

# V&V Reference Report

## L2 ASCDS Version : 10.9.2

Observation 19637 - L2 Version 2  
Chandra X-Ray Center

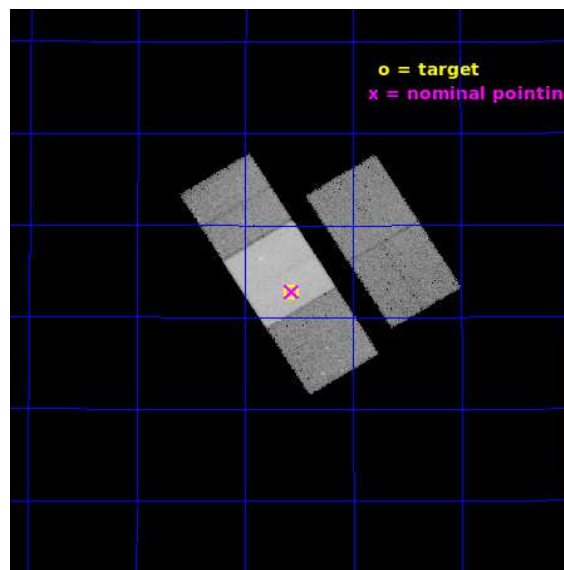
L2 Processing Date : Oct 25 2020

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# 1 Front

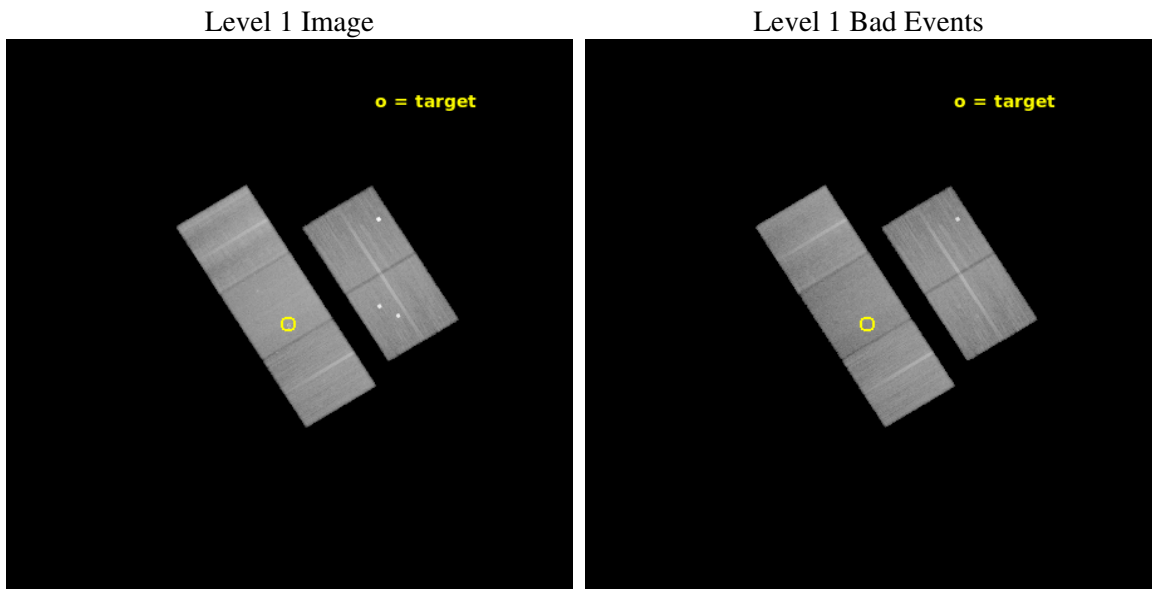
seq_num	703434	Sequence number
obs_id	19637	Observation id
title	MEASURING THE INNERMOST STABLE ORBIT USING MICROLENSING OF THE FE K LINE	Proposal title
observer	George Chartas	Principal investigator
object	SDSS1004+4112	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	151.1425	Observer's specified target RA [deg]
dec_targ	41.212222	Observer's specified target Dec [deg]
ra_nom	151.1417277286	Nominal RA [deg]
dec_nom	41.213260500588	Nominal Dec [deg]
roll_nom	238.12730241818	Nominal Roll [deg]
revision	2	Processing version of data
ontime	40052.000308156	Sum of GTIs [s]
livetime	39528.691438276	Livetime [s]
ontime2	40048.859277844	Sum of GTIs [s]
ontime3	40048.859287977	Sum of GTIs [s]
ontime6	40052.000308156	Sum of GTIs [s]
ontime7	40052.000308156	Sum of GTIs [s]
ontime8	40048.859337449	Sum of GTIs [s]
l2events	278170	Number of level 2 events



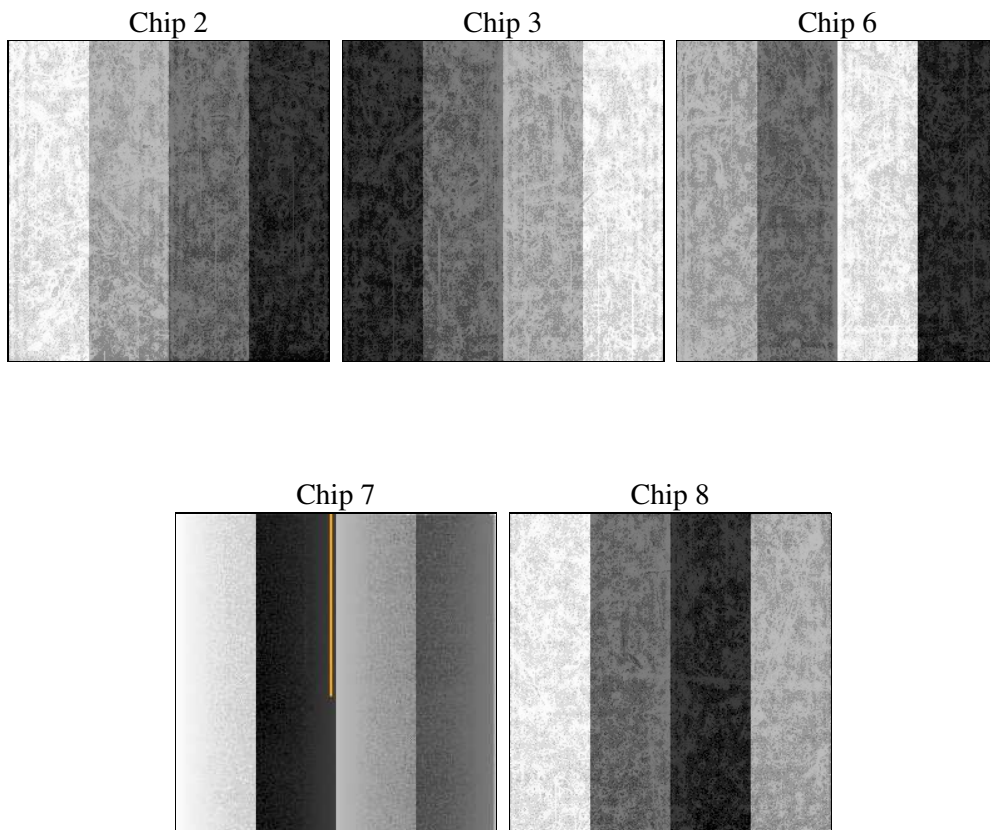
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	40000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	40052.000308156	Sum of GTIs [s]
caldbver	4.9.3	&#160	ontime2	40048.859277844	Sum of GTIs [s]
date	2020-10-25T14:33:27	Date and time of file creation	ontime3	40048.859287977	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	40052.000308156	Sum of GTIs [s]
			ontime7	40052.000308156	Sum of GTIs [s]
			ontime8	40048.859337449	Sum of GTIs [s]
			l1events	1758076	Number of level 1 events

### 2.1.4 Events

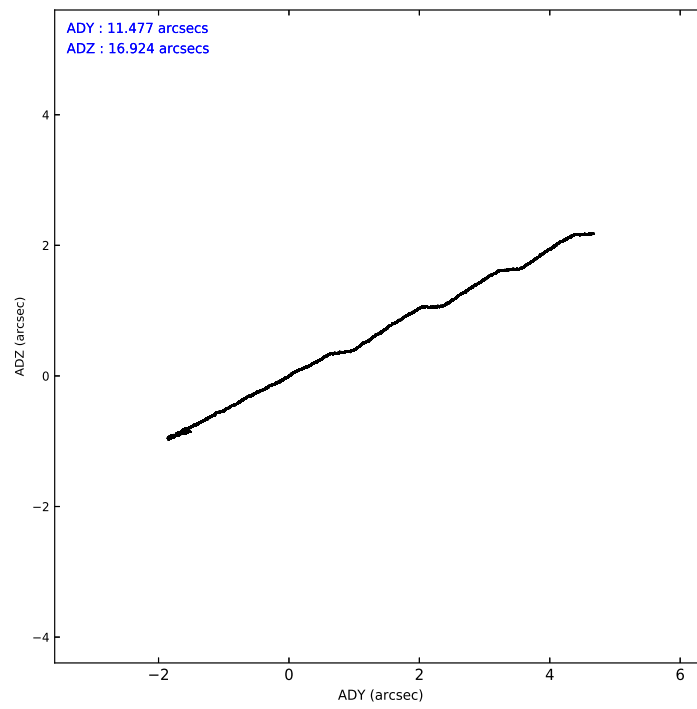
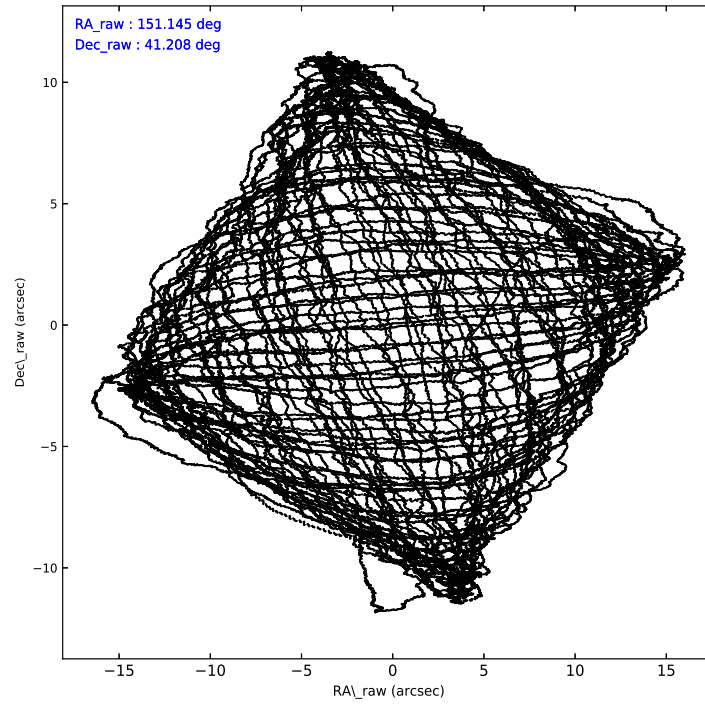
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	330065	316748	320177	390065	401021
rejected events	275302	270901	286289	220661	296048
rejected %	83%	85%	89%	56%	73%

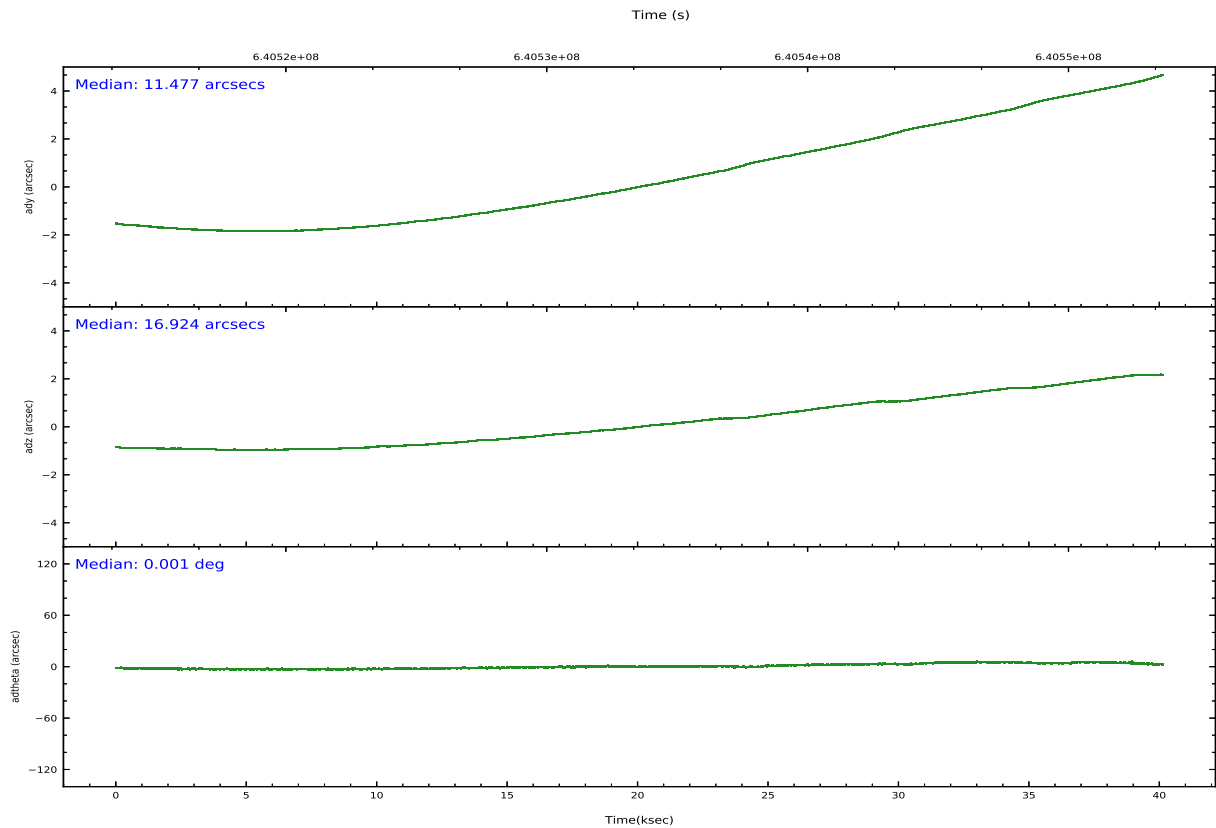
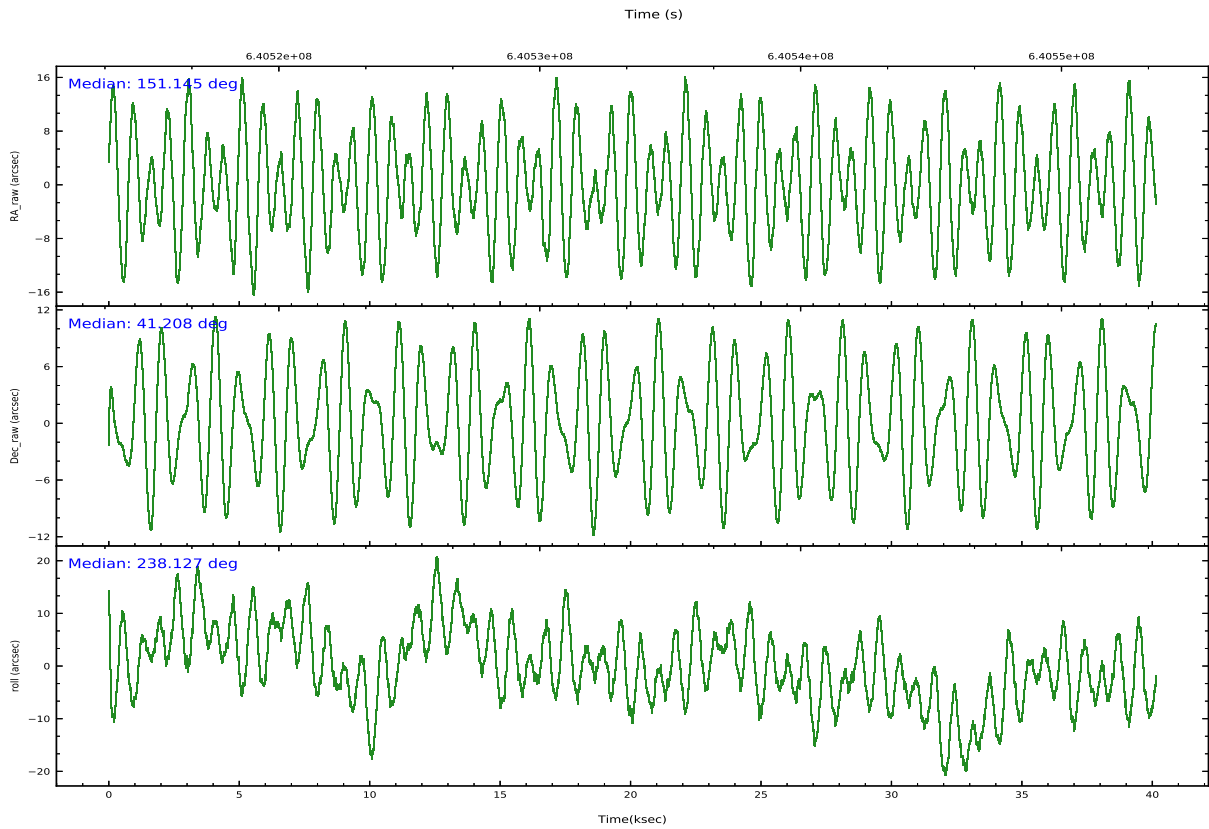
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	34783	14120	10621	14669	29237
	10%	4%	3%	3%	7%
grade 1 events	282	7206	134	545	289
	0%	2%	0%	0%	0%
grade 2 events	7443	18340	8594	35460	25940
	2%	5%	2%	9%	6%
grade 3 events	3213	3235	3131	13530	11007
	0%	1%	0%	3%	2%
grade 4 events	3202	3283	3073	13074	10213
	0%	1%	0%	3%	2%
grade 5 events	11161	14029	13562	37955	21272
	3%	4%	4%	9%	5%
grade 6 events	6125	6872	8472	92689	28582
	1%	2%	2%	23%	7%
grade 7 events	263856	249663	272590	182143	274481
	79%	78%	85%	46%	68%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-23678	ACIS-23678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	151.145591	151.1417277286	CCD I2 on	O1	Y
[deg] Pointing Dec	41.235092	41.213260500588	CCD I3 on	O2	Y
[deg] Pointing Roll	237.977056	238.12730241818	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	N	N
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	O4	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	O3	Y
[s] Observation start time (MET)	640513628.184000	640512626.84115	CCD S5 on	N	N
Observation start date	2018-04-19T08:25:59	2018-04-19T08:10:26	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	640553628.184000	640554328.96861	On-chip summing requested	N	N
Observation end date	2018-04-19T19:32:39	2018-04-19T19:45:28	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





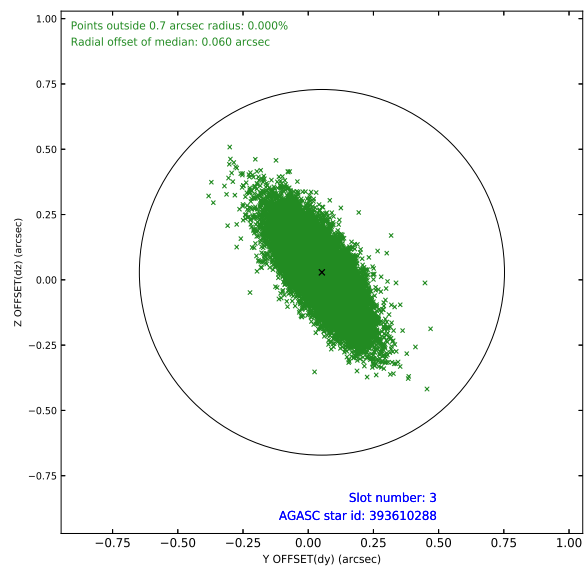
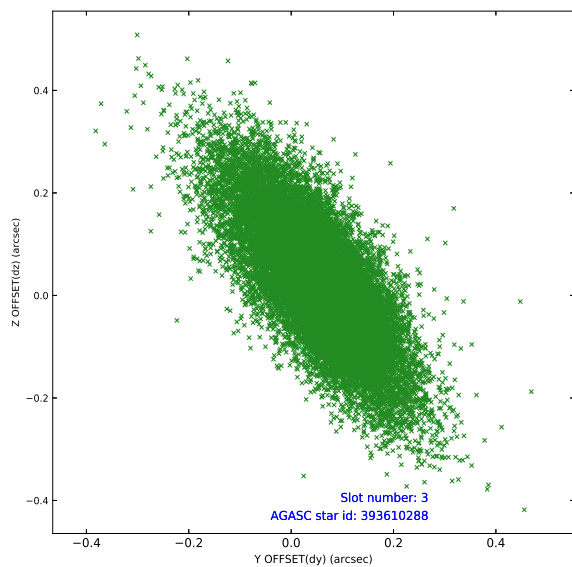
### Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.08	9792	1.000	0.073	-0.088	0.040	0.052	0.000000	0.000000	-764.93	-1738
1	FID		ACIS-S-4	7.21	9791	1.000	0.174	-0.007	0.030	0.045	0.000000	0.000000	2148.60	169
2	FID		ACIS-S-5	7.20	9791	1.000	-0.265	0.110	0.031	0.059	0.000000	0.000000	-1817.93	163
3	GUIDE	used	393610288	8.42	19572	1.000	0.053	0.029	0.150	0.281	151.538899	41.090404	-124.75	1178
4	GUIDE	used	393611520	7.26	19585	1.000	-0.159	-0.142	0.136	0.255	150.852248	42.009344	-1948.18	-2144
5	GUIDE	used	393616408	9.00	19568	1.000	0.024	0.010	0.165	0.282	150.713966	41.346840	275.61	-1203
6	GUIDE	used	393616816	8.41	19566	1.000	-0.139	0.126	0.148	0.269	151.562975	40.925077	343.17	1552
7	GUIDE	used	393619280	9.36	19553	1.000	0.220	-0.021	0.187	0.320	150.915222	40.640455	2149.70	602

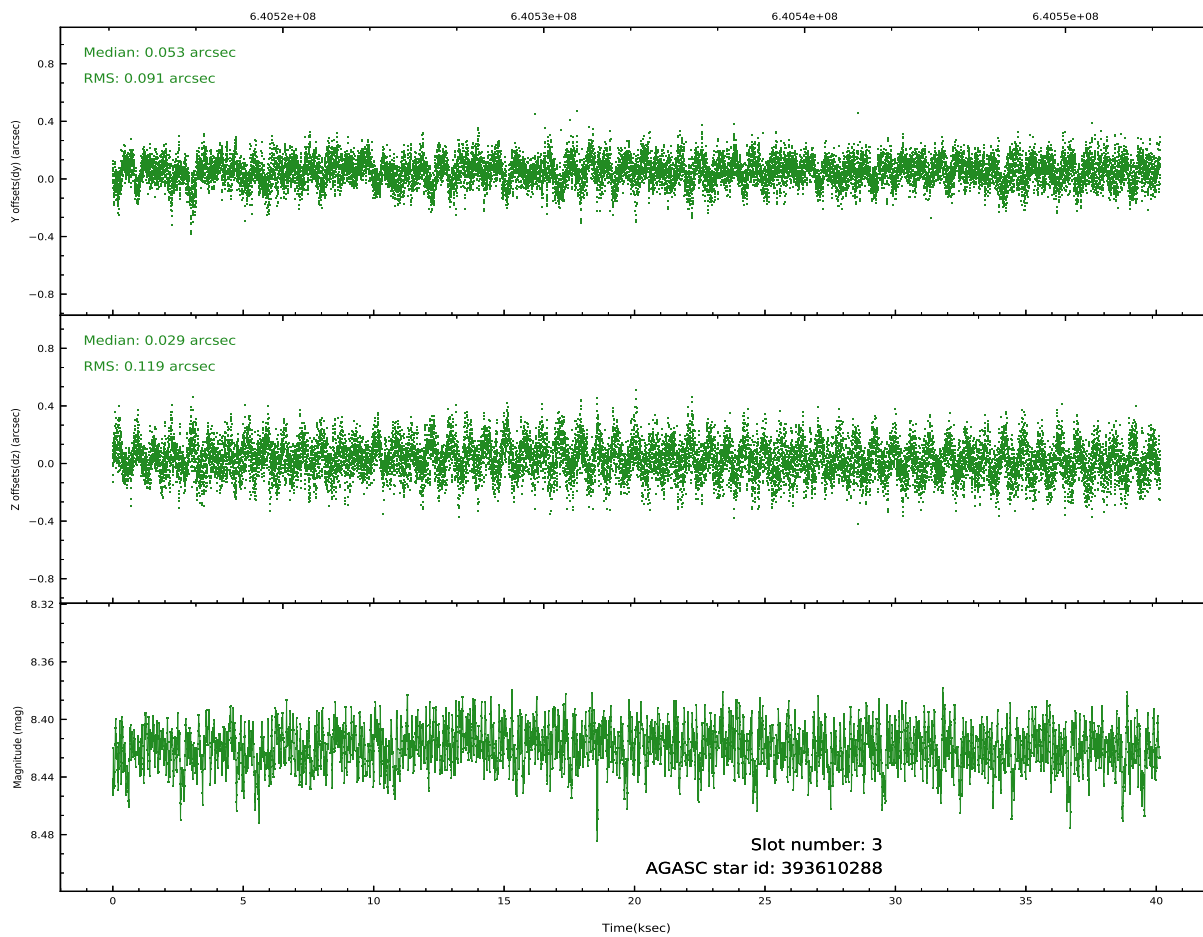
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## 2.4 Star Slots

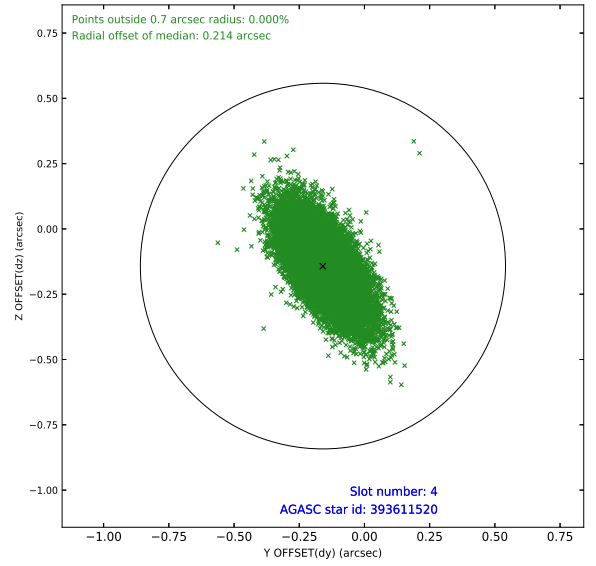
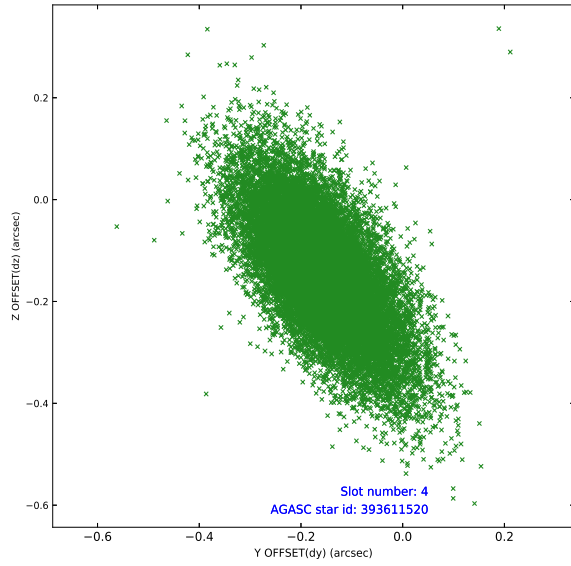
### 2.4.1 Slot 3



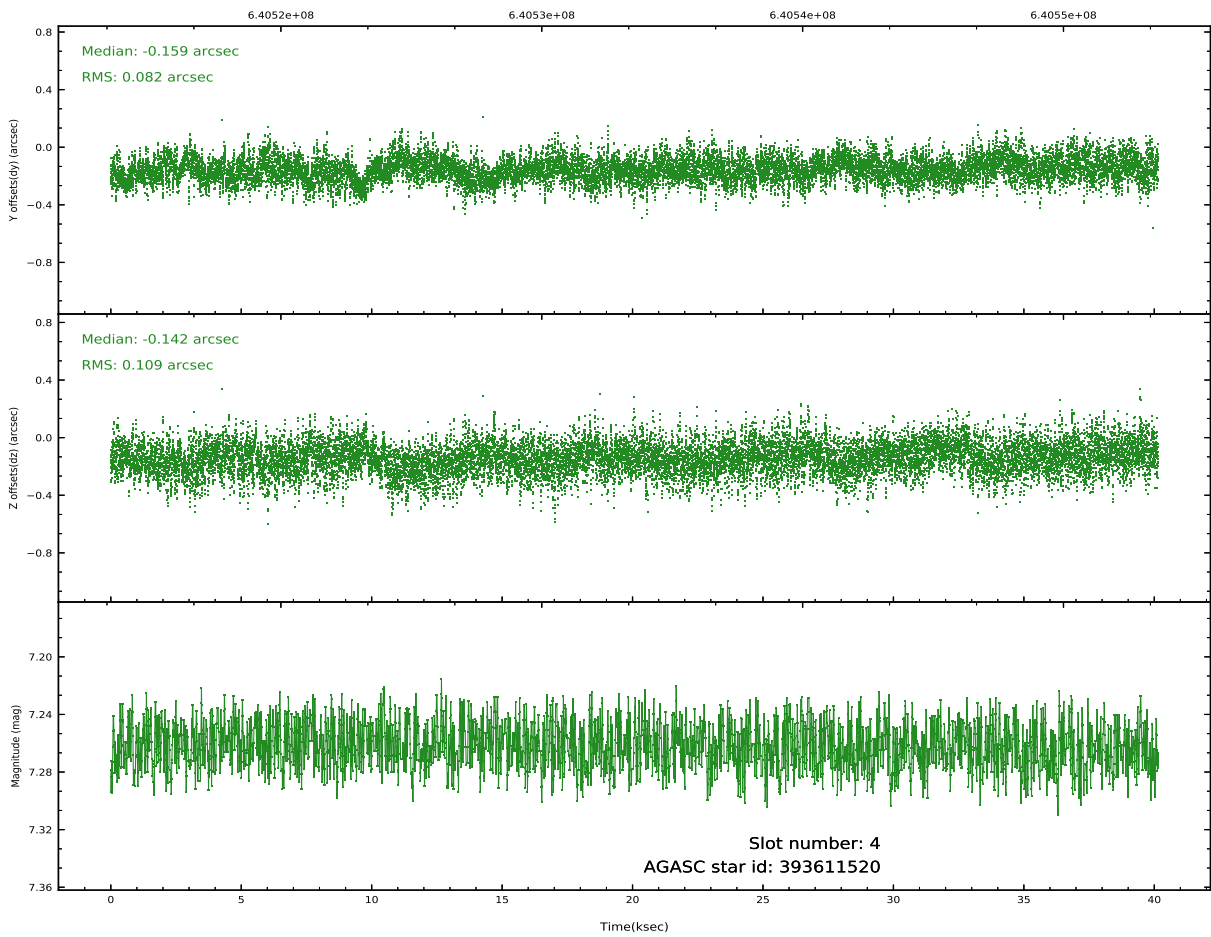
Time (s)



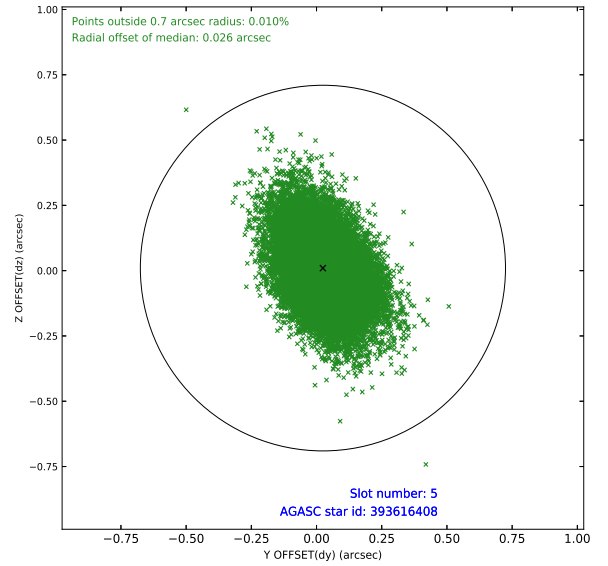
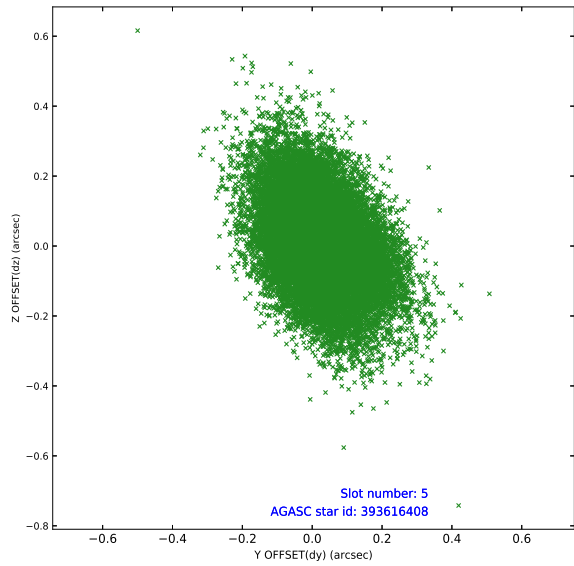
## 2.4.2 Slot 4



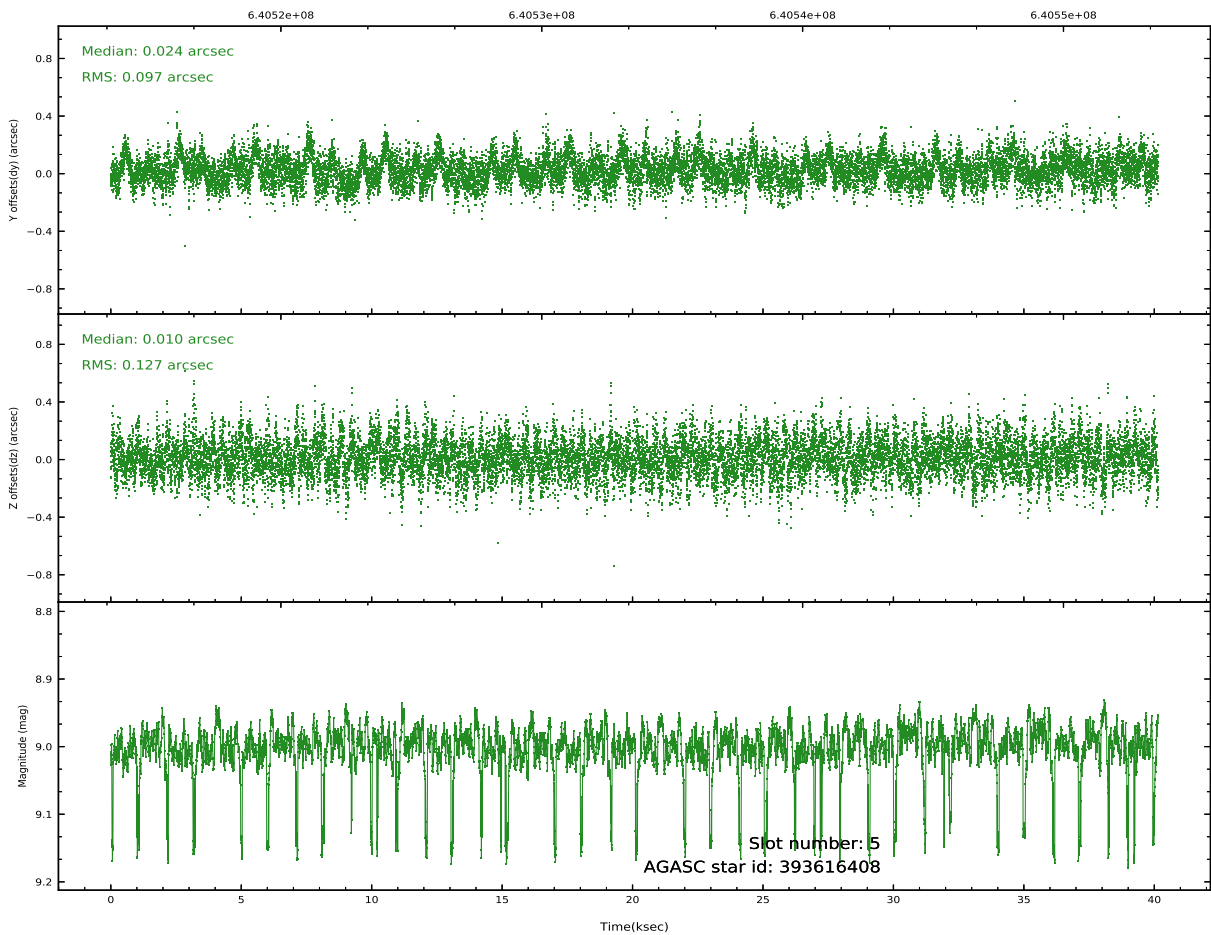
Time (s)



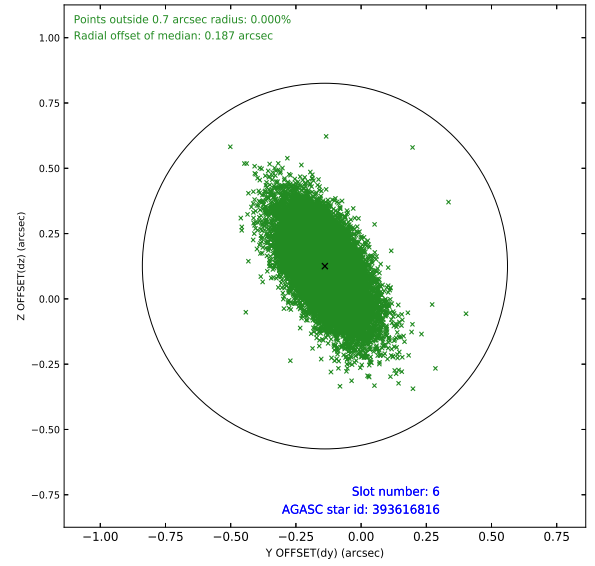
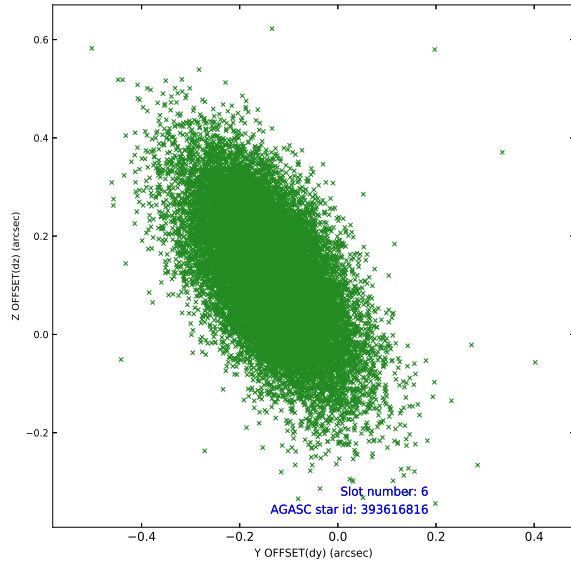
### 2.4.3 Slot 5



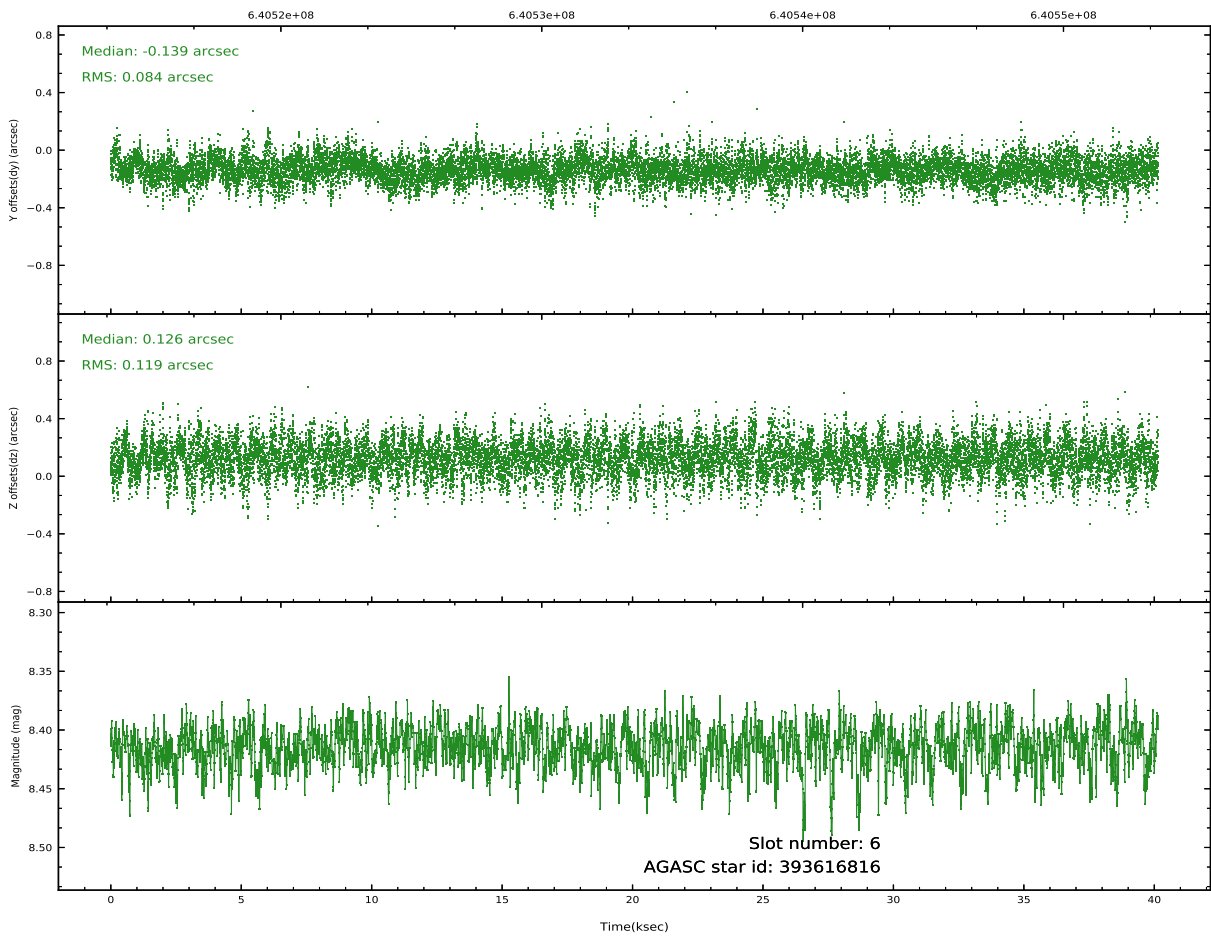
Time (s)



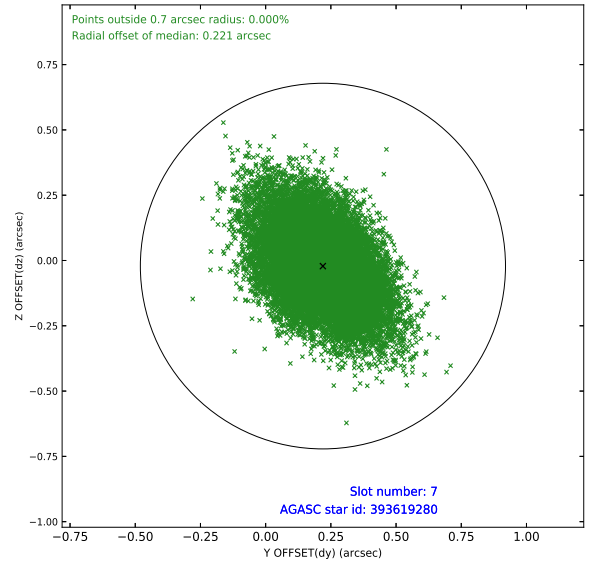
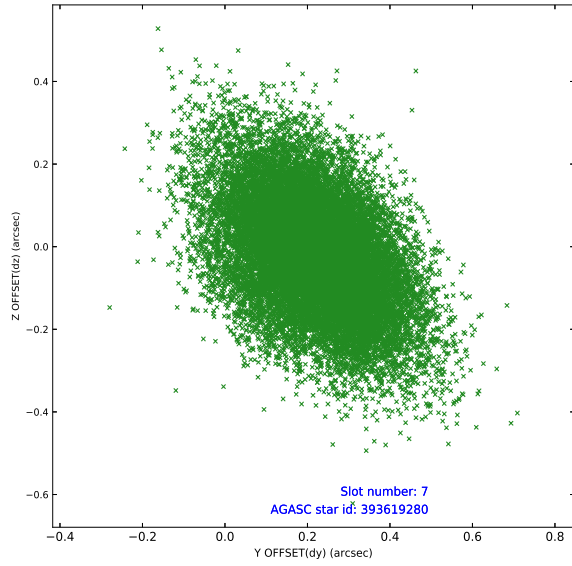
## 2.4.4 Slot 6



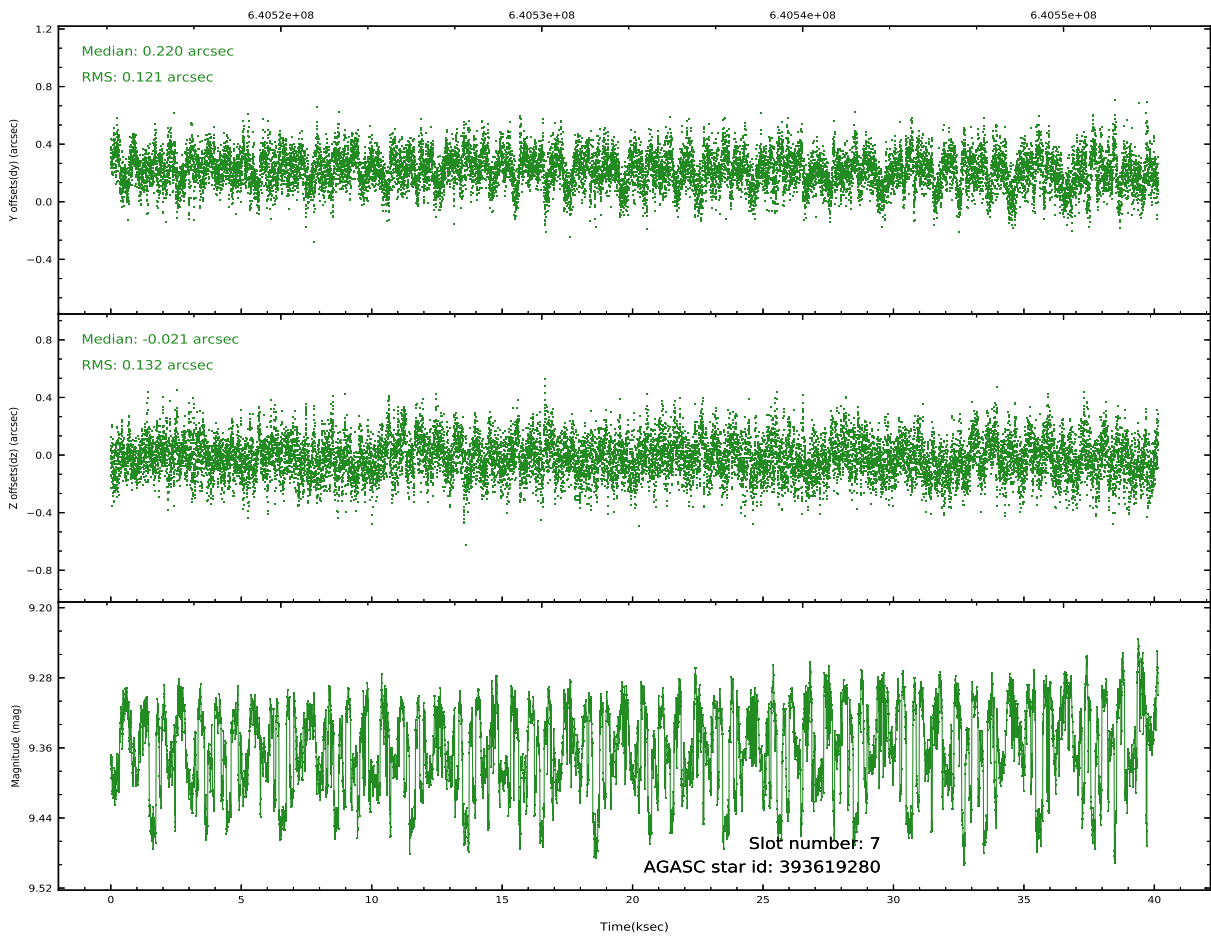
Time (s)



## 2.4.5 Slot 7

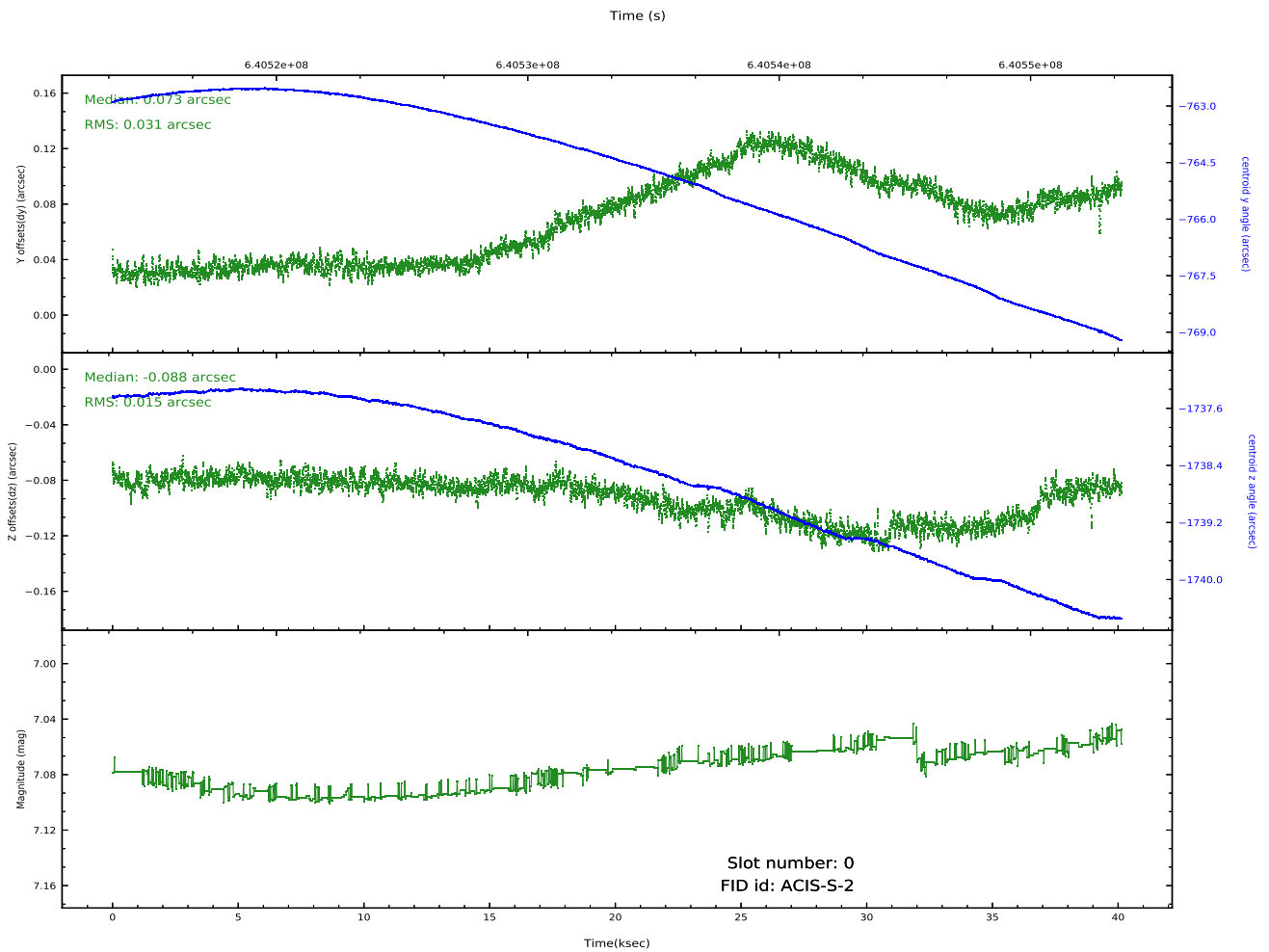
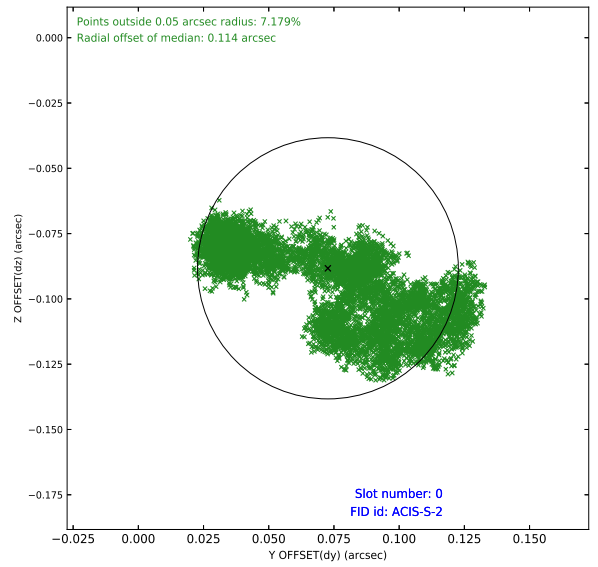
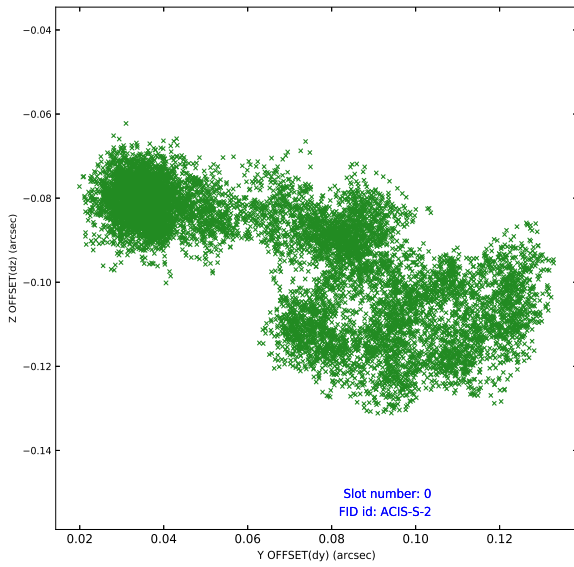


Time (s)

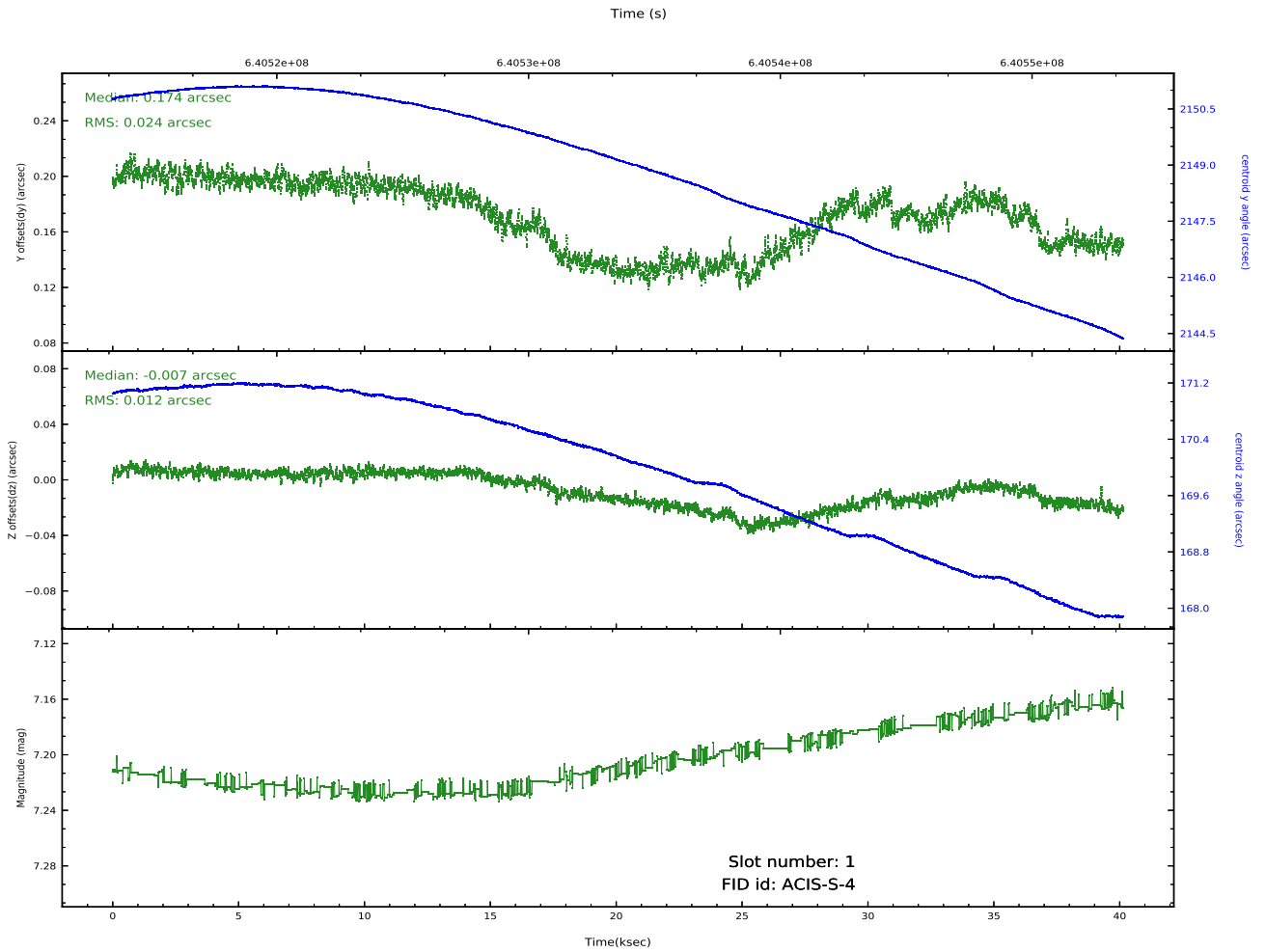
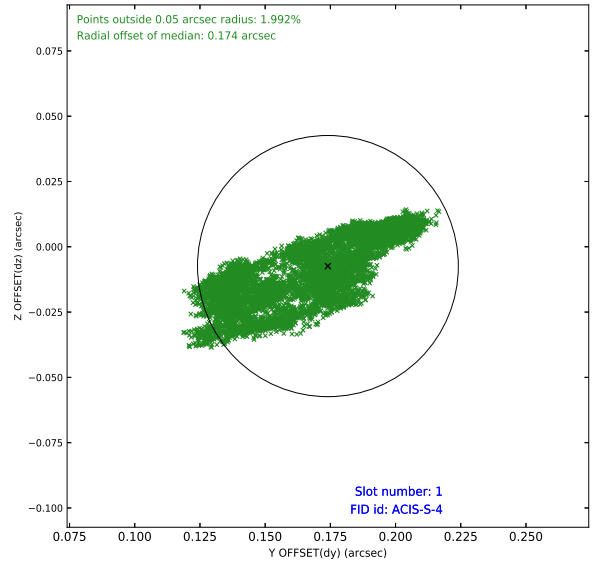
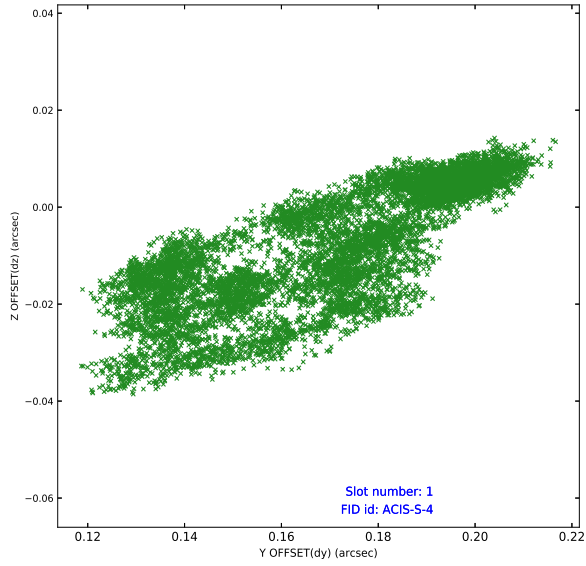


## 2.5 FID Slots

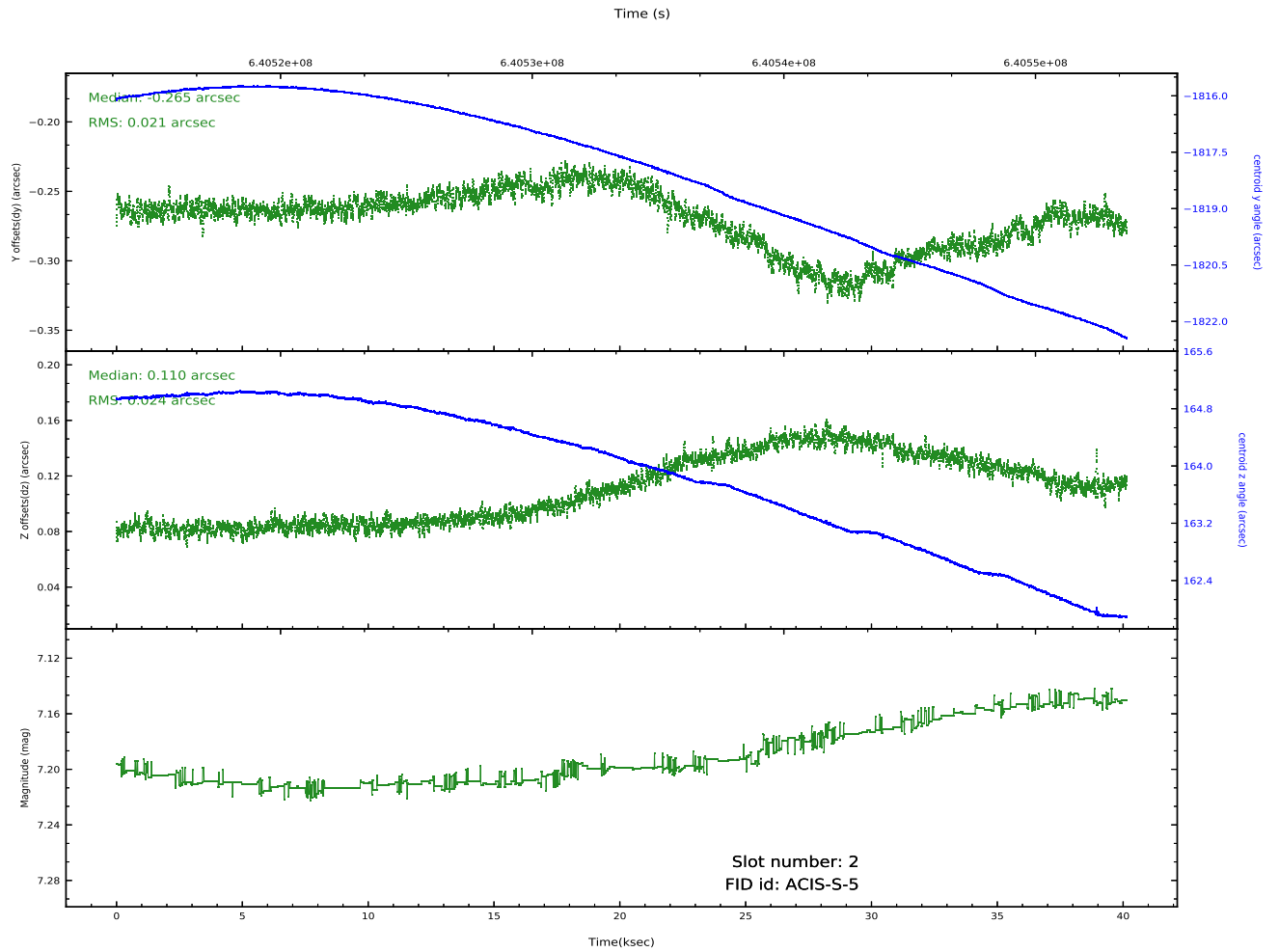
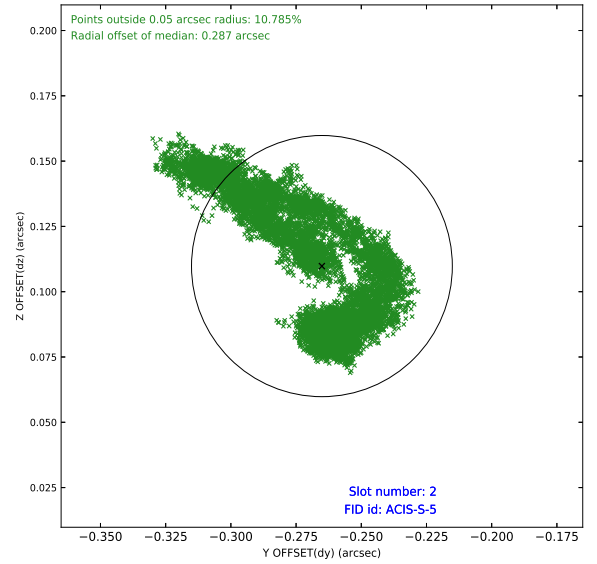
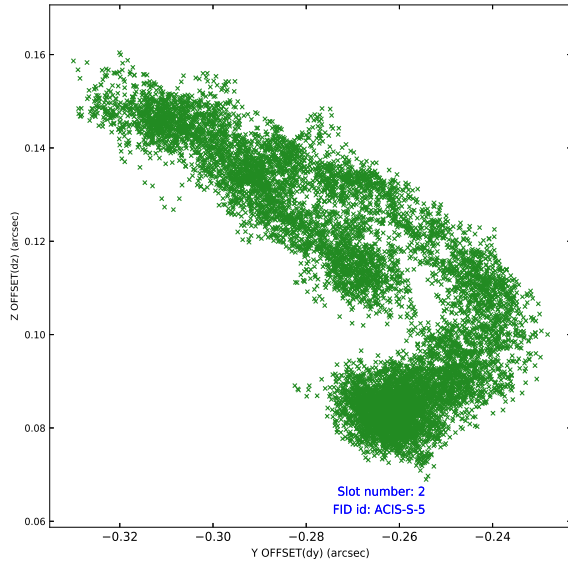
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2020.10.26
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	40.052000308156

## A.2 Comments