

# V&V Reference Report

## L2 ASCDS Version : 10.0.1

Observation 16369 - L2 Version 2  
Chandra X-Ray Center

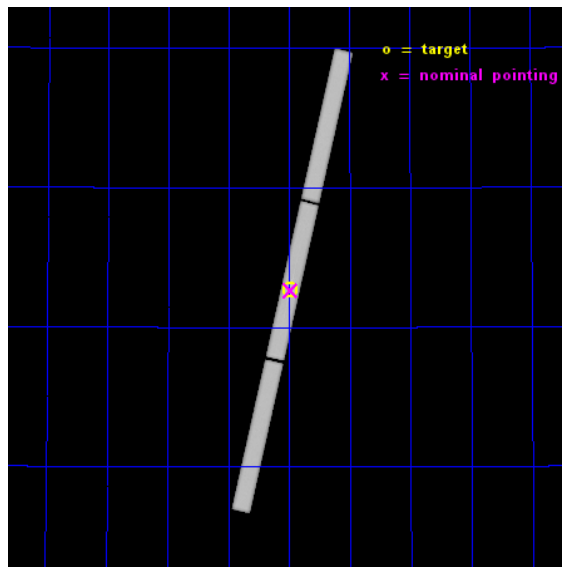
L2 Processing Date : Dec 6 2014

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# 1 Front

seq_num	703023	Sequence number
obs_id	16369	Observation id
title	High-resolution X-ray spectroscopy of an AGN outflow	Proposal titl
observer	Dr. Jelle Kaastra	Principal investigator
object	NGC 5548	Source name
ra_targ	214.497917	Observer's specified target RA [deg]
dec_targ	25.136778	Observer's specified target Dec [deg]
ra_nom	214.49903100084	Nominal RA [deg]
dec_nom	25.132118522453	Nominal Dec [deg]
roll_nom	283.06686416837	Nominal Roll [deg]
revision	2	Processing version of data
ontime	29916.932882369	[s]
livetime	29705.696169893	Ontime multiplied by DTCOR
l2events	1750131	Number of level 2 events

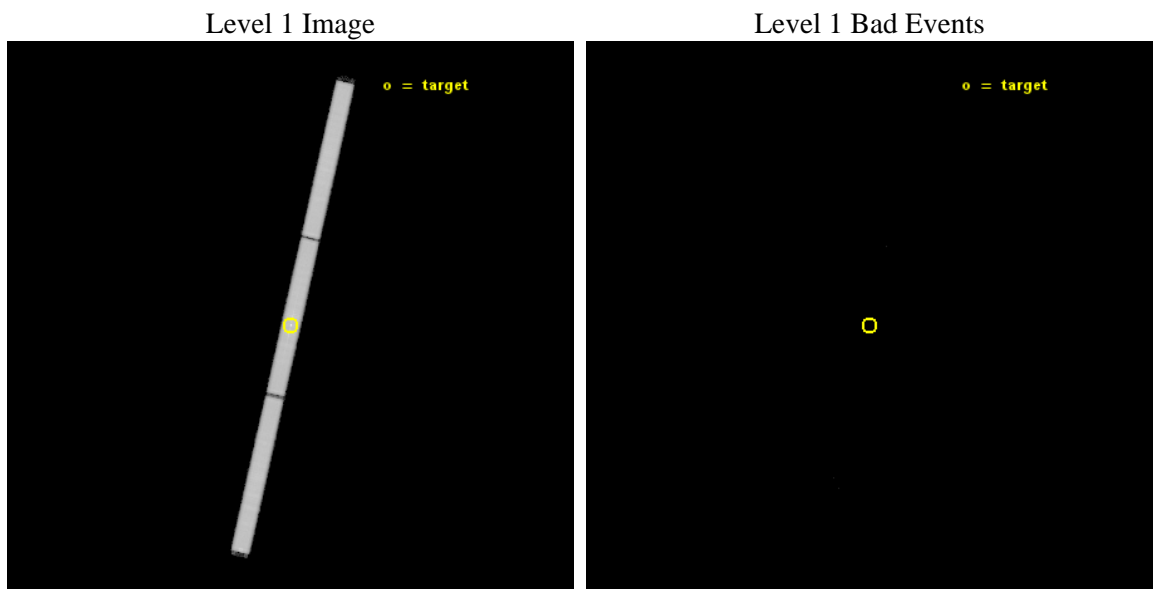




## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	29746.981000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	29916.932882369	[s]
caldsver	4.6.4	&#160	l1events	2363555	Number of level 1 events
date	2014-12-06T07:50:22	Date and time of file creation	tgmethod	TGDETECT	Method used to create src1a file
revision	2	Processing version of data	zo_pos	(32794.07, 32899.90)	src1a sky pixel position

### 2.1.3 Events

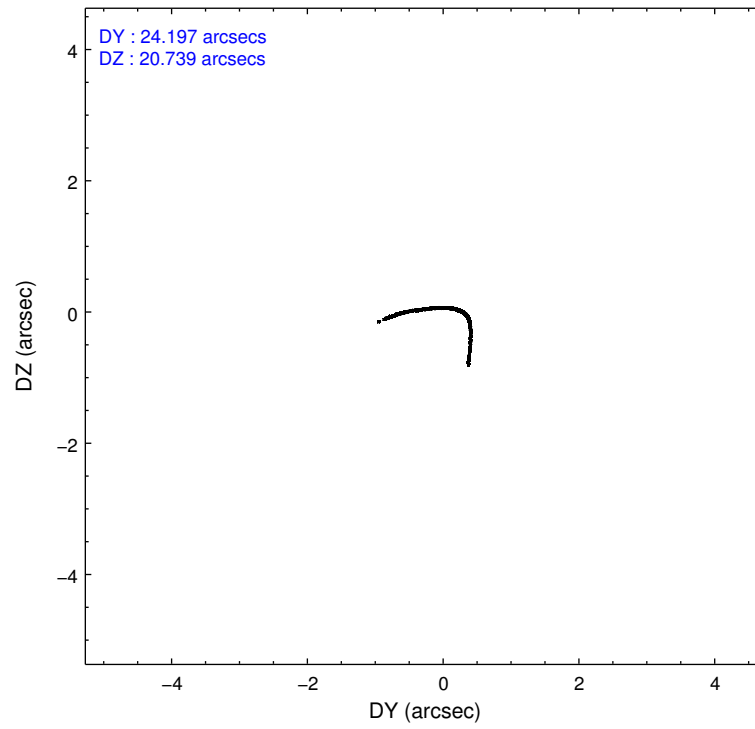
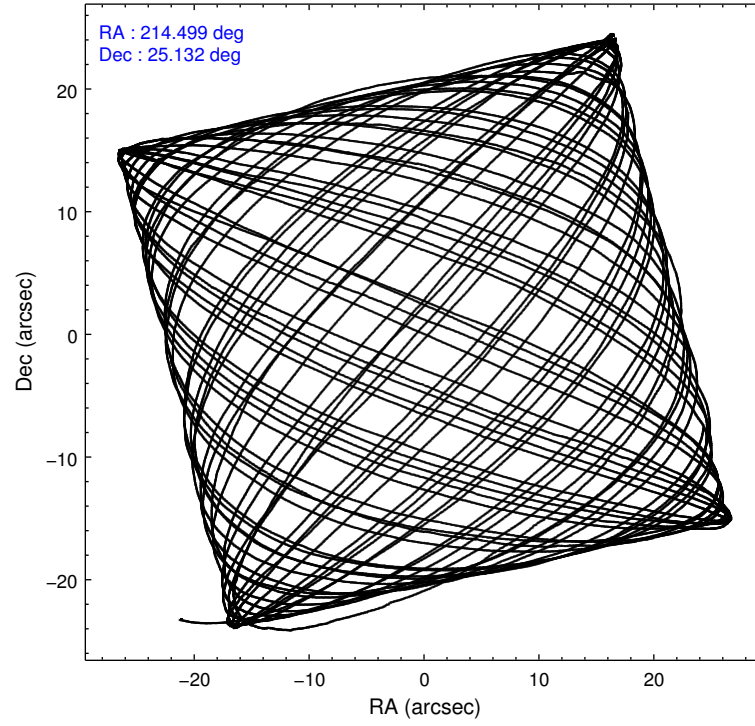
Level 1 Events

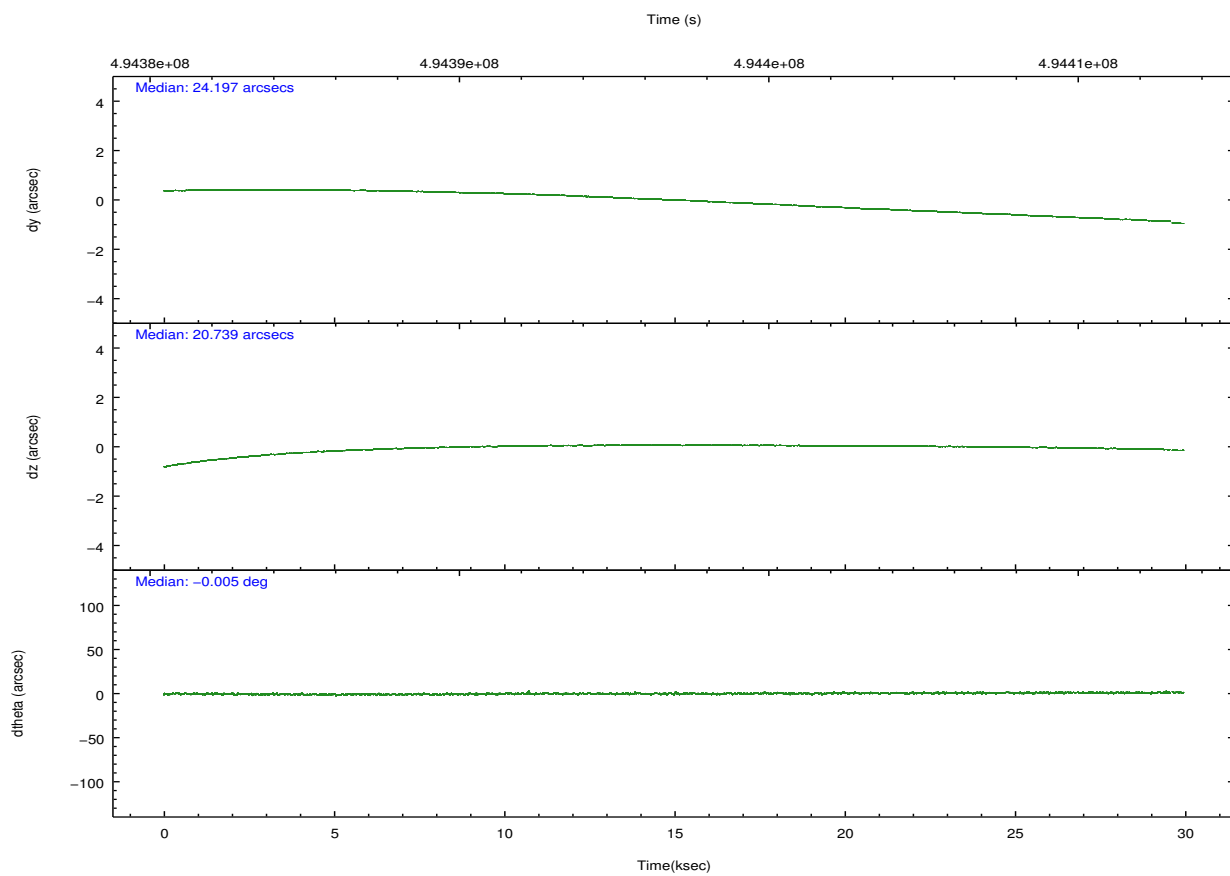
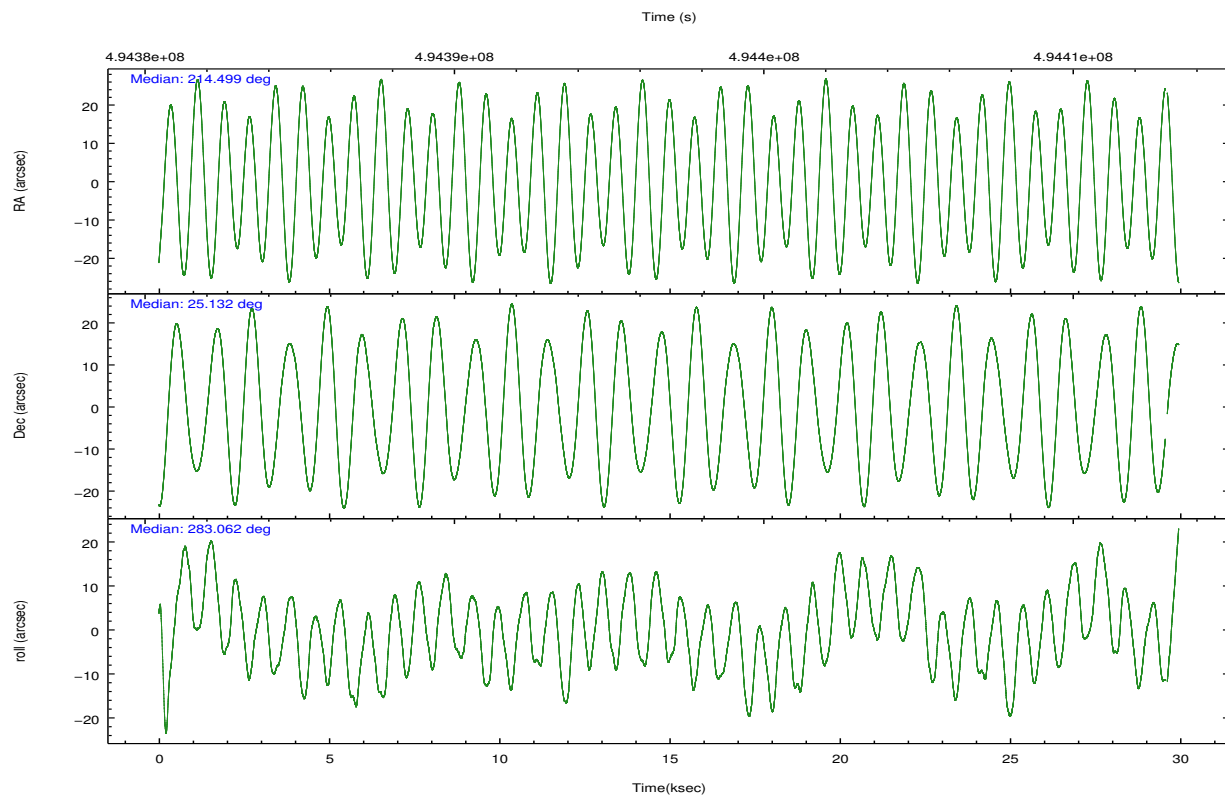
	<b>segment 1</b>	<b>segment 2</b>	<b>segment 3</b>
level 1 events	800176	775842	787537
rejected events	22355	21745	22466
rejected %	2%	2%	2%

## 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	214.476250	214.499031000838			
[deg] Pointing Dec	25.152093	25.13211852245334			
[deg] Pointing Roll	283.009210	283.0668641683675			
[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)	494382125.184000	494380968.75441			
Observation start date	2013-09-01T00:20:58	2013-09-01T00:02:48			
[s] Observation end time (MET)	494411872.184000	494411891.46859			
Observation end date	2013-09-01T08:36:45	2013-09-01T08:38:11			

## 2.3 Aspect



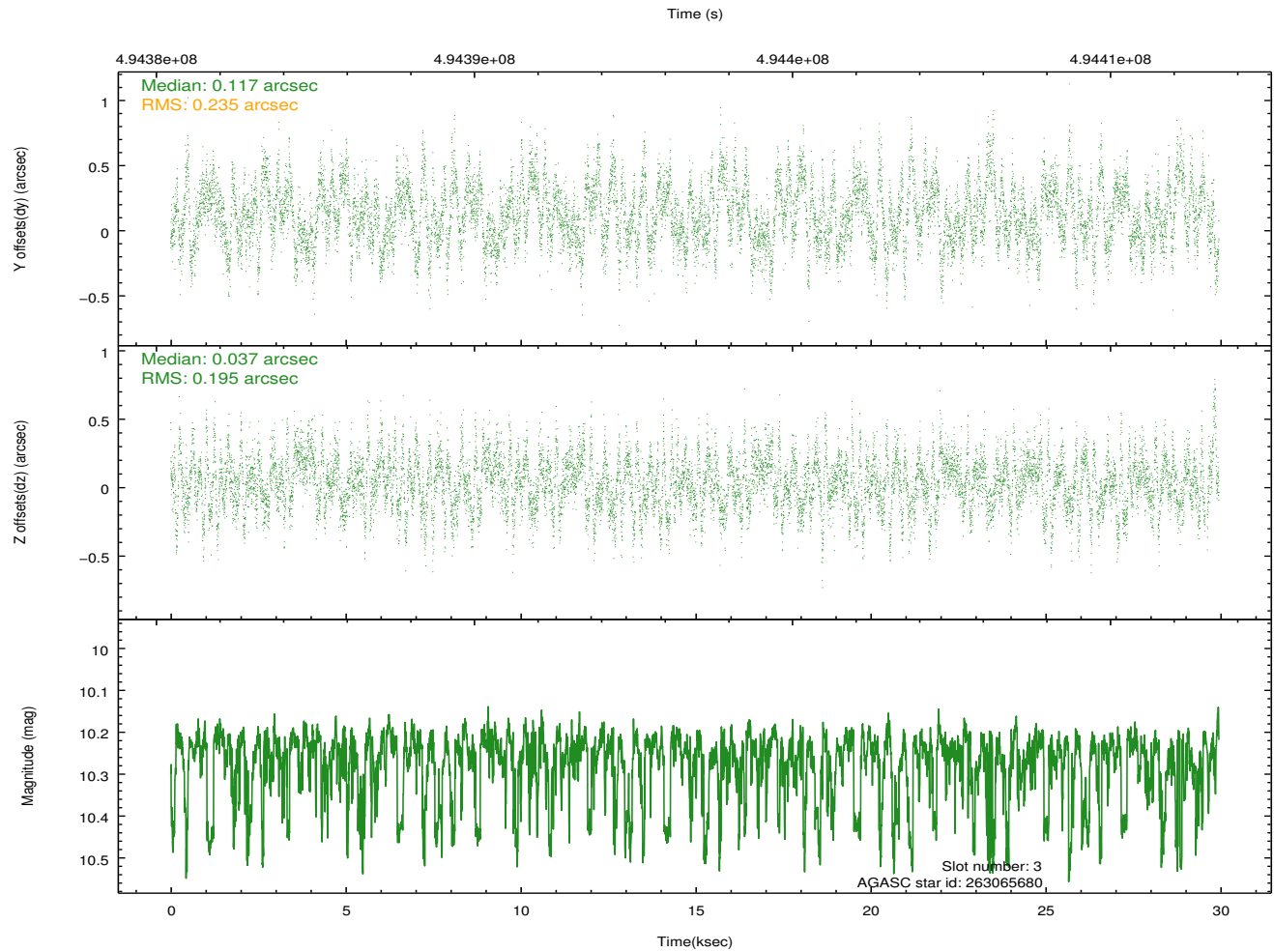
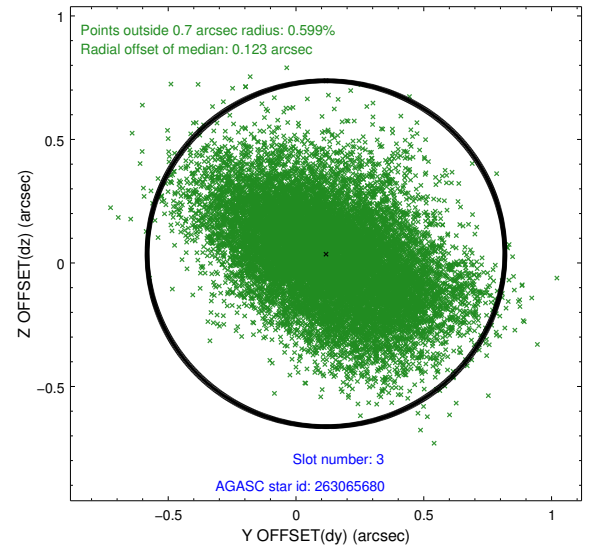
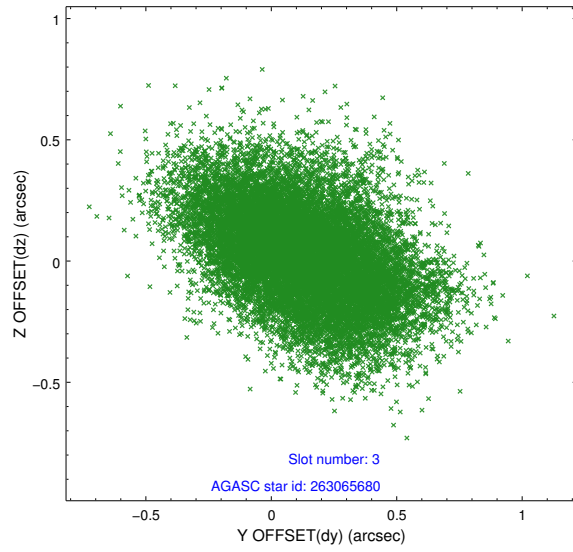


### Slot Statistics

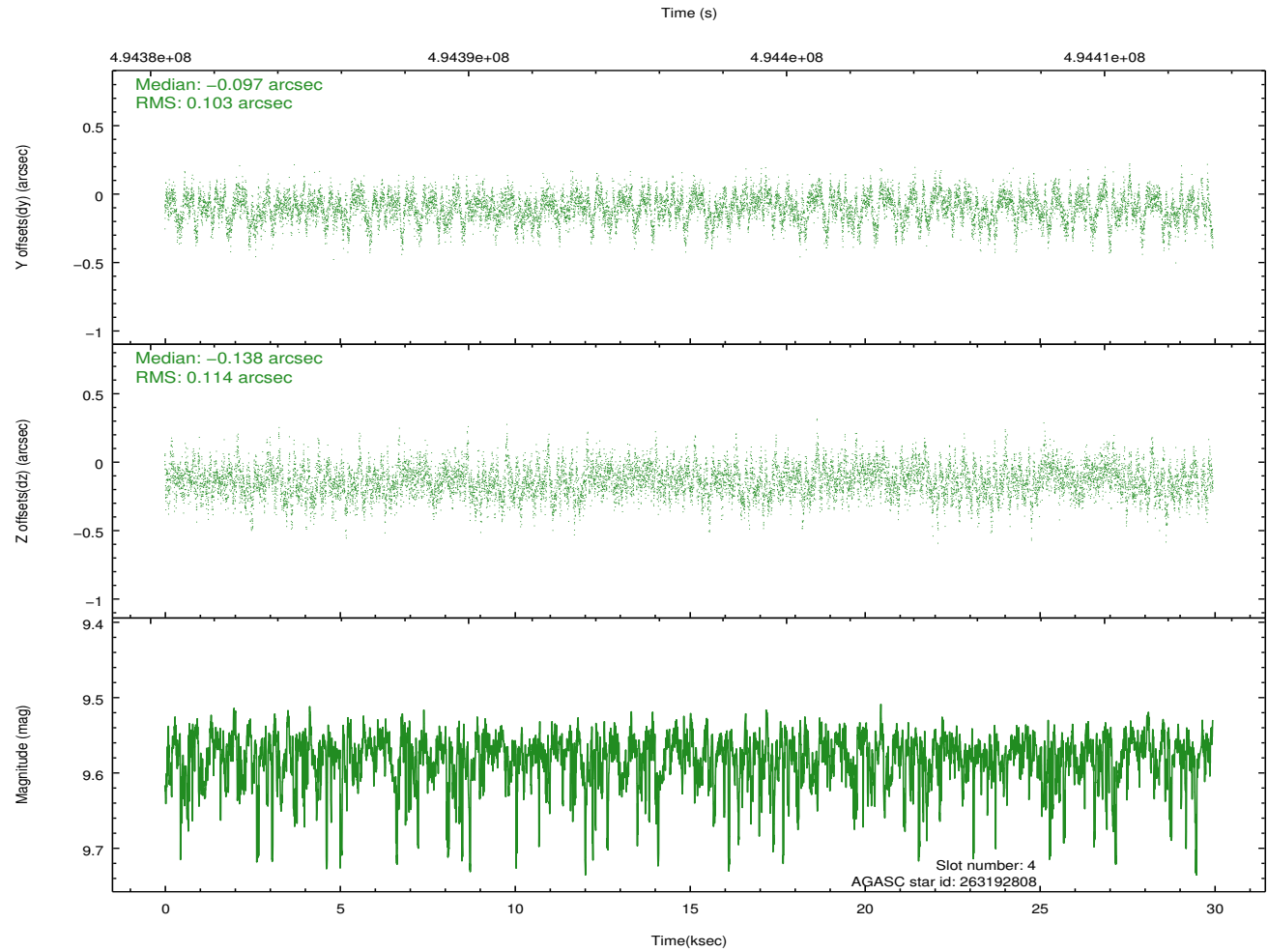
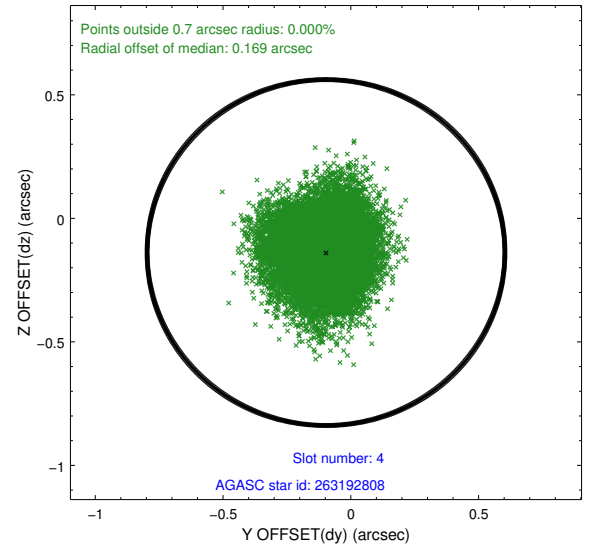
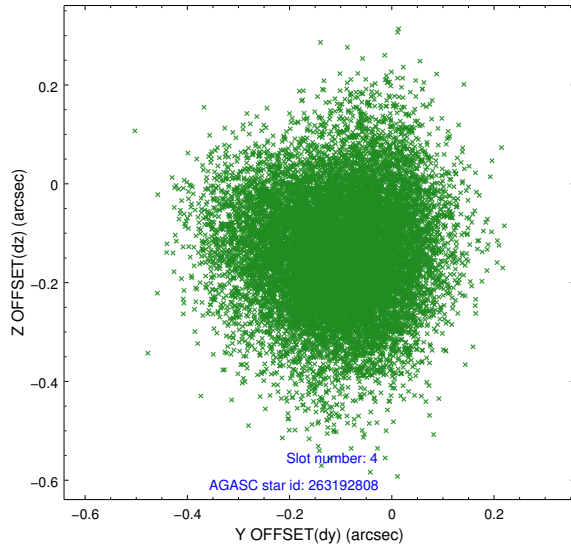
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		HRC-S-1	7.01	7292	0.015	-0.165	0.012	0.020	0.000000	0.000000	-1178.81	-469.75
1	FID		HRC-S-2	6.98	7292	0.283	-0.117	0.010	0.015	0.000000	0.000000	1220.98	-462.35
2	FID		HRC-S-3	7.00	7292	0.090	-0.021	0.009	0.018	0.000000	0.000000	-1181.31	559.86
3	GUIDE	used	263065680	10.26	14354	0.117	0.037	0.325	0.536	214.256976	24.497205	2135.50	-1230.08
4	GUIDE	used	263192808	9.58	14490	-0.097	-0.138	0.164	0.264	215.197131	24.910235	1372.56	2099.13
5	GUIDE	used	263195064	9.26	14540	0.006	-0.092	0.176	0.281	215.129983	24.745063	1903.99	1753.90
6	GUIDE	used	263464688	9.19	14496	0.037	0.116	0.144	0.242	214.654702	25.305283	-406.44	690.27
7	GUIDE	used	263595296	9.79	14494	-0.058	0.098	0.221	0.361	214.929889	25.645337	-1400.76	1835.18

## 2.4 Star Slots

### 2.4.1 Slot 3

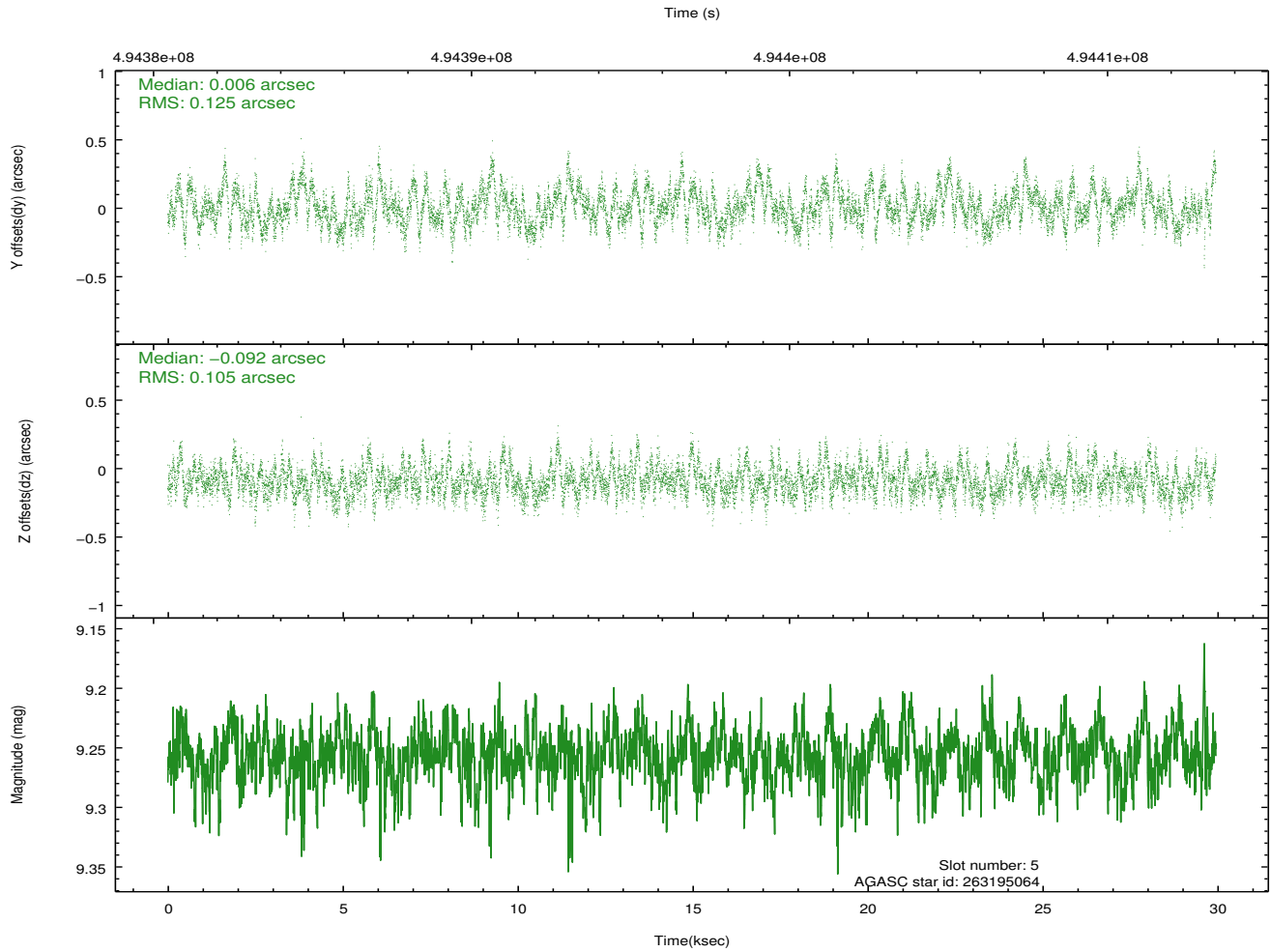
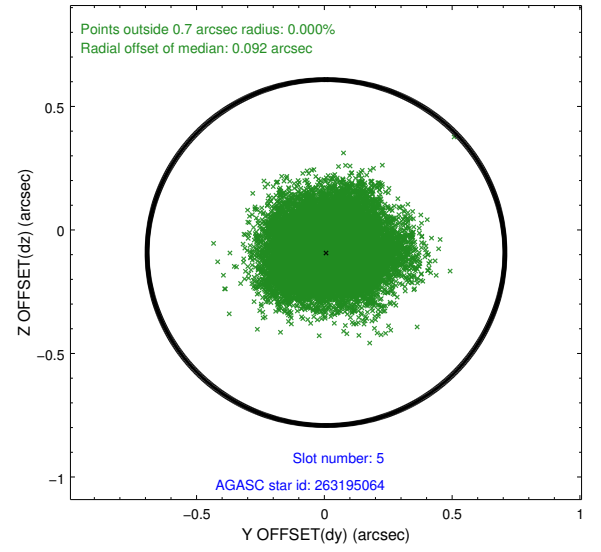
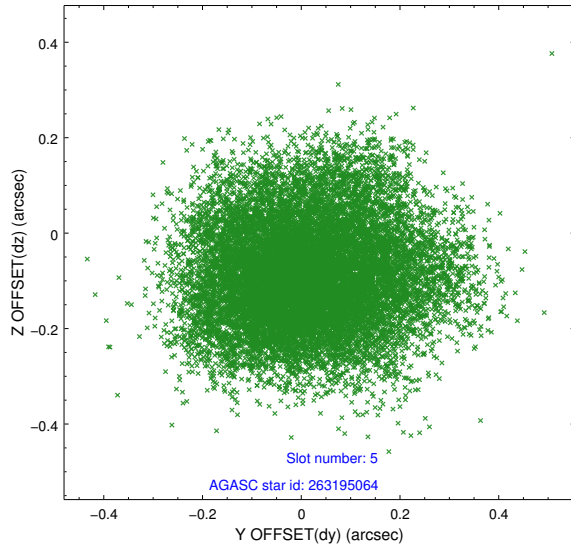


## 2.4.2 Slot 4

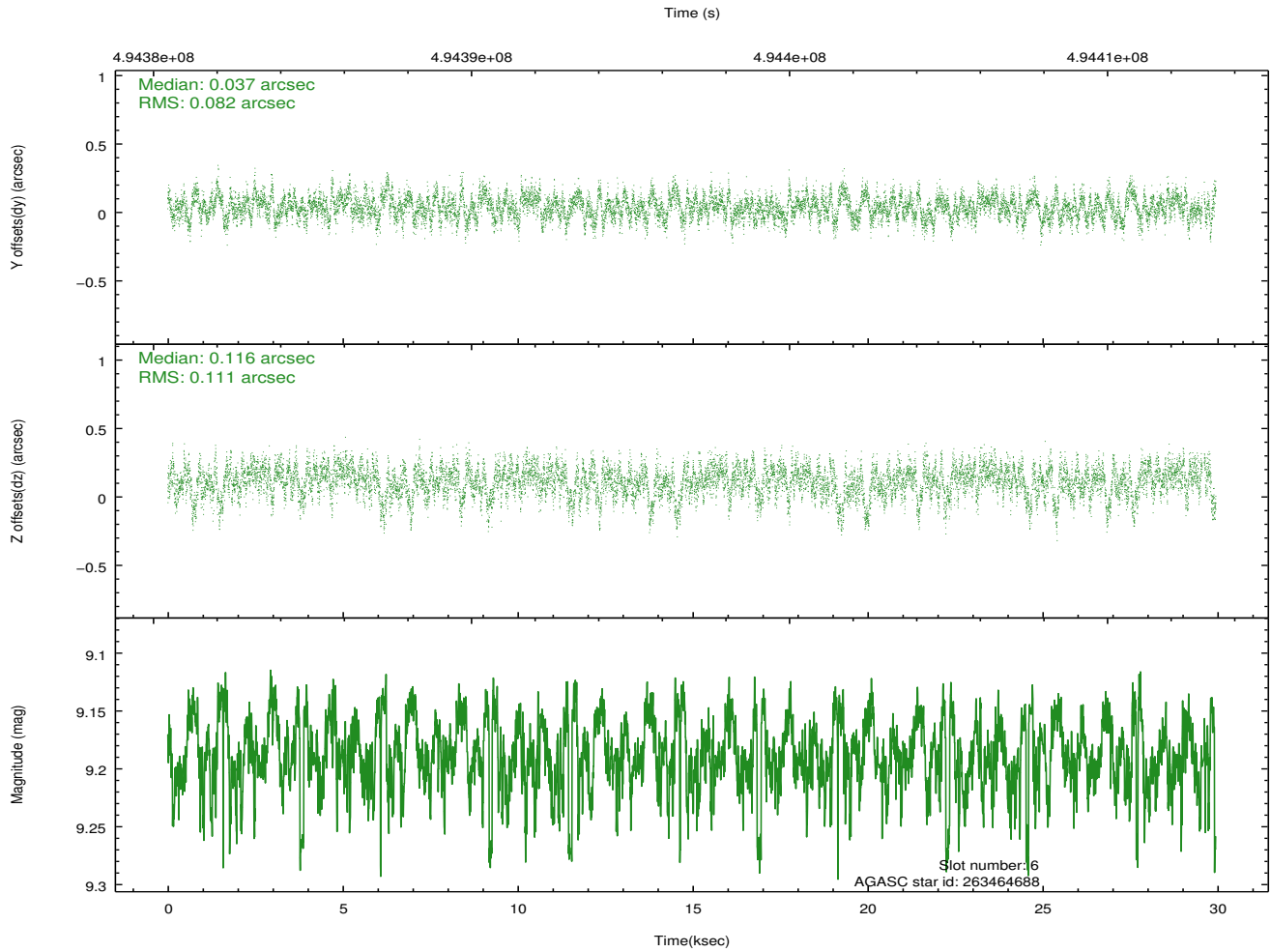
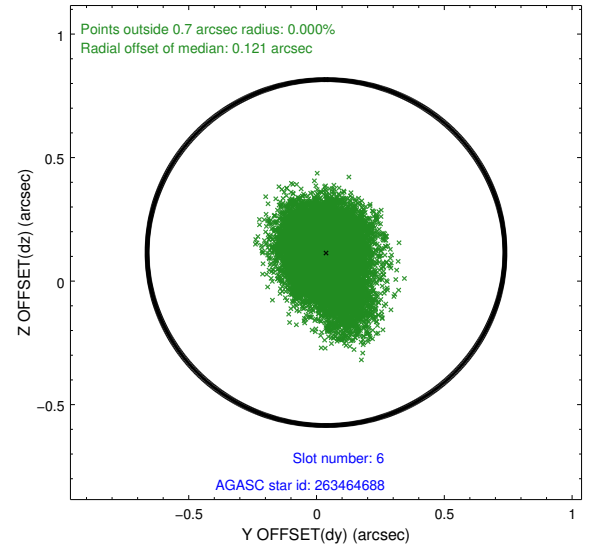
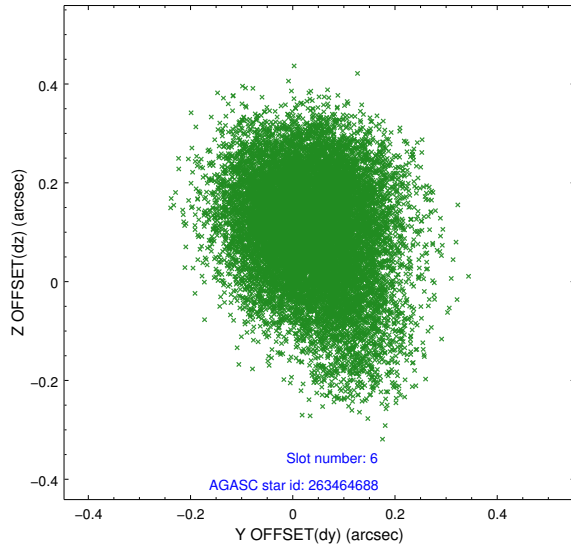




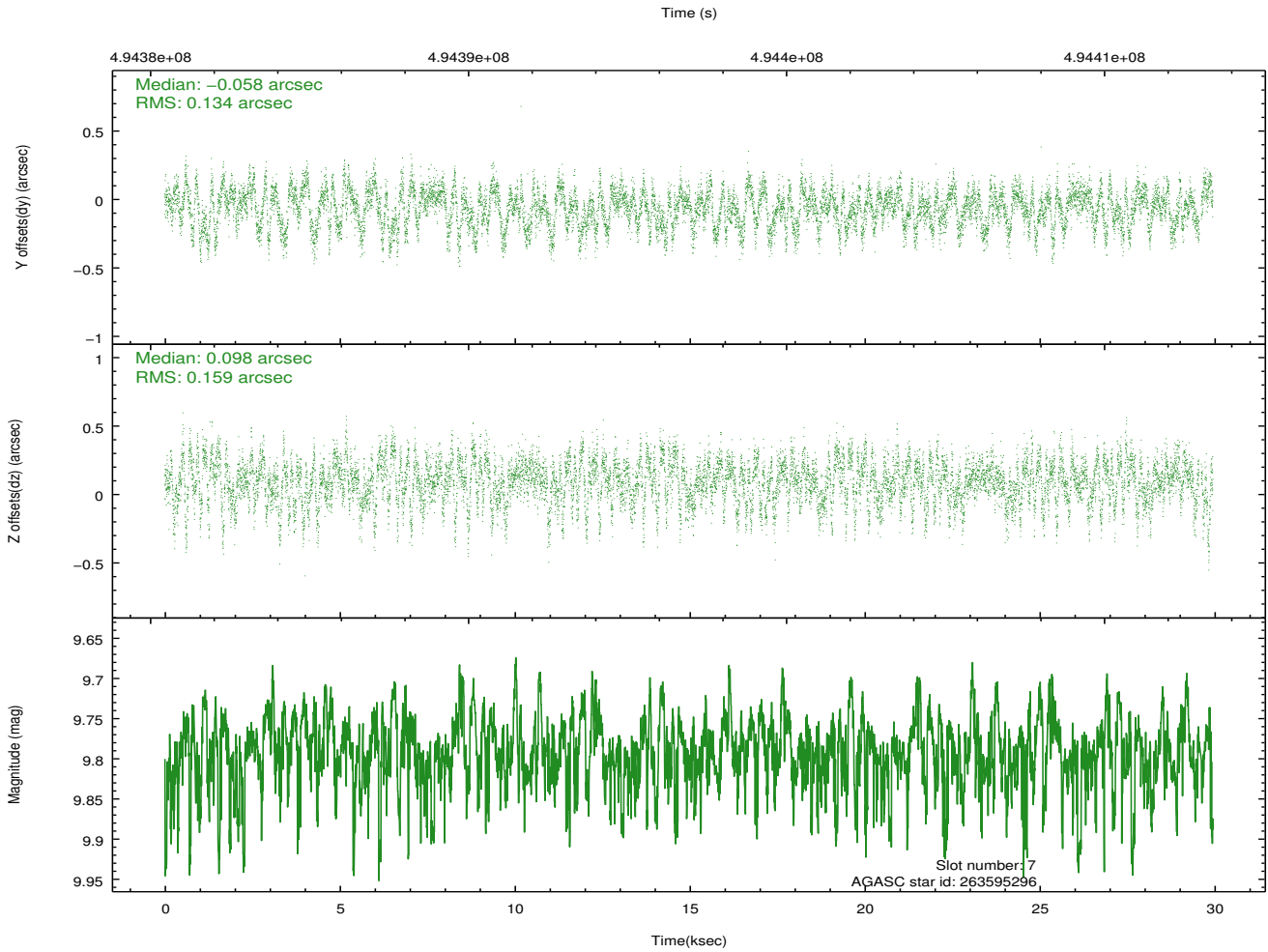
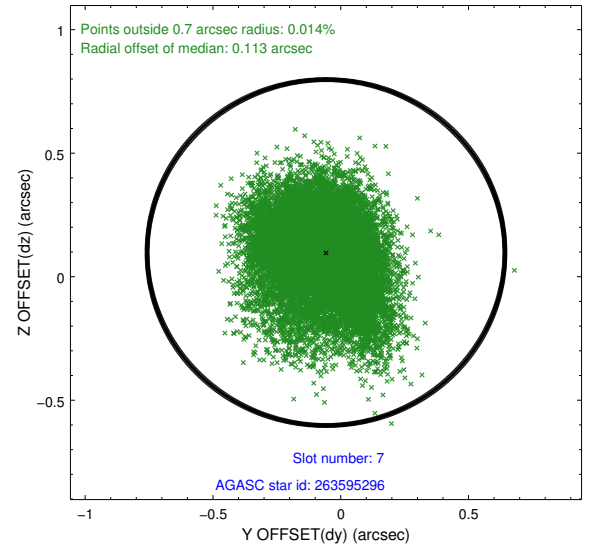
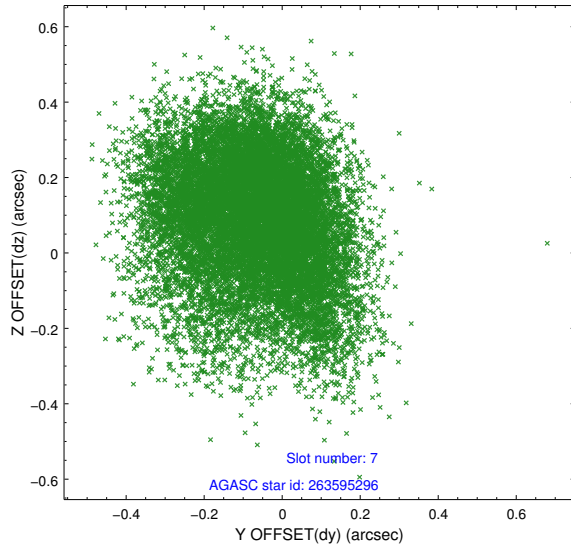
### 2.4.3 Slot 5



## 2.4.4 Slot 6

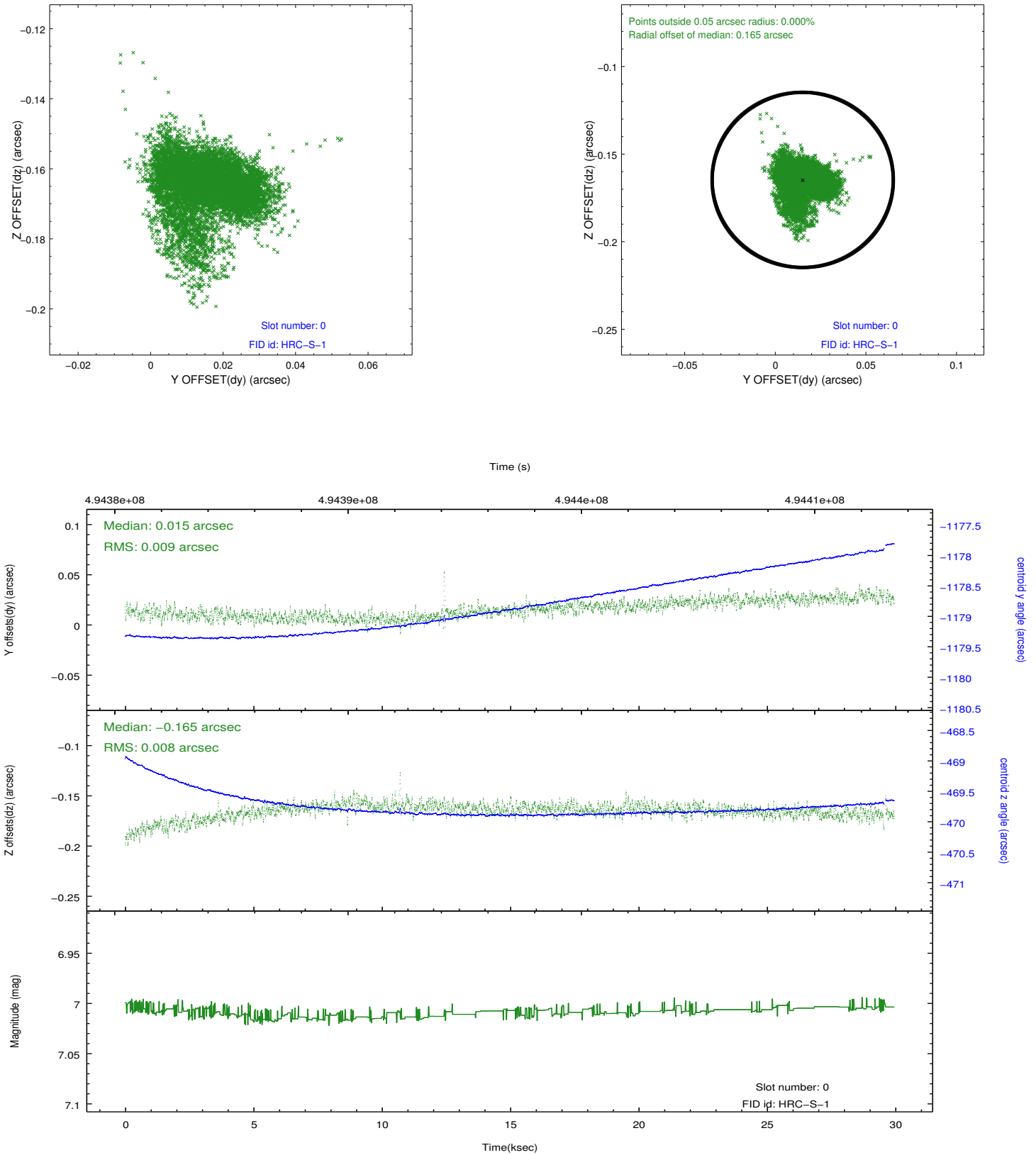


## 2.4.5 Slot 7

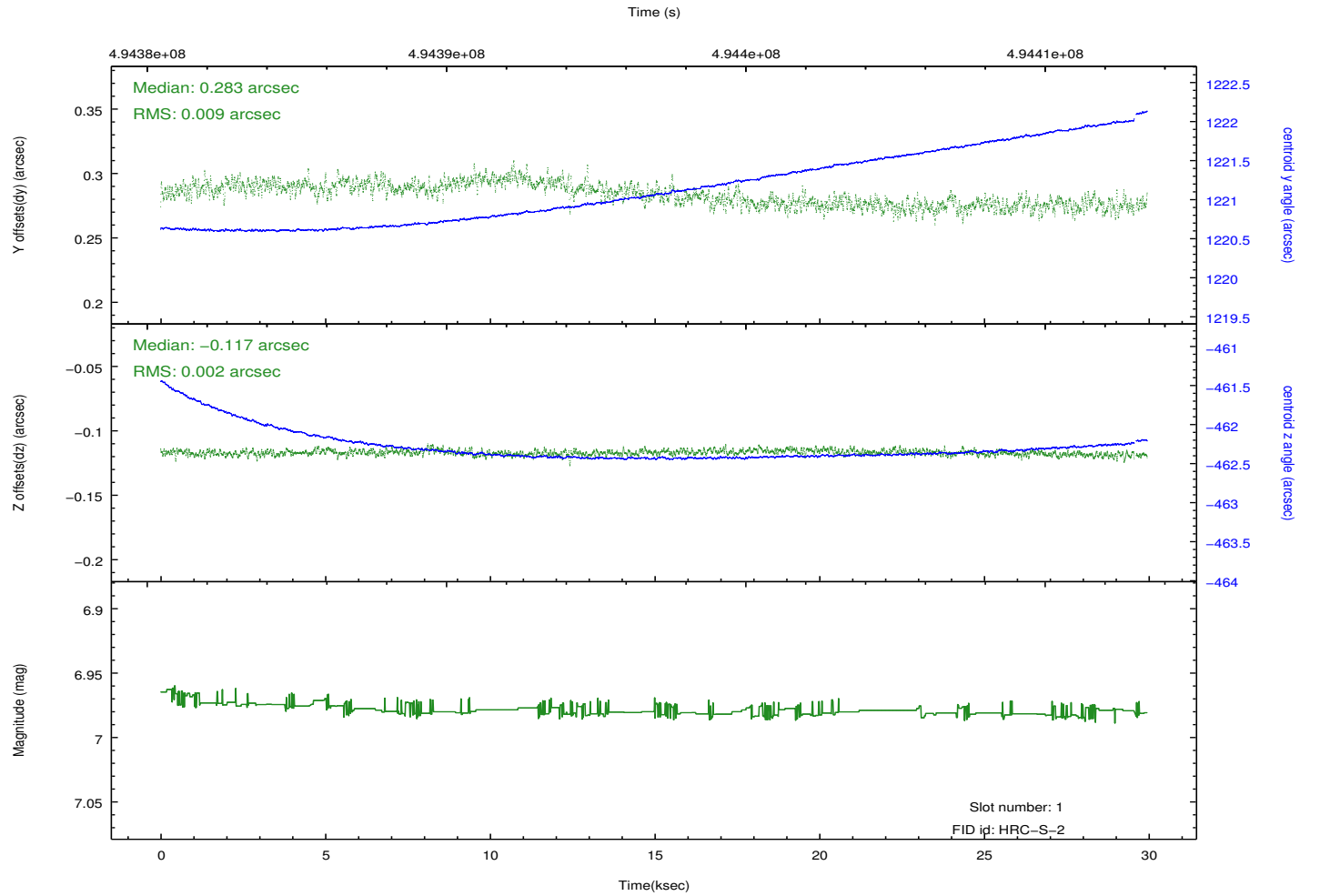
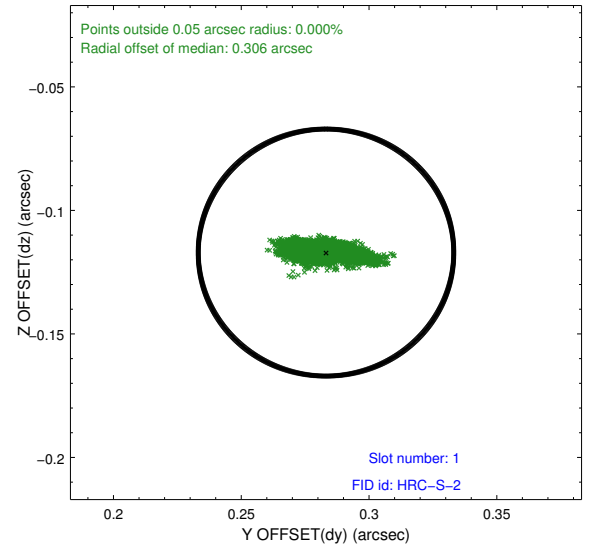
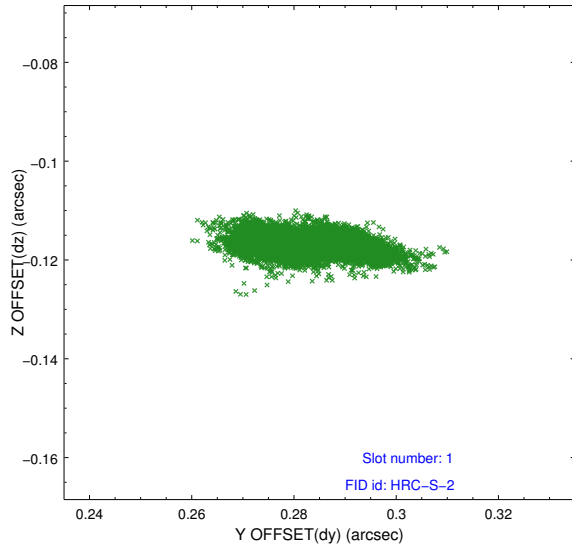


## 2.5 FID Slots

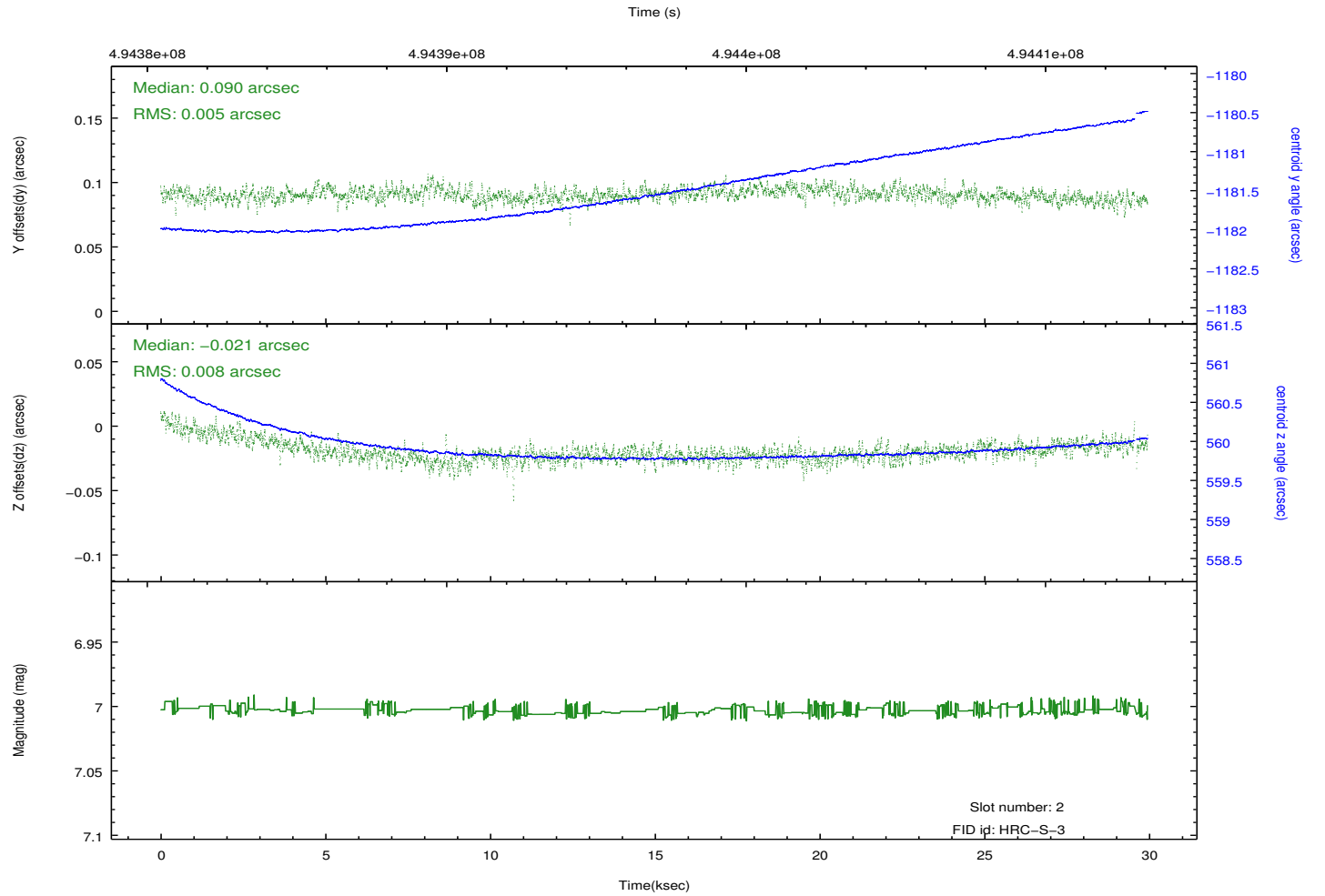
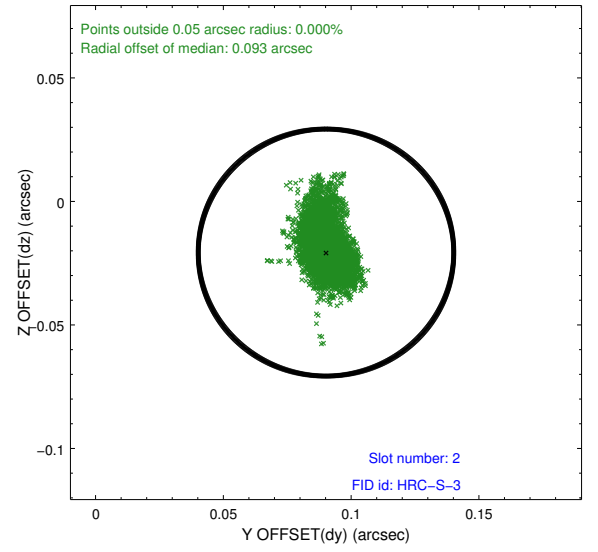
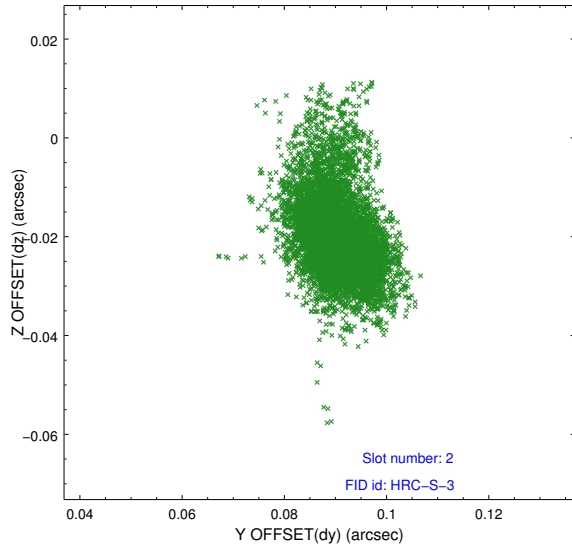
### 2.5.1 Slot 0



## 2.5.2 Slot 1

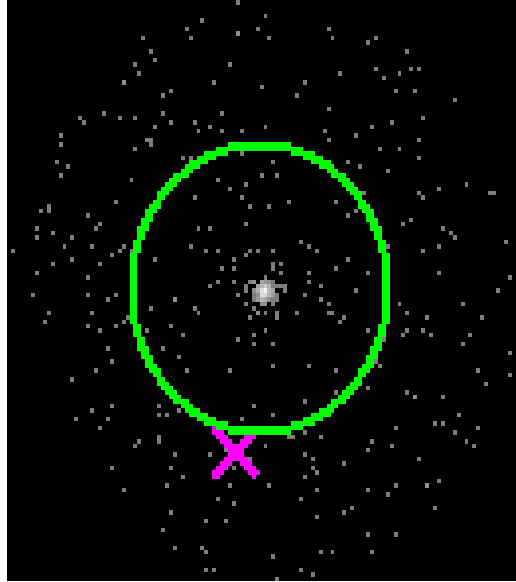


### 2.5.3 Slot 2

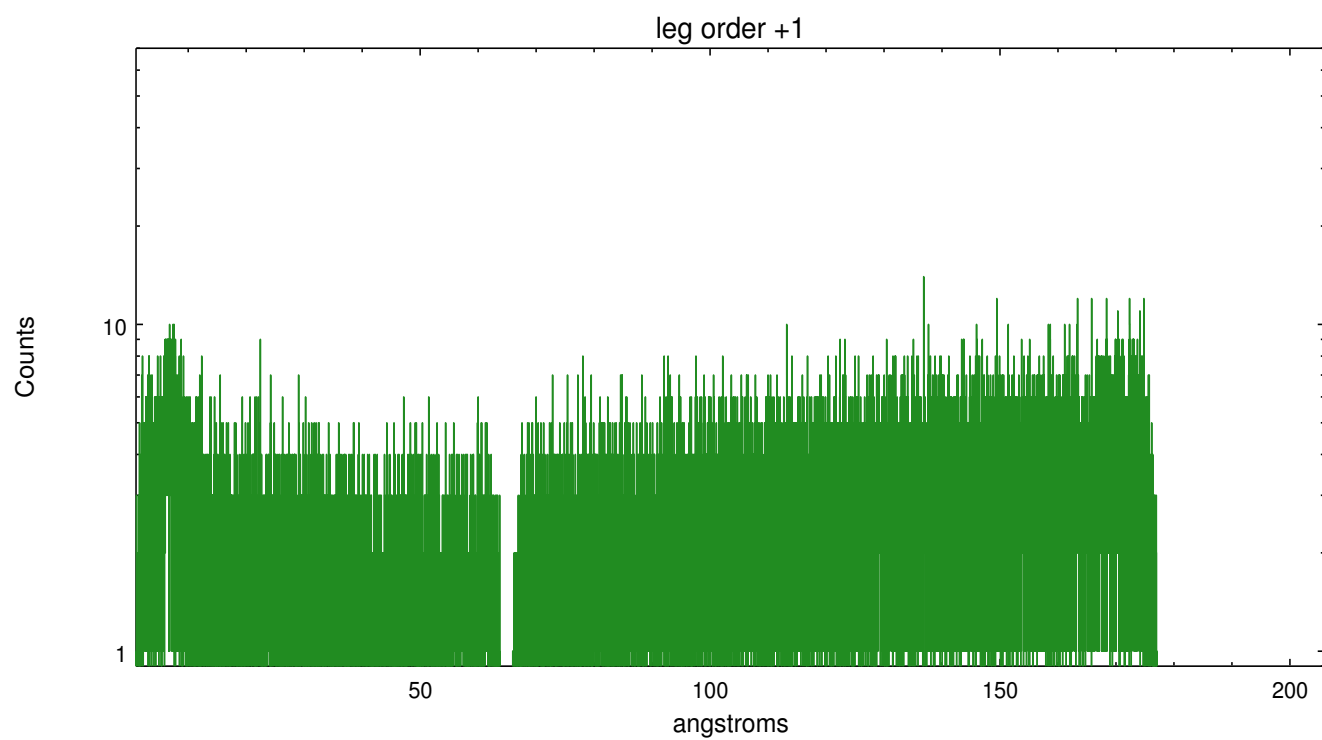
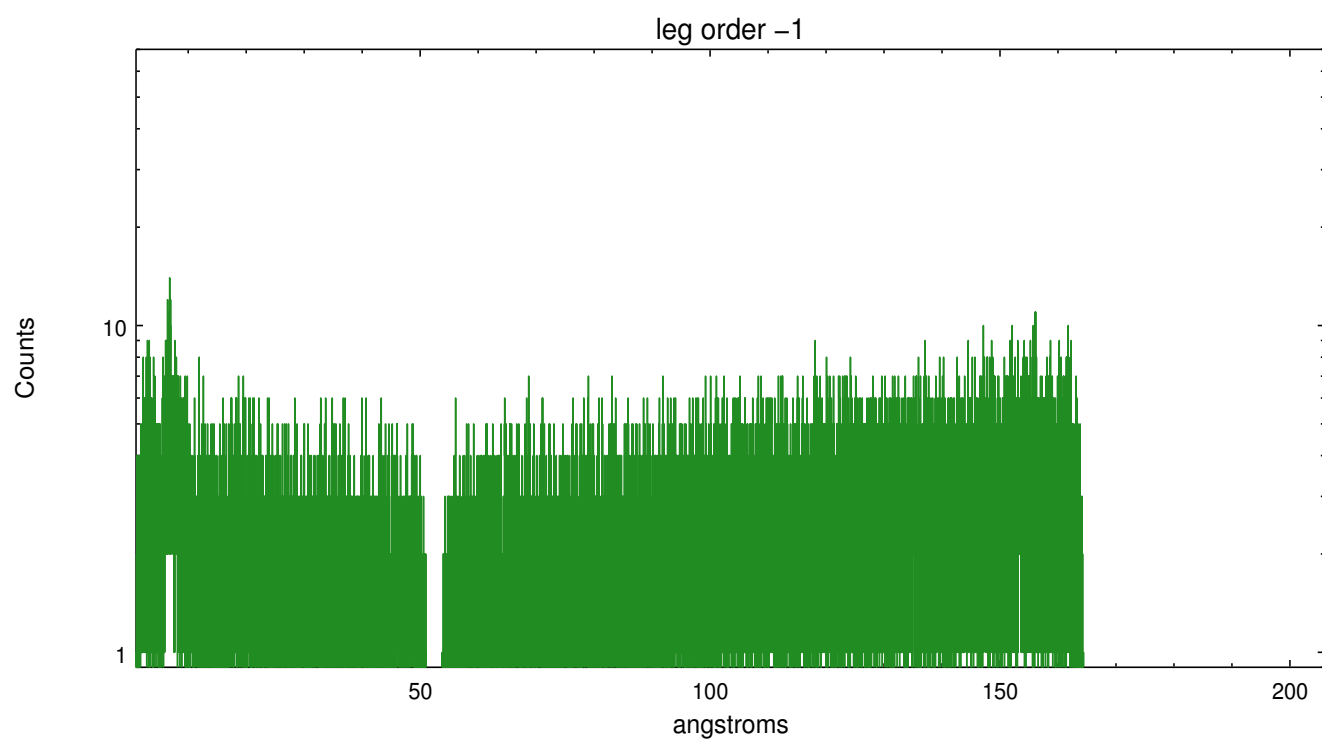


## 3 Gratings

### 3.1 LETG Arm



LETG Zero Order





# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2015.11.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	29.916932882369

## A.2 Comments

Source is slightly extended with non-uniform X-ray flux in the core.

The

user may wish to extract the spectrum using a different zeroth order position to center on the area of interest.

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.