

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 11388 - L2 Version 3  
Chandra X-Ray Center

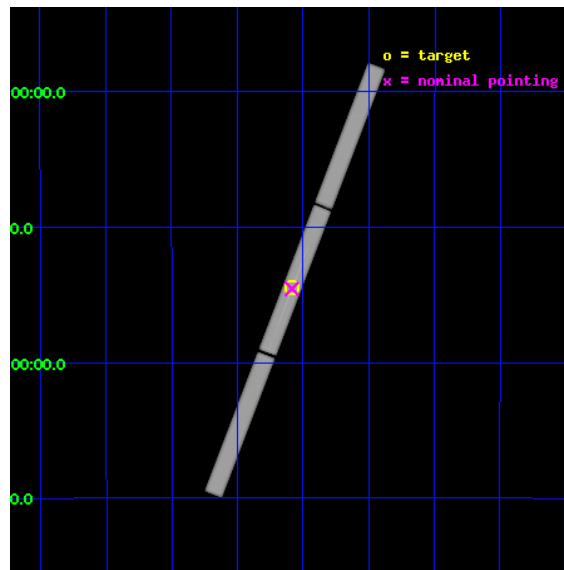
L2 Processing Date : Aug 13 2012

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# 1 Front

seq_num	701974	Sequence number
obs_id	11388	Observation id
title	The chemical composition of AGN outflows	Proposal title
observer	Dr Jelle Kaastra	Principal investigator
object	Mrk 509	Source name
ra_targ	311.040833	Observer's specified target RA [deg]
dec_targ	-10.723528	Observer's specified target Dec [deg]
ra_nom	311.04253738223	Nominal RA [deg]
dec_nom	-10.728006598726	Nominal Dec [deg]
roll_nom	291.06765291784	Nominal Roll [deg]
revision	3	Processing version of data
ontime	49367.077493072	[s]
livetime	48802.645597234	Ontime multiplied by DTCOR
l2events	4839965	Number of level 2 events

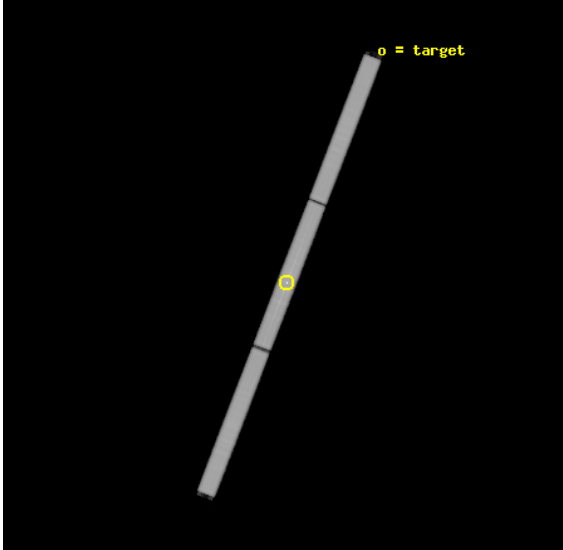


## 2 OBI

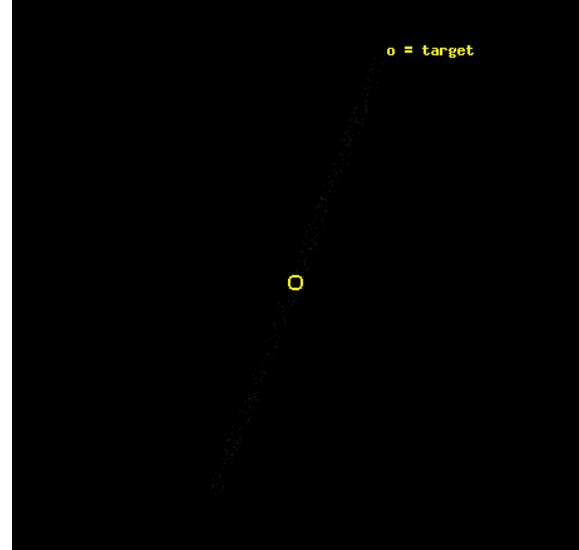
### 2.1 OBI

#### 2.1.1 Images

Level 1 Image



Level 1 Bad Events



## 2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	49187.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	49367.077493072	[s]
caldbver	4.5.1.1	&#160	l1events	6342315	Number of level 1 events
date	2012-08-13T19:38:42	Date and time of file creation			
revision	3	Processing version of data			

## 2.1.3 Events

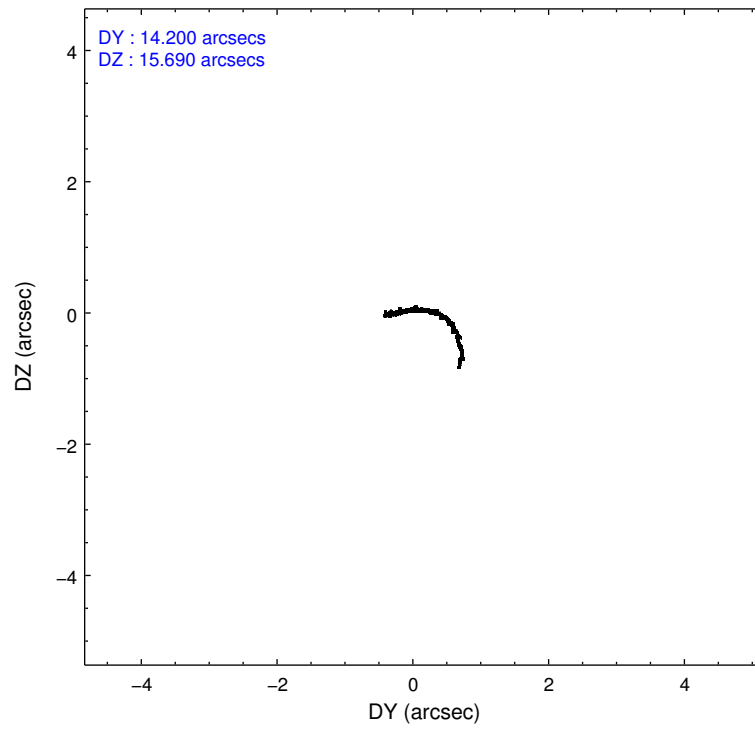
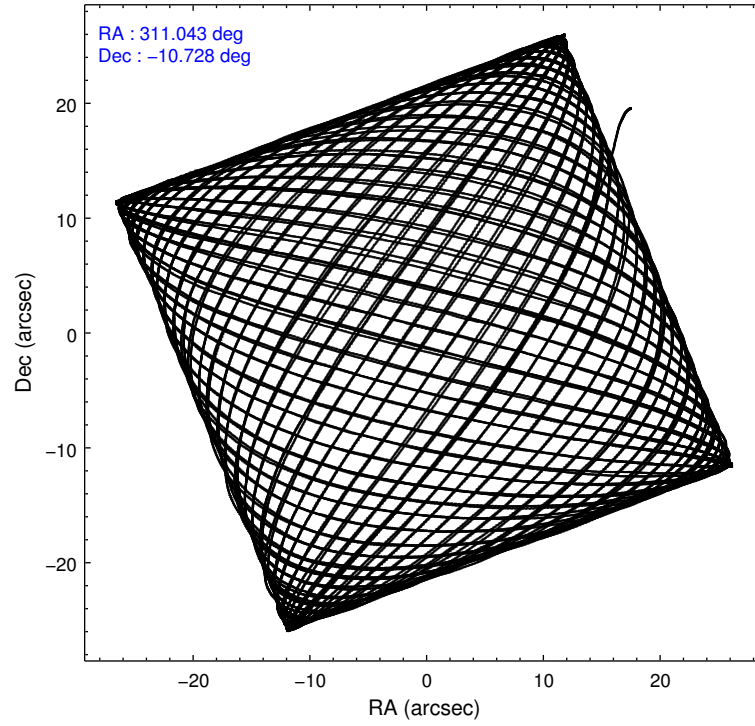
### Level 1 Events

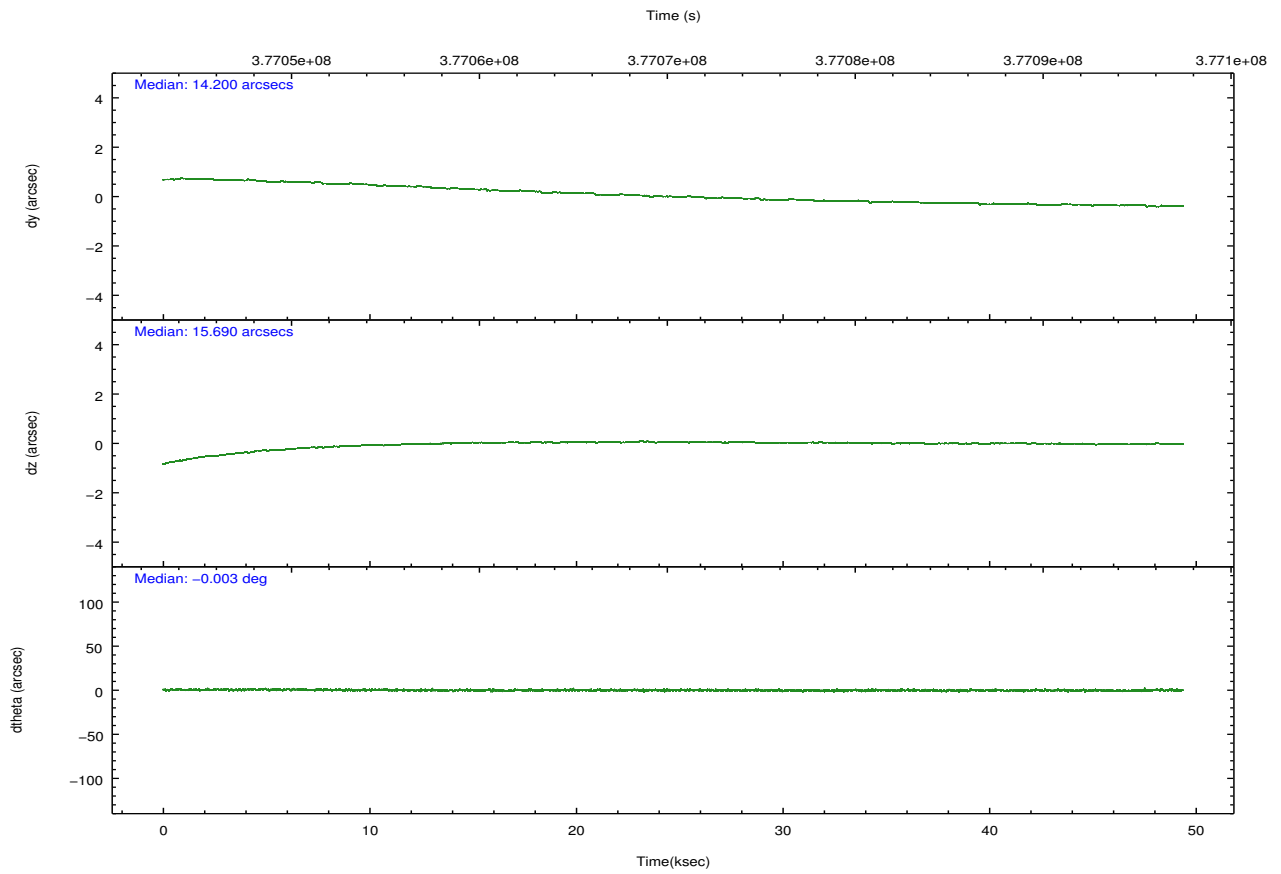
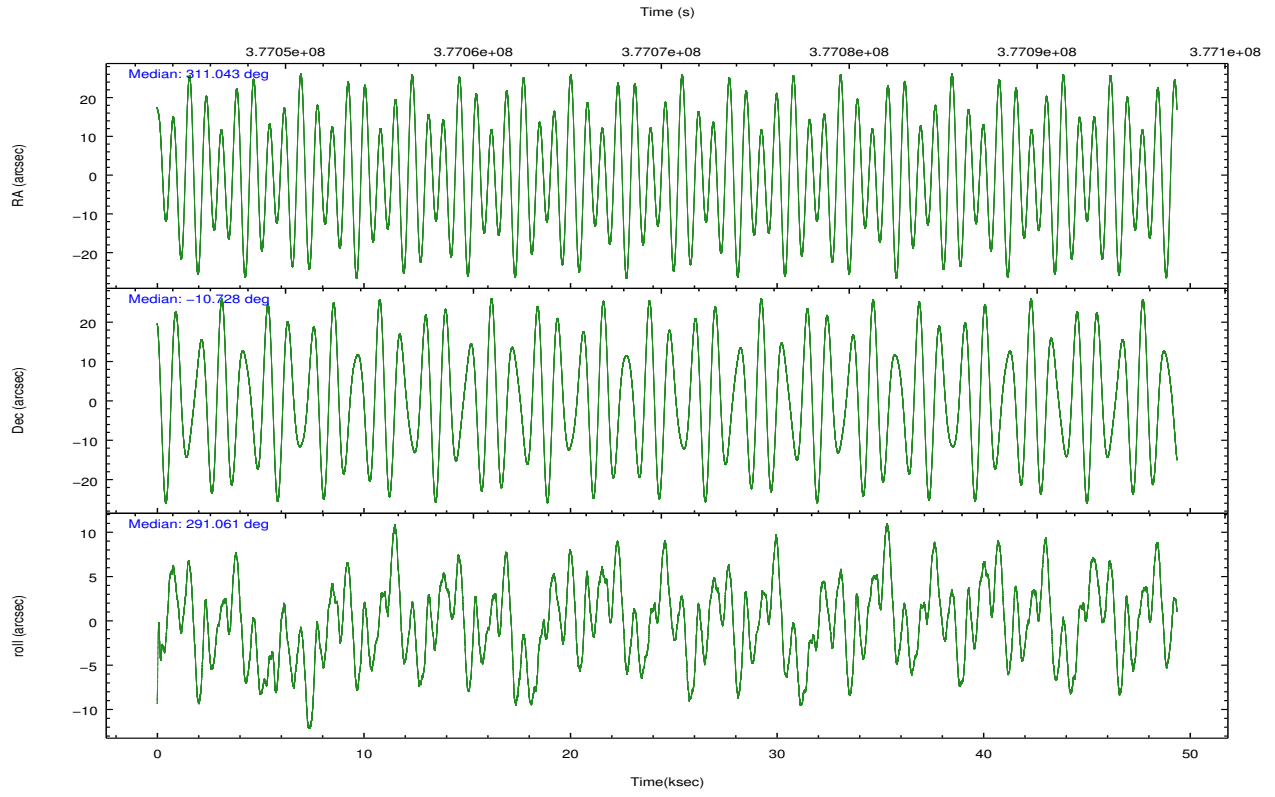
	<b>segment 1</b>	<b>segment 2</b>	<b>segment 3</b>
level 1 events	2085365	2161594	2095356
rejected events	50157	50158	50632
rejected %	2%	2%	2%

## 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	311.018897	311.0425373822258			
[deg] Pointing Dec	-10.711092	-10.72800659872646			
[deg] Pointing Roll	290.995929	291.0676529178355			
[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)	377045800.184000	377044410.02848			
Observation start date	2009-12-12T22:55:34	2009-12-12T22:33:30			
[s] Observation end time (MET)	377094987.184000	377096103.34359			
Observation end date	2009-12-13T12:35:21	2009-12-13T12:55:03			

## 2.3 Aspect



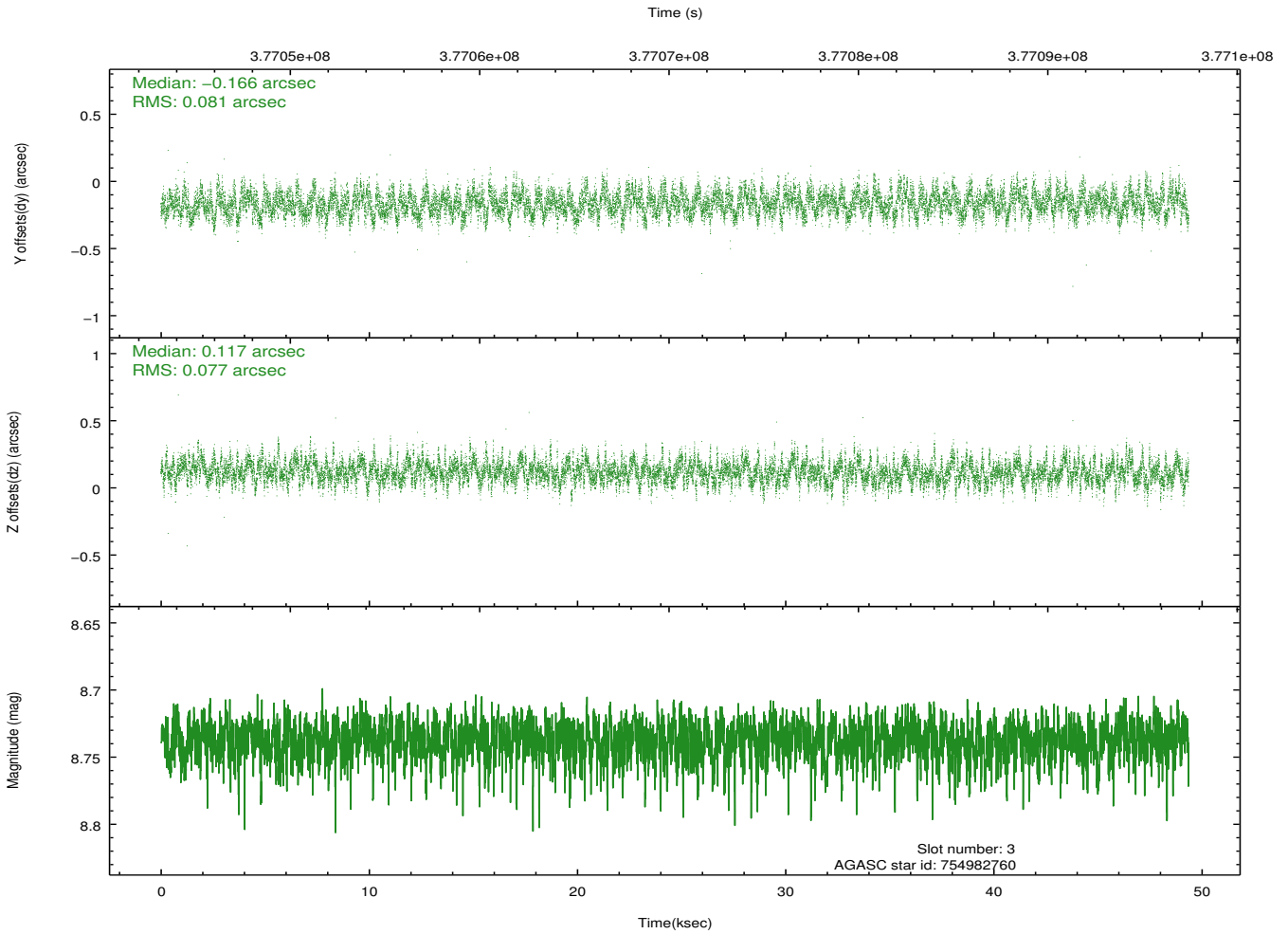
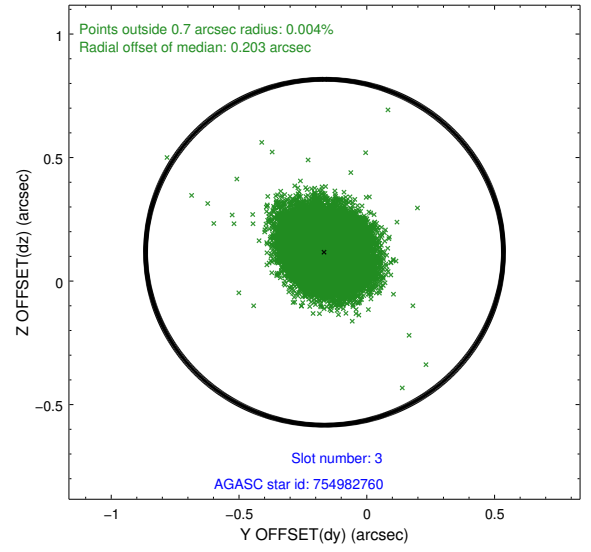
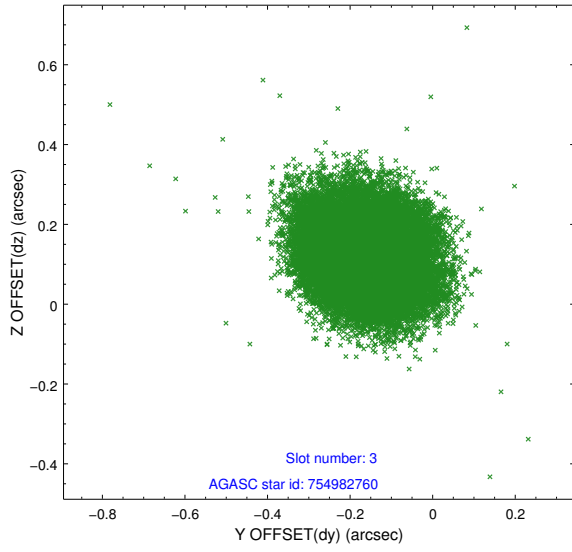


### Slot Statistics

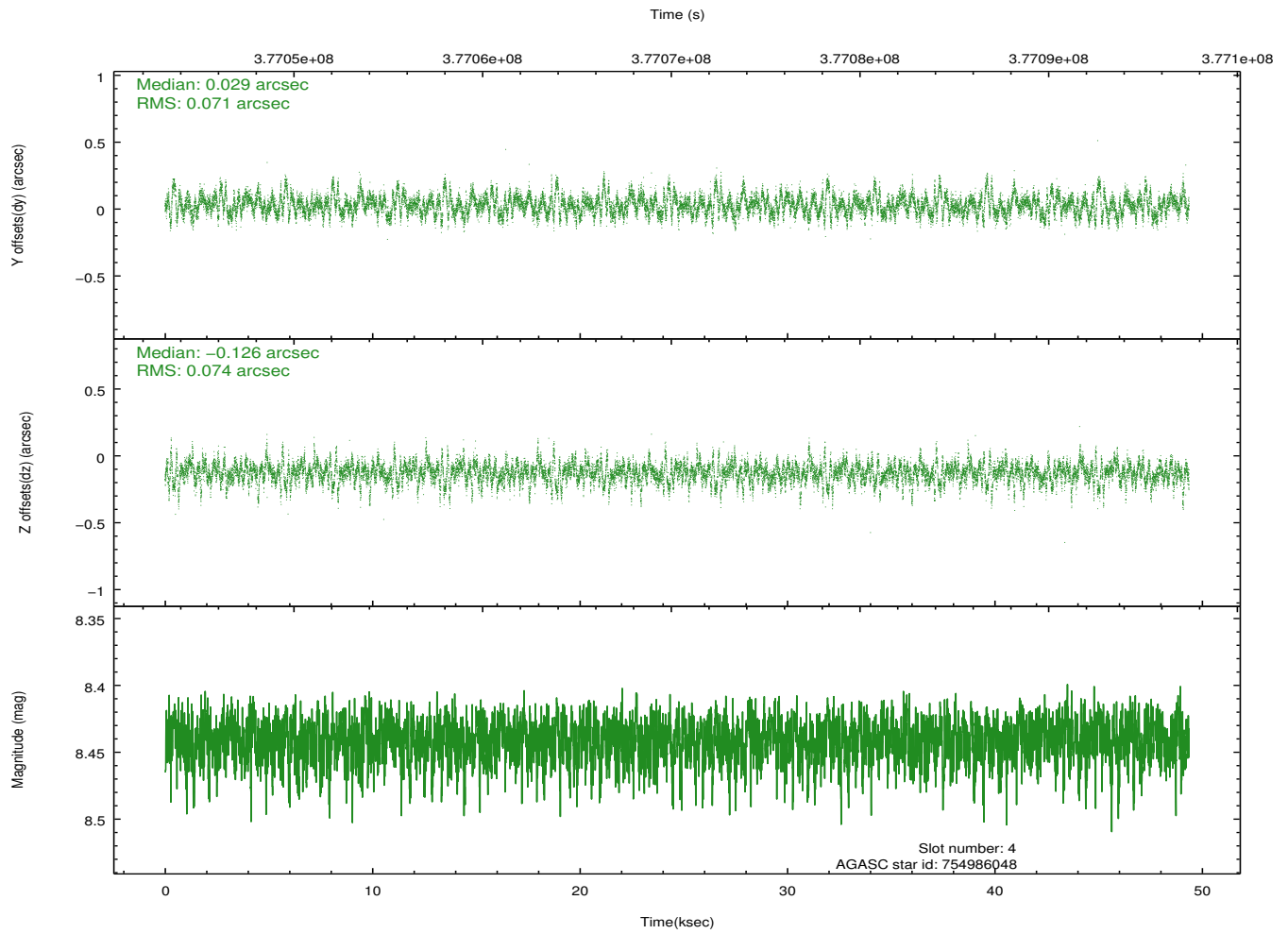
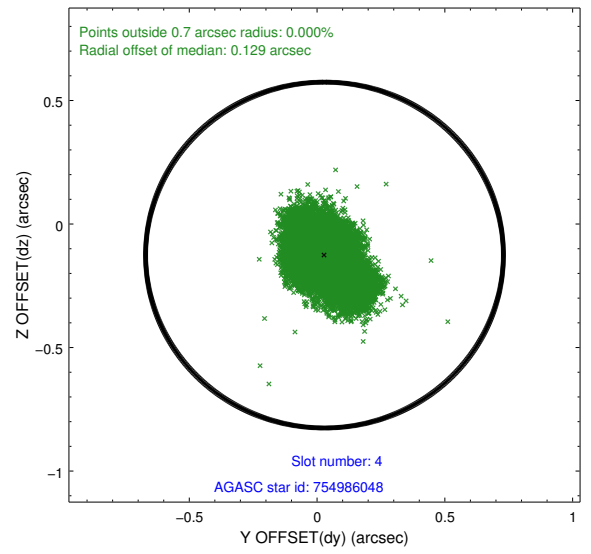
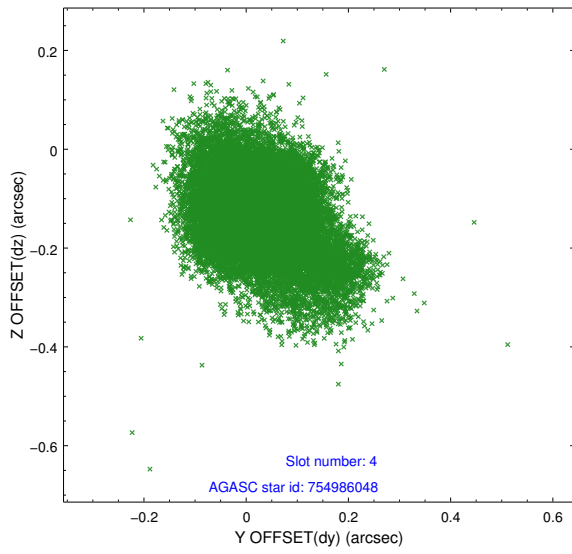
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	6.96	12041	0.065	-0.182	0.013	0.023	0.000000	0.000000	-1168.68	-464.52
1	FID	HRC-S-2	6.94	12041	0.206	-0.106	0.011	0.026	0.000000	0.000000	1231.05	-457.13
2	FID	HRC-S-3	6.97	12041	0.117	-0.015	0.008	0.020	0.000000	0.000000	-1171.24	565.14
3	GUIDE	754982760	8.74	24073	-0.166	0.117	0.120	0.190	311.420520	-10.122139	-1468.55	2087.96
4	GUIDE	754986048	8.44	24048	0.029	-0.126	0.103	0.191	311.237224	-11.030775	1351.42	307.70
5	GUIDE	754988088	8.06	24074	-0.002	0.000	0.097	0.165	310.817833	-10.742115	-149.91	-703.71
6	GUIDE	754988464	10.24	23925	-0.097	-0.133	0.213	0.382	310.523761	-11.229792	1118.73	-2301.90
7	GUIDE	755499560	10.25	23935	0.227	0.143	0.249	0.402	311.203127	-11.345039	2364.48	-210.36

## 2.4 Star Slots

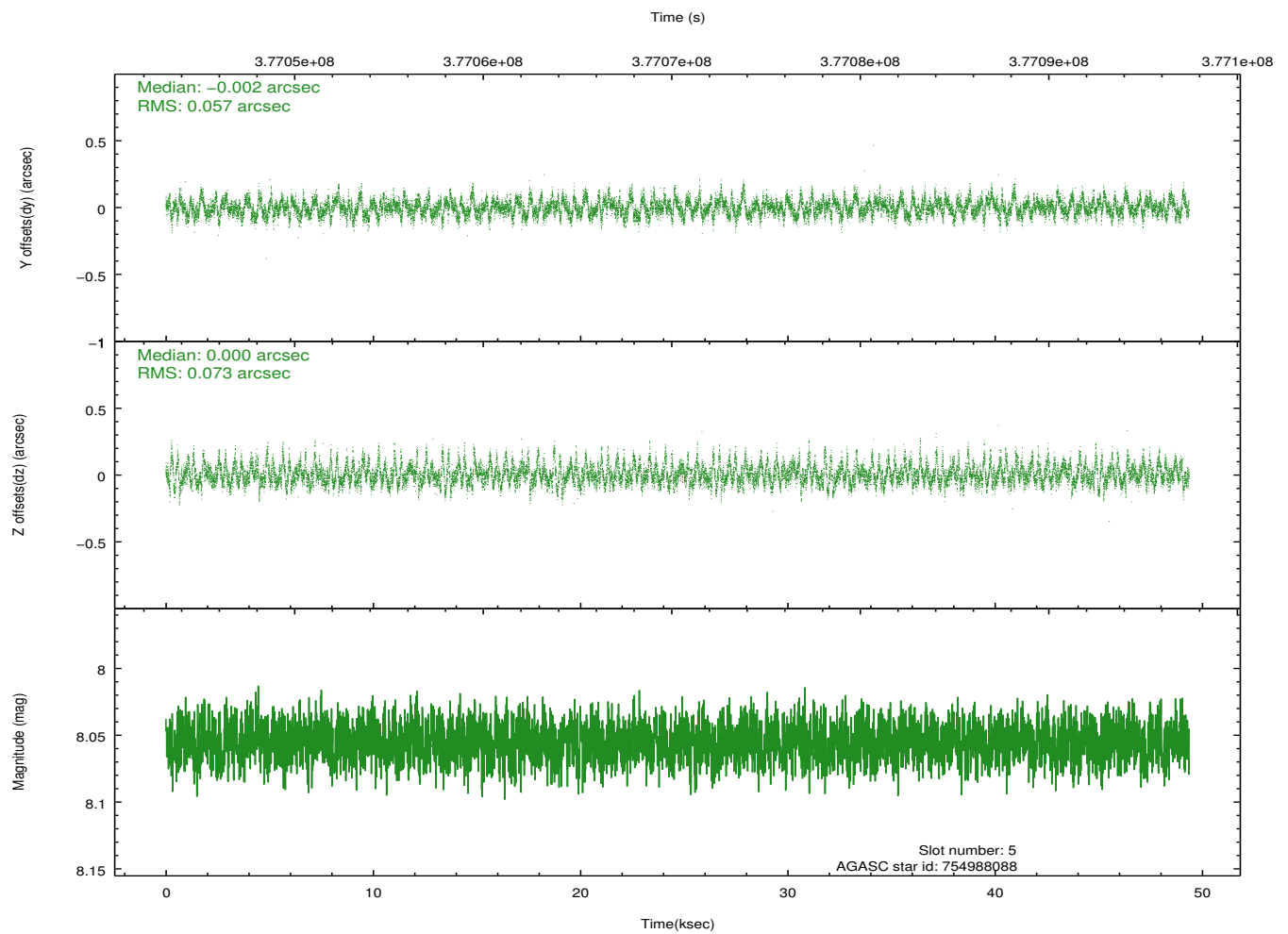
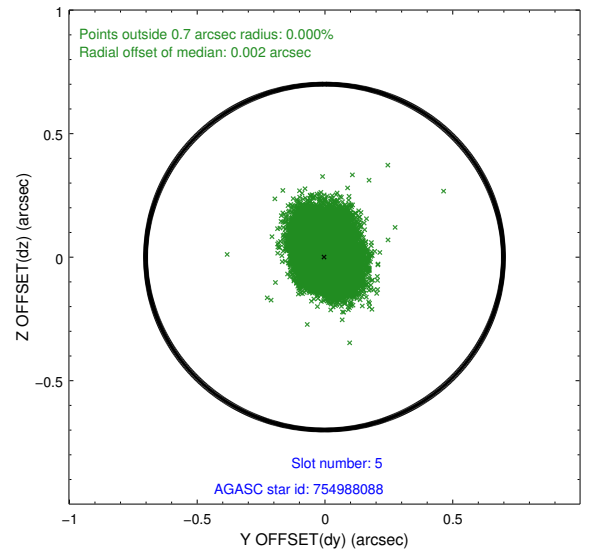
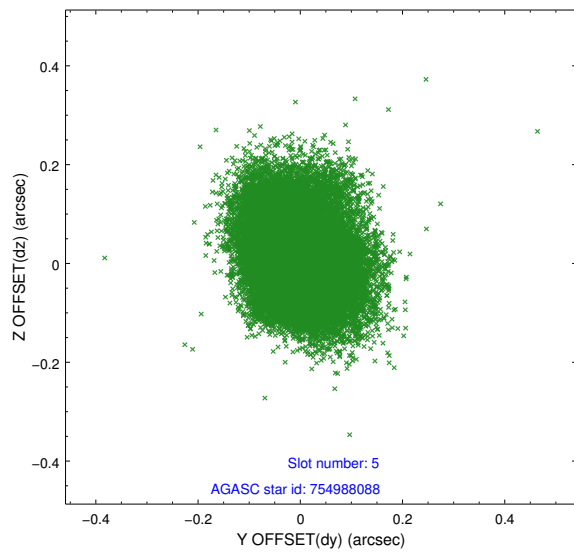
### 2.4.1 Slot 3



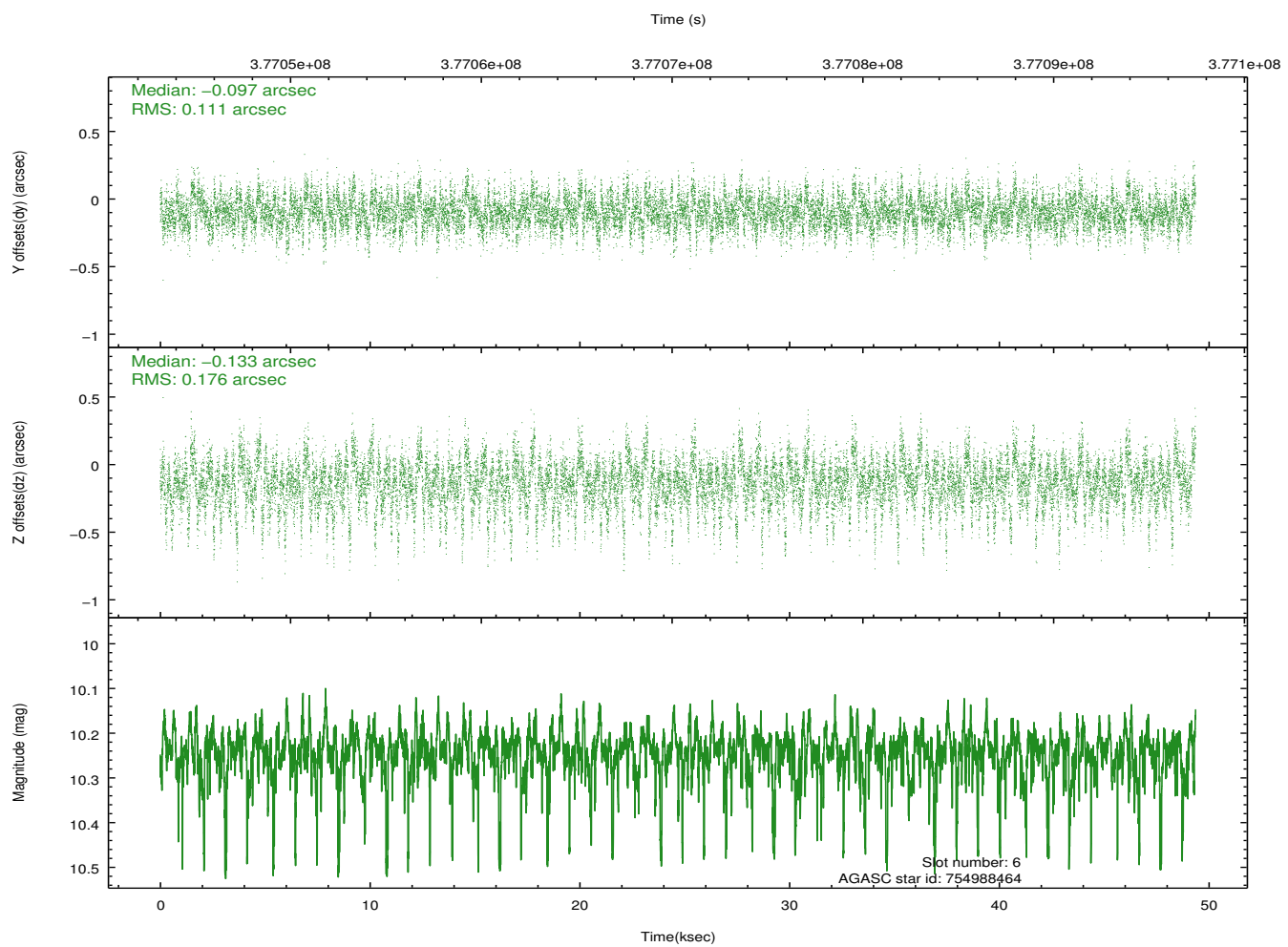
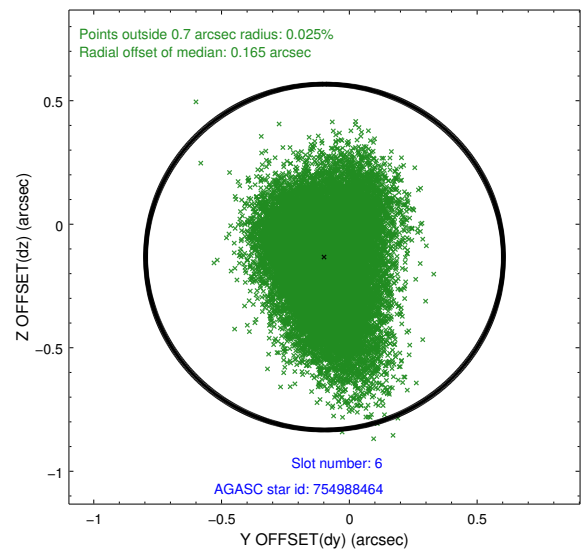
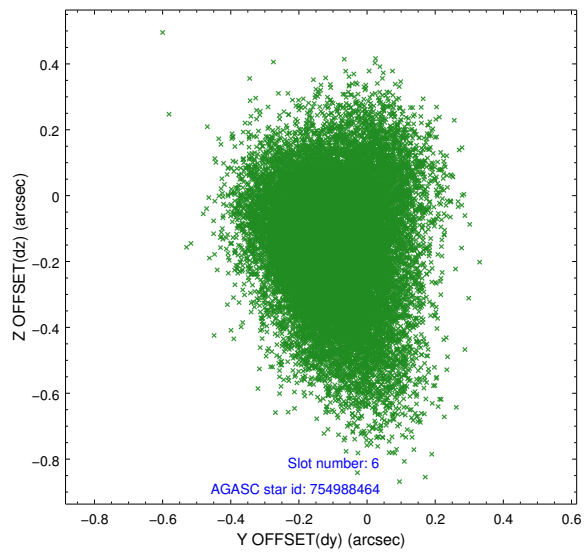
### 2.4.2 Slot 4



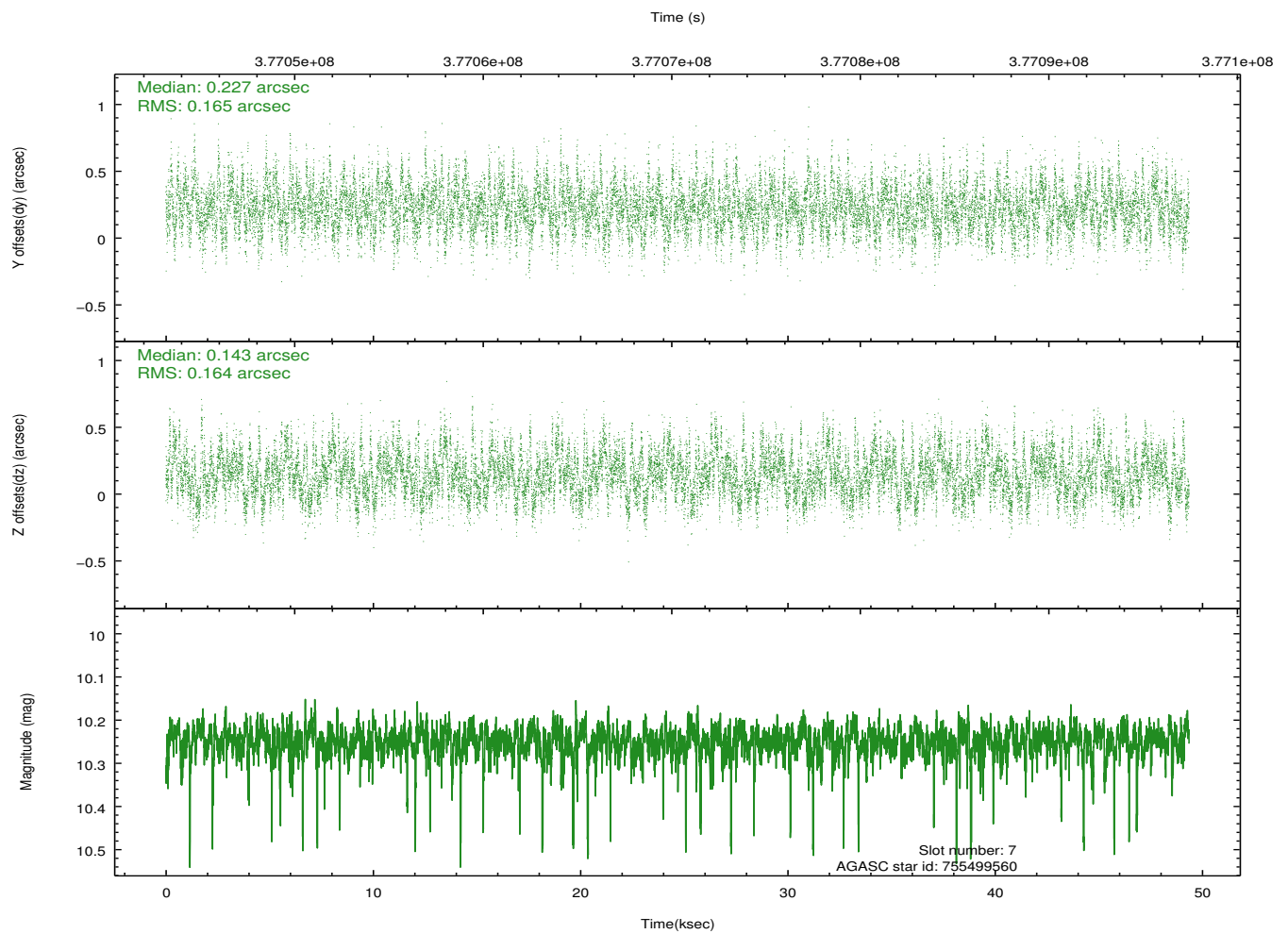
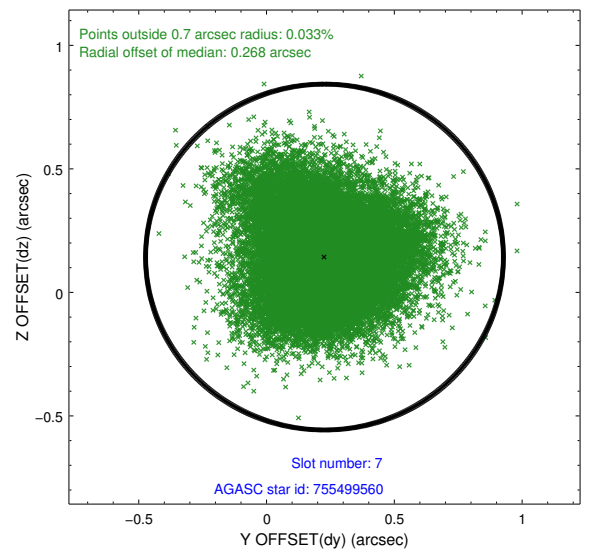
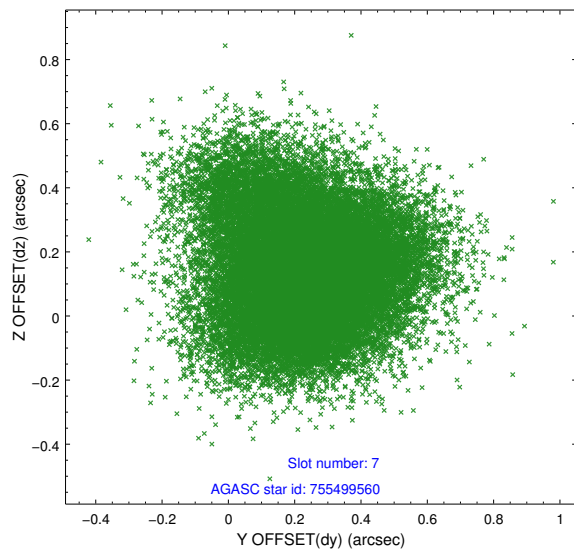
### 2.4.3 Slot 5



## 2.4.4 Slot 6

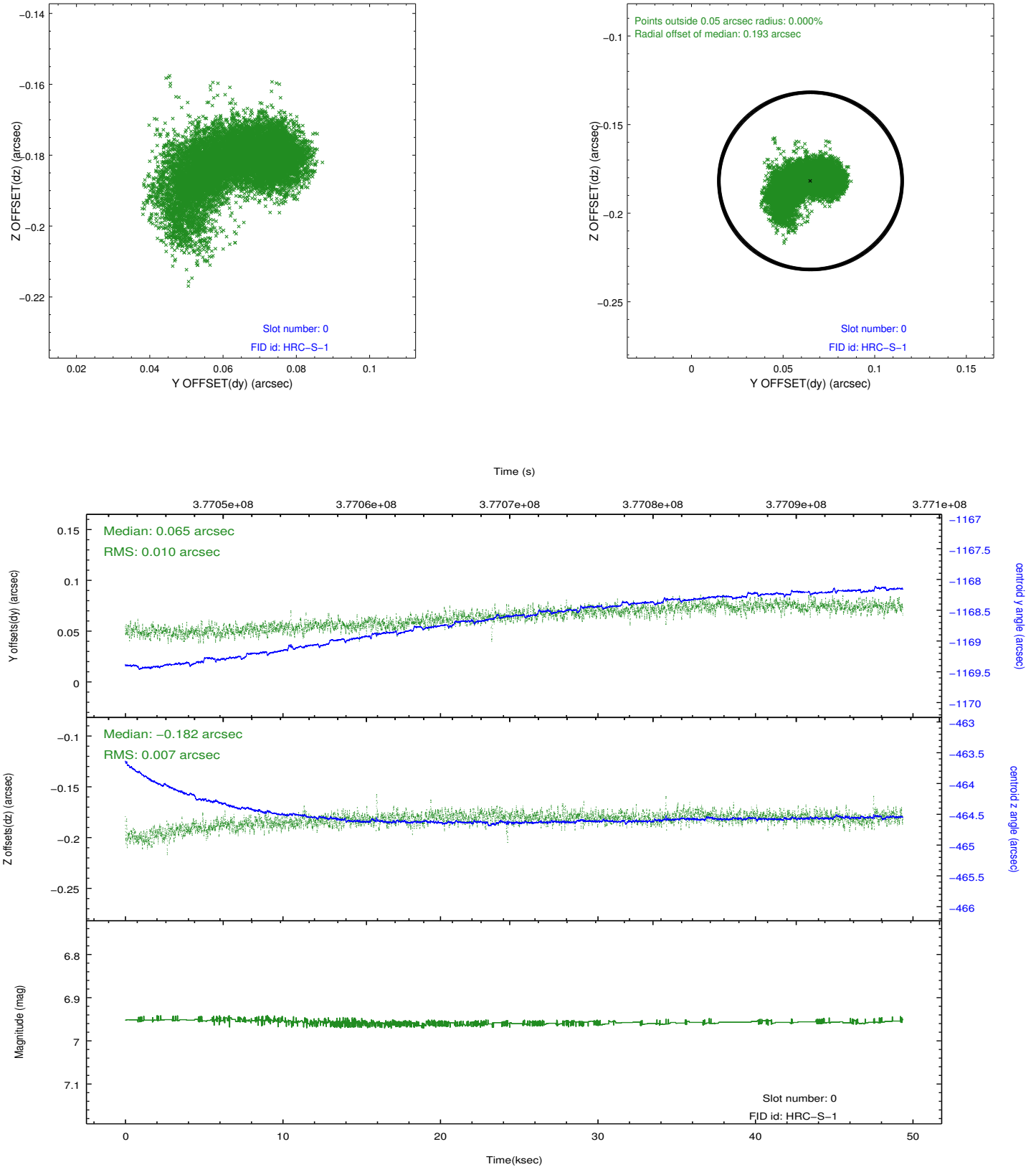


## 2.4.5 Slot 7

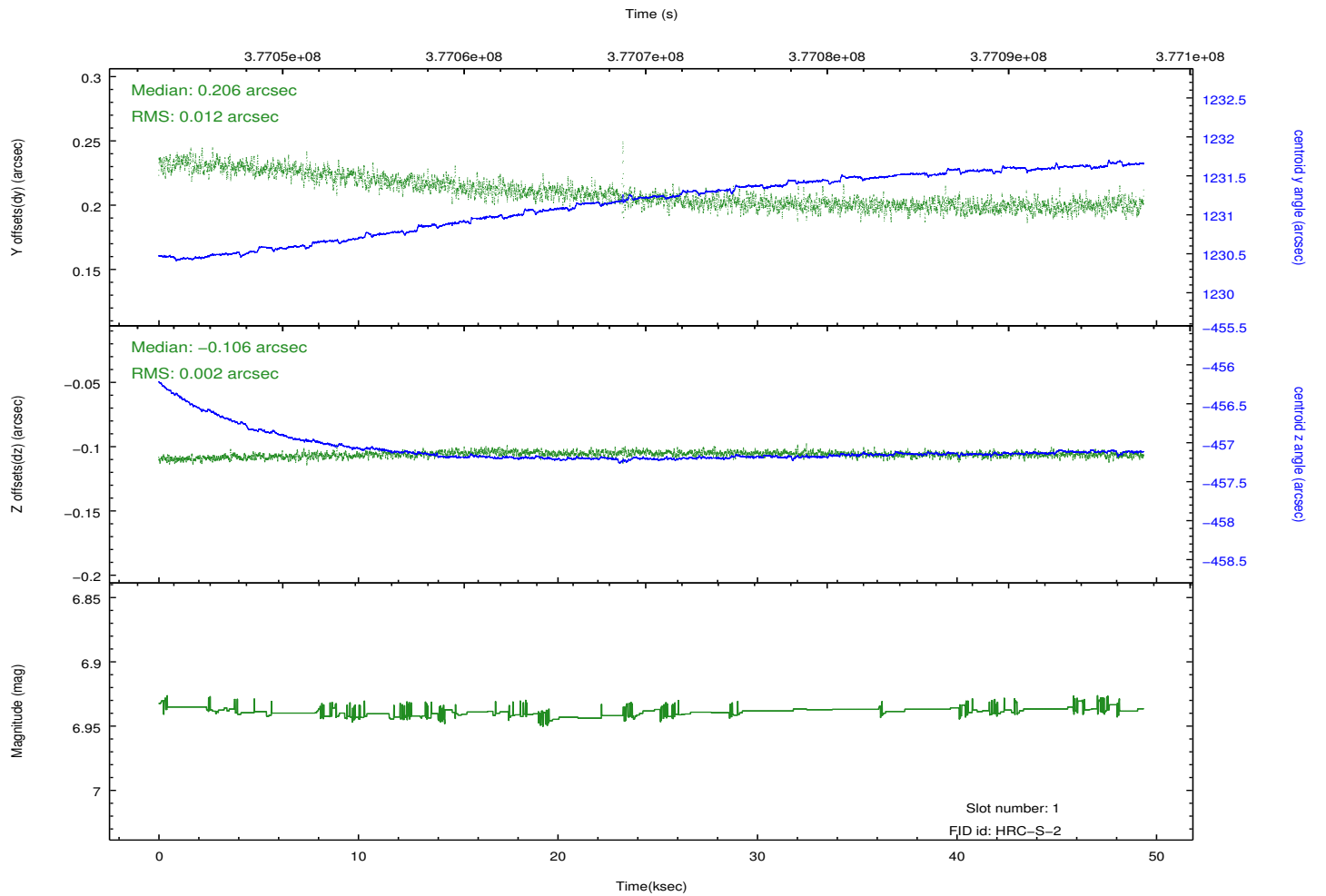
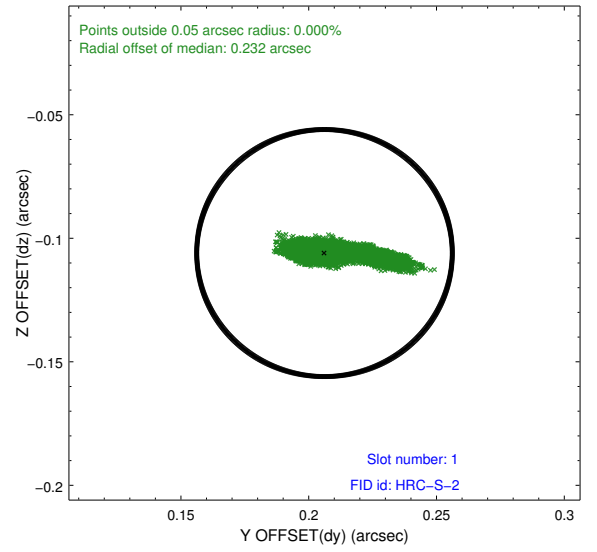
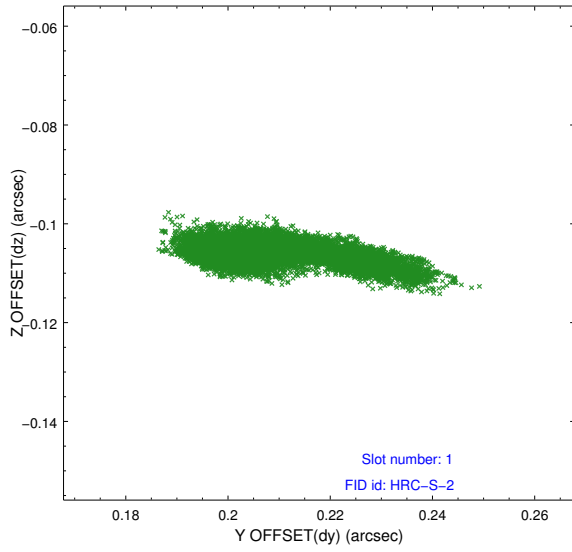


## 2.5 FID Slots

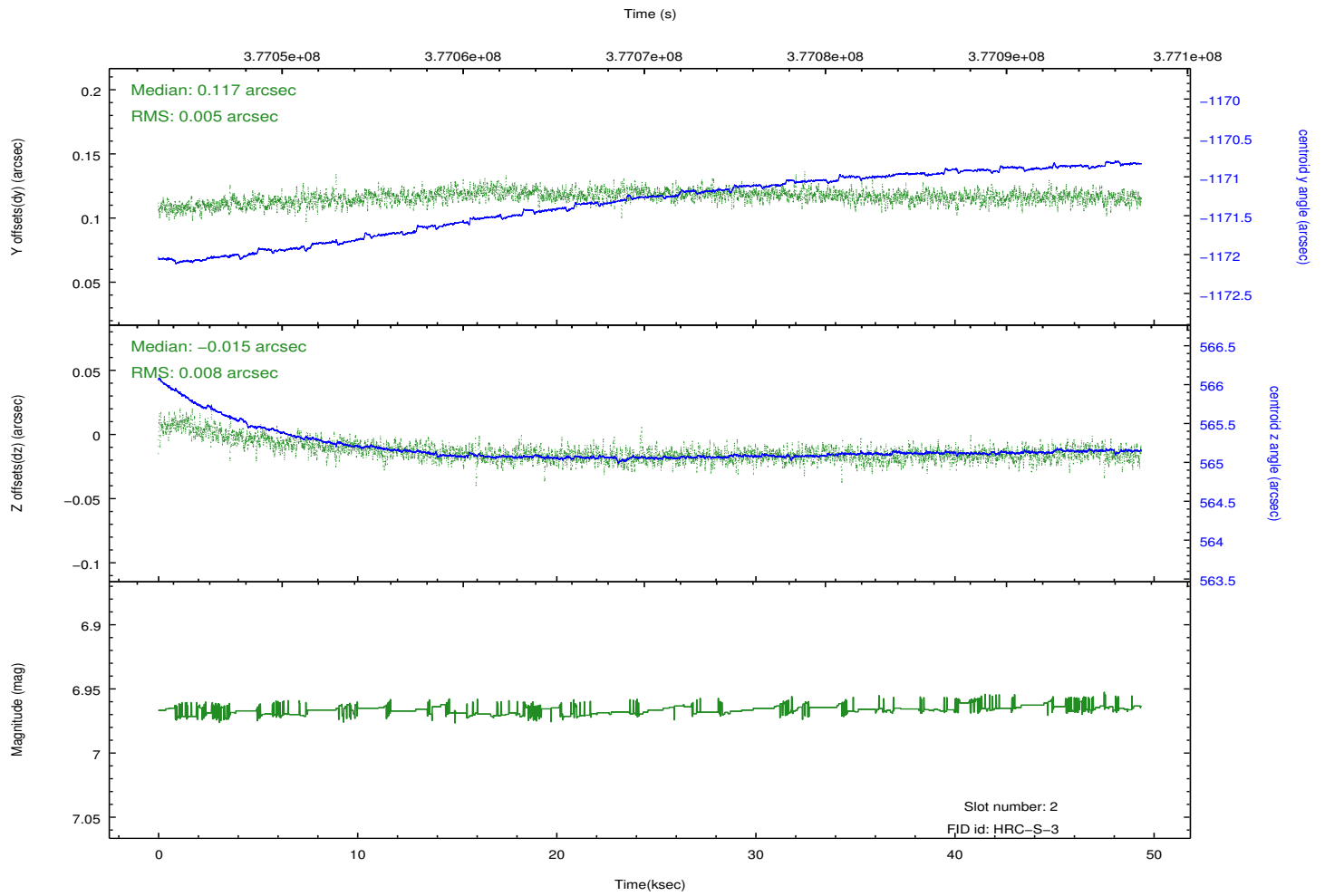
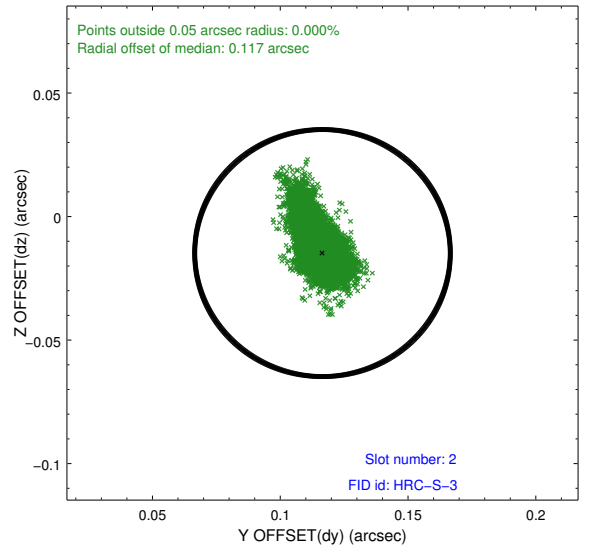
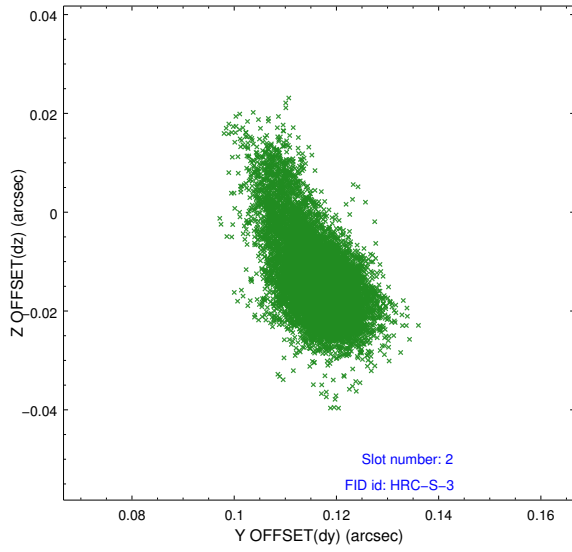
### 2.5.1 Slot 0



## 2.5.2 Slot 1

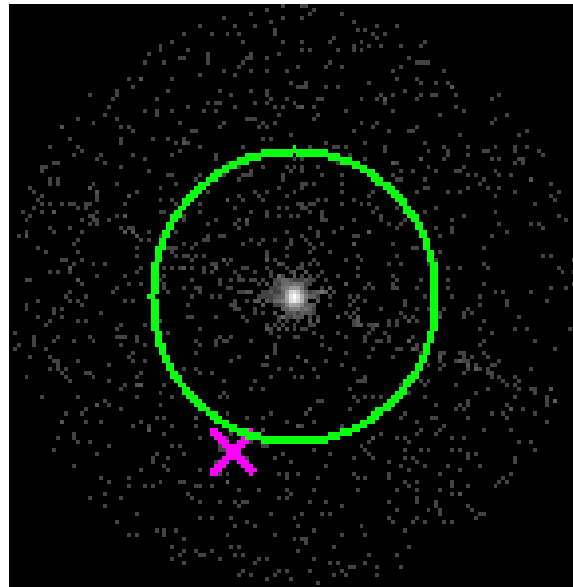


### 2.5.3 Slot 2

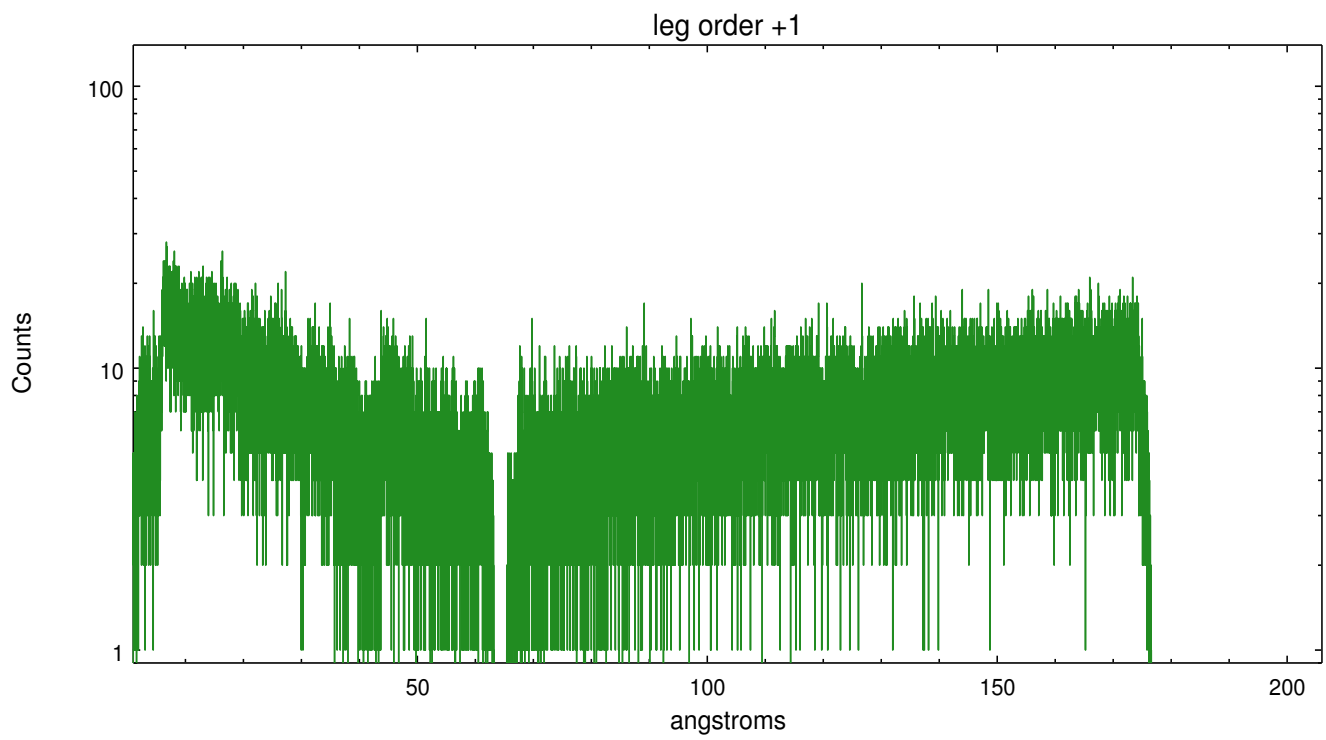
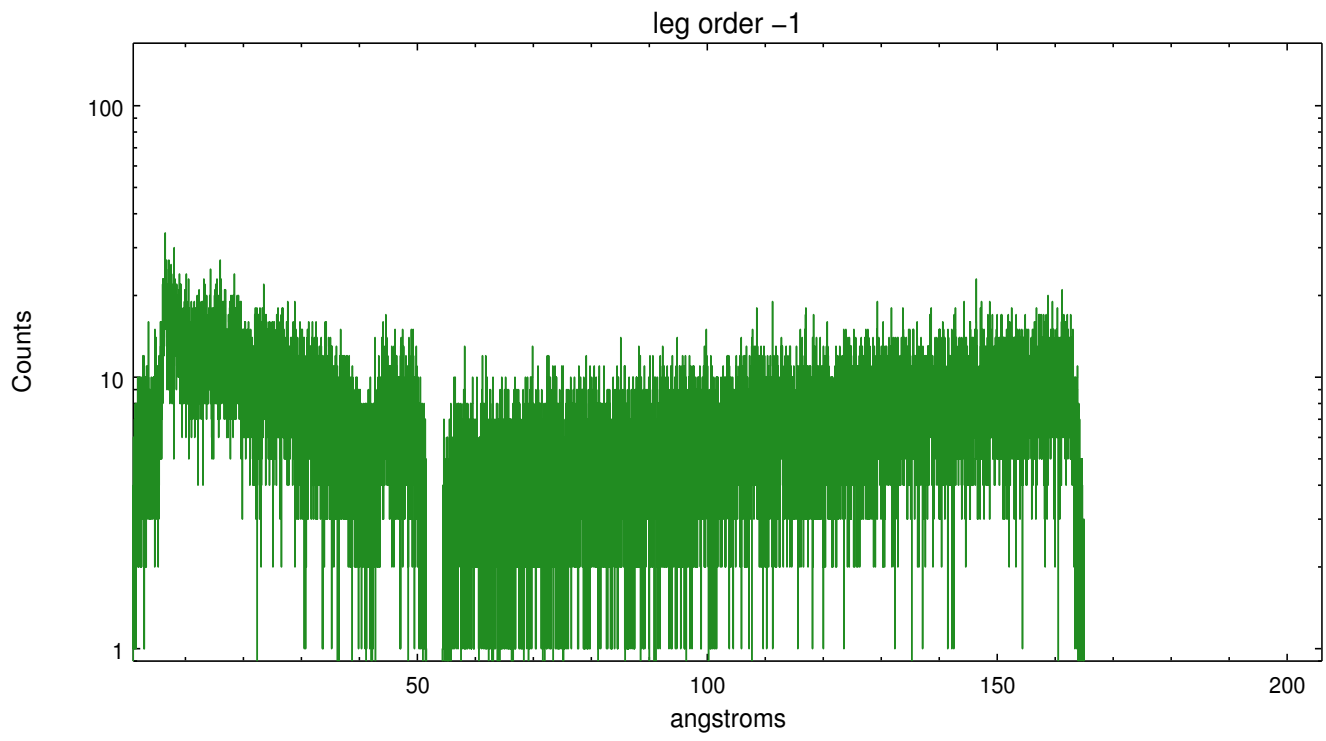


### 3 Gratings

#### 3.1 LETG Arm



LETG Zero Order



## **A Summary**

### **A.1 Status**

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.08.22
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	49.367077489495

### **A.2 Comments**