

V&V Reference Report

L2 ASCDS Version : 10.8.4

Observation 23229 - L2 Version 1
Chandra X-Ray Center

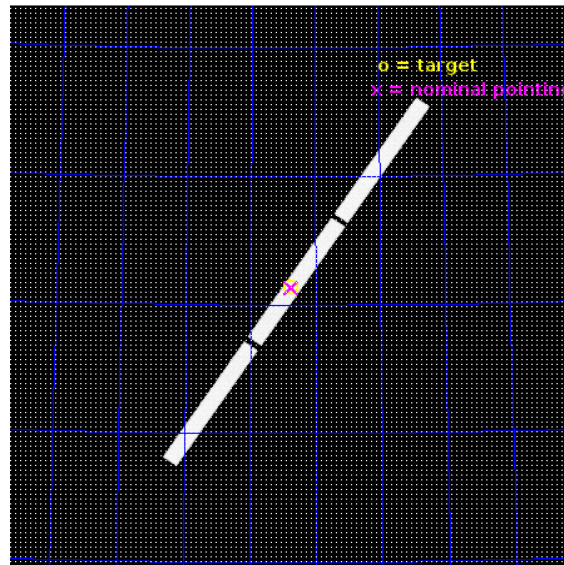
L2 Processing Date : Apr 29 2020

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1 Front

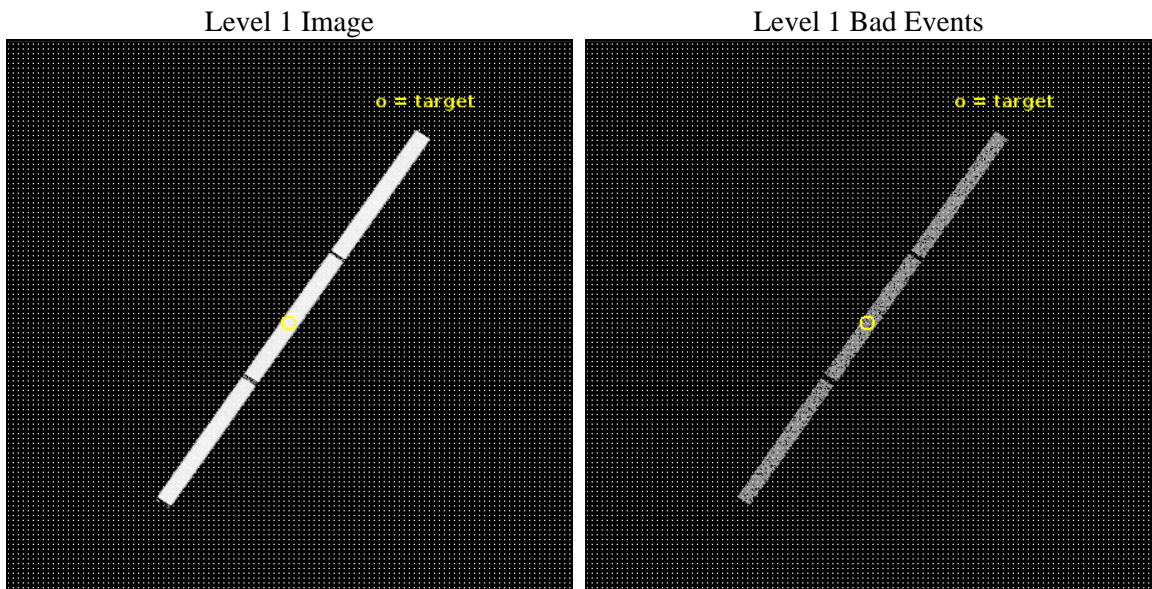
seq_num	100193	Sequence number
obs_id	23229	Observation id
title	Grating spectroscopy of the unexpectedly bright comet C/2019 Y4 ATLAS	Proposal title
observer	Dennis Bodewits	Principal investigator
object	C/2019 Y4 ATLAS	Source name
ra_targ	81.685821	Observer's specified target RA [deg]
dec_targ	61.068414	Observer's specified target Dec [deg]
ra_nom	81.6857398361	Nominal RA [deg]
dec_nom	61.0669147107	Nominal Dec [deg]
roll_nom	304.038995271	Nominal Roll [deg]
revision	1	Processing version of data
ontime	3496.5314623117	[s]
livetime	3457.4014986693	Ontime multiplied by DTCOR
l2events	364555	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	3300.000000	[s] Scheduled observation exposure time
ascdsver	10.8.4	Processing system revision	ontime	3496.5314623117	[s]
caldbver	4.9.1	 	l1events	477910	Number of level 1 events
date	2020-04-29T11:00:40	Date and time of file creation	tgmethod	USER	Method used to create src1a file
revision	1	Processing version of data	zo_pos	(32767.54, 32809.68)	src1a sky pixel position

2.1.3 Events

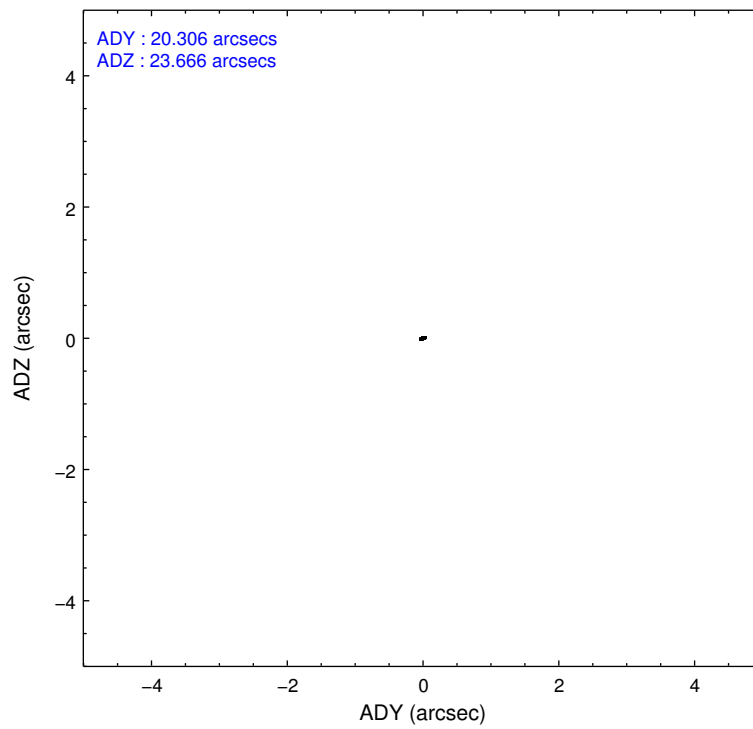
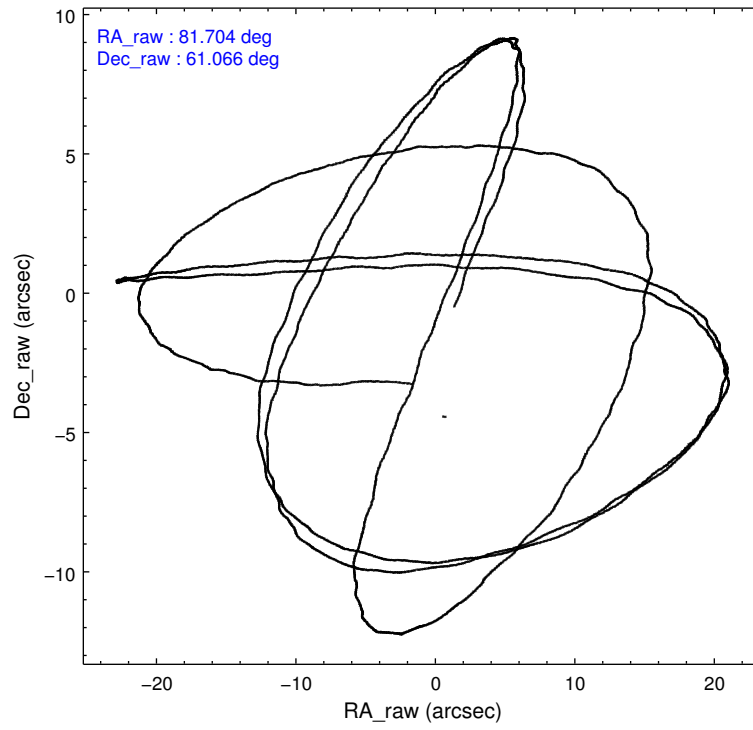
Level 1 Events

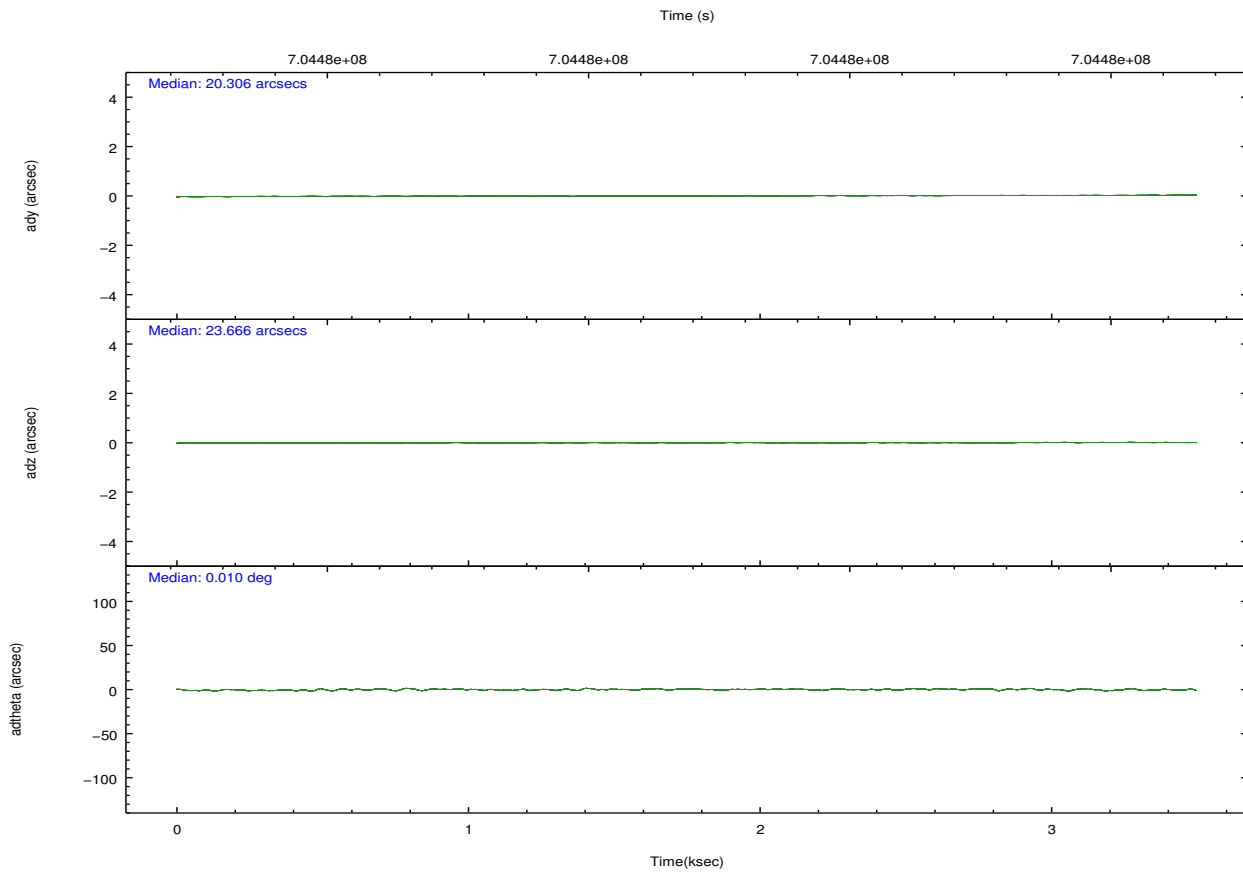
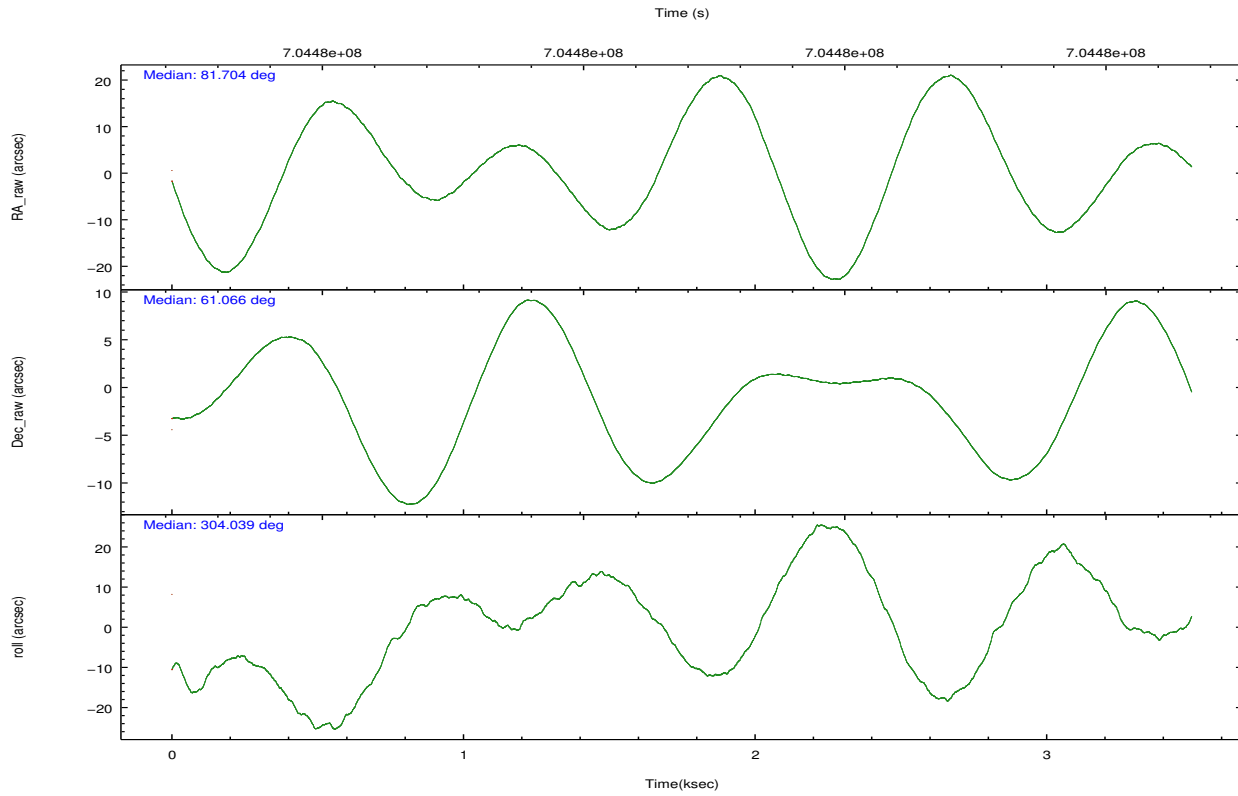
	segment 1	segment 2	segment 3
level 1 events	162126	156391	159393
rejected events	12895	12525	12703
rejected %	7%	8%	7%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	HRC	HRC	Obspar version number	8	8
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	81.649644	81.6857398361			
[deg] Pointing Dec	61.076943	61.0669147107			
[deg] Pointing Roll	304.031660	304.038995271			
[mm] SIM focus pos	-1.429586	-1.428180813131781			
[mm] SIM defocus	0.1037507710433287	0.1051558262725154			
[mm] SIM translation stage pos	251.395976	251.391301111175			
[mm] SIM translation stage offset	-0.9399999999999999	-0.9353227176203518			
[s] Observation start time (MET)	704479826.184000	704479450.58936			
Observation start date	2020-04-28T16:49:17	2020-04-28T16:44:10			
[s] Observation end time (MET)	704483126.184000	704483260.51459			
Observation end date	2020-04-28T17:44:17	2020-04-28T17:47:40			

2.3 Aspect





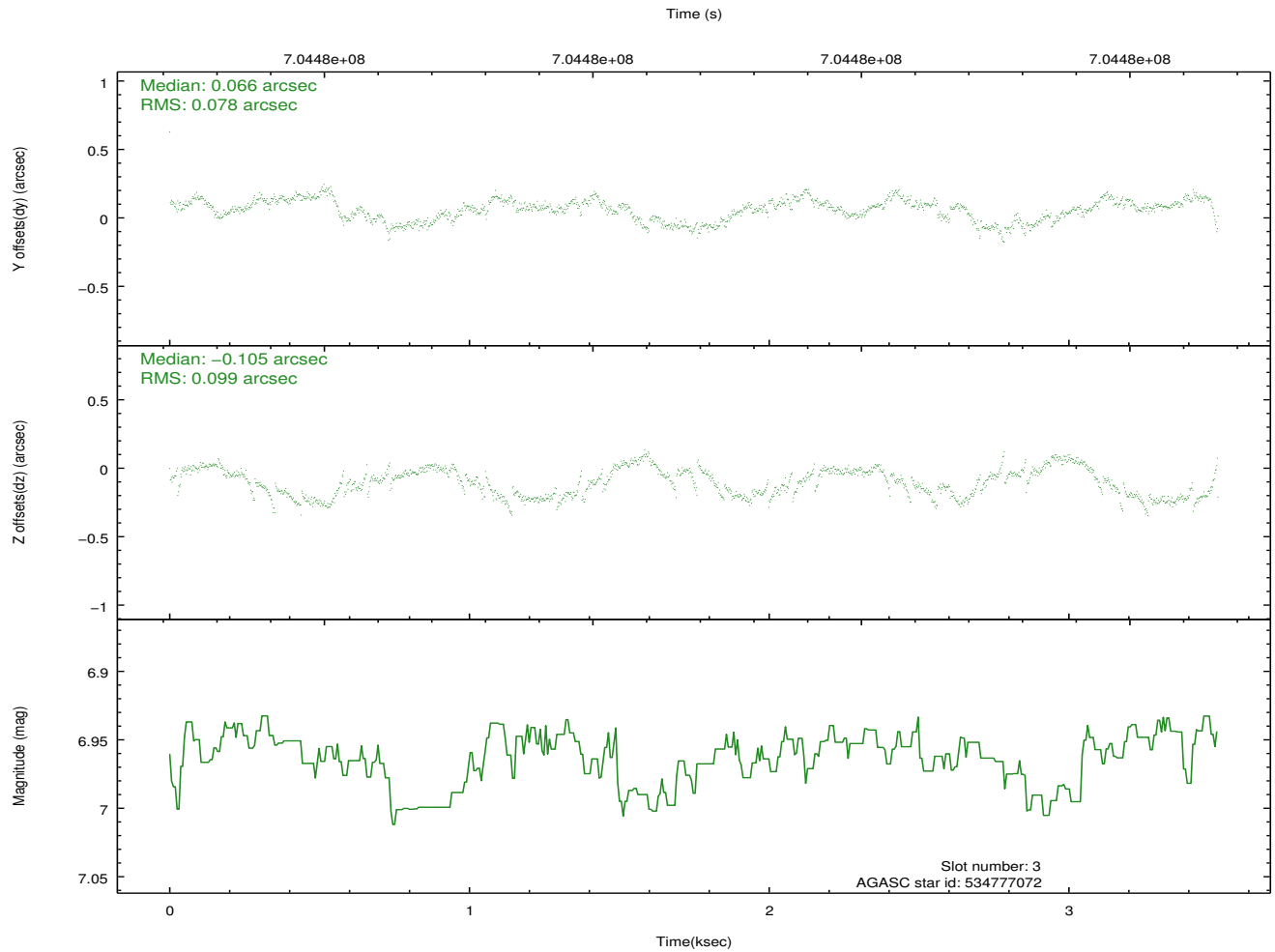
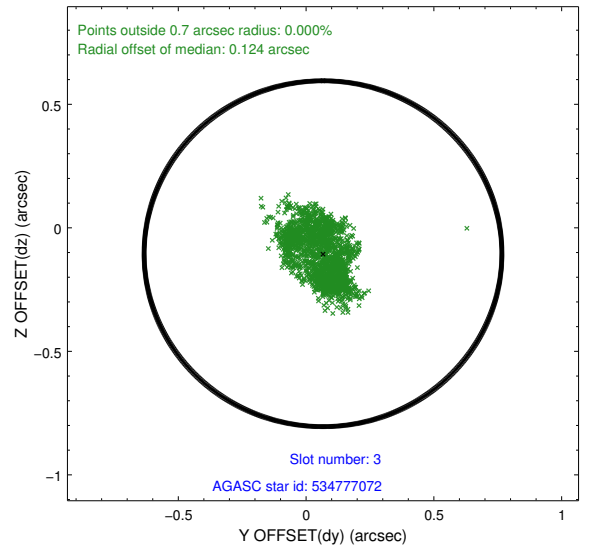
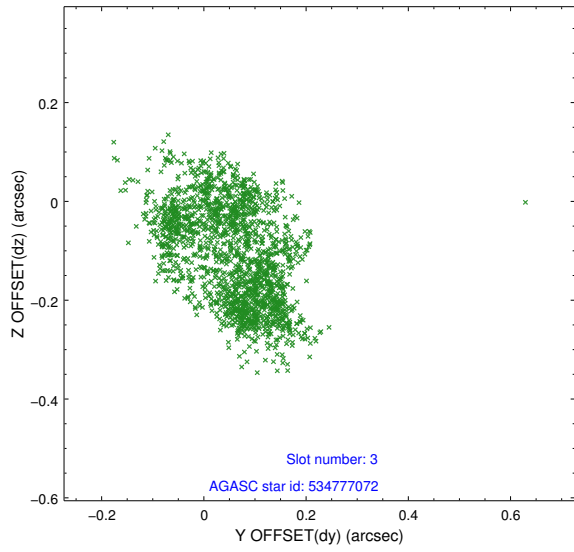
Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		HRC-S-1	7.09	854	1.000	0.133	-0.095	0.007	0.010	0.000000	0.000000	-1174.83	-491
1	FID		HRC-S-2	7.07	854	1.000	0.366	-0.203	0.006	0.011	0.000000	0.000000	1223.71	-485
2	FID		HRC-S-3	7.07	854	1.000	-0.111	-0.004	0.007	0.011	0.000000	0.000000	-1176.12	537
3	GUIDE	used	534777072	6.96	1707	1.000	0.066	-0.105	0.137	0.198	80.934101	60.721041	353.07	-1757
4	GUIDE	used	534914912	9.07	1704	1.000	-0.049	0.141	0.299	0.462	81.829238	61.781311	-1929.18	1671
5	GUIDE	used	534916944	8.90	1706	1.000	-0.124	0.124	0.111	0.186	81.479781	61.783099	-2266.71	1188
6	GUIDE	used	534922520	8.37	1707	1.000	0.143	-0.164	0.181	0.271	81.531321	61.241488	-600.12	161
7	GUIDE	used	534921960	9.36	1702	1.000	-0.028	0.025	0.281	0.444	83.087290	61.217431	953.72	2363

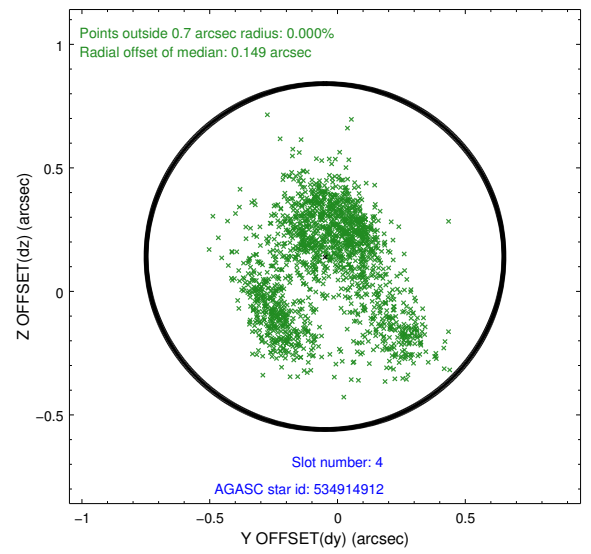
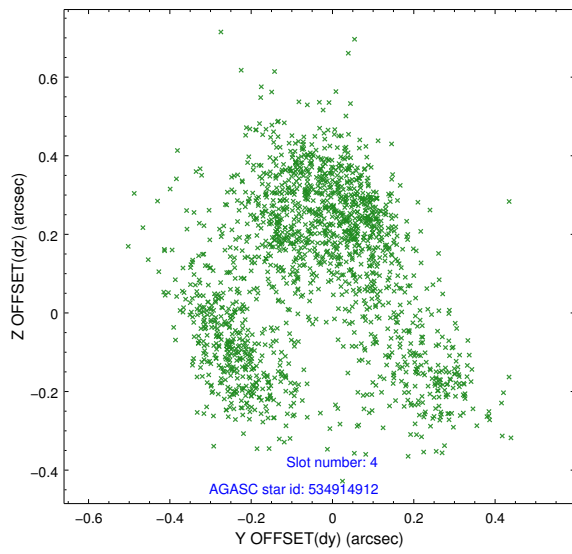
∞

2.4 Star Slots

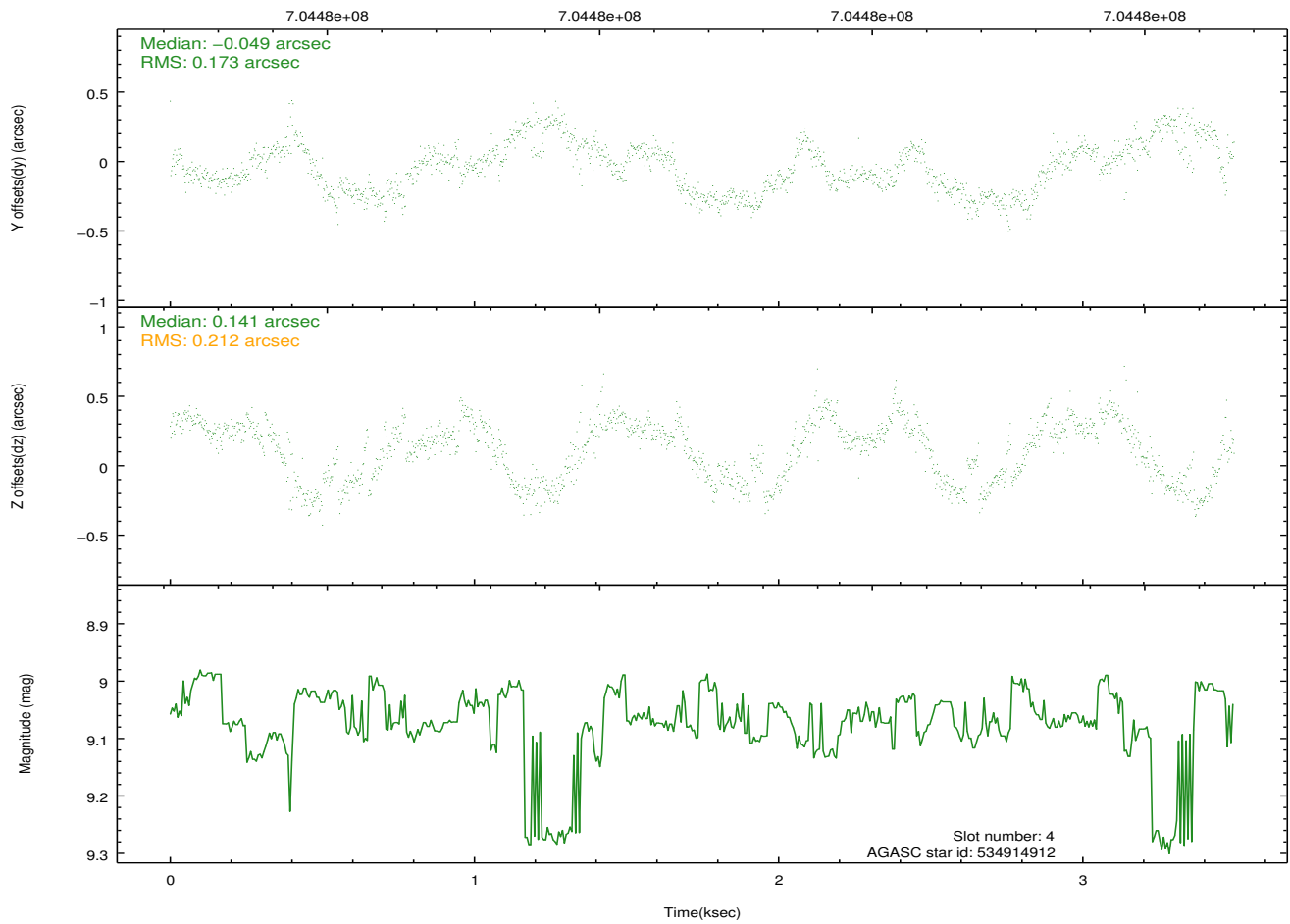
2.4.1 Slot 3



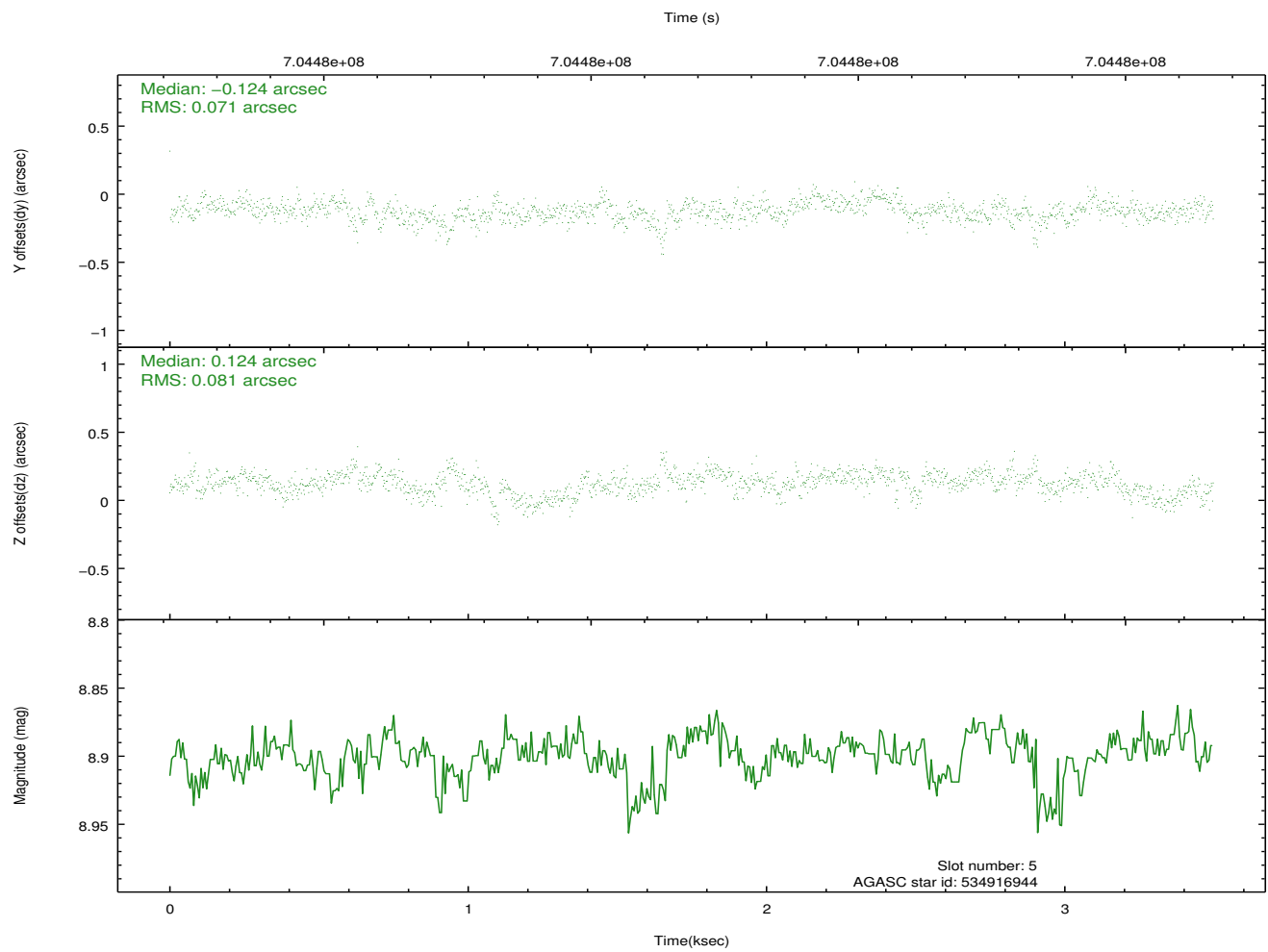
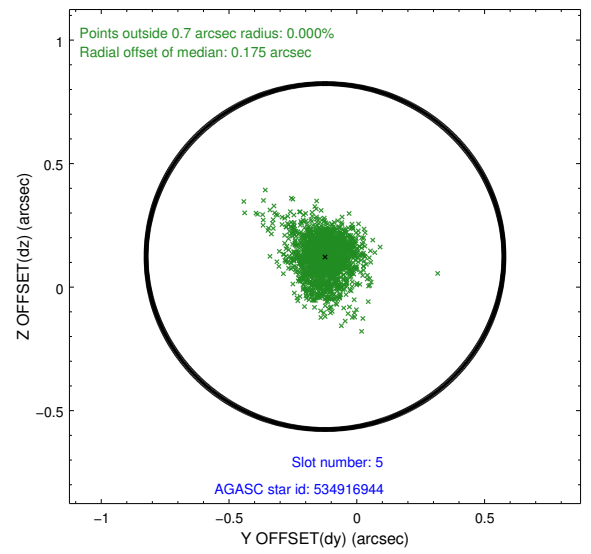
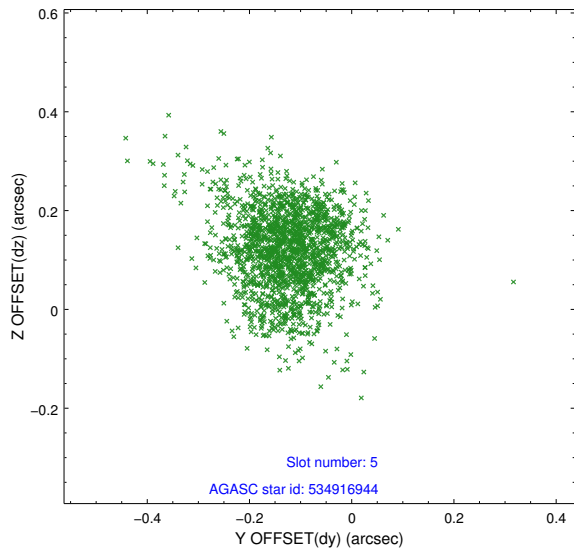
2.4.2 Slot 4



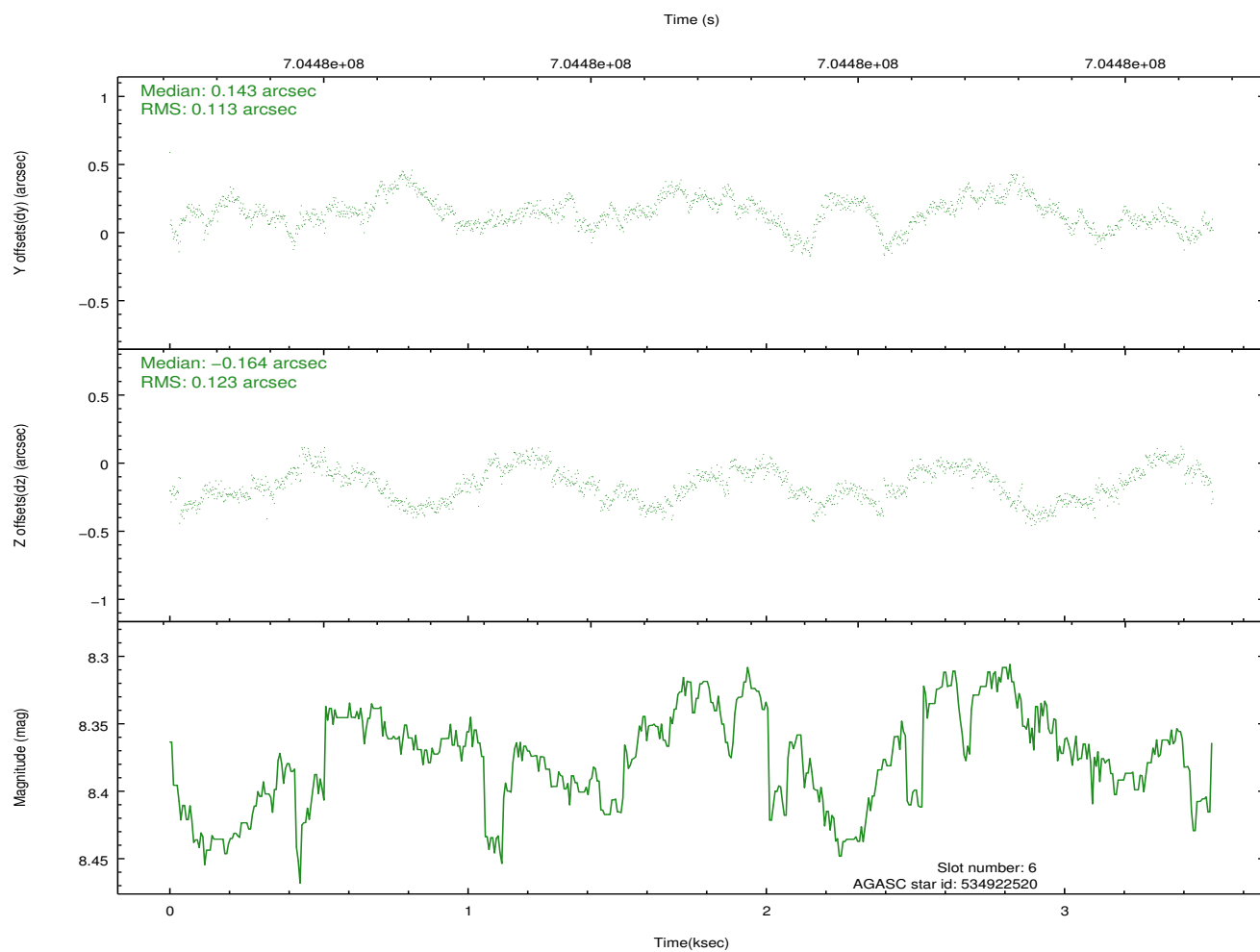
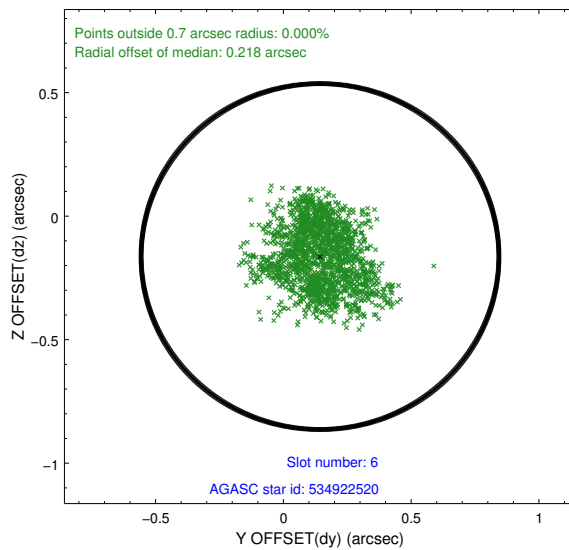
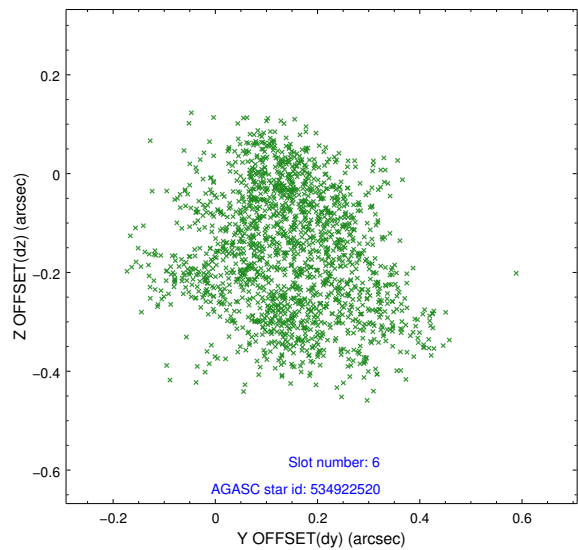
Time (s)



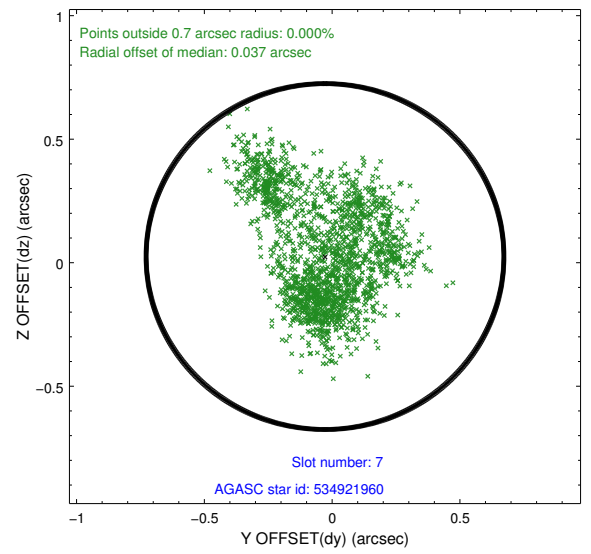
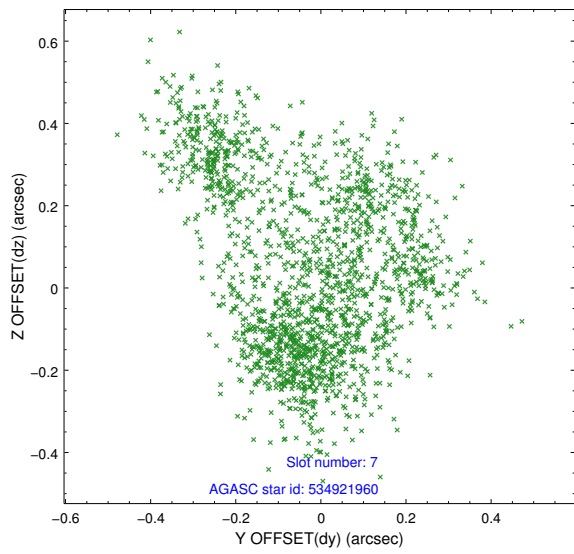
2.4.3 Slot 5



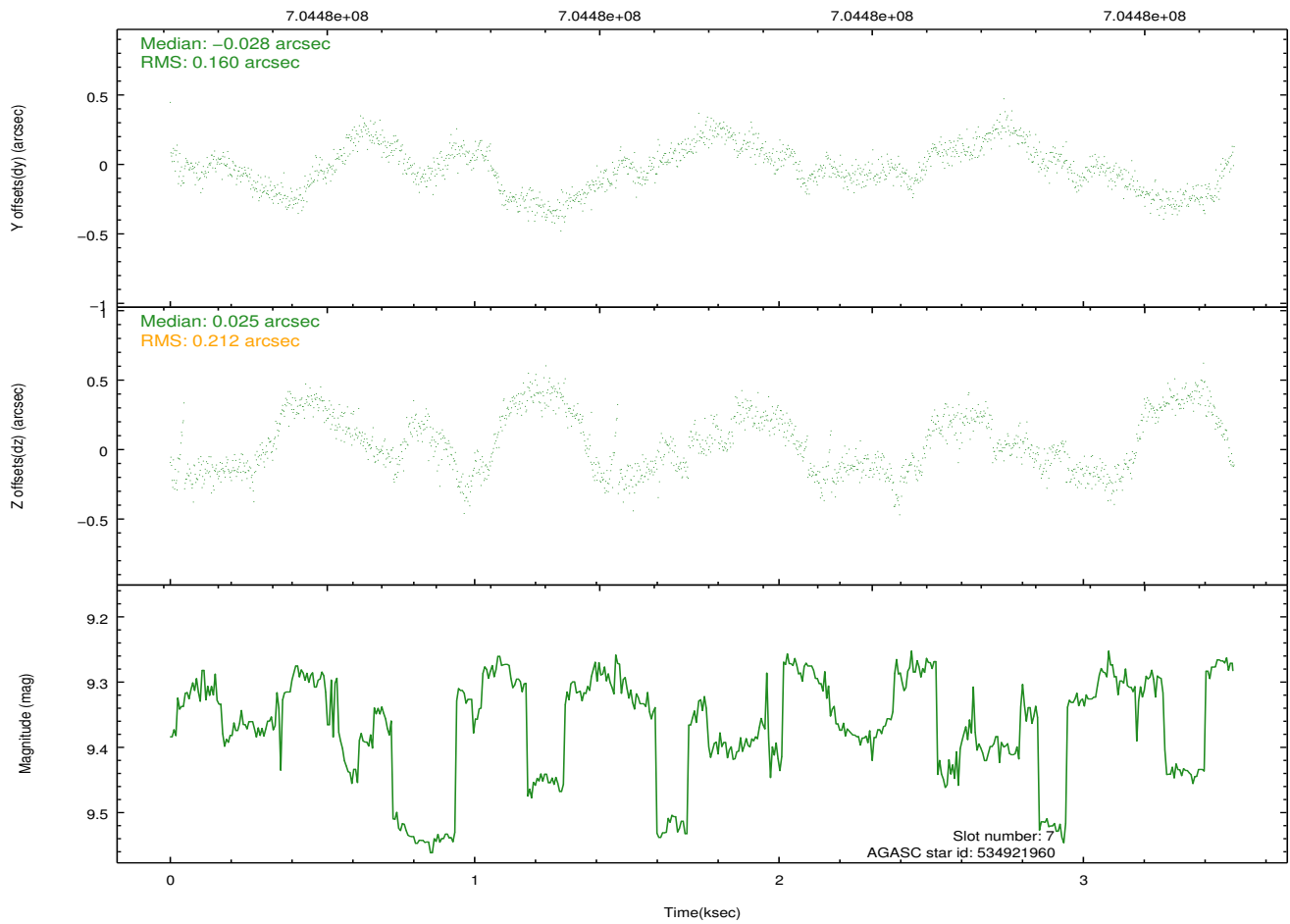
2.4.4 Slot 6



2.4.5 Slot 7

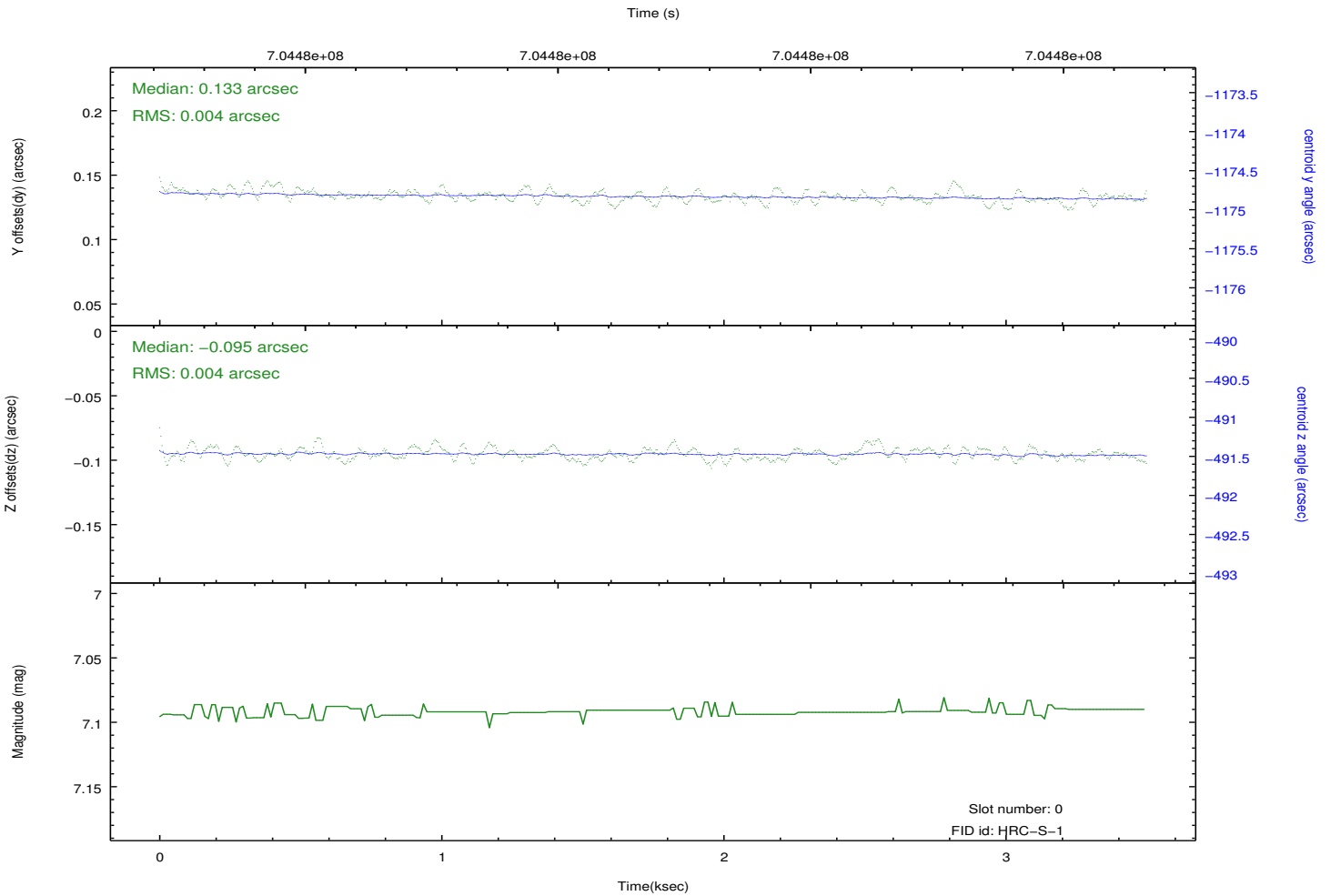
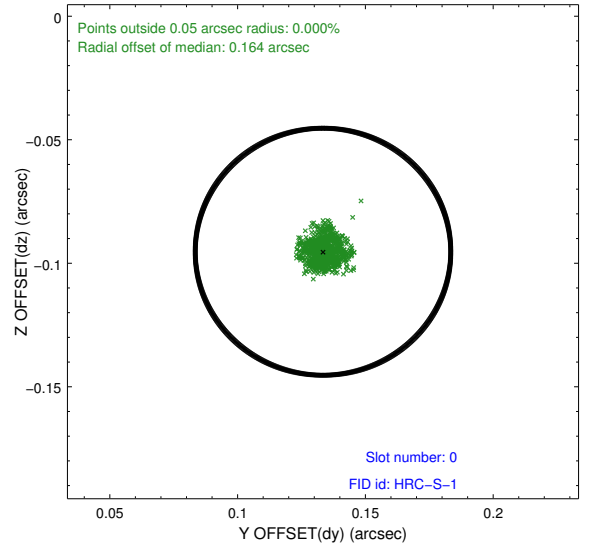
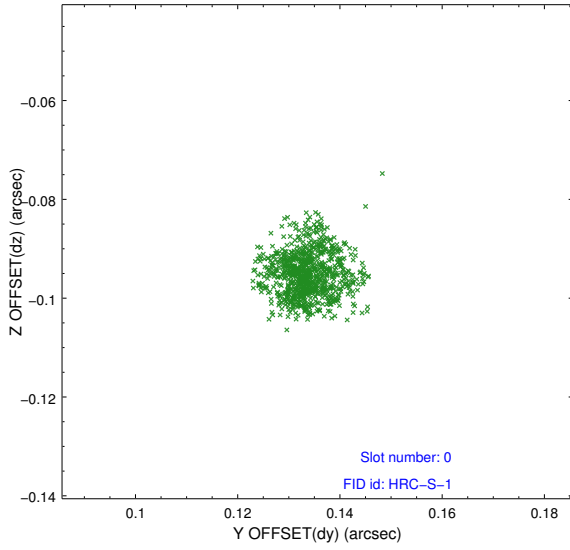


Time (s)

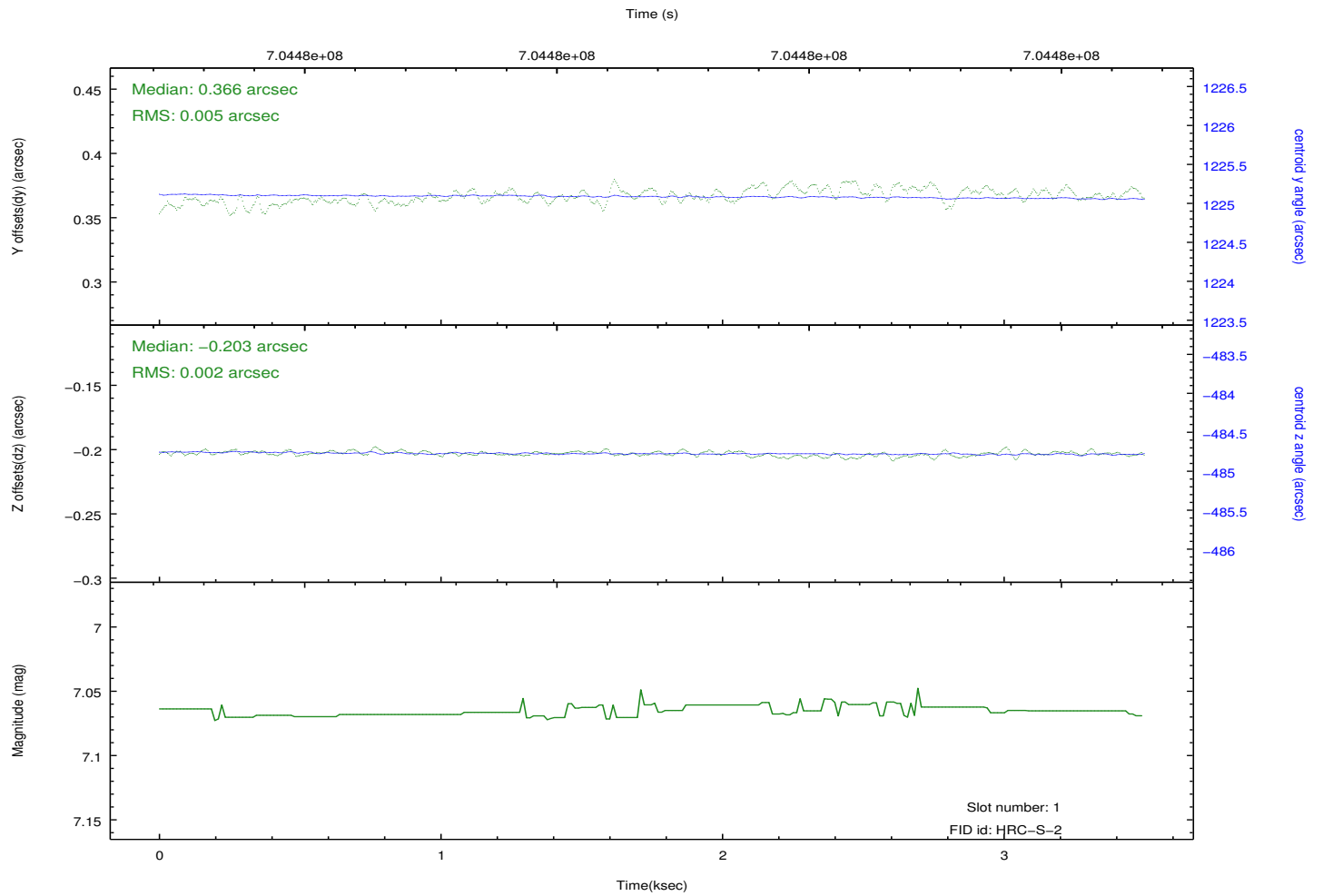
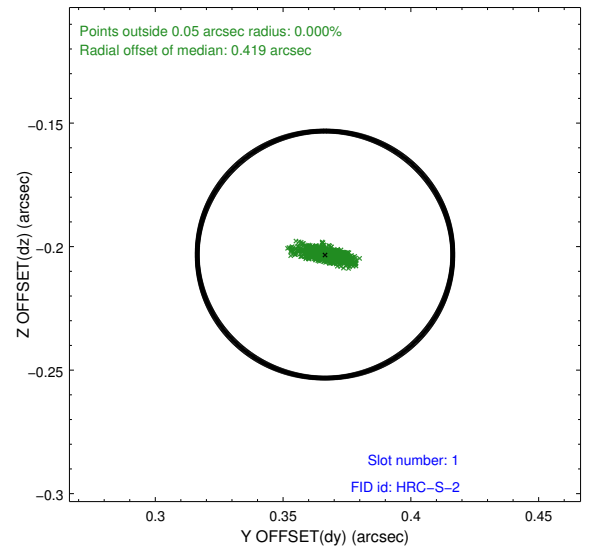
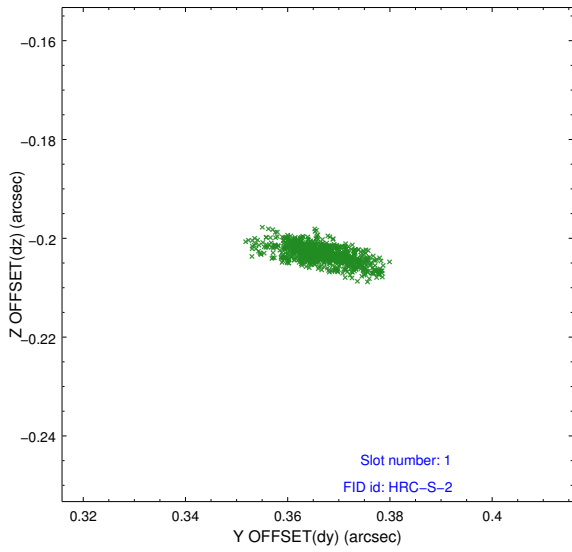


2.5 FID Slots

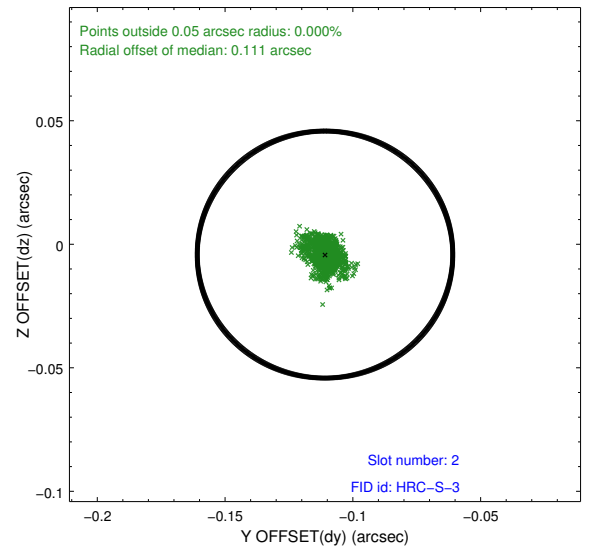
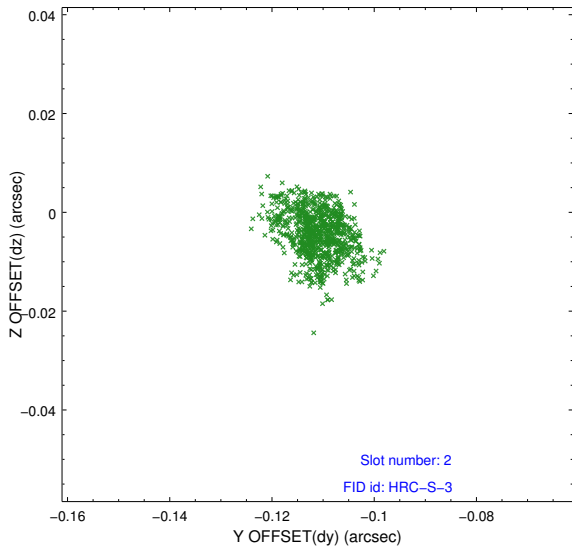
2.5.1 Slot 0



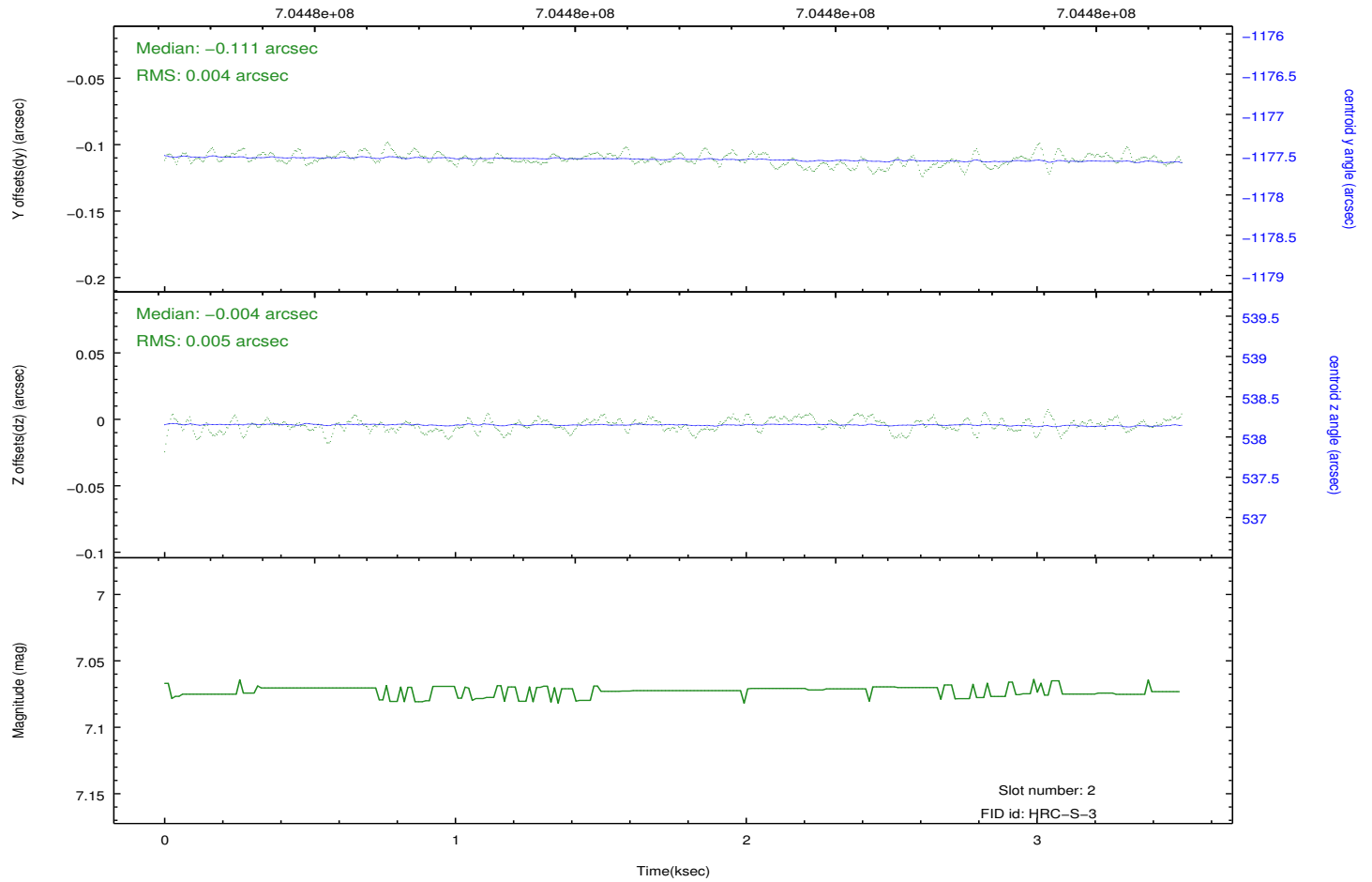
2.5.2 Slot 1



2.5.3 Slot 2

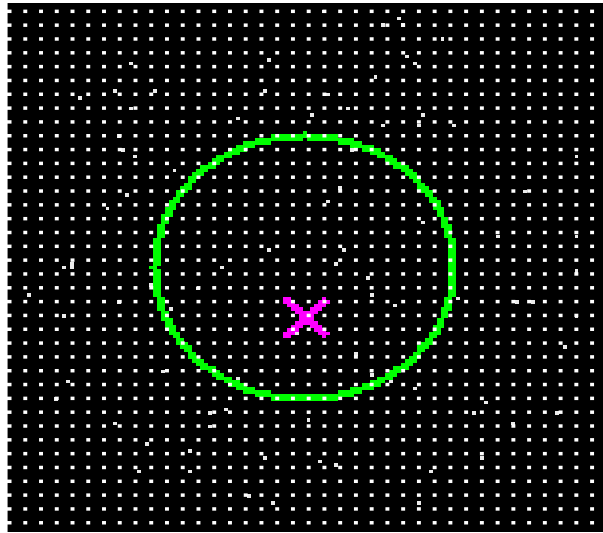


Time (s)

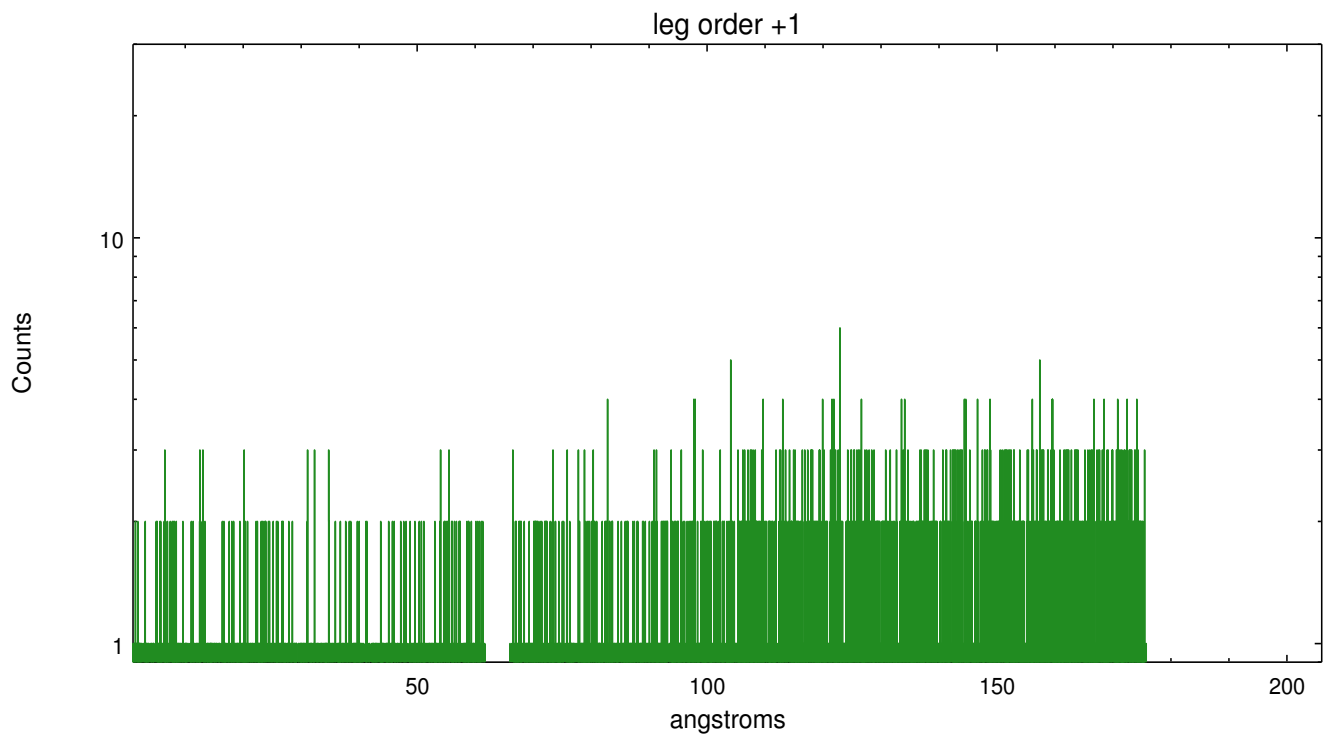
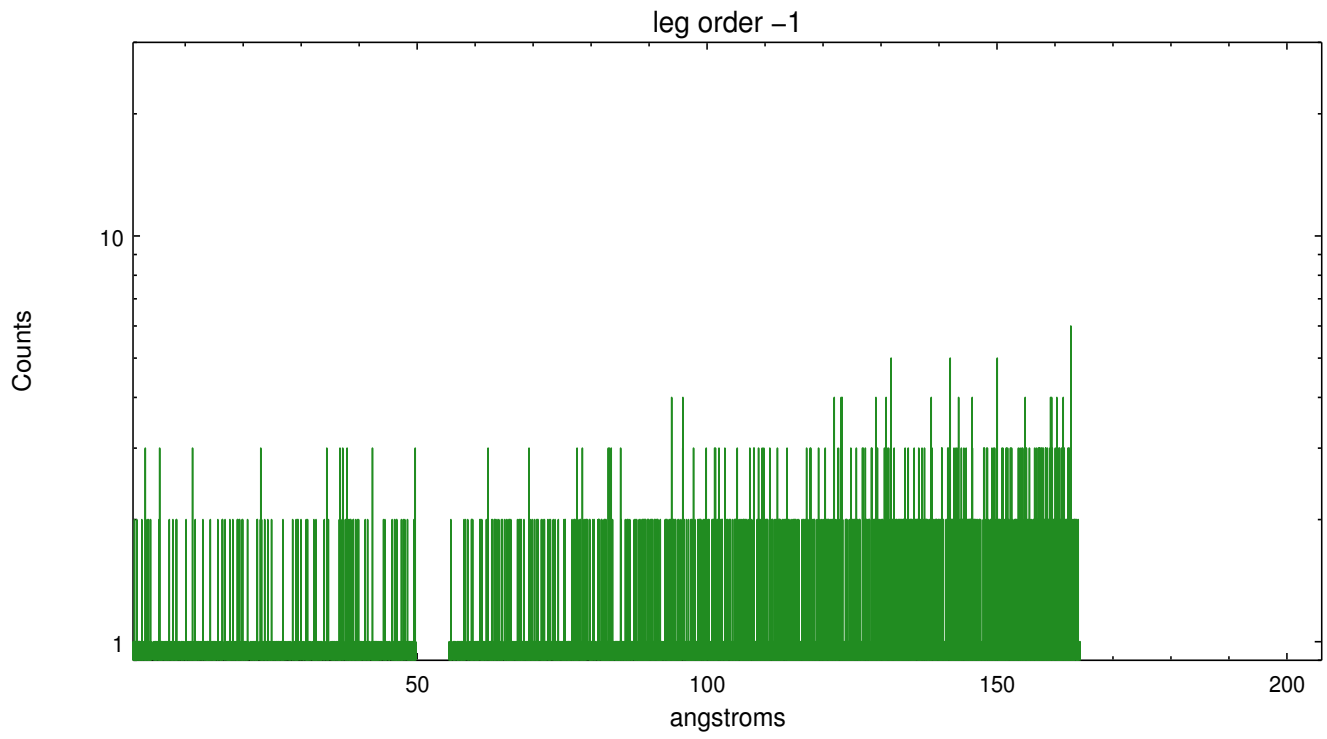


3 Gratings

3.1 LETG Arm



LETG Zero Order



A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2020.05.04
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	3.4965314623117

A.2 Comments

WARNING: this is a moving, extended object; it was processed as if a stationary point source at the nominal source coordinates. Custom methods will be required (such as `sso_freeze`); it is unlikely that existing `ciao` programs will compute grating diffraction coordinates for a moving source (even with the modified aspect solution from `sso_freeze`).

Comments for Obi 0

Star in slot 4 has an RMS deviation > 0.200000 arcsec

Star in slot 7 has an RMS deviation > 0.200000 arcsec

(acceptable, as per aspect review)