

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 4880 - L2 Version 4  
Chandra X-Ray Center

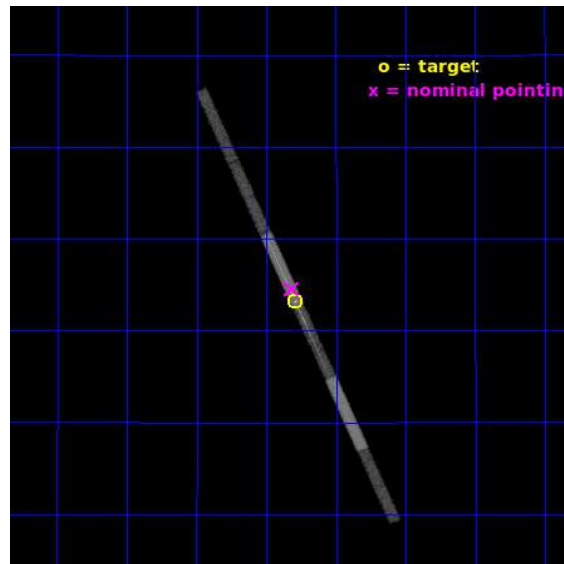
L2 Processing Date : Sep 26 2020

## Contents

<b>1</b>	<b>Front</b>	<b>2</b>
<b>2</b>	<b>OBI</b>	<b>3</b>
2.1	OBI . . . . .	3
2.1.1	Images . . . . .	3
2.1.2	Bias . . . . .	3
2.1.3	Parameters . . . . .	4
2.1.4	Events . . . . .	4
2.2	Compared Parameters . . . . .	5
2.3	Aspect . . . . .	6
2.4	Star Slots . . . . .	9
2.4.1	Slot 3 . . . . .	9
2.4.2	Slot 4 . . . . .	10
2.4.3	Slot 5 . . . . .	11
2.4.4	Slot 6 . . . . .	12
2.4.5	Slot 7 . . . . .	13
2.5	FID Slots . . . . .	14
2.5.1	Slot 0 . . . . .	14
2.5.2	Slot 1 . . . . .	15
2.5.3	Slot 2 . . . . .	16
<b>3</b>	<b>Gratings</b>	<b>17</b>
3.1	LETG Arm . . . . .	17
<b>A</b>	<b>Summary</b>	<b>19</b>
A.1	Status . . . . .	19
A.2	Comments . . . . .	19

# 1 Front

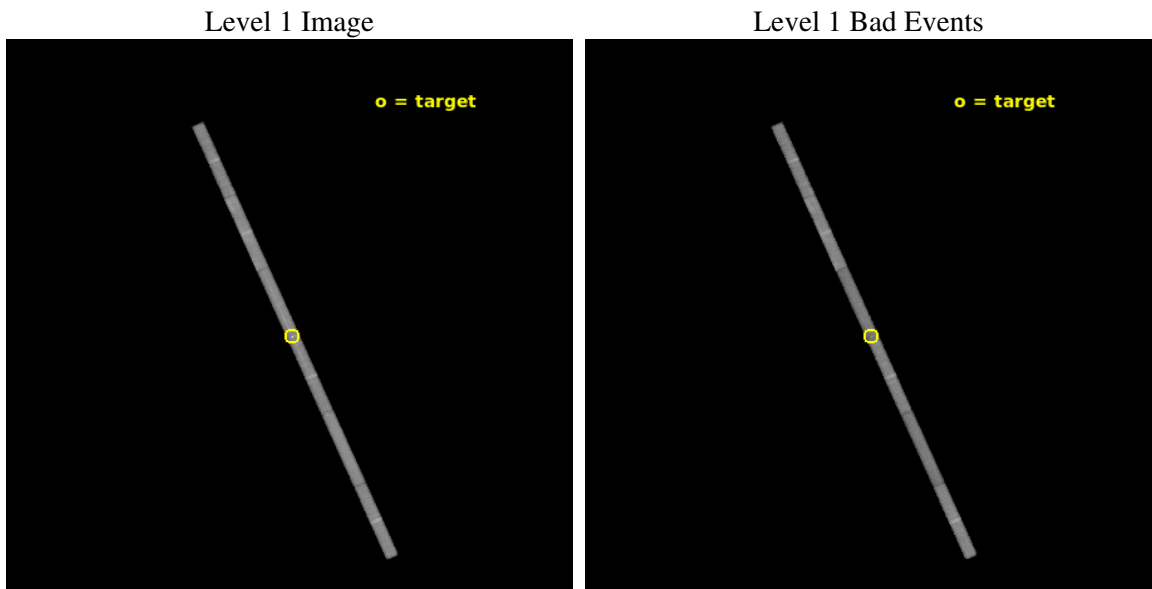
seq_num	700962	Sequence number
obs_id	4880	Observation id
title	Revealing the High Velocity Outflow in PG 1211+143	Proposal title
observer	James Reeves	Principal investigator
object	PG 1211+143	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	183.57375	Observer's specified target RA [deg]
dec_targ	14.053611	Observer's specified target Dec [deg]
ra_nom	183.57895557947	Nominal RA [deg]
dec_nom	14.076162646793	Nominal Dec [deg]
roll_nom	246.60881845185	Nominal Roll [deg]
revision	4	Processing version of data
ontime	45172.358190715	Sum of GTIs [s]
livetime	42670.639551847	Livetime [s]
ontime4	45171.617150694	Sum of GTIs [s]
ontime5	45172.358190715	Sum of GTIs [s]
ontime6	45172.358190715	Sum of GTIs [s]
ontime7	45172.358190715	Sum of GTIs [s]
ontime8	45172.358190715	Sum of GTIs [s]
ontime9	45172.358190715	Sum of GTIs [s]
l2events	88120	Number of level 2 events



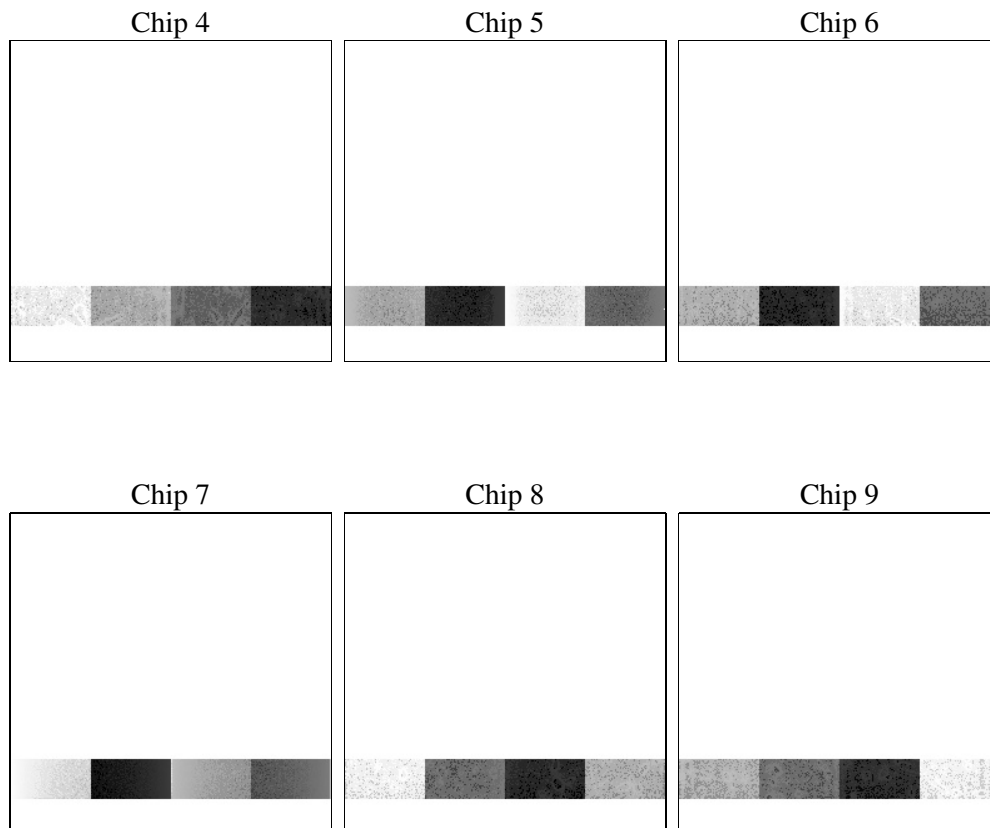
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	45000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	45172.358190715	Sum of GTIs [s]
caldbver	4.9.2	&#160	ontime4	45171.617150694	Sum of GTIs [s]
date	2020-09-26T20:01:47	Date and time of file creation	ontime5	45172.358190715	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	45172.358190715	Sum of GTIs [s]
			ontime7	45172.358190715	Sum of GTIs [s]
			ontime8	45172.358190715	Sum of GTIs [s]
			ontime9	45172.358190715	Sum of GTIs [s]
			l1events	378963	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zpc_pos	(4134.20, 3031.50)	src1a sky pixel position

### 2.1.4 Events

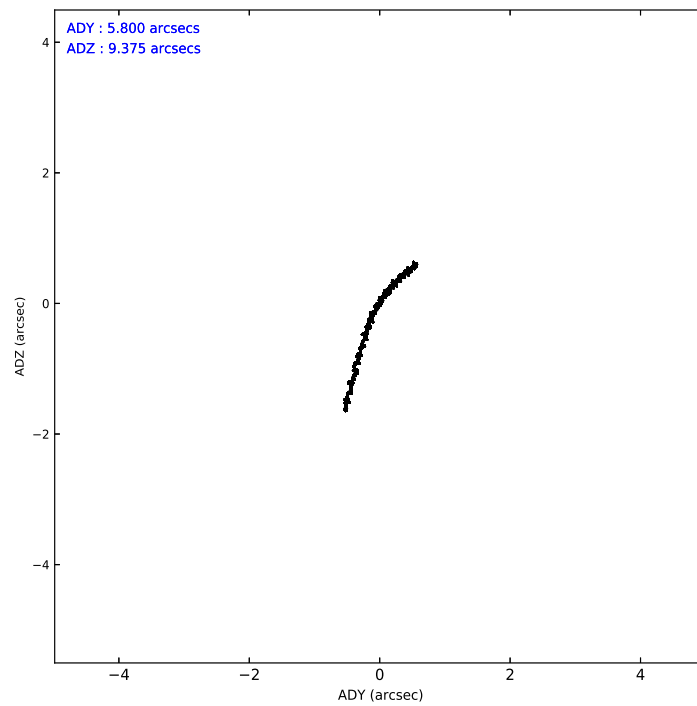
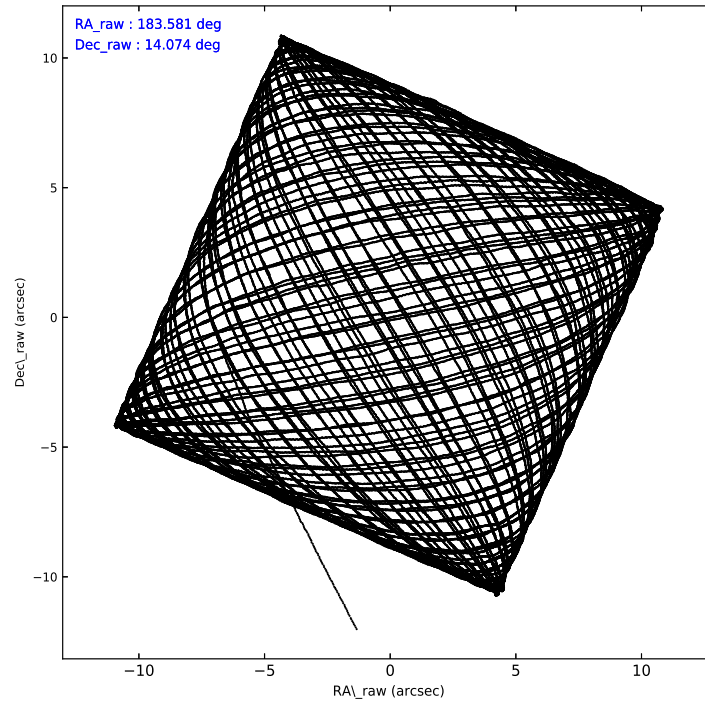
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	62371	63603	57549	69984	74481	50975
rejected events	55722	32920	48307	33416	60817	44995
rejected %	89%	51%	83%	47%	81%	88%

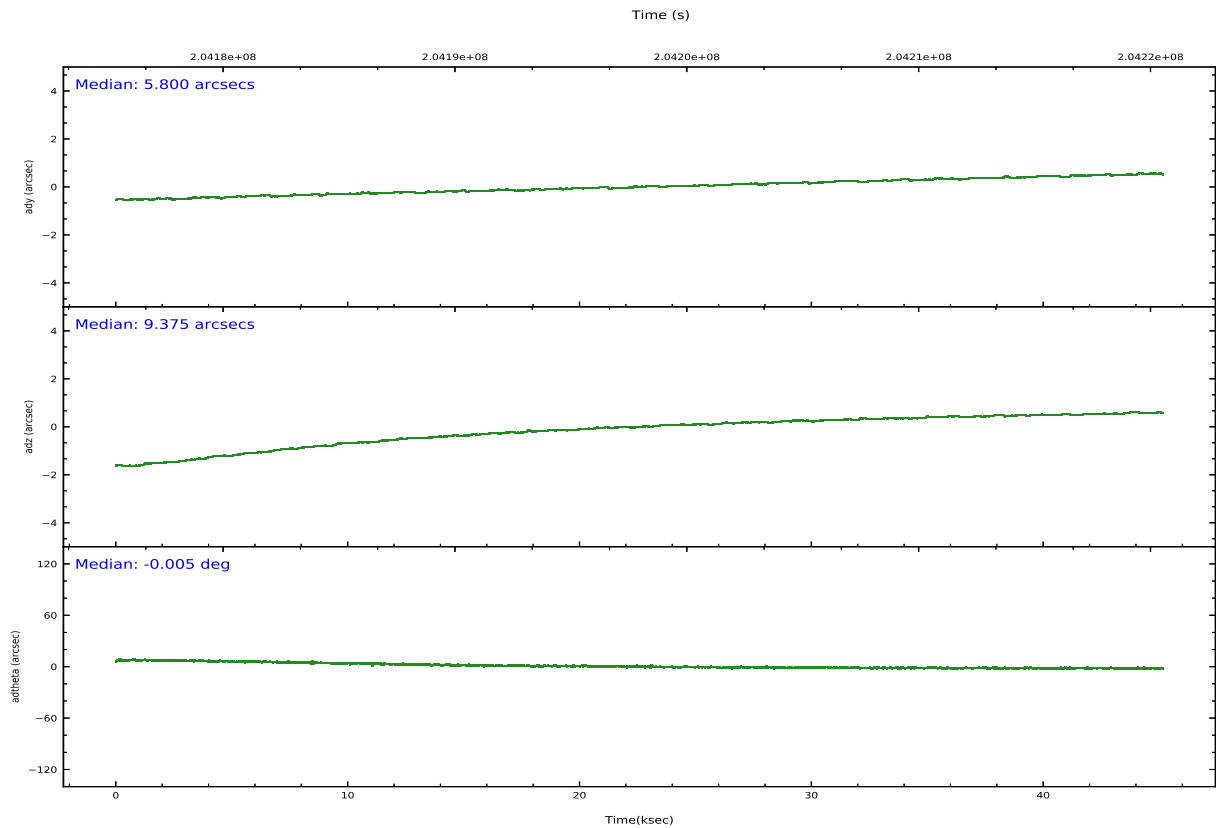
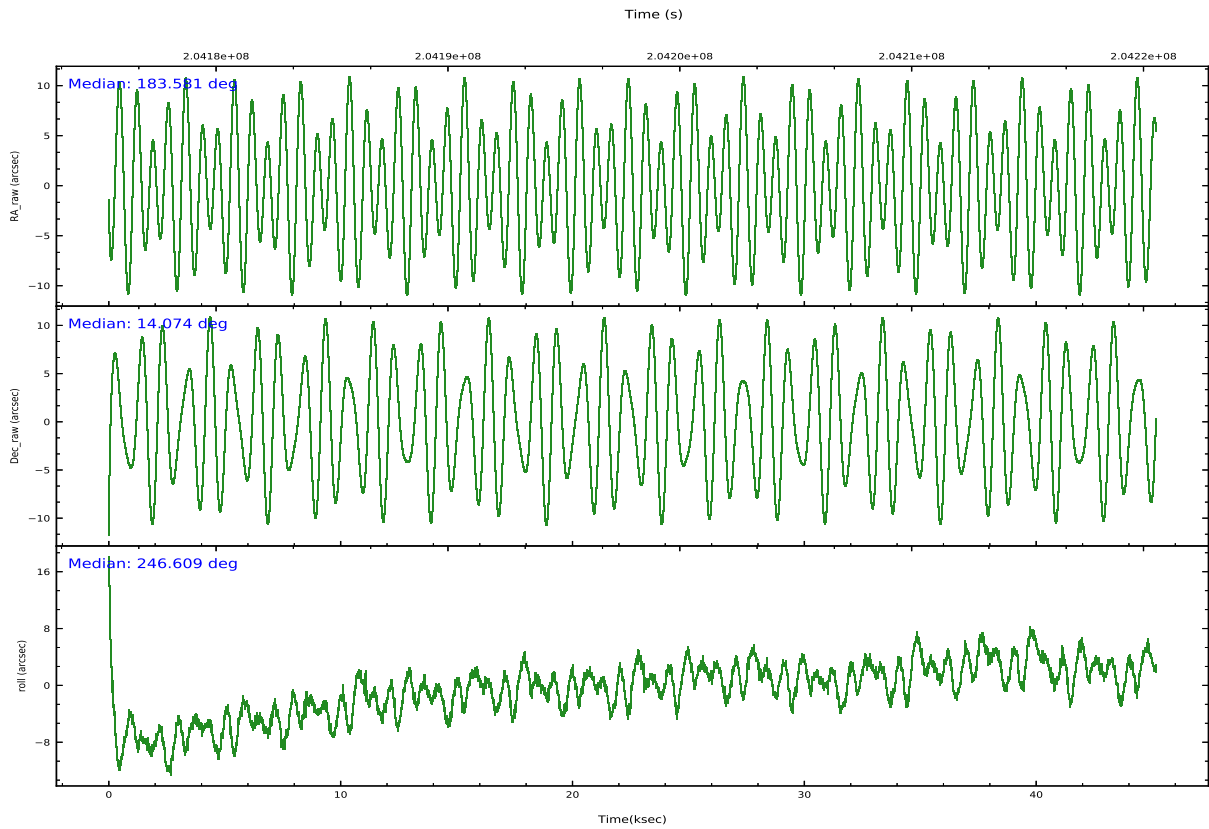
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	2377	3598	4573	5917	3592	2048
	3%	5%	7%	8%	4%	4%
grade 1 events	14	107	17	84	18	19
	0%	0%	0%	0%	0%	0%
grade 2 events	1256	8085	1308	8047	2591	980
	2%	12%	2%	11%	3%	1%
grade 3 events	1013	2442	1117	4237	1689	1026
	1%	3%	1%	6%	2%	2%
grade 4 events	983	2376	1092	3980	1704	969
	1%	3%	1%	5%	2%	1%
grade 5 events	1710	5576	1729	5465	2361	1779
	2%	8%	3%	7%	3%	3%
grade 6 events	1044	14305	1170	14506	4144	972
	1%	22%	2%	20%	5%	1%
grade 7 events	53974	27114	46543	27748	58382	43182
	86%	42%	80%	39%	78%	84%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	LETG	LETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	183.577192	183.57895557947	Subarray requested	CUSTOM	1/8
[deg] Pointing Dec	14.100516	14.076162646793	Subarray start row	113	113
[deg] Pointing Roll	246.460207	246.60881845185	Subarray row count	128	128
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	N	N
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.000000	0.7
[mm] SIM translation stage pos	-182.132523	-182.1370004450064			
[mm] SIM translation stage offset	-8	-7.995522138001405			
[s] Observation start time (MET)	204175546.184000	204174544.55117			
Observation start date	2004-06-21T03:24:42	2004-06-21T03:09:04			
[s] Observation end time (MET)	204220546.184000	204222226.52828			
Observation end date	2004-06-21T15:54:42	2004-06-21T16:23:46			
Read mode	TIMED	TIMED			

## 2.3 Aspect



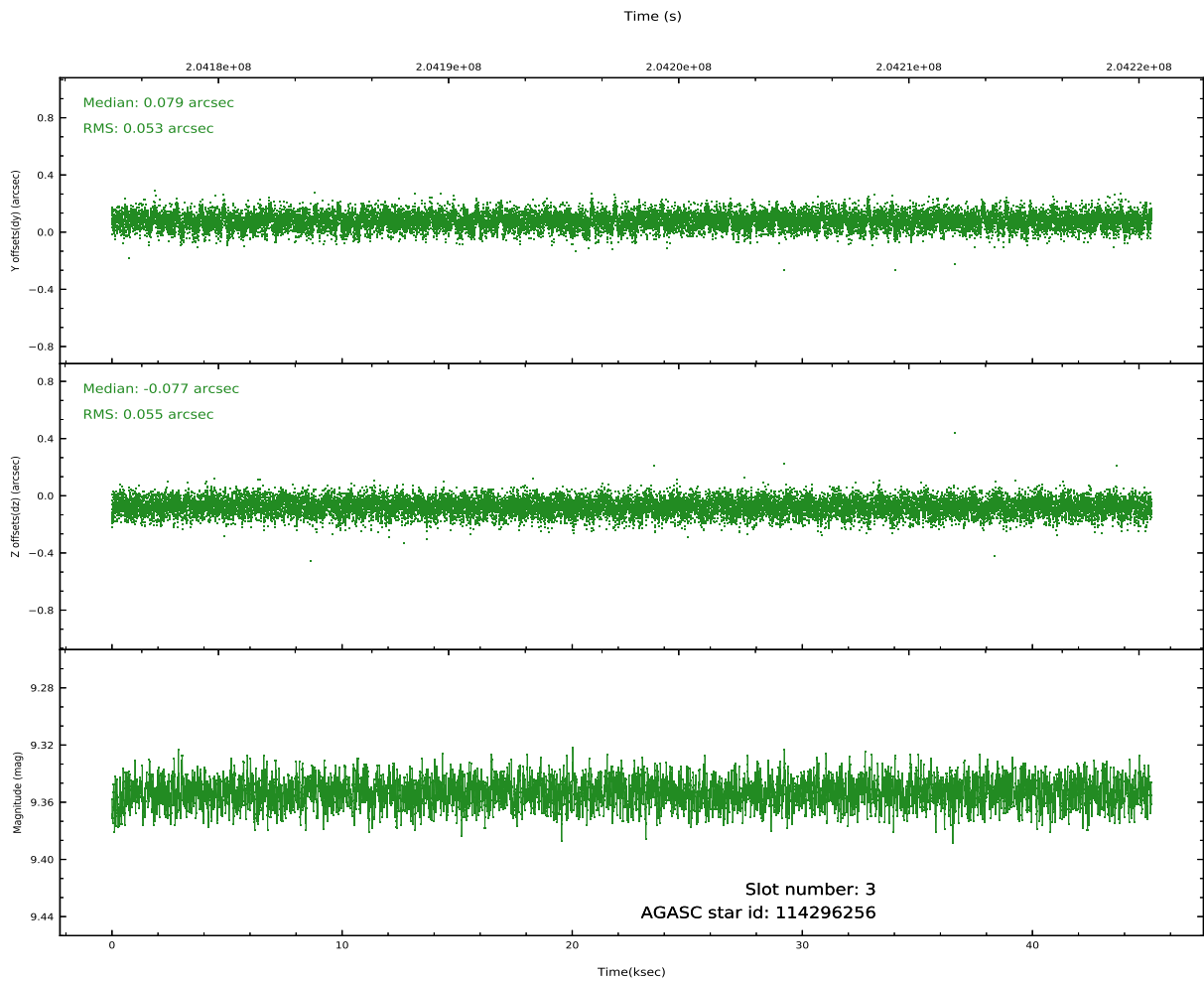
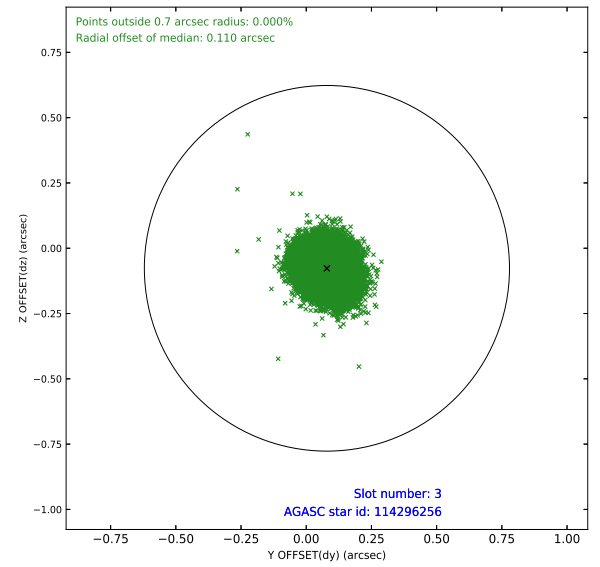
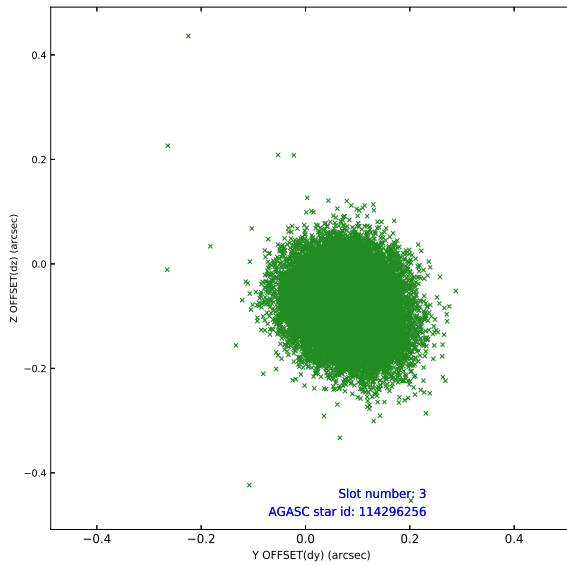


### Slot Statistics

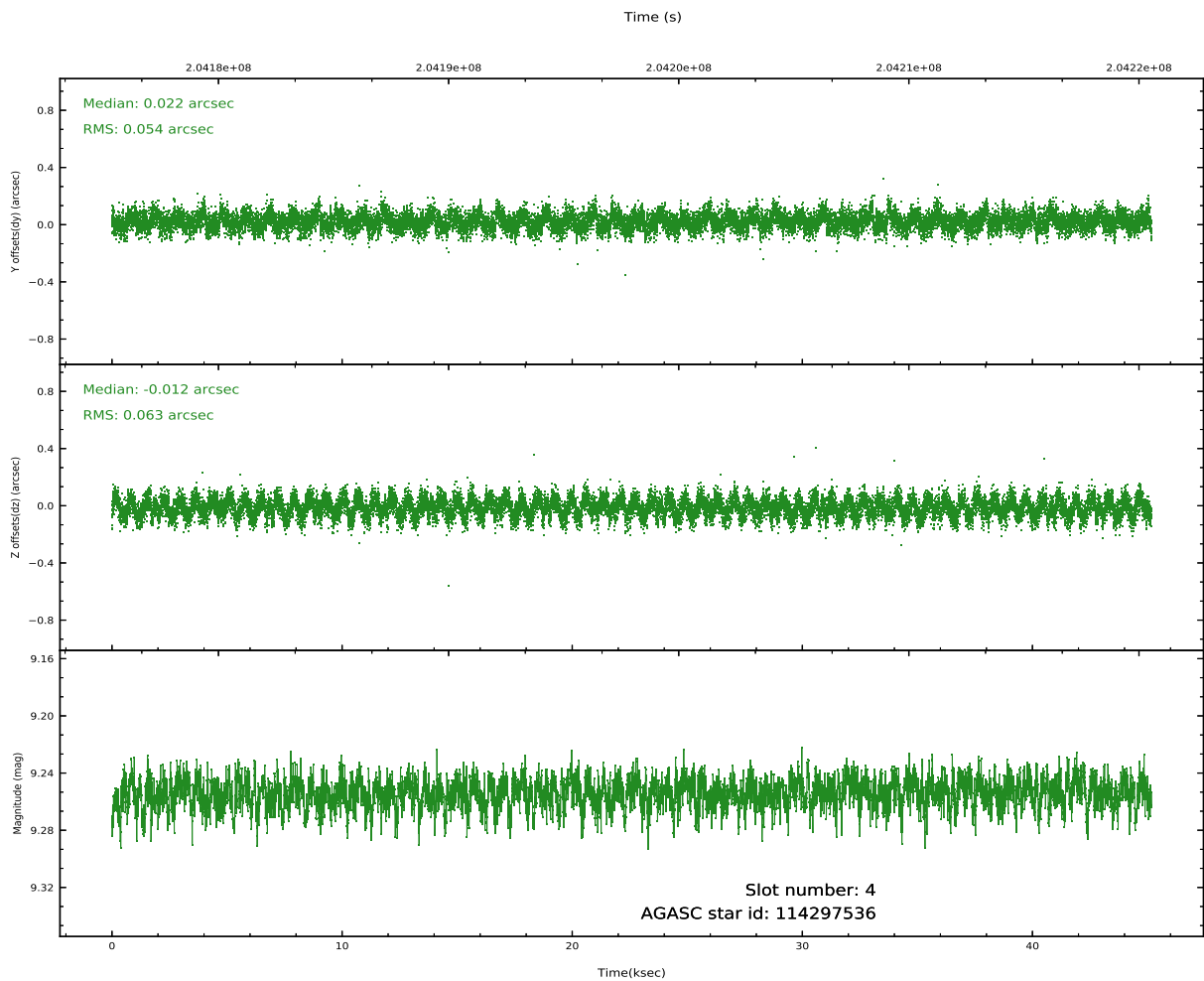
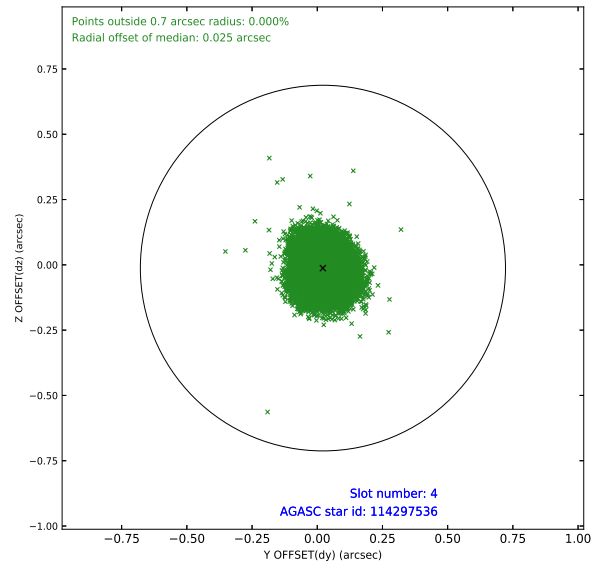
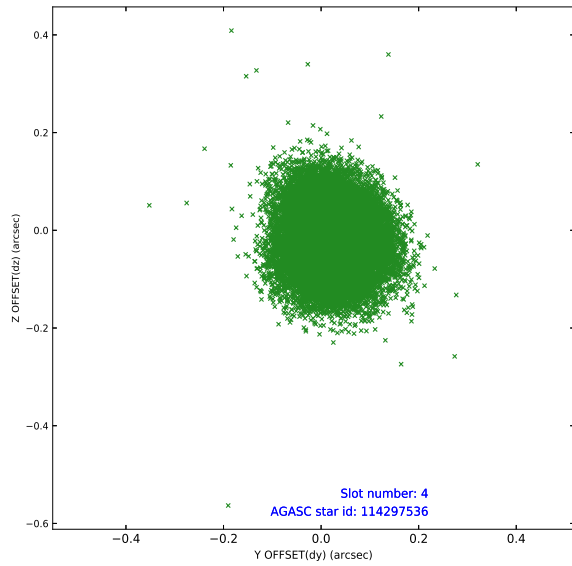
slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_x
0	FID		ACIS-S-4	7.17	11016	1.000	0.148	0.041	0.015	0.026	0.000000	0.000000	2155.54	13
1	FID		ACIS-S-5	7.23	11017	1.000	-0.198	0.025	0.009	0.022	0.000000	0.000000	-1810.99	7
2	FID		ACIS-S-6	7.41	11017	1.000	0.021	-0.052	0.011	0.019	0.000000	0.000000	403.68	650
3	GUIDE	used	114296256	9.35	22019	1.000	0.079	-0.077	0.081	0.132	182.985406	14.017213	1098.88	-1775
4	GUIDE	used	114297536	9.25	22015	1.000	0.022	-0.012	0.089	0.140	183.757120	14.264956	-793.39	339
5	GUIDE	used	114301168	9.23	21946	1.000	0.112	-0.106	0.082	0.134	182.996668	14.071189	904.85	-1817
6	GUIDE	used	114303096	9.30	22010	1.000	-0.002	-0.121	0.099	0.164	183.214020	14.515722	-865.03	-1758
7	GUIDE	used	115218912	8.30	22030	1.000	-0.209	0.309	0.081	0.132	184.400783	14.442830	-2281.30	2137

## 2.4 Star Slots

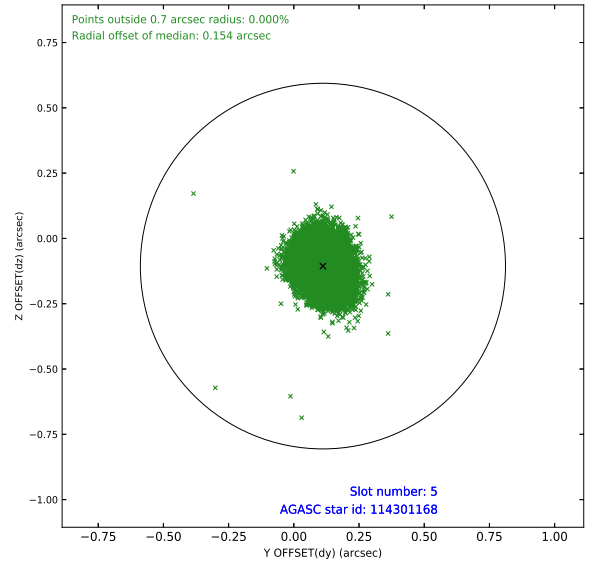
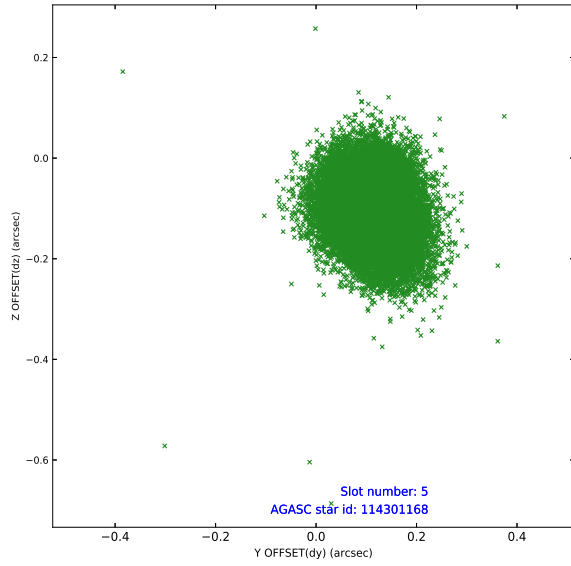
### 2.4.1 Slot 3



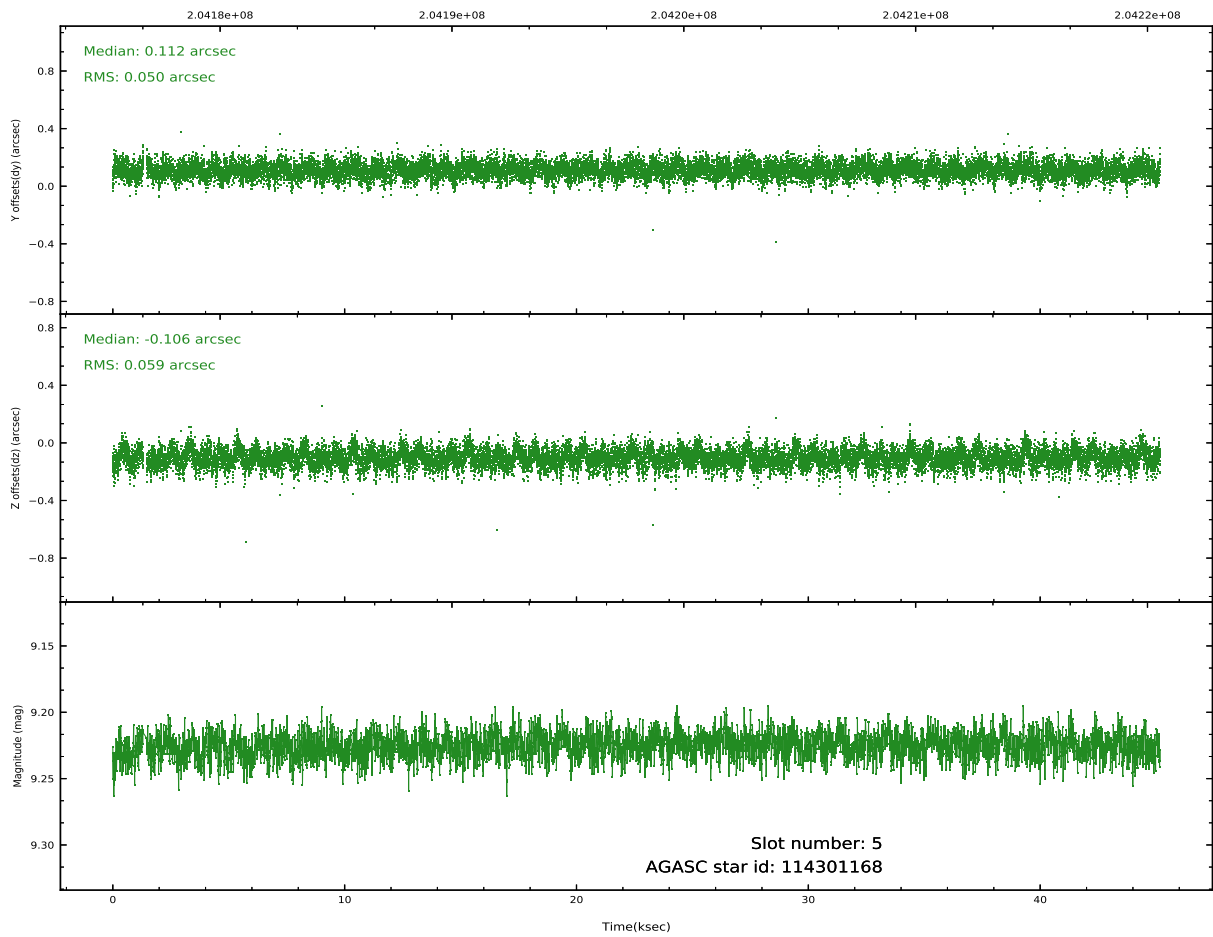
## 2.4.2 Slot 4



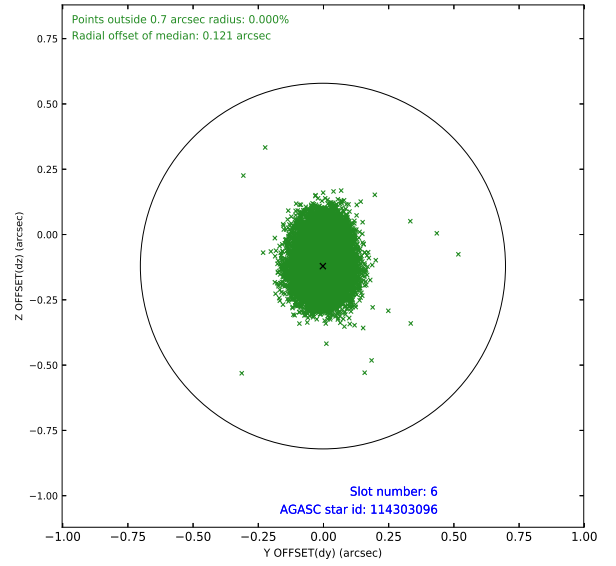
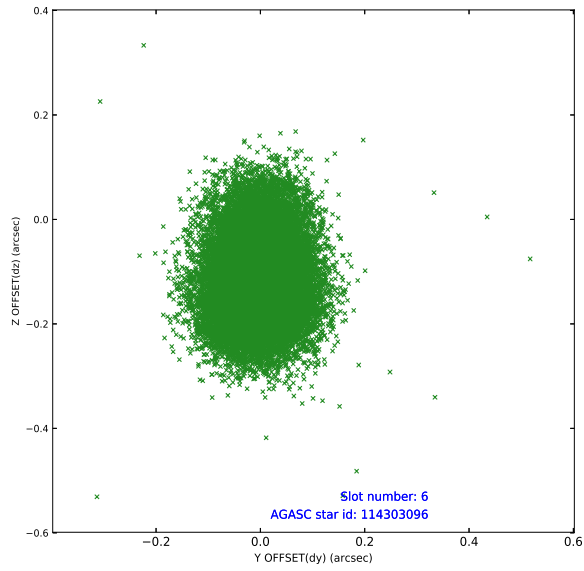
### 2.4.3 Slot 5



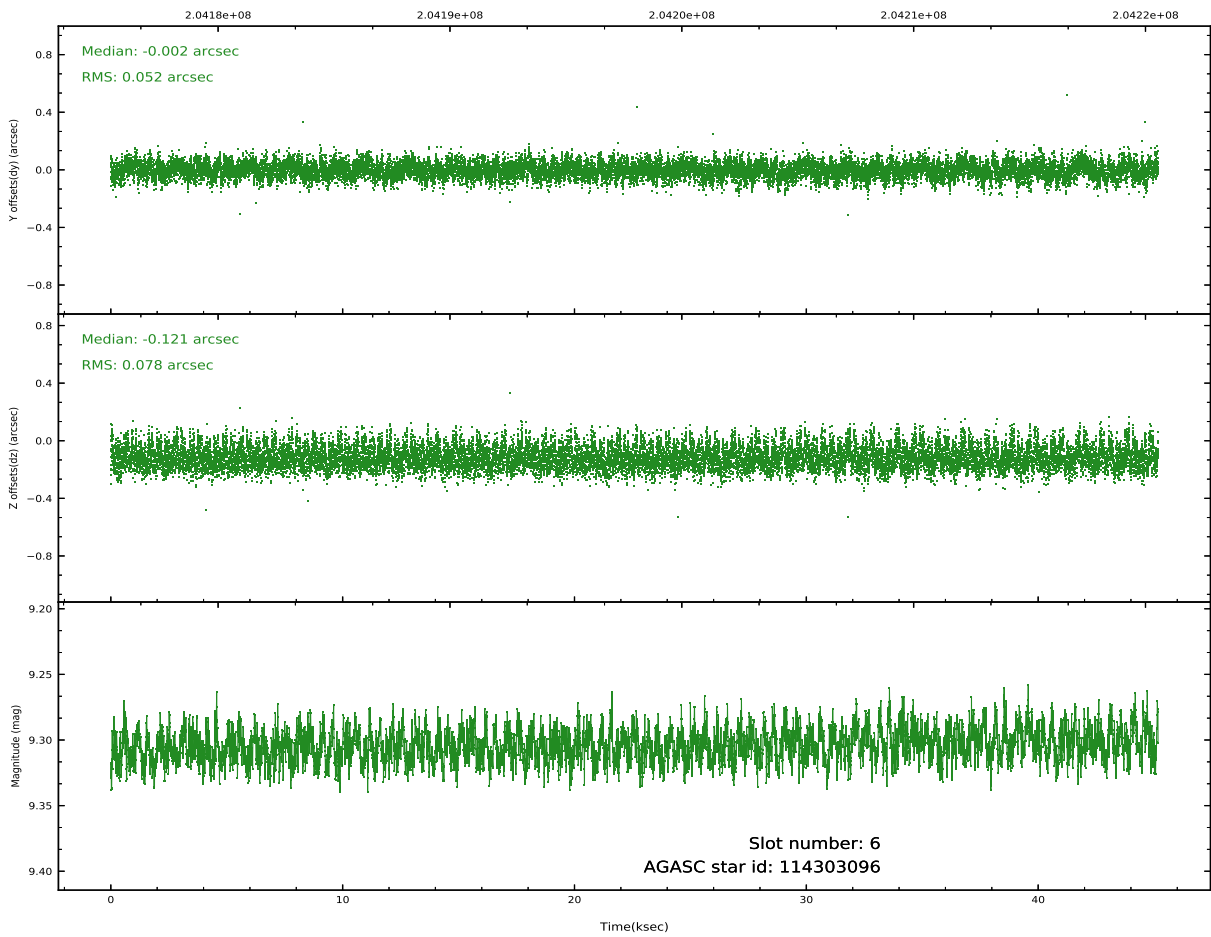
Time (s)



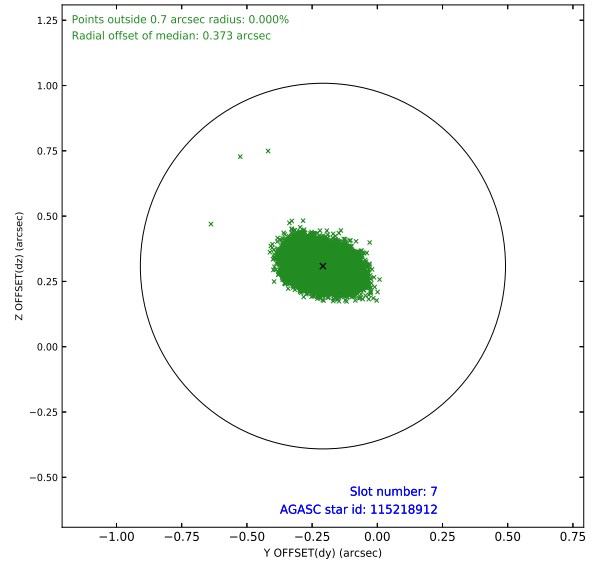
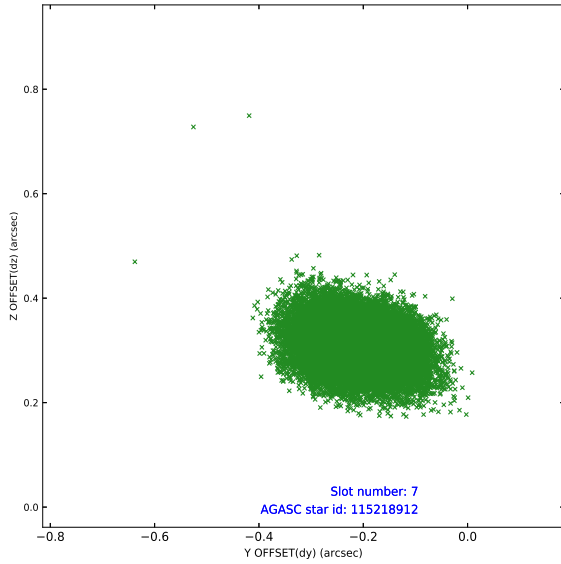
## 2.4.4 Slot 6



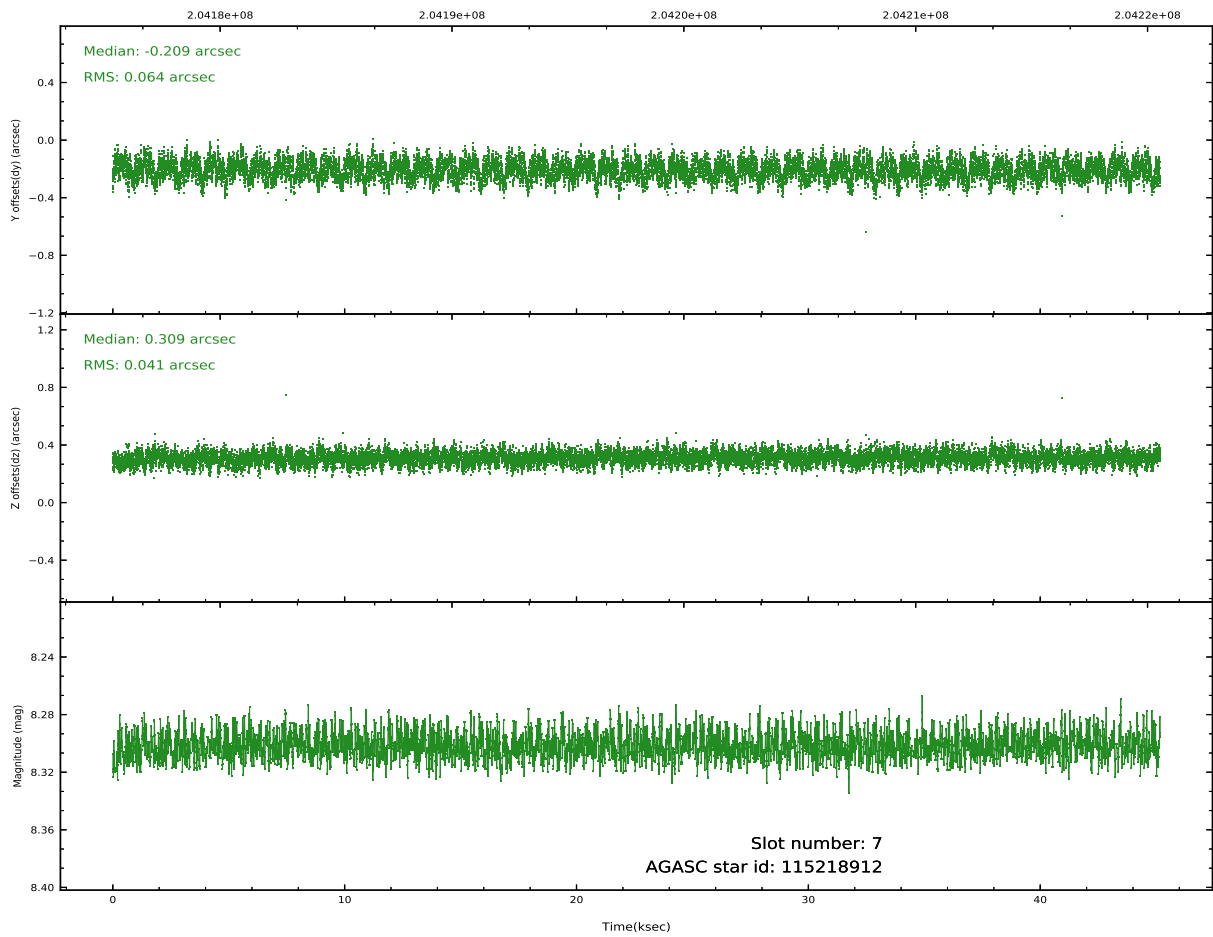
Time (s)



## 2.4.5 Slot 7

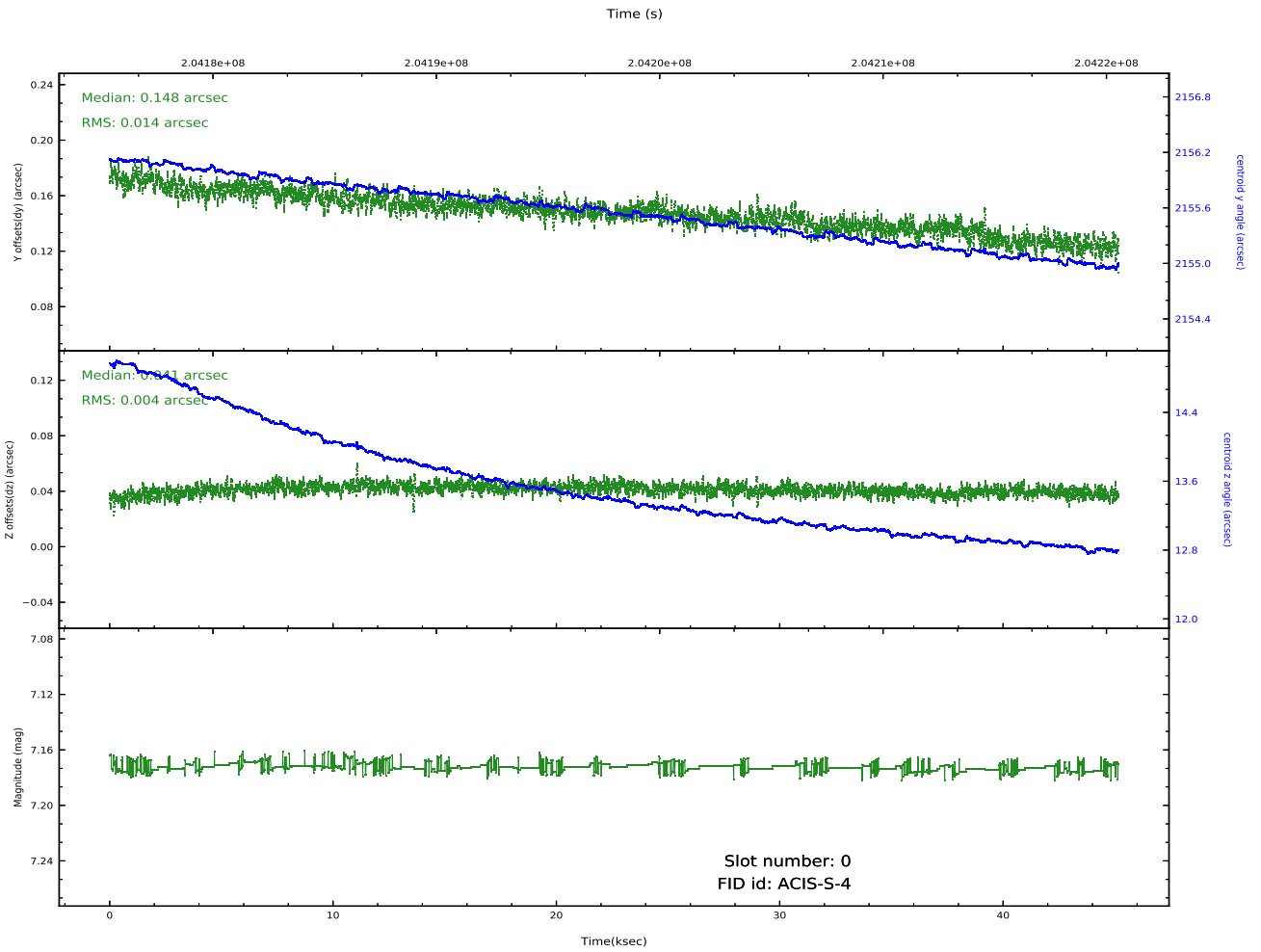
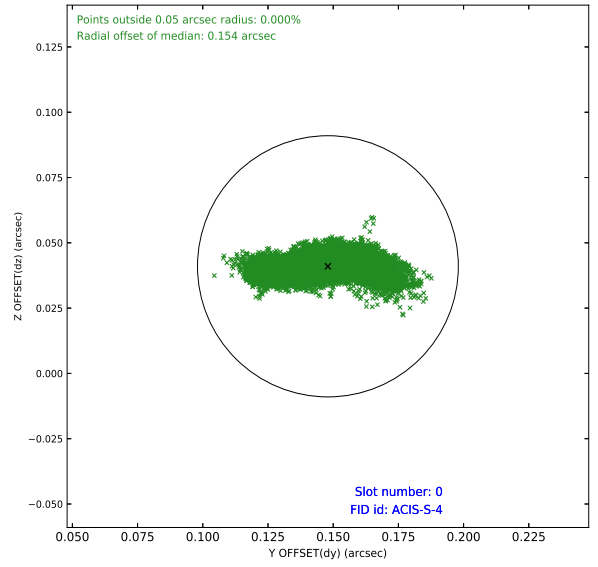
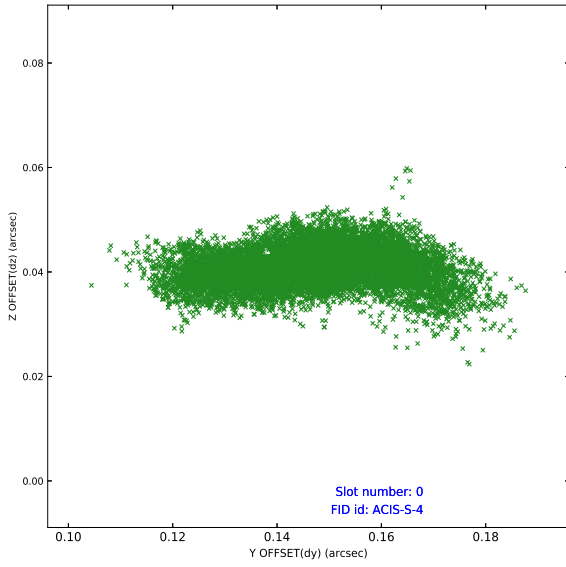


Time (s)

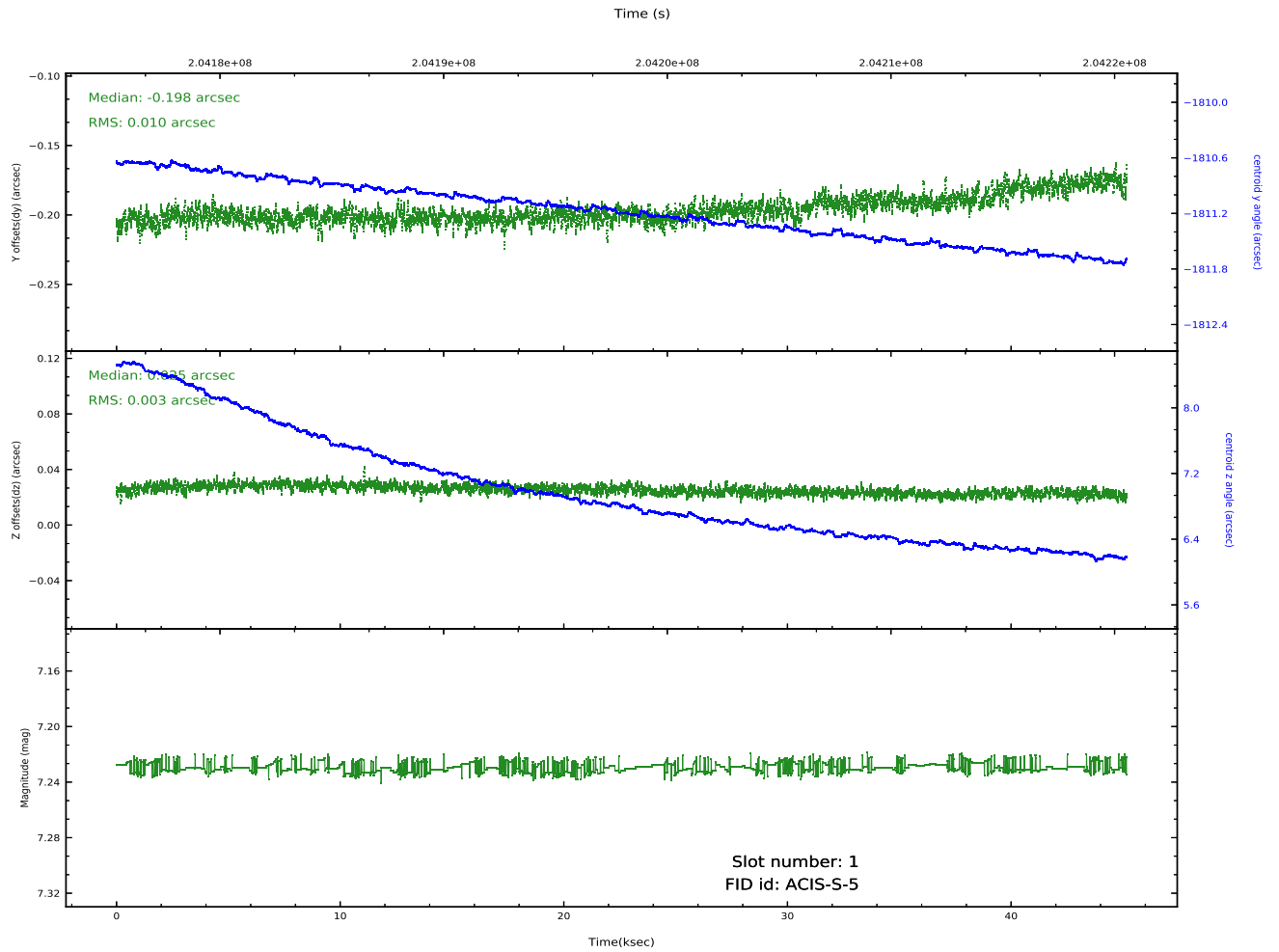
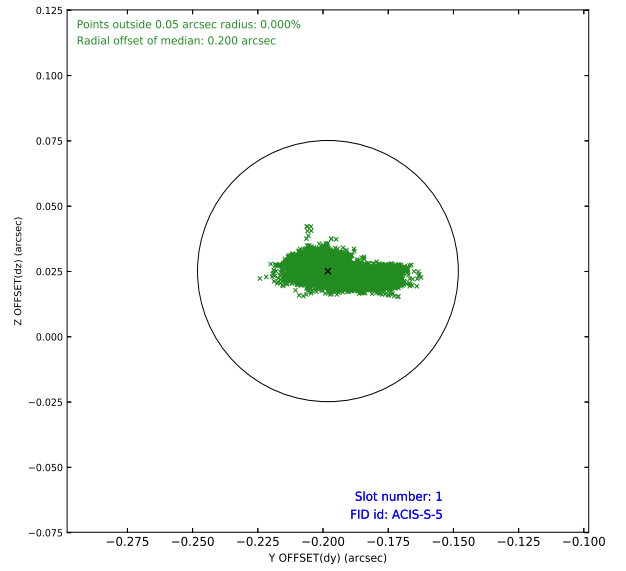
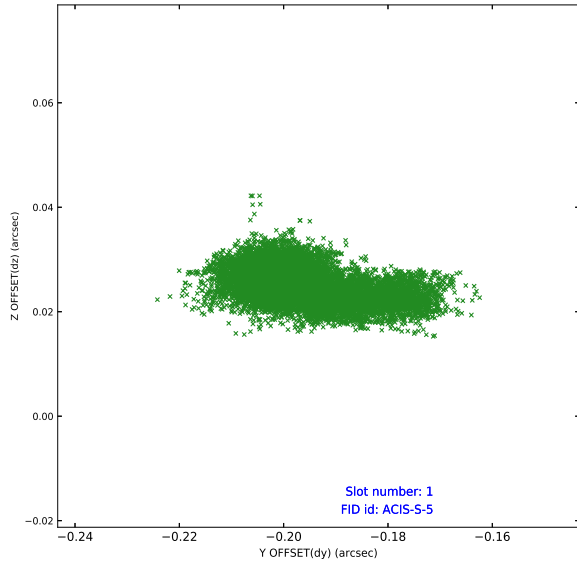


## 2.5 FID Slots

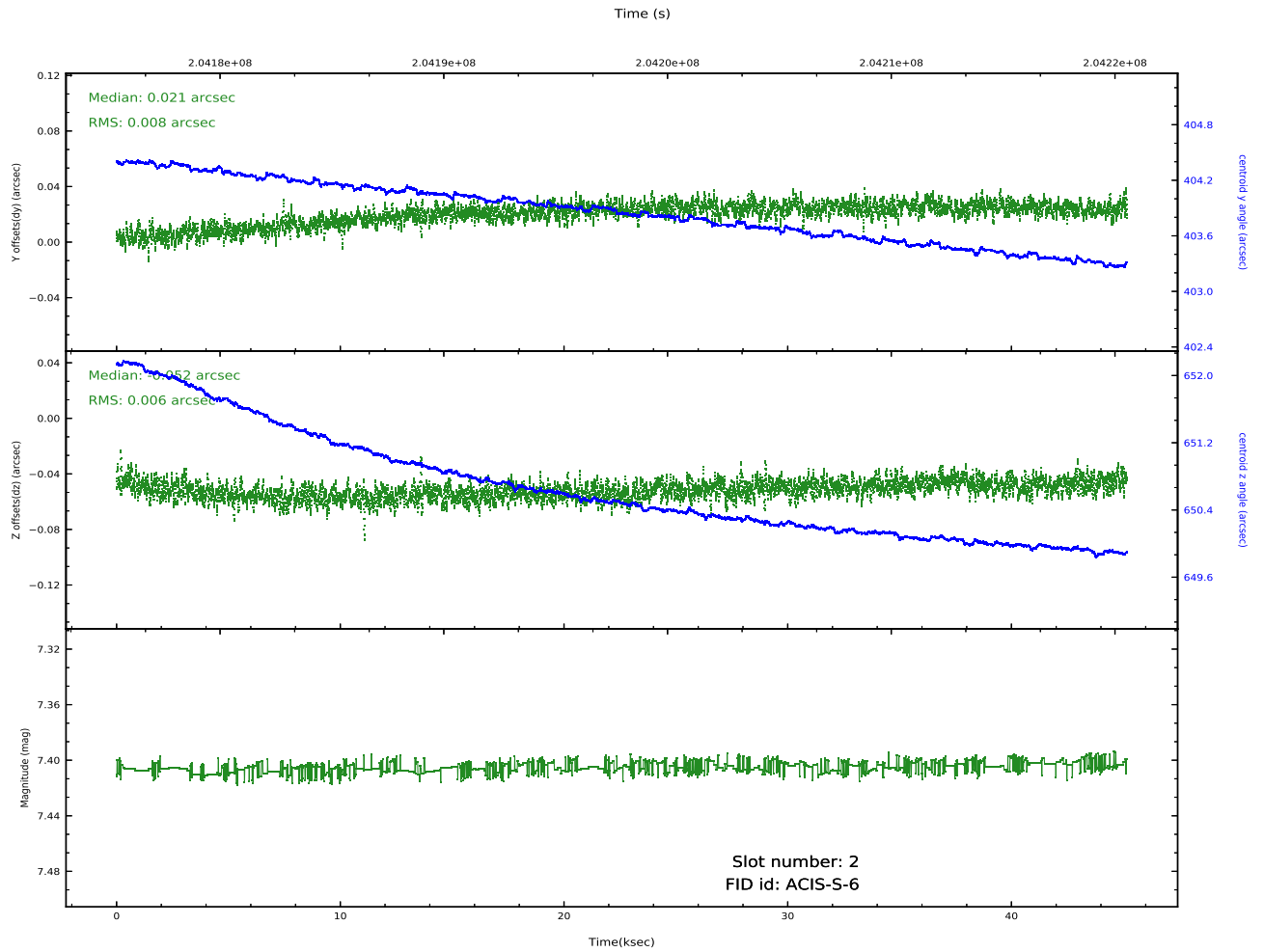
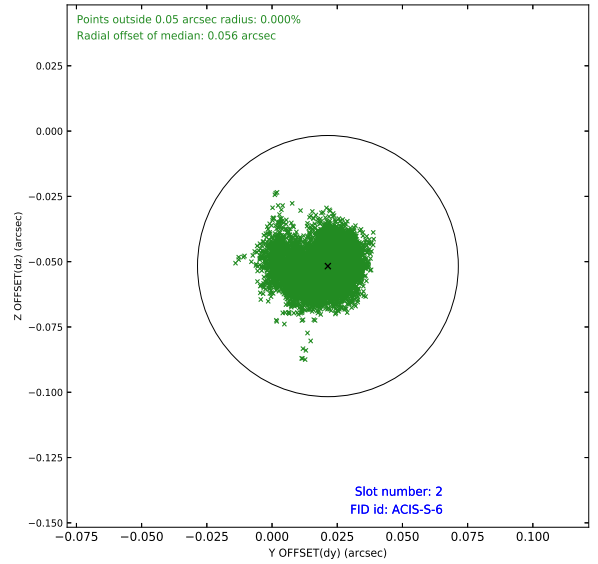
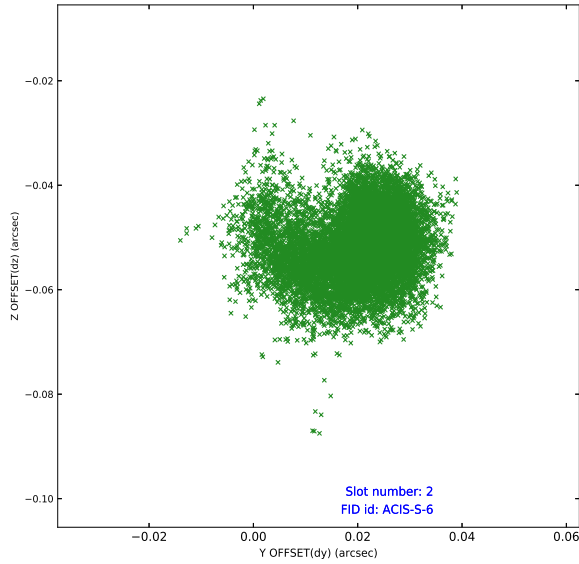
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

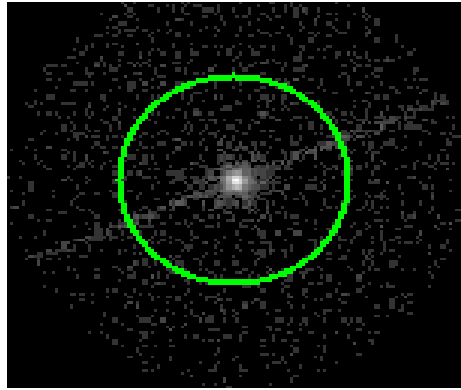


### 3 Gratings

#### 3.1 LETG Arm



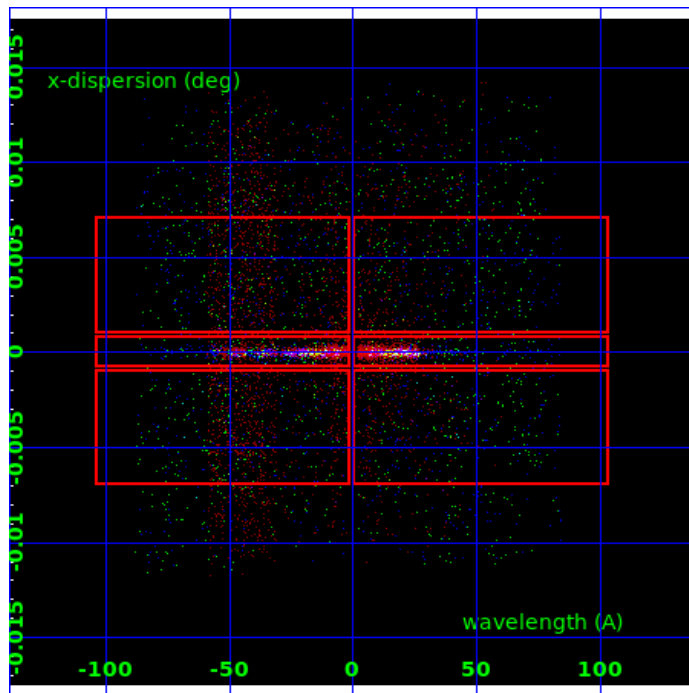
LETG Order Sort 123



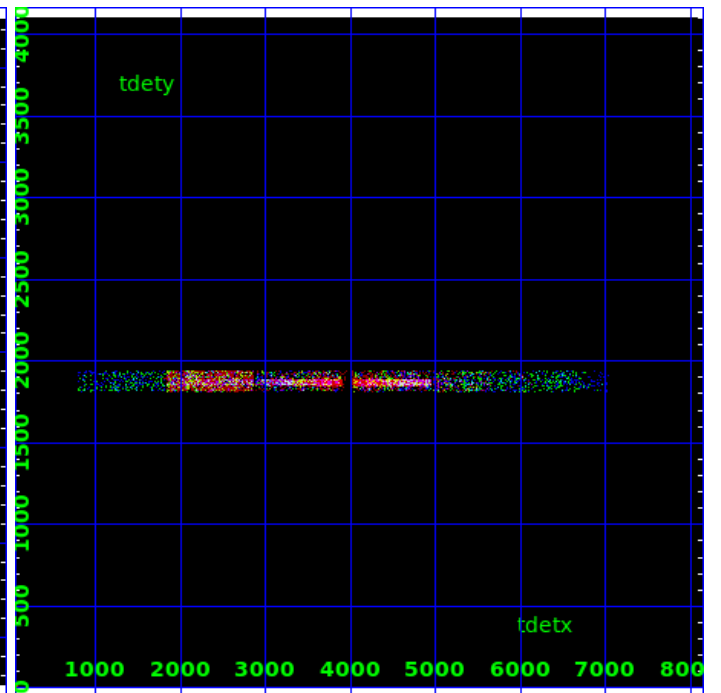
LETG Zero Order



LETG Order Sort ALL

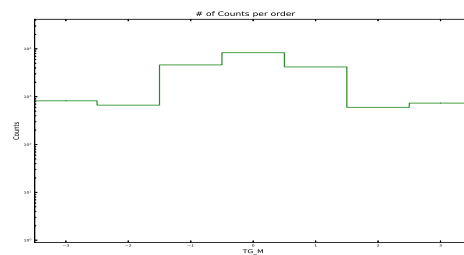


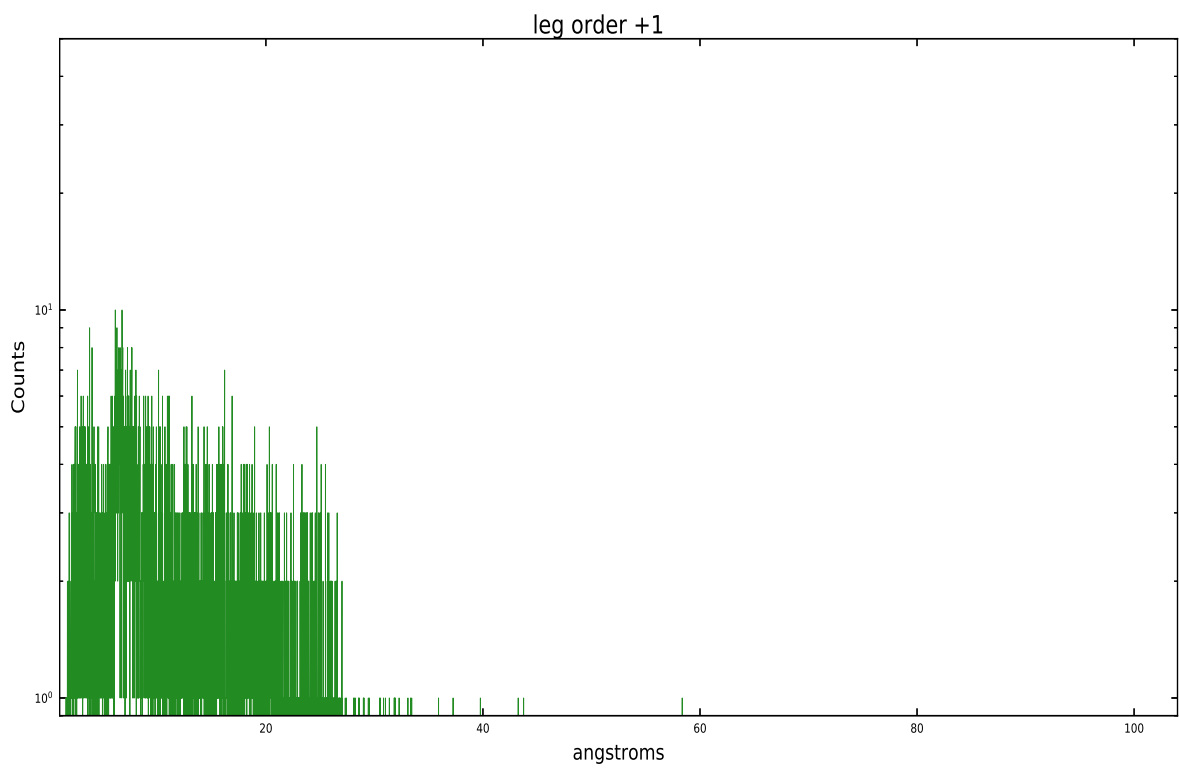
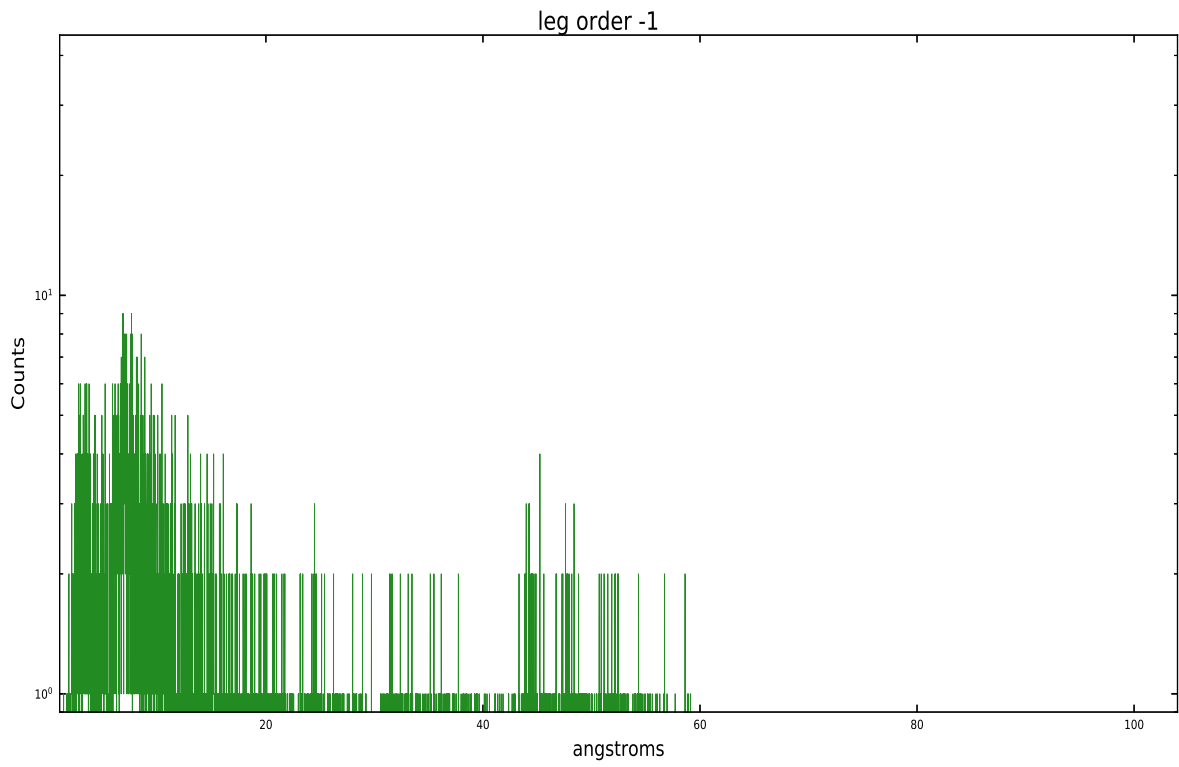
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	820	666	4621	8305	4189	600	735





# A Summary

## A.1 Status

V&V Scientist	David Principe
V&V Date (YYYY-MM-DD)	2020.10.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	45.172

## A.2 Comments