

V&V Reference Report

L2 ASCDS Version : 10.7.1

Observation 21987 - L2 Version 1
Chandra X-Ray Center

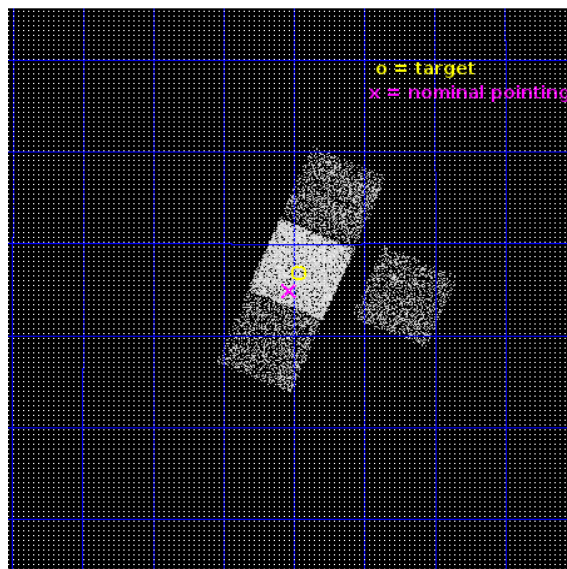
L2 Processing Date : Dec 13 2018

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1 Front

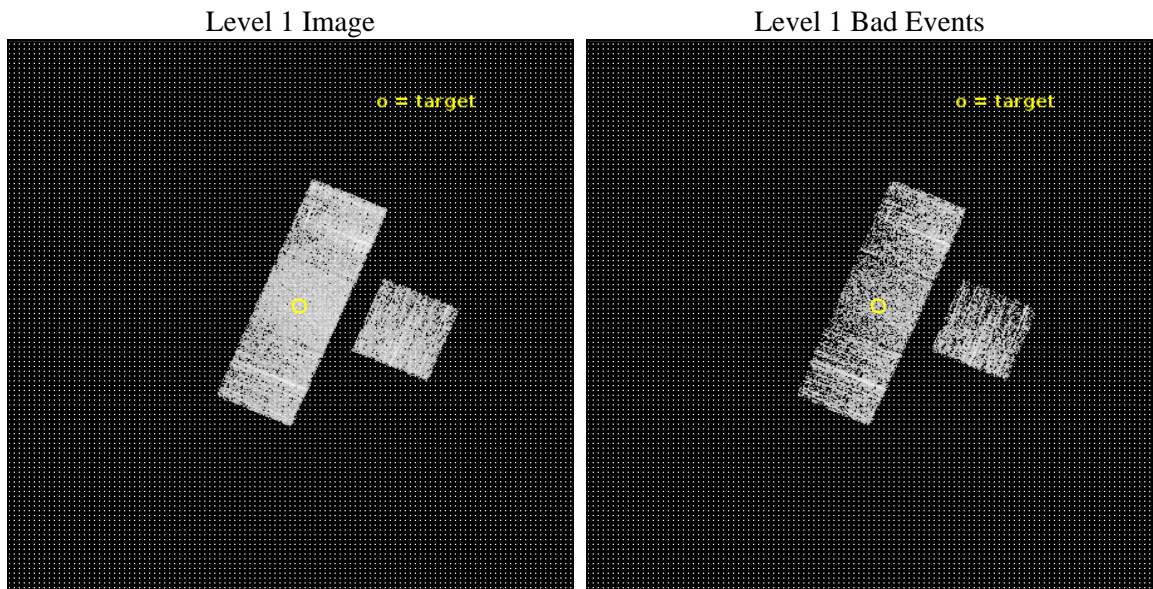
seq_num	100169	Sequence number
obs_id	21987	Observation id
title	Close encounter with comet 46P/Wirtanen: X-ray tomography of the coma	Proposal title
observer	Dennis Bodewits	Principal investigator
object	46P/Wirtanen	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	54.365985	Observer's specified target RA [deg]
dec_targ	10.612141	Observer's specified target Dec [deg]
ra_nom	54.383182561182	Nominal RA [deg]
dec_nom	10.581405646991	Nominal Dec [deg]
roll_nom	293.15340983463	Nominal Roll [deg]
revision	1	Processing version of data
ontime	2182.4000169039	Sum of GTIs [s]
livetime	2153.8853540235	Livetime [s]
ontime3	2182.4000169039	Sum of GTIs [s]
ontime6	2182.4000169039	Sum of GTIs [s]
ontime7	2182.4000169039	Sum of GTIs [s]
ontime8	2182.4000169039	Sum of GTIs [s]
l2events	13774	Number of level 2 events



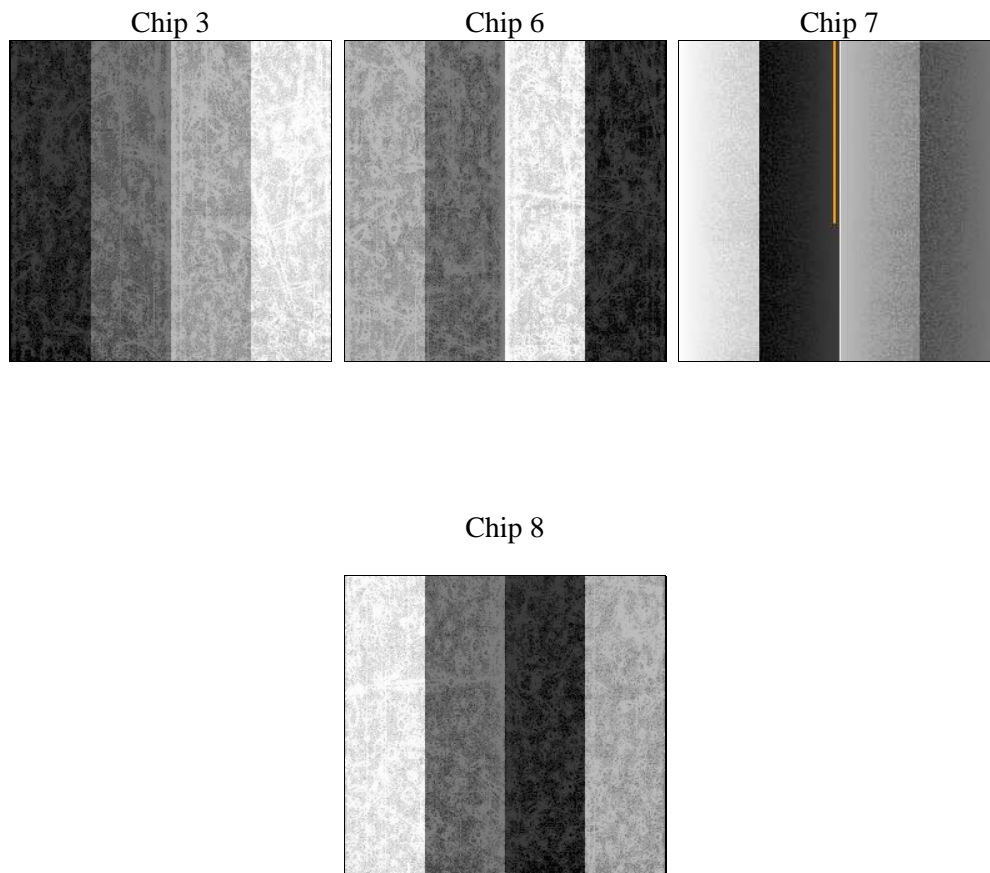
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	2000.000000	[s] Scheduled observation exposure time
ascdsver	10.7.1	Processing system revision	ontime	2182.4000169039	Sum of GTIs [s]
caldsver	4.8.2	 	ontime3	2182.4000169039	Sum of GTIs [s]
date	2018-12-14T00:52:11	Date and time of file creation	ontime6	2182.4000169039	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	2182.4000169039	Sum of GTIs [s]
			ontime8	2182.4000169039	Sum of GTIs [s]
			l1events	97468	Number of level 1 events

2.1.4 Events

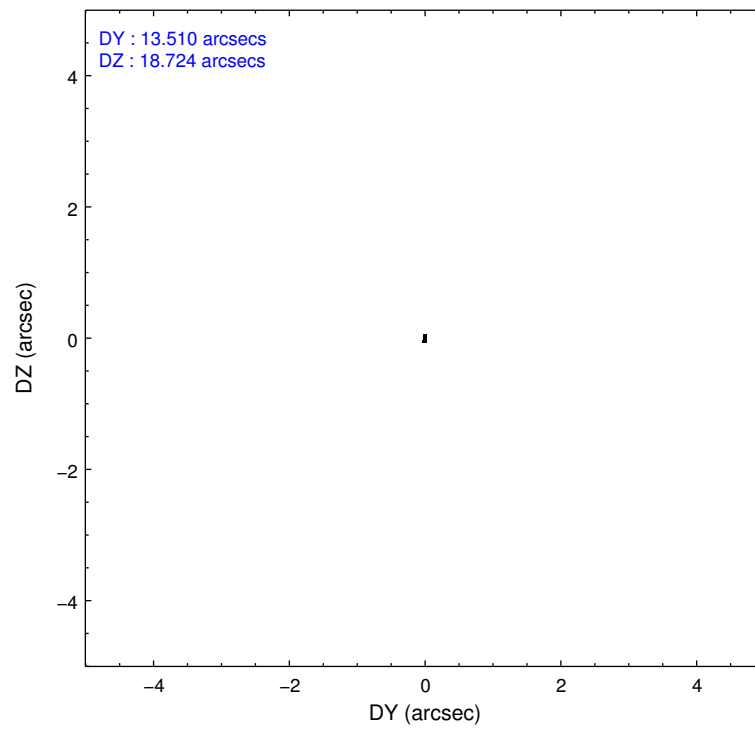
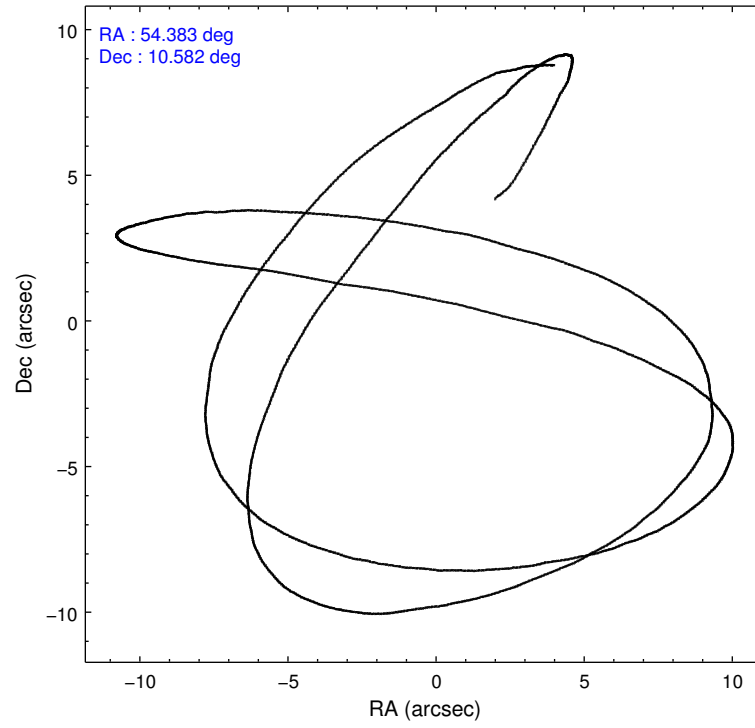
	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	19578	22124	27658	28108
rejected events	17873	20304	18585	22206
rejected %	91%	91%	67%	79%

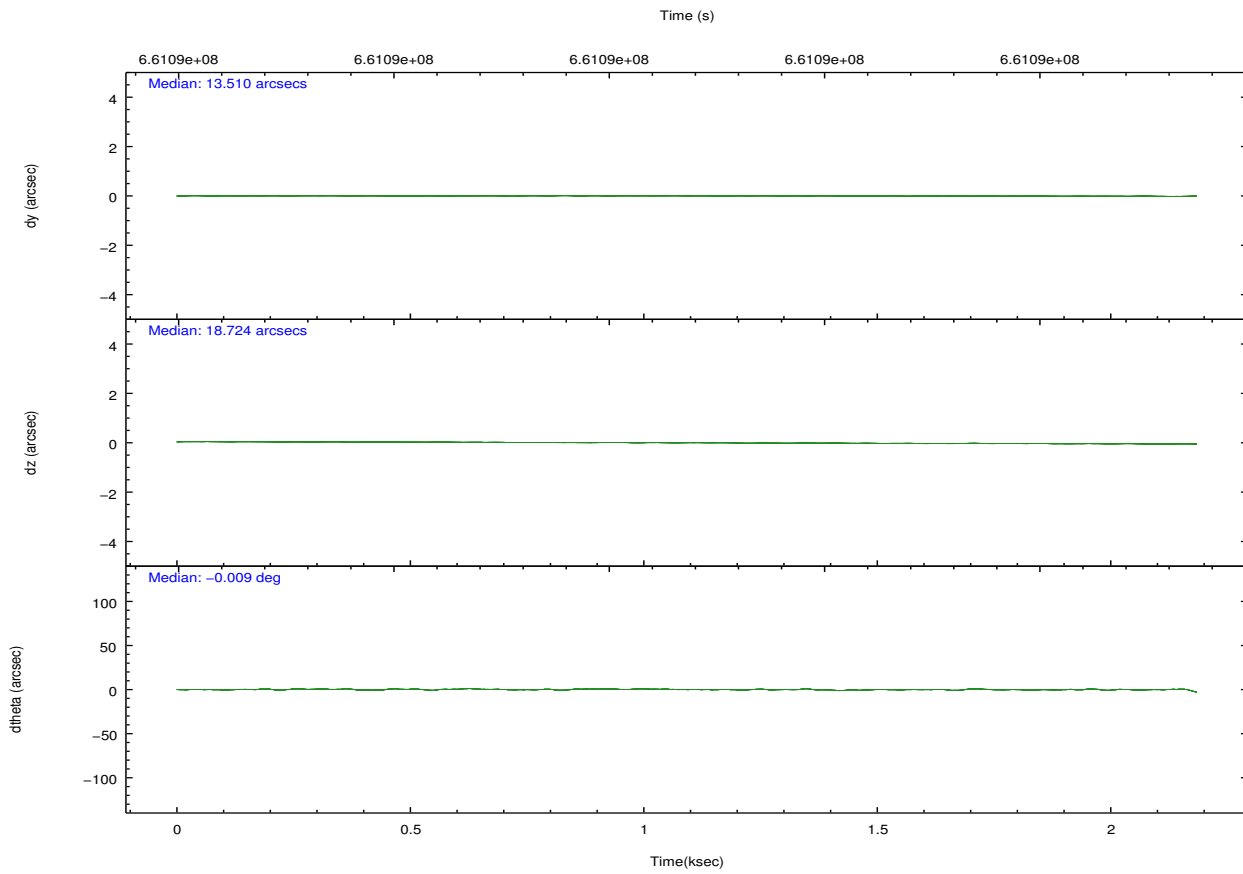
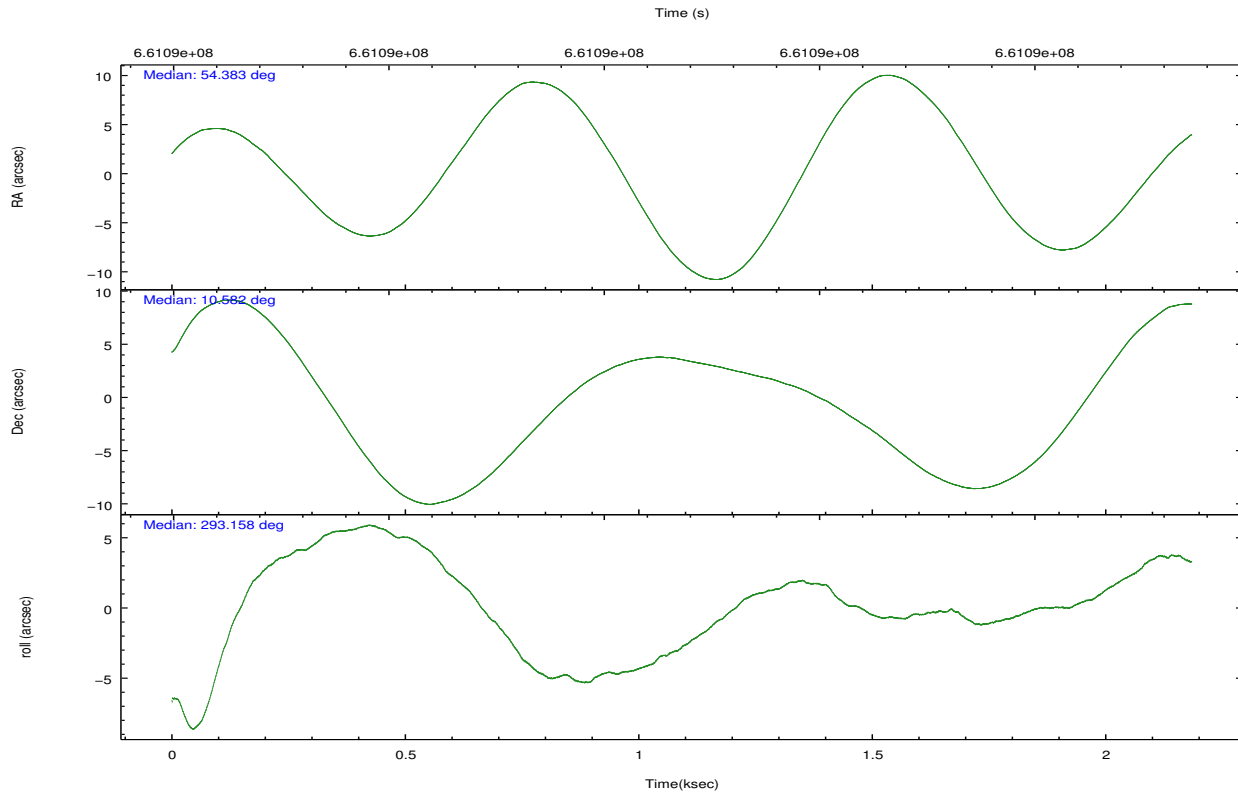
	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	762	779	925	2184
	3%	3%	3%	7%
grade 1 events	13	13	35	27
	0%	0%	0%	0%
grade 2 events	440	534	2576	1929
	2%	2%	9%	6%
grade 3 events	224	239	892	793
	1%	1%	3%	2%
grade 4 events	245	253	857	731
	1%	1%	3%	2%
grade 5 events	955	987	2737	1484
	4%	4%	9%	5%
grade 6 events	510	613	6420	1970
	2%	2%	23%	7%
grade 7 events	16429	18706	13216	18990
	83%	84%	47%	67%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-3678	ACIS-3678	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	54.360586	54.3831825611817	CCD I2 on	O2	N
[deg] Pointing Dec	10.597380	10.58140564699097	CCD I3 on	Y	Y
[deg] Pointing Roll	293.000995	293.1534098346281	CCD S0 on	N	N
[s] Window start time (MET)	660009669.184000	660009669.184000	CCD S1 on	O1	N
[s] Window stop time (MET)	660355269.184000	660355269.184000	CCD S2 on	Y	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S3 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S4 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S5 on	N	N
[mm] SIM translation stage offset	0	0.00754346686406393	Number of optional ACIS chips dropped	2	2
[s] Observation start time (MET)	661090776.184000	661090245.24186	On-chip summing requested	N	N
Observation start date	2018-12-13T12:18:27	2018-12-13T12:10:45	Subarray requested	NONE	NONE
[s] Observation end time (MET)	661092776.184000	661093061.42953	Alternating exposures requested	N	N
Observation end date	2018-12-13T12:51:47	2018-12-13T12:57:41	[s] Primary exposure time	0.000000	3.1
Read mode	TIMED	TIMED			

2.3 Aspect



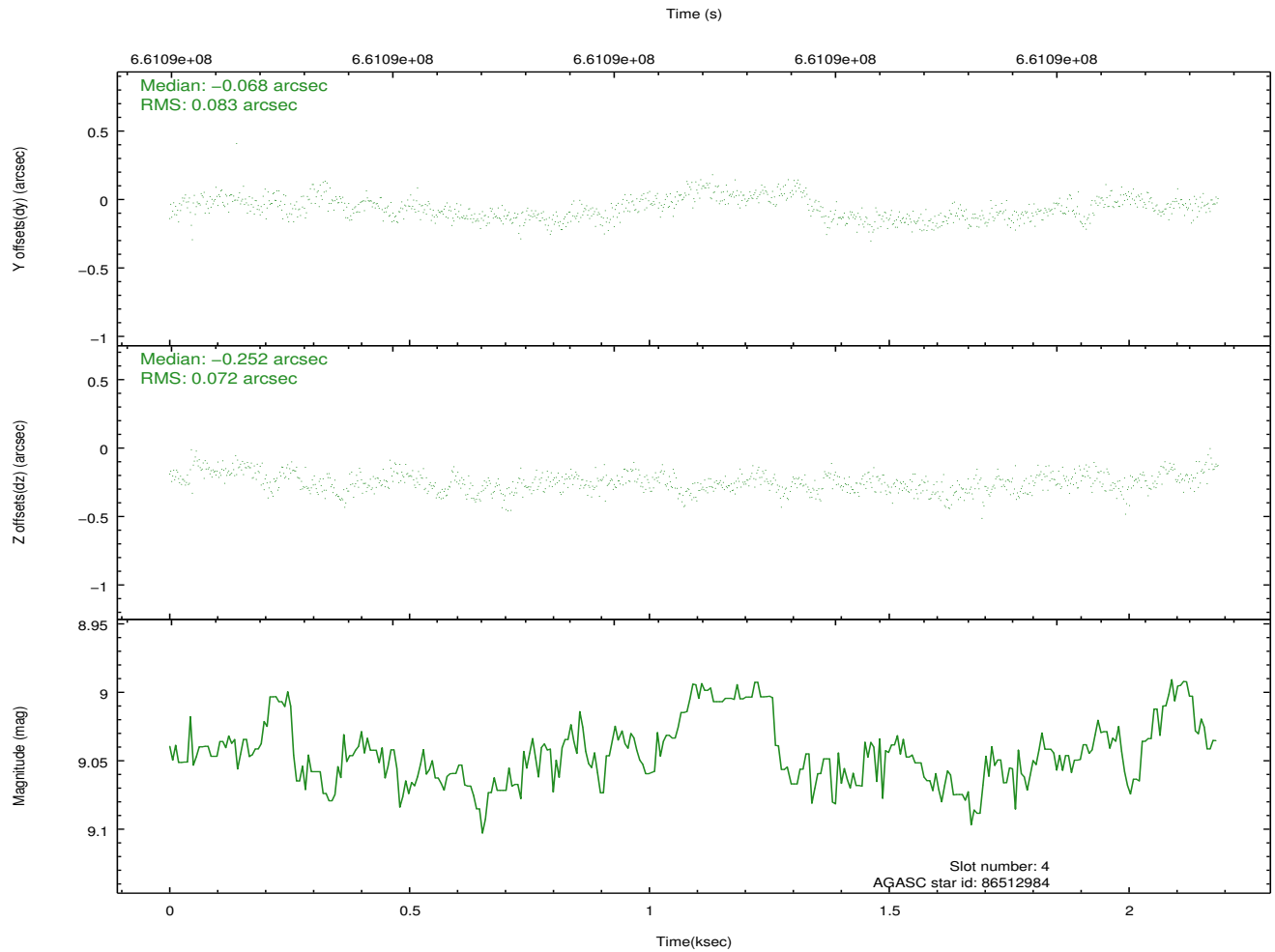
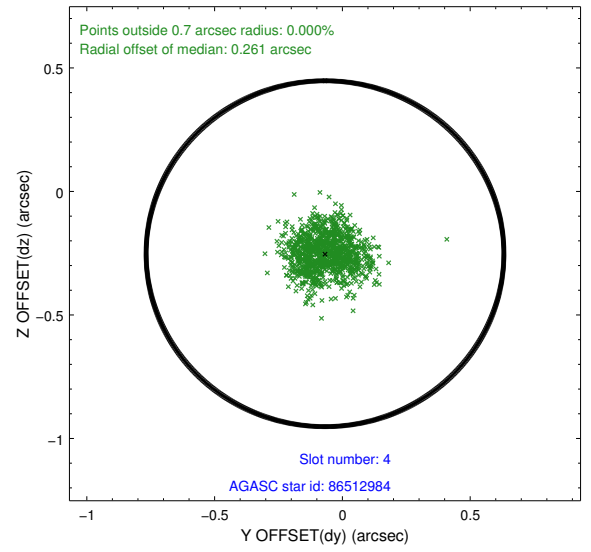
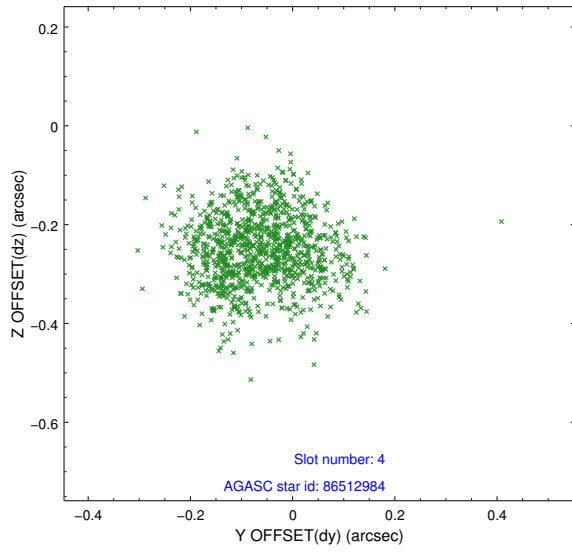


Slot Statistics

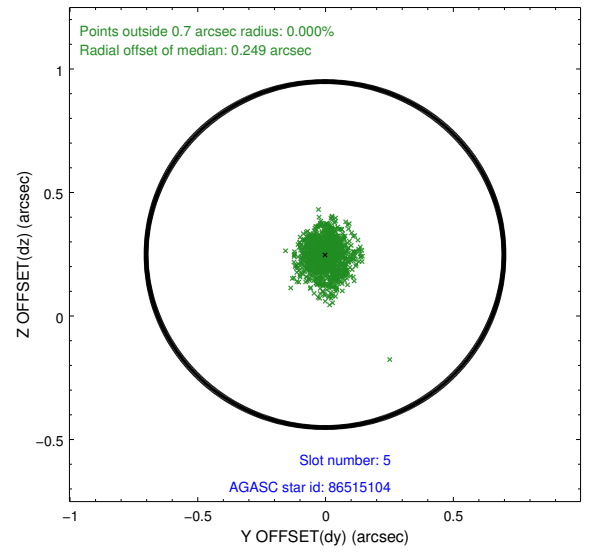
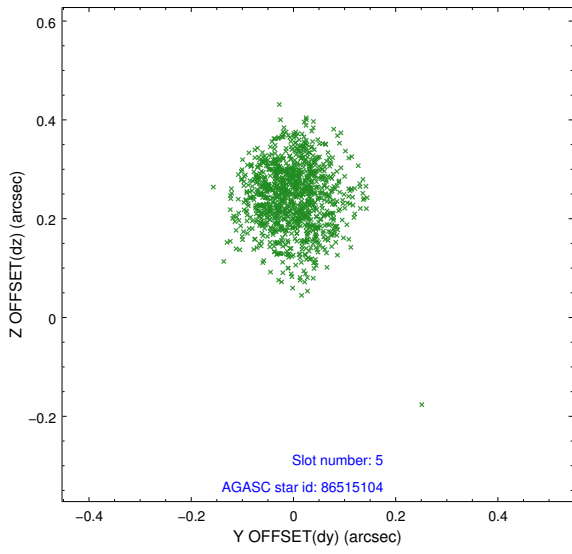
slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_x
0	FID		ACIS-S-1	7.15	533	1.000	0.205	-0.066	0.006	0.012	0.000000	0.000000	929.92	-1735
1	FID		ACIS-S-5	7.15	533	1.000	-0.511	0.084	0.006	0.010	0.000000	0.000000	-1818.26	158
2	FID		ACIS-S-6	7.30	533	1.000	0.285	-0.006	0.006	0.010	0.000000	0.000000	392.15	805
3	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0
4	GUIDE	used	86512984	9.05	1065	1.000	-0.068	-0.252	0.119	0.185	54.433894	10.707148	-260.65	393
5	GUIDE	used	86515104	8.08	1067	1.000	-0.002	0.249	0.089	0.139	53.764409	11.045848	-2310.47	-1306
6	GUIDE	used	86115264	8.64	1067	1.000	0.371	-0.065	0.112	0.199	54.191764	9.800176	2406.65	-1674
7	GUIDE	used	86116984	7.02	1066	1.000	-0.312	0.068	0.056	0.093	54.479042	9.932832	2369.70	-549

2.4 Star Slots

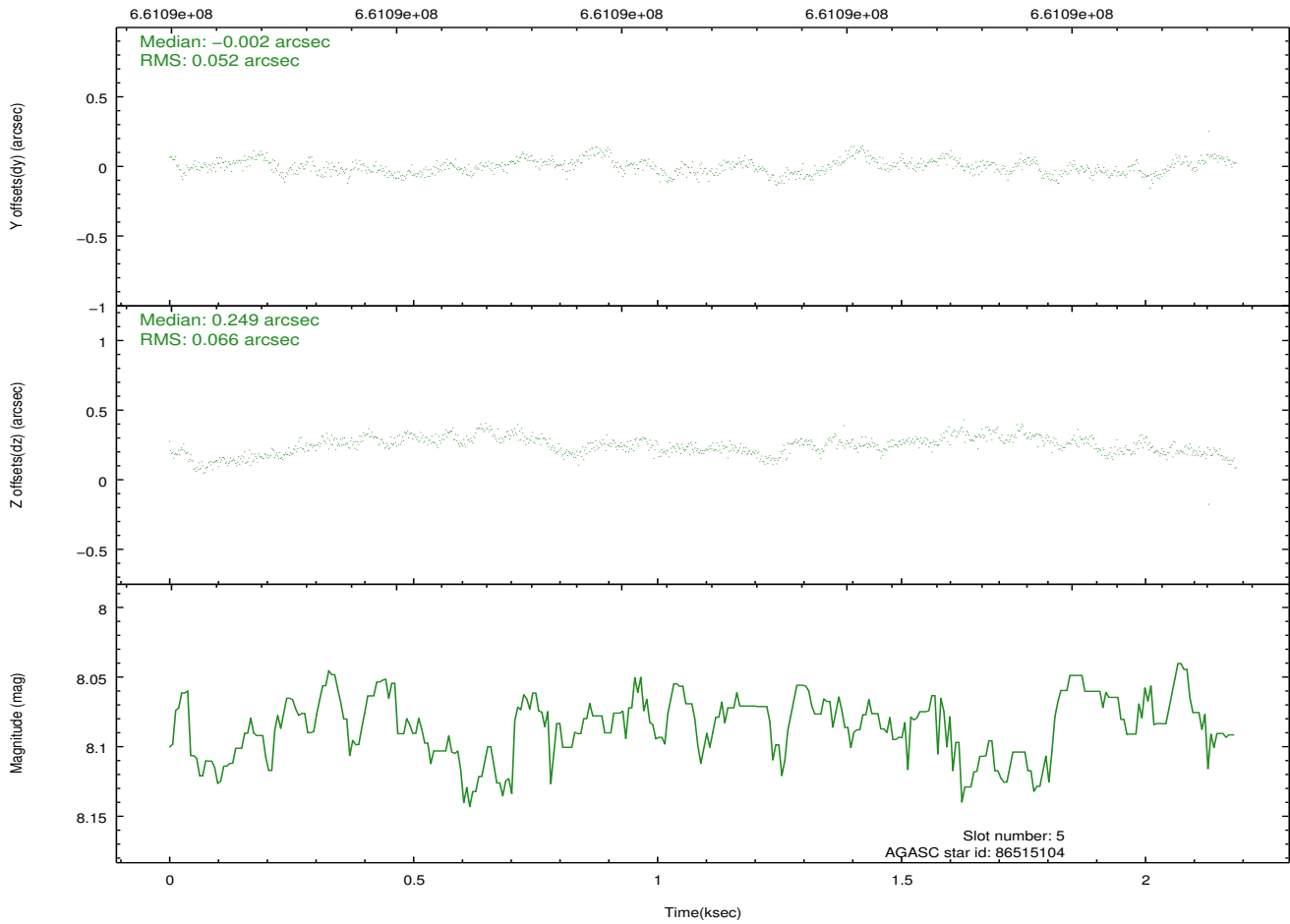
2.4.1 Slot 4



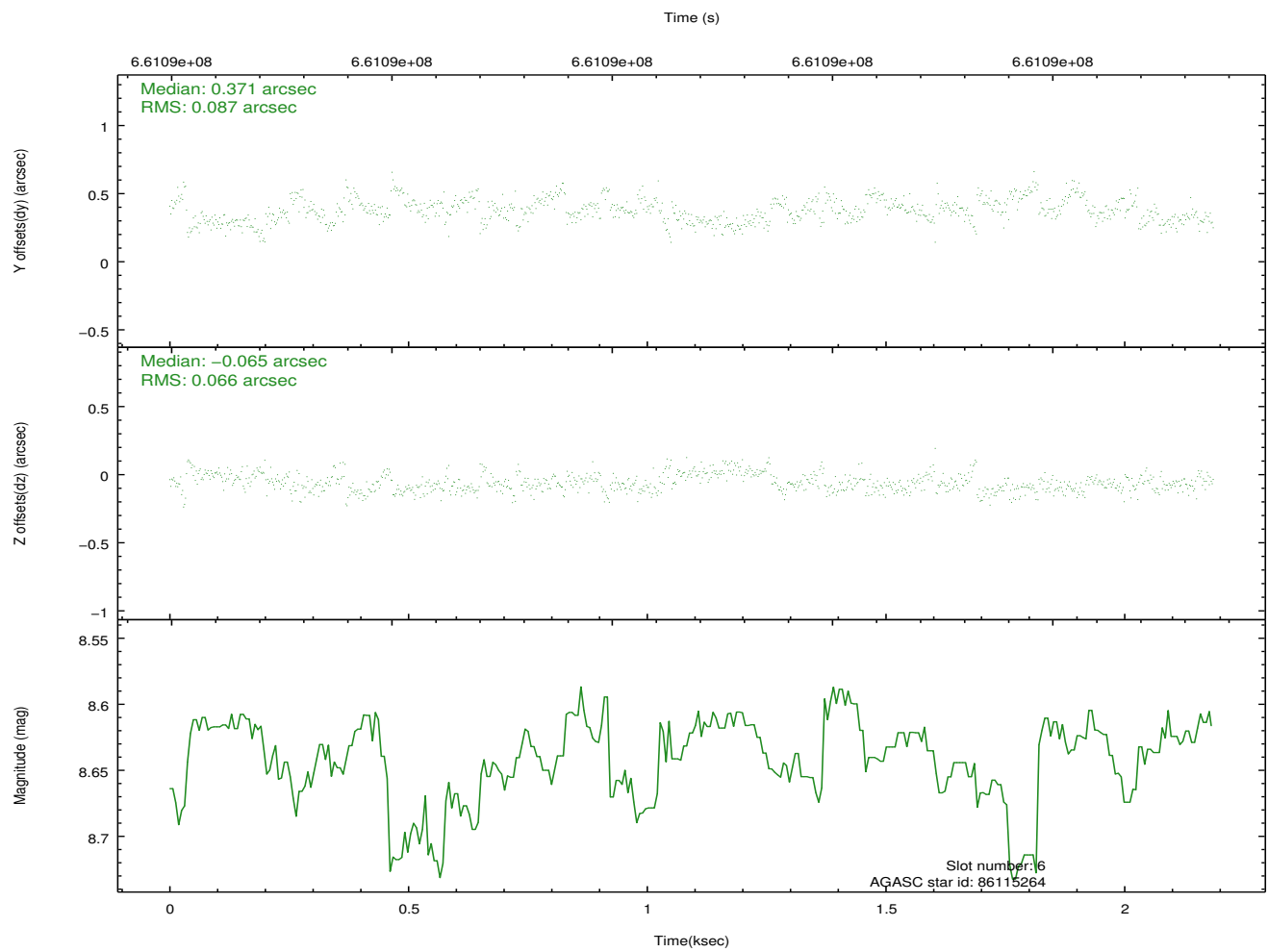
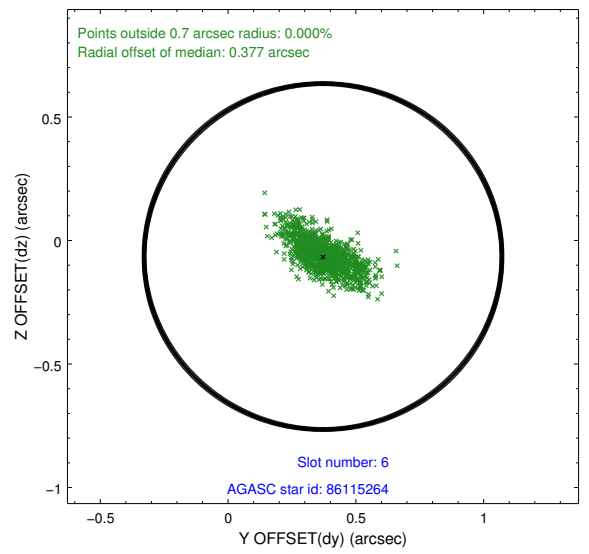
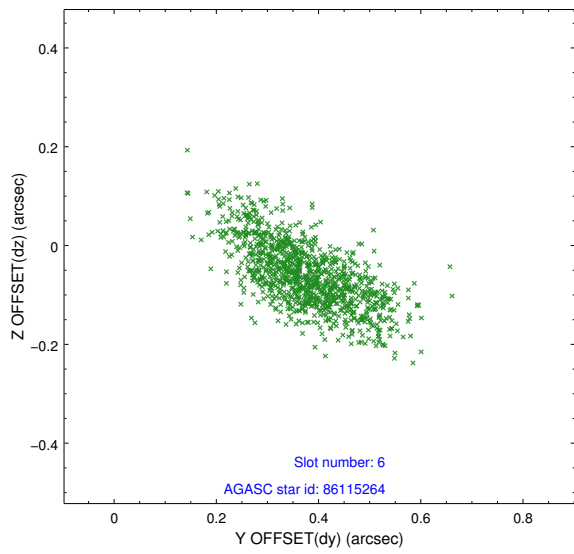
2.4.2 Slot 5



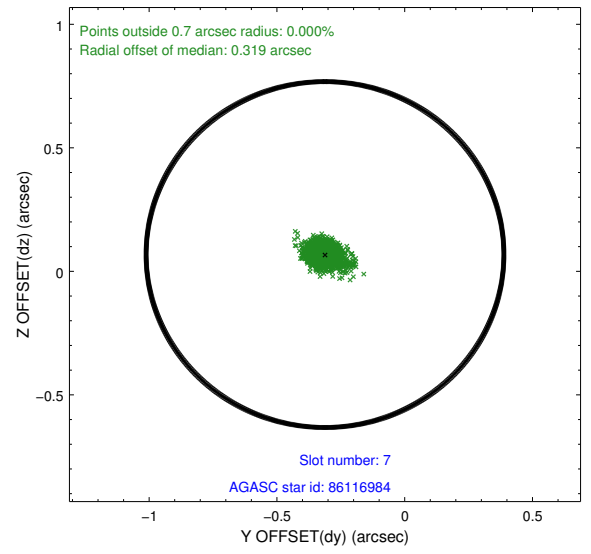
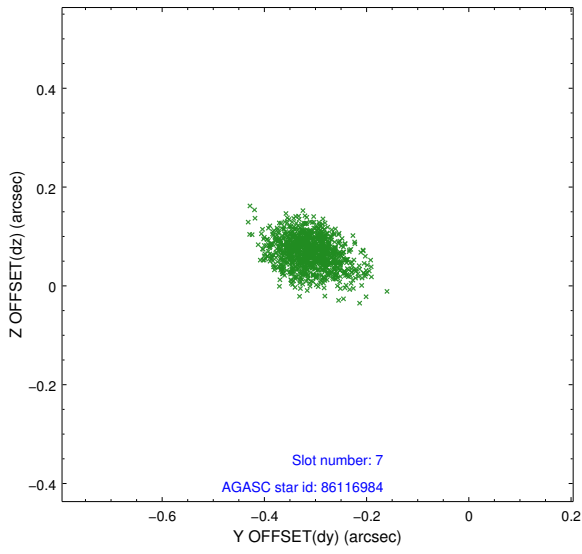
Time (s)



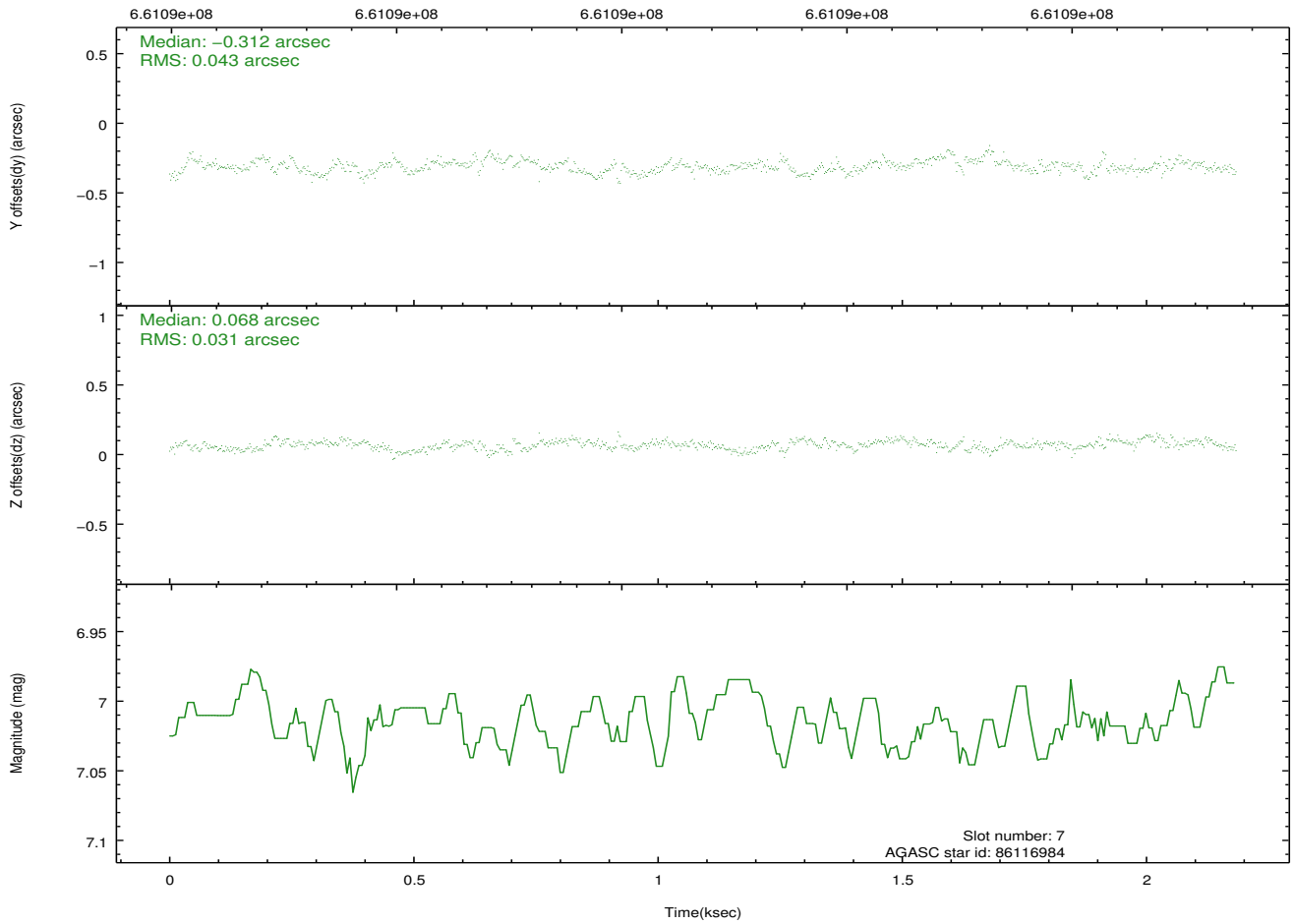
2.4.3 Slot 6



2.4.4 Slot 7

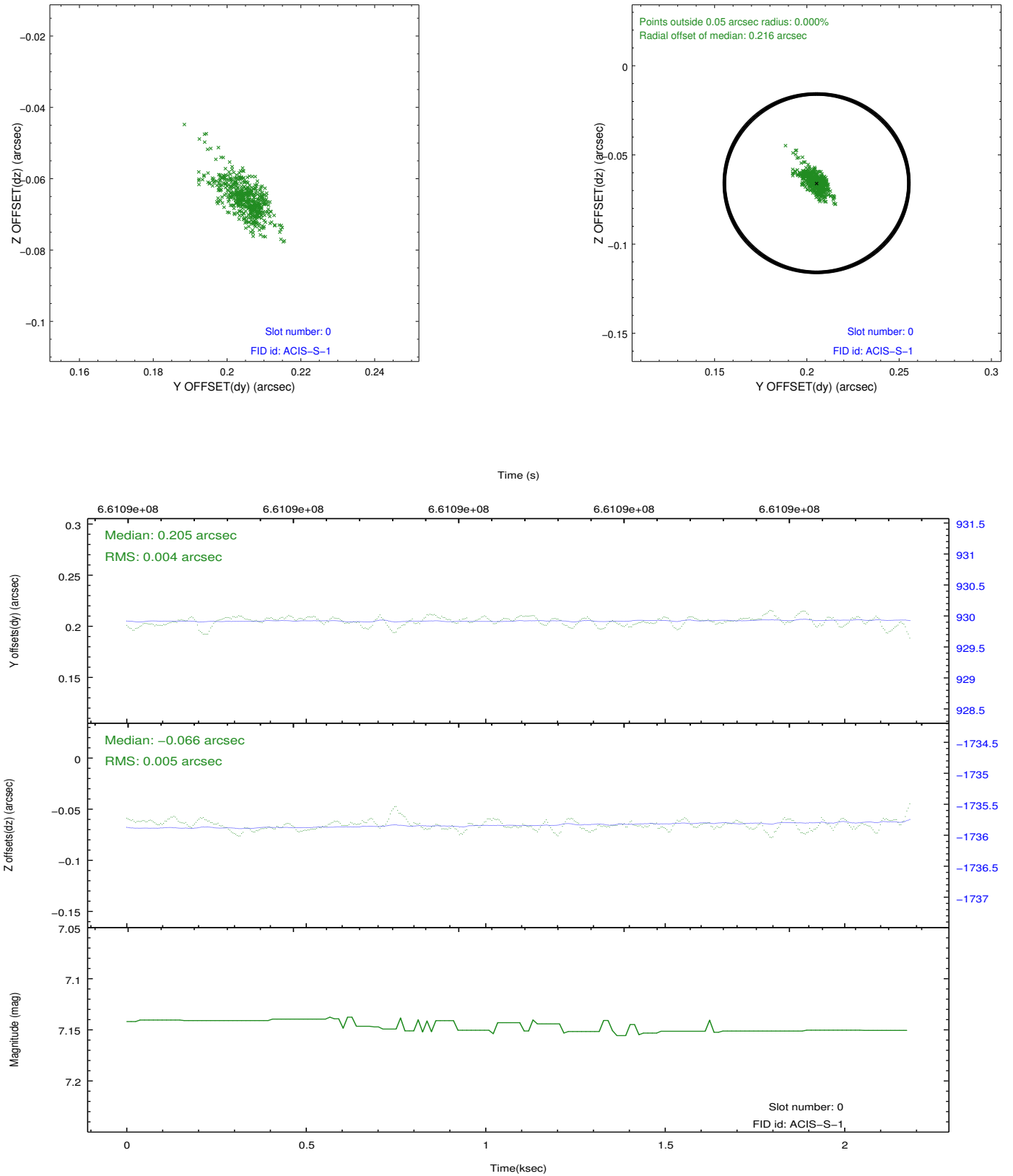


Time (s)

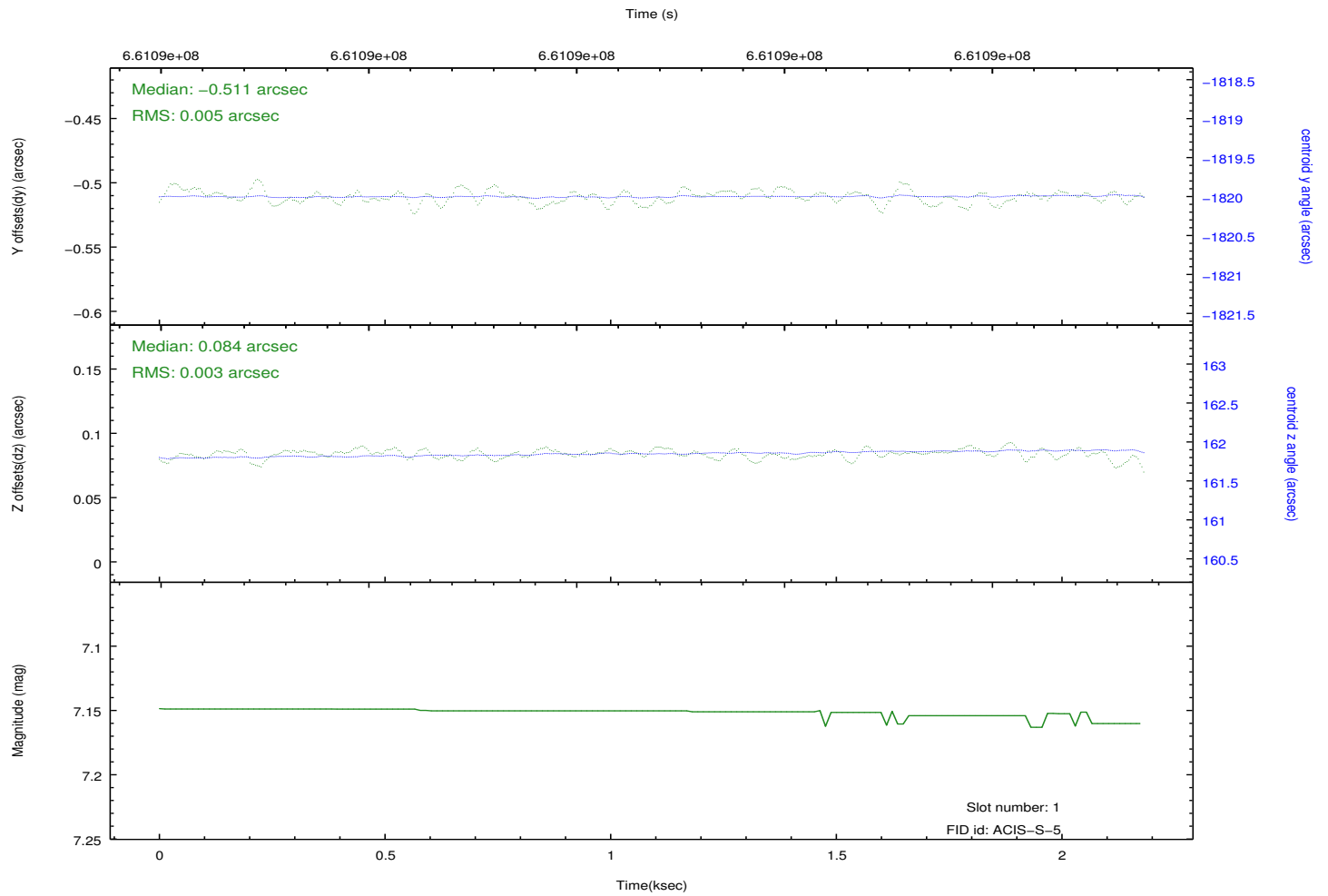
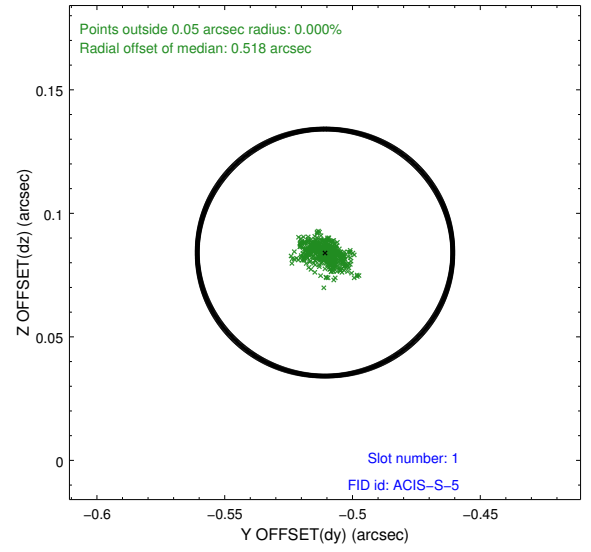
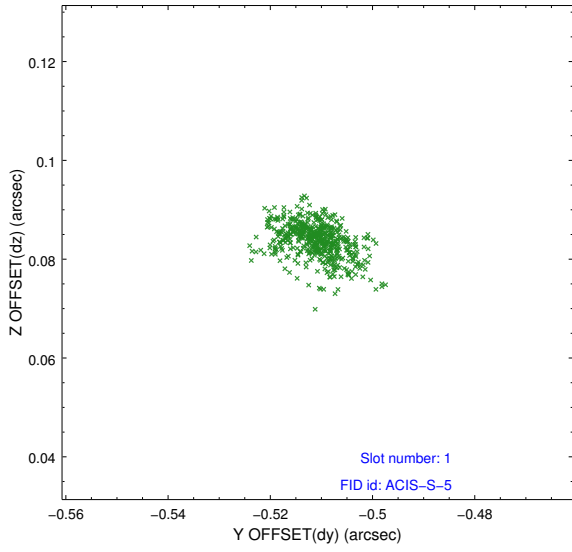


2.5 FID Slots

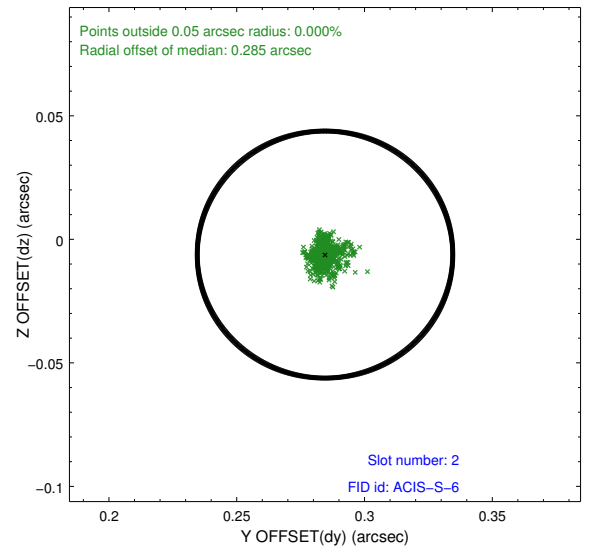
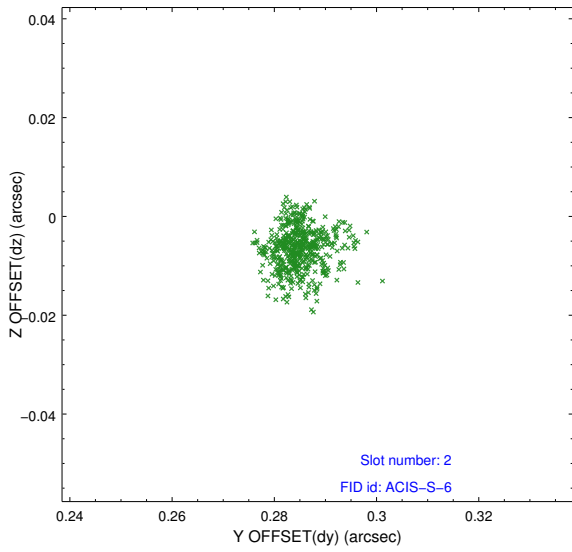
2.5.1 Slot 0



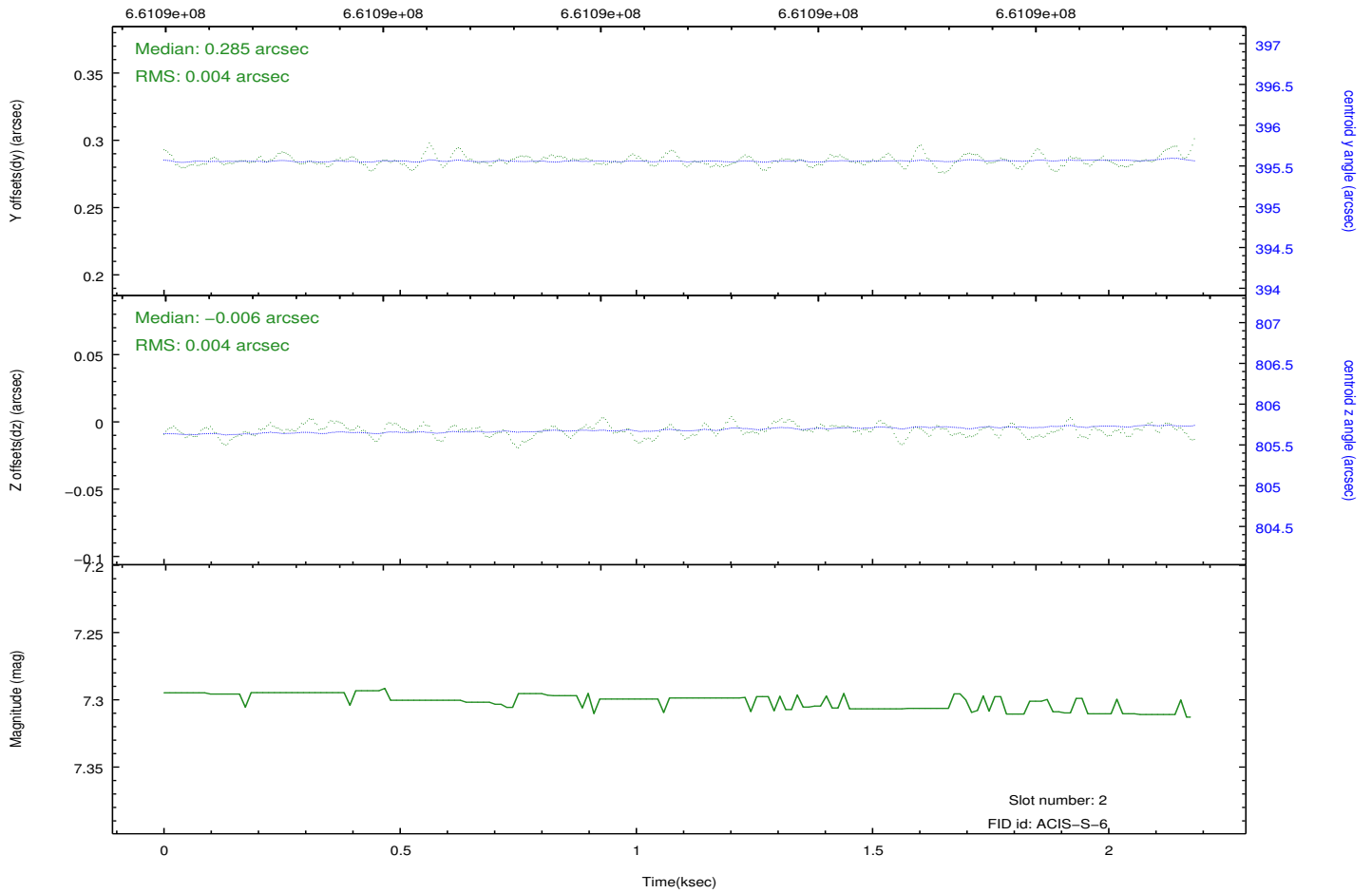
2.5.2 Slot 1



2.5.3 Slot 2



Time (s)



A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2018.12.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	2.1824000169039

A.2 Comments

Joint proposal with HST.

This is an observation of a moving target. Users will need to run `sso_freeze` or similar software to position the events in the reference frame of the target.

Window preference met.

Two optional chips were dropped.

The guide star in slot 3 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this slot from the solution.