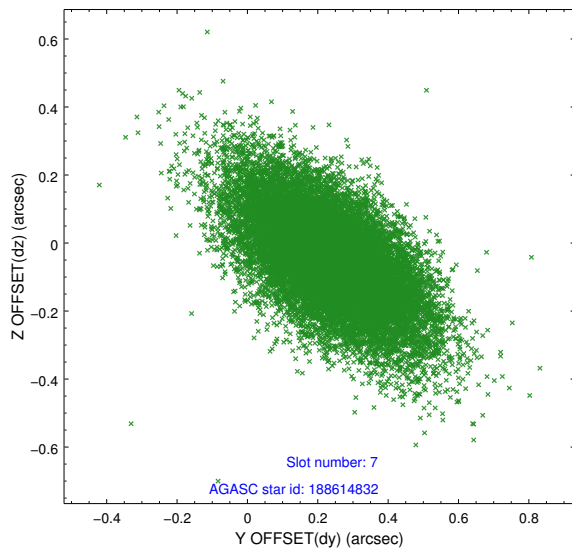
### 2.4.3 Slot 5



### 2.4.4 Slot 6

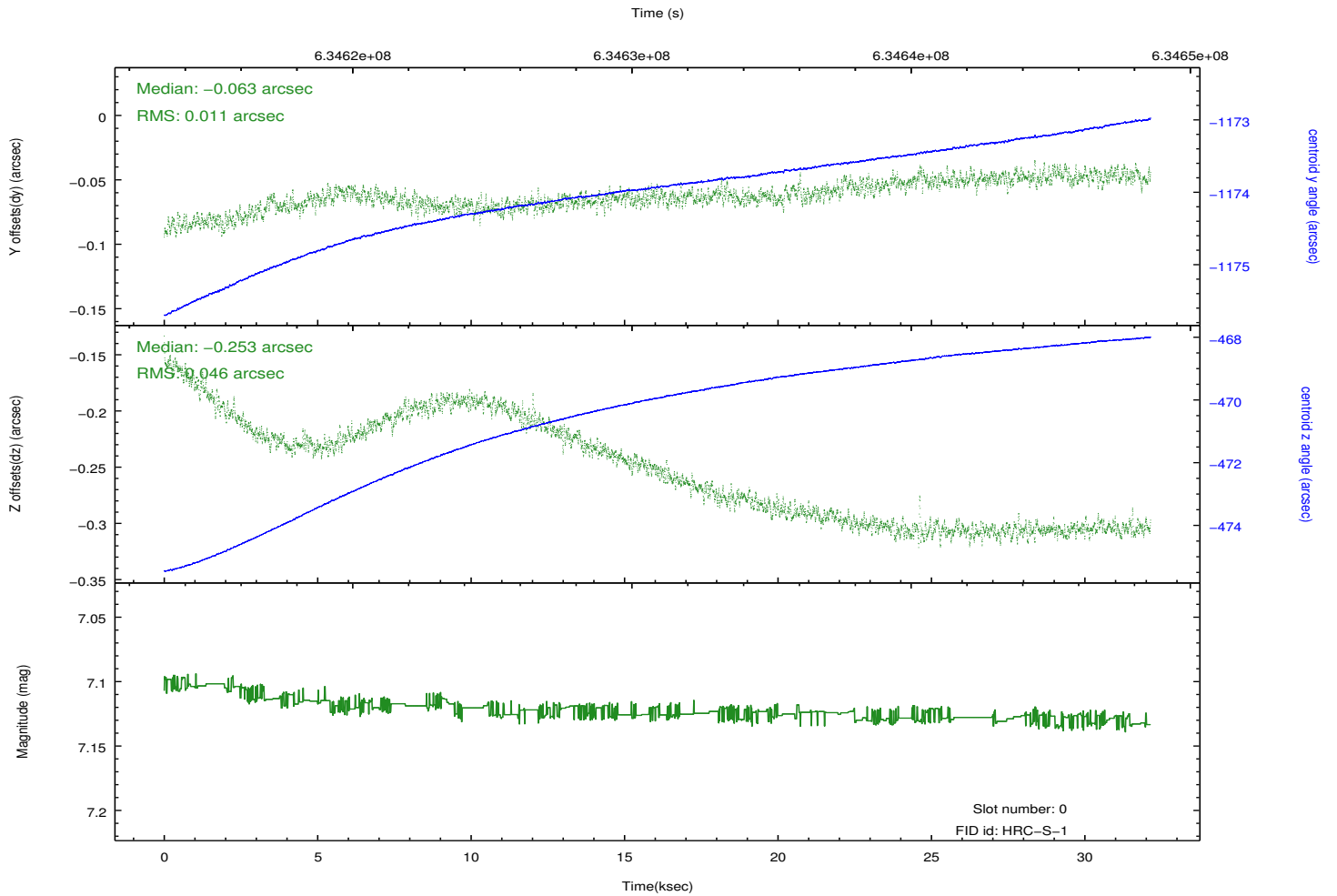
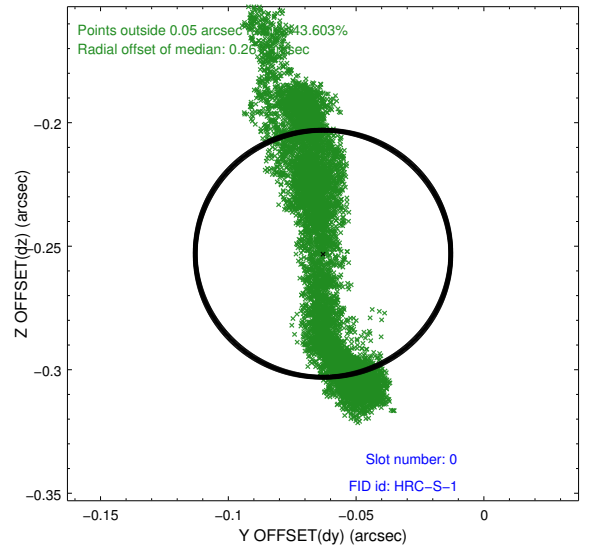
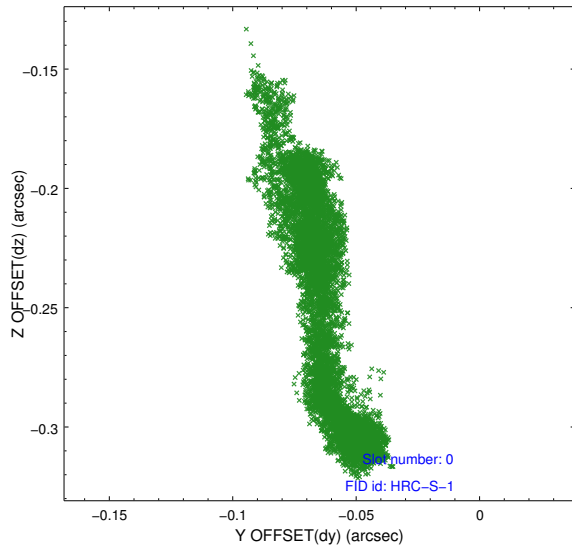


## 2.4.5 Slot 7

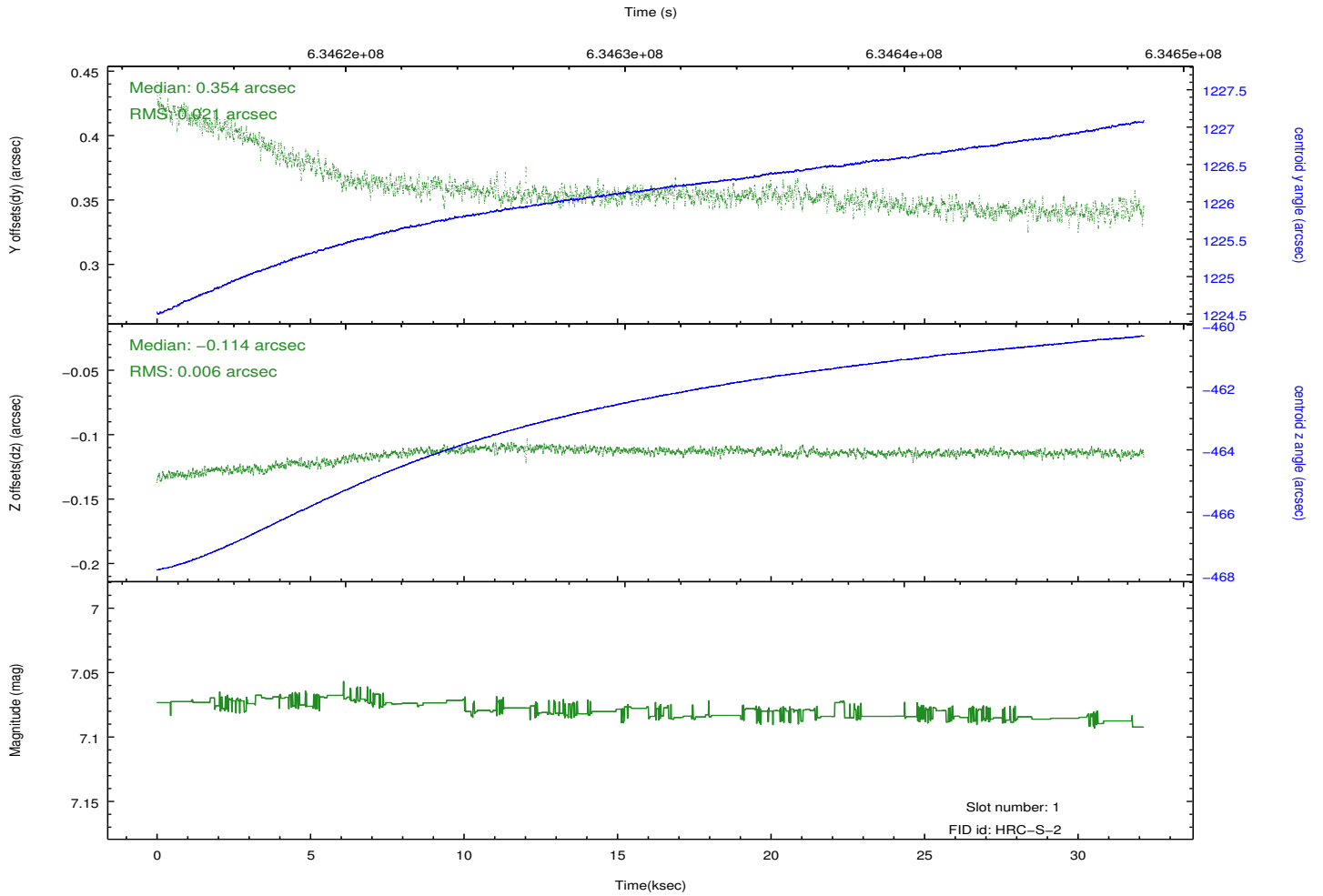
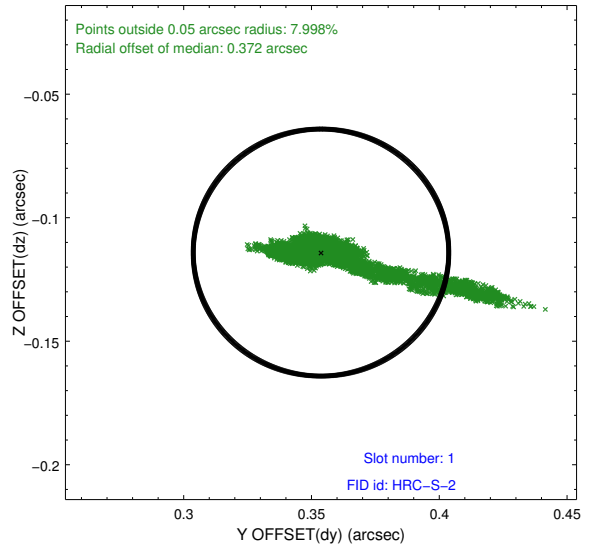
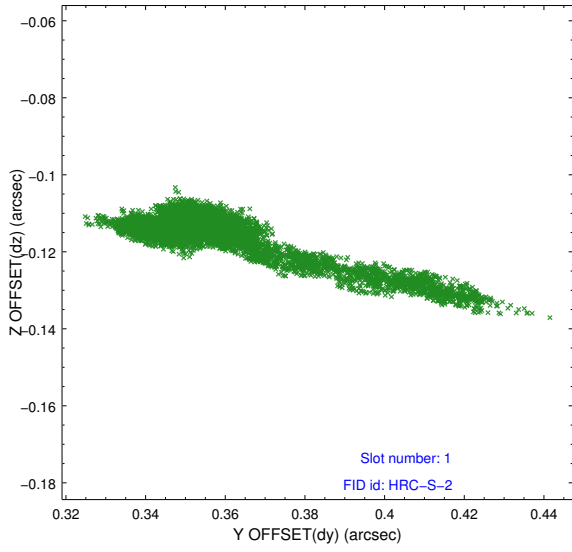


## 2.5 FID Slots

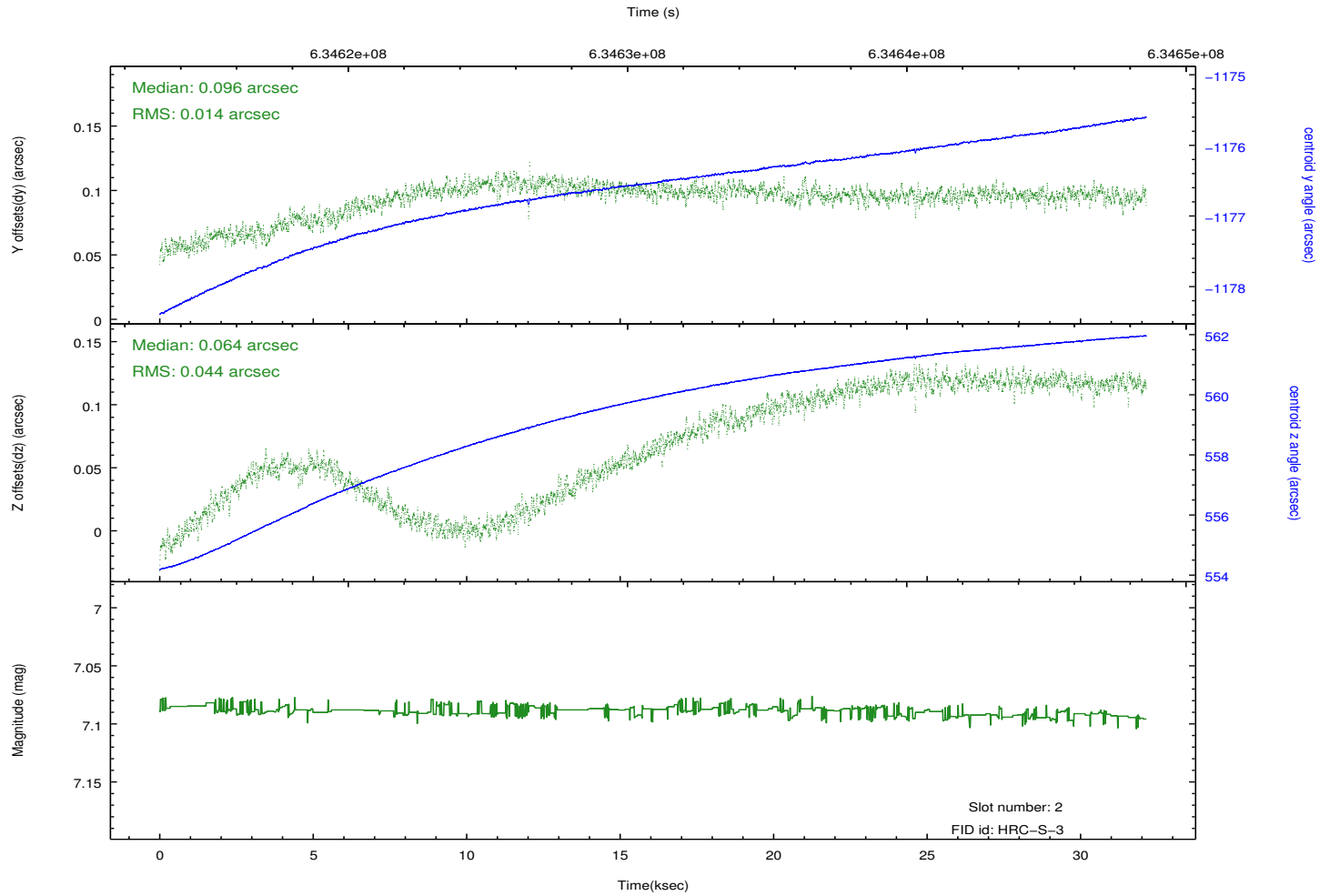
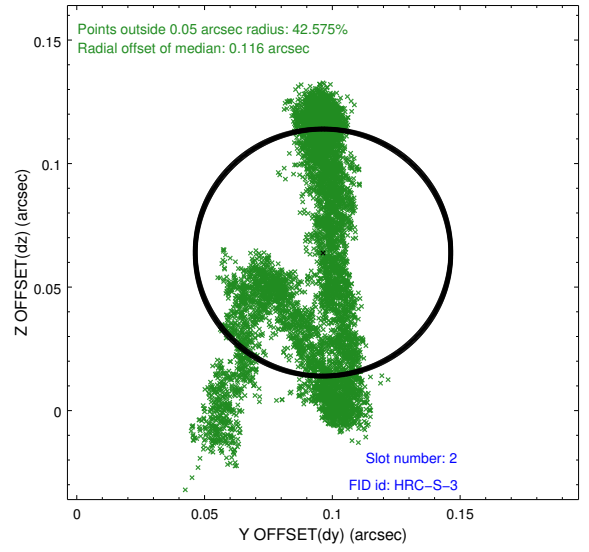
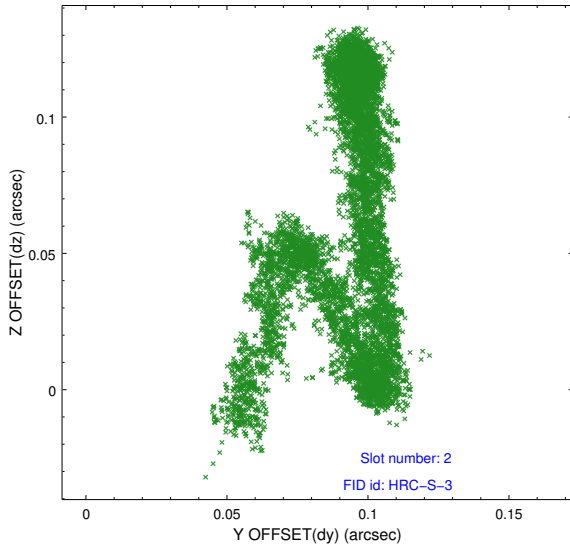
### 2.5.1 Slot 0



## 2.5.2 Slot 1

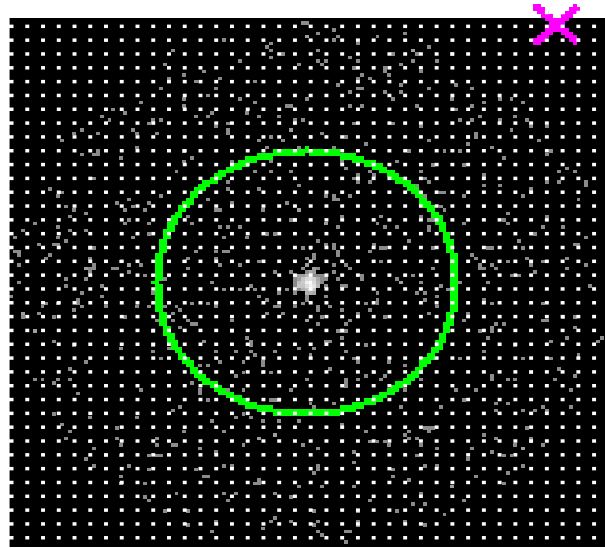


### 2.5.3 Slot 2

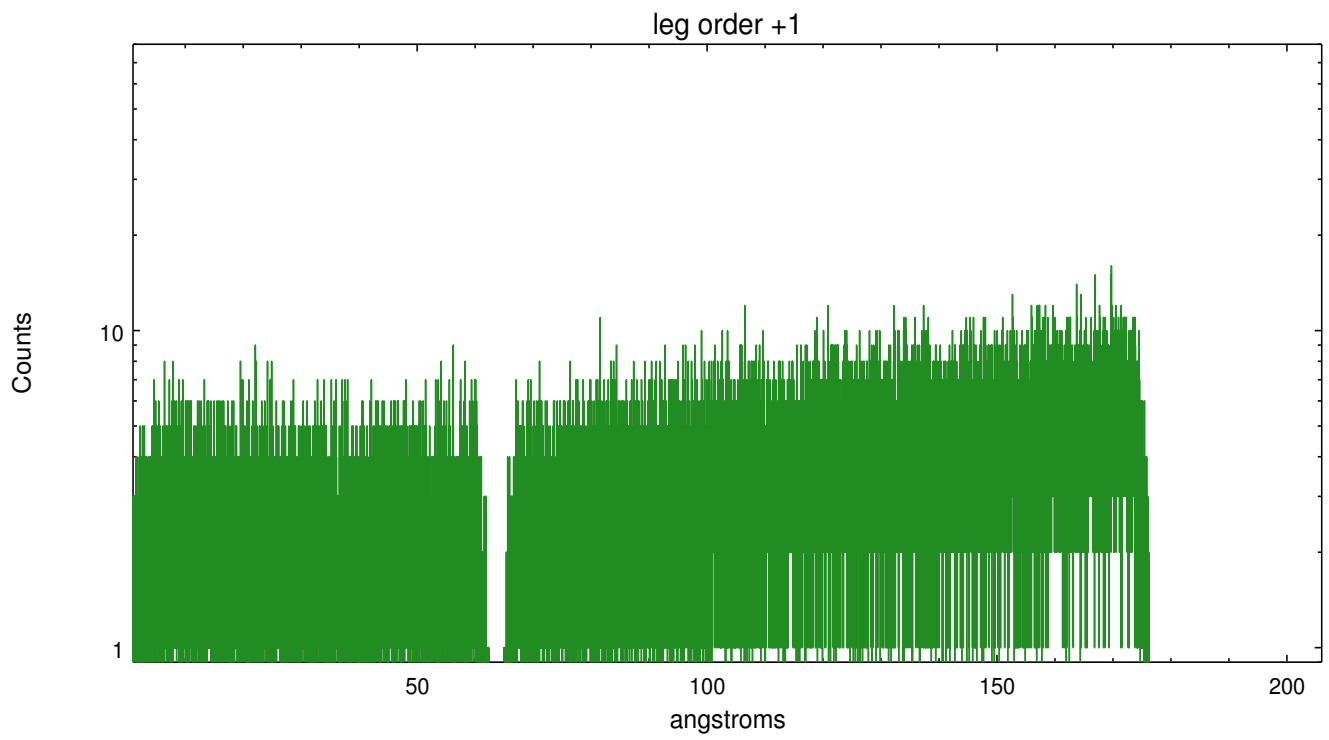
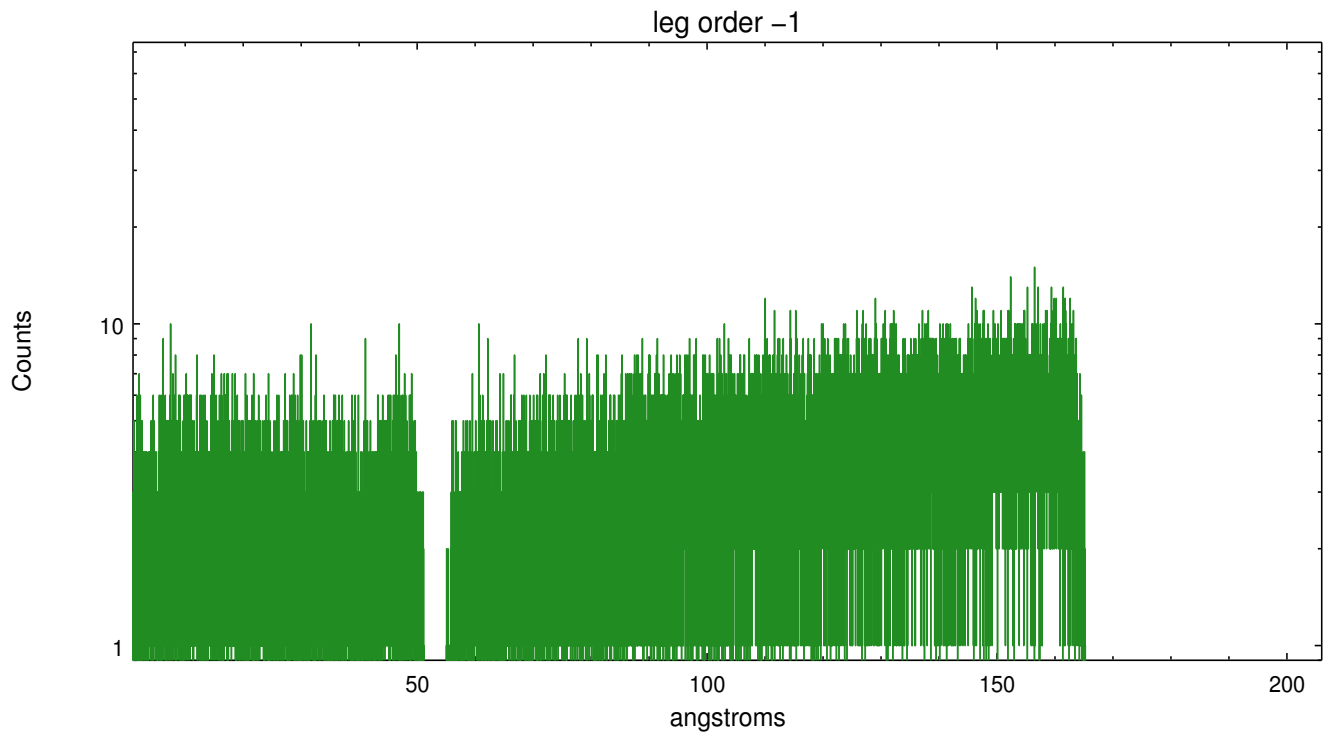


### 3 Gratings

#### 3.1 LETG Arm



LETG Zero Order



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2018.02.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	31.741433119774

## A.2 Comments

Due to corruption of the secondary science data during this observation, some instrument parameters have bogus values. The data in this observation have been inspected by the HRC team. PLEASE NOTE: All the event data in this observation are good. The short gaps in the GTI intervals can be eliminated (i.e., use the first START and last STOP). THE DTF values during this observation can be estimated by dropping all the low values and averaging the remaining values near 1.0.