

V&V Reference Report

L2 ASCDS Version : 10.7

Observation 21978 - L2 Version 1
Chandra X-Ray Center

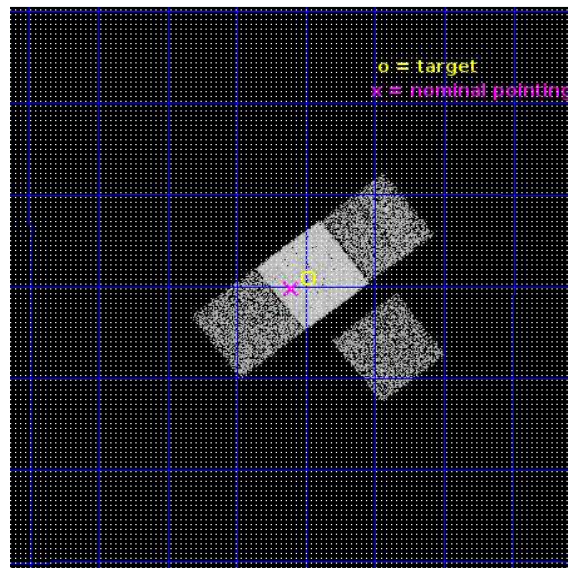
L2 Processing Date : Dec 6 2018

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1 Front

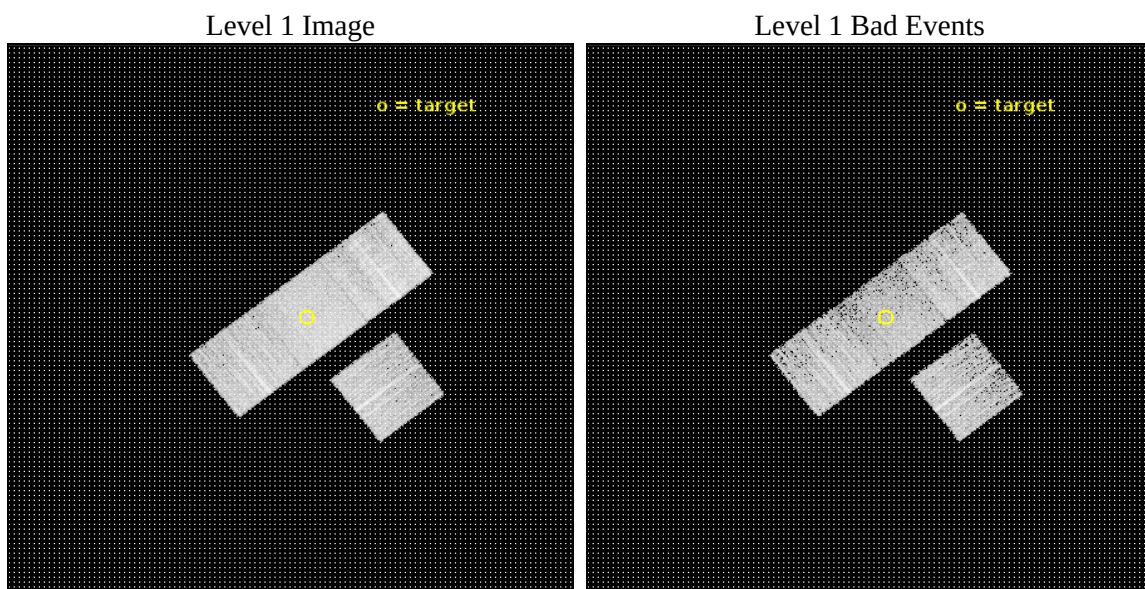
seq_num	100169	Sequence number
obs_id	21978	Observation id
title	Close encounter with comet 46P/Wirtanen: X-ray tomography of the coma	Proposal title
observer	Dennis Bodewits	Principal investigator
object	46P/Wirtanen	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	40.994764	Observer's specified target RA [deg]
dec_targ	-15.318694	Observer's specified target Dec [deg]
ra_nom	41.026251159046	Nominal RA [deg]
dec_nom	-15.337464778181	Nominal Dec [deg]
roll_nom	322.43315711647	Nominal Roll [deg]
revision	1	Processing version of data
ontime	5186.3000400066	Sum of GTIs [s]
livetime	5118.5372118854	Livetime [s]
ontime3	5186.3000400066	Sum of GTIs [s]
ontime6	5186.3000400066	Sum of GTIs [s]
ontime7	5186.3000400066	Sum of GTIs [s]
ontime8	5186.3000400066	Sum of GTIs [s]
l2events	33496	Number of level 2 events



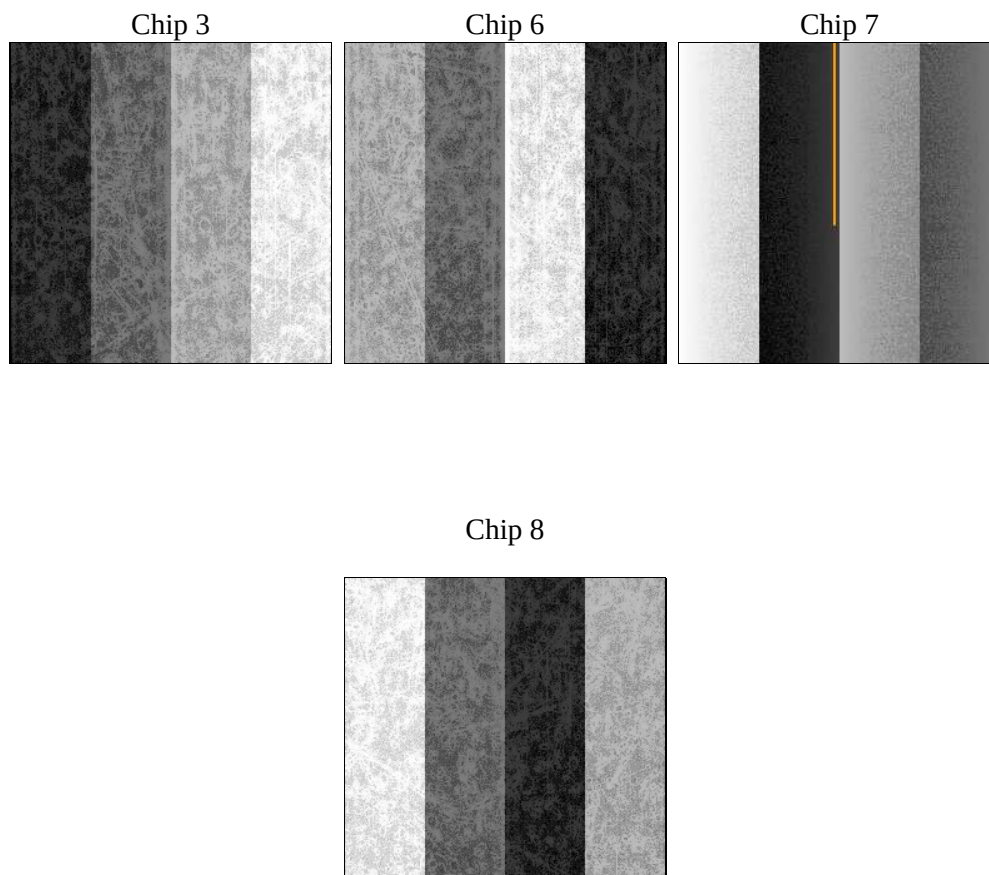
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ascdsver	10.7	Processing system revision	ontime	5186.3000400066	Sum of GTIs [s]
caldsver	4.8.0.1	 	ontime3	5186.3000400066	Sum of GTIs [s]
date	2018-12-07T03:23:26	Date and time of file creation	ontime6	5186.3000400066	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	5186.3000400066	Sum of GTIs [s]
			ontime8	5186.3000400066	Sum of GTIs [s]
			l1events	197612	Number of level 1 events

2.1.4 Events

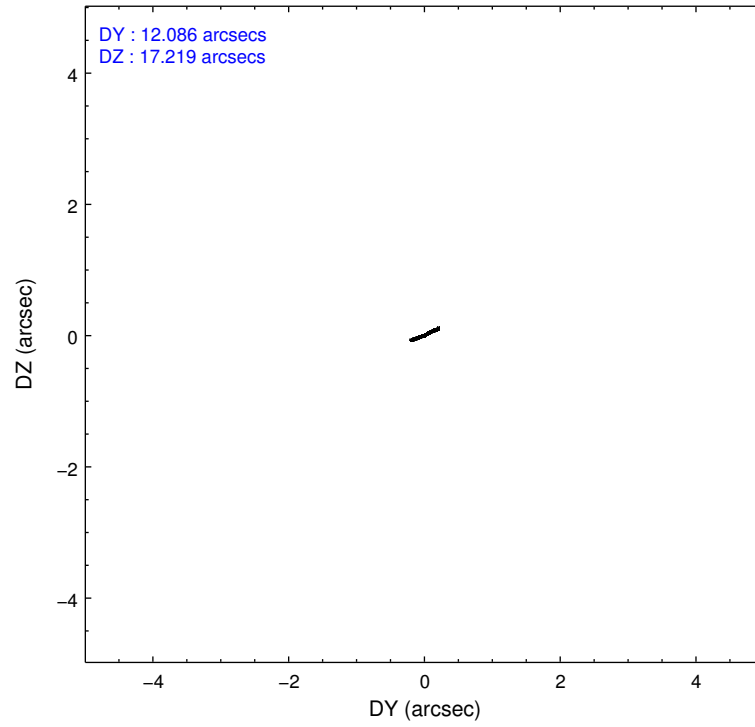
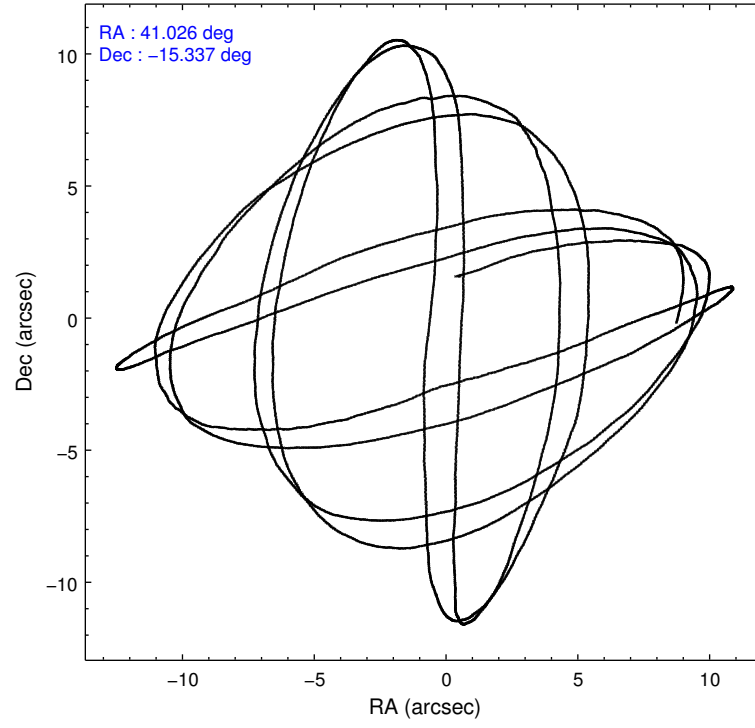
	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	42524	46196	53858	55034
rejected events	38715	41640	31674	42309
rejected %	91%	90%	58%	76%

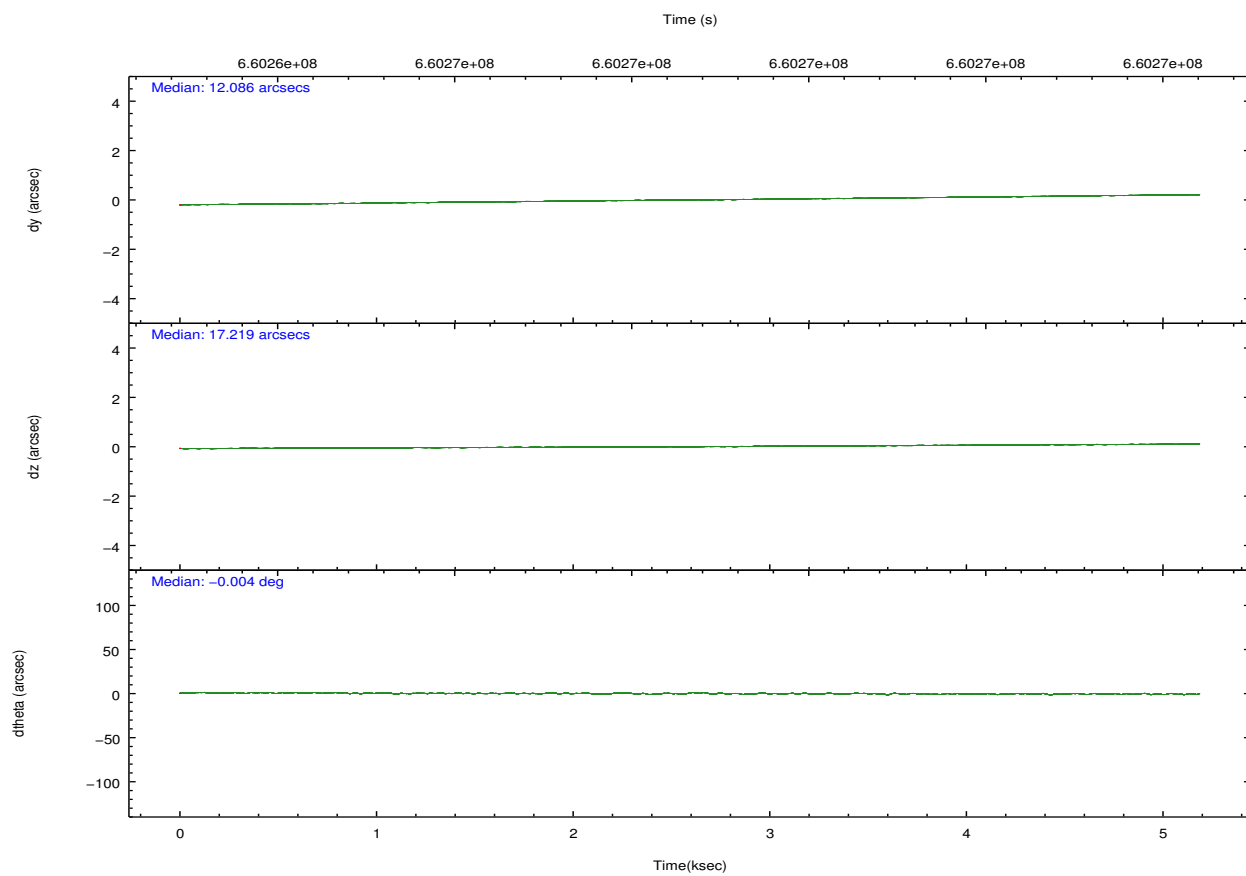
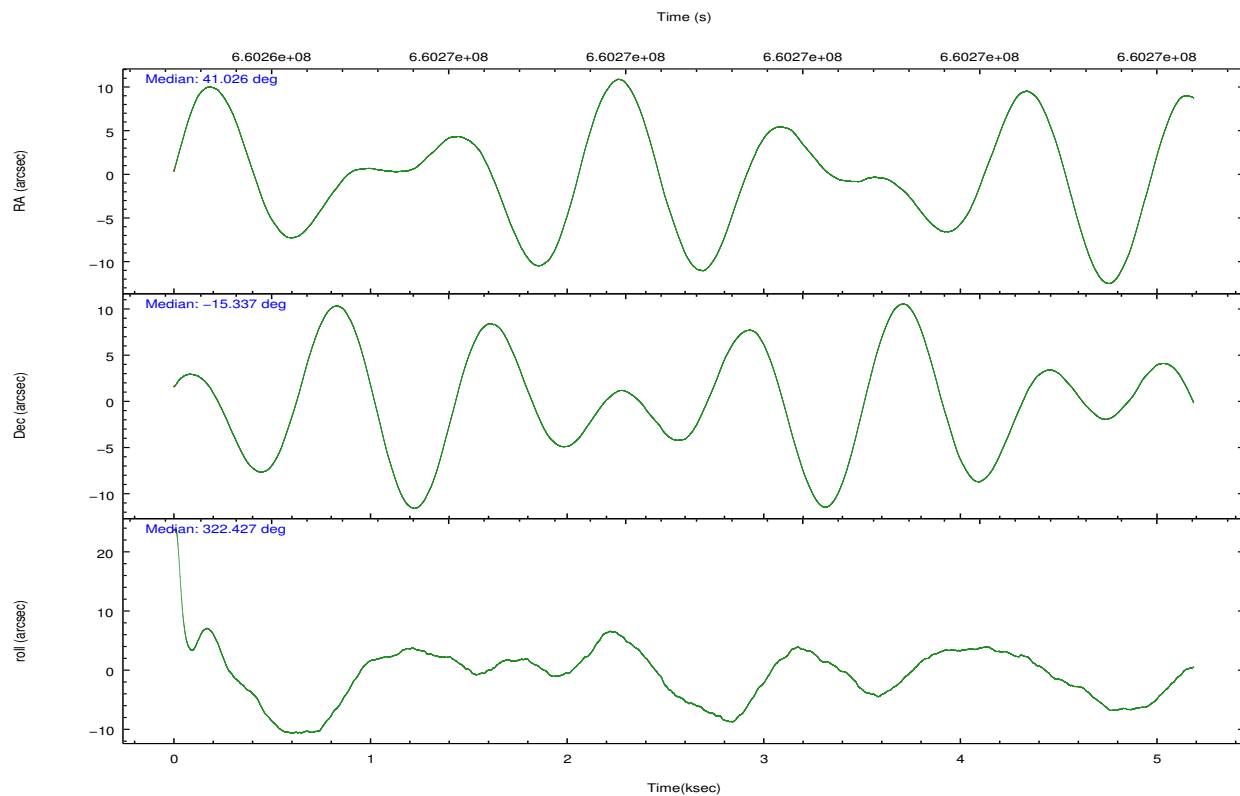
	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	1370	1255	1991	3491
	3%	2%	3%	6%
grade 1 events	19	14	83	42
	0%	0%	0%	0%
grade 2 events	894	1393	4863	3527
	2%	3%	9%	6%
grade 3 events	425	381	1860	1316
	0%	0%	3%	2%
grade 4 events	441	383	1819	1212
	1%	0%	3%	2%
grade 5 events	1756	1609	5182	2788
	4%	3%	9%	5%
grade 6 events	925	1408	13008	4002
	2%	3%	24%	7%
grade 7 events	36694	39753	25052	38656
	86%	86%	46%	70%

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	40.997896	41.02625115904601	CCD I2 on	O2	N
[deg] Pointing Dec	-15.334267	-15.33746477818054	CCD I3 on	Y	Y
[deg] Pointing Roll	322.268967	322.4331571164694	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	-190.1425803651734	CCD S5 on	N	N
[mm] SIM translation stage offset	0	0.01005778216563158	Number of optional ACIS chips dropped	2	2
[s] Observation start time (MET)	660264920.184000	660264543.63015	On-chip summing requested	N	N
Observation start date	2018-12-03T22:54:11	2018-12-03T22:49:03	Subarray requested	NONE	NONE
[s] Observation end time (MET)	660269920.184000	660270054.03048	Alternating exposures requested	N	N
Observation end date	2018-12-04T00:17:31	2018-12-04T00:20:54	[s] Primary exposure time	0.000000	3.1
Read mode	TIMED	TIMED			

2.3 Aspect



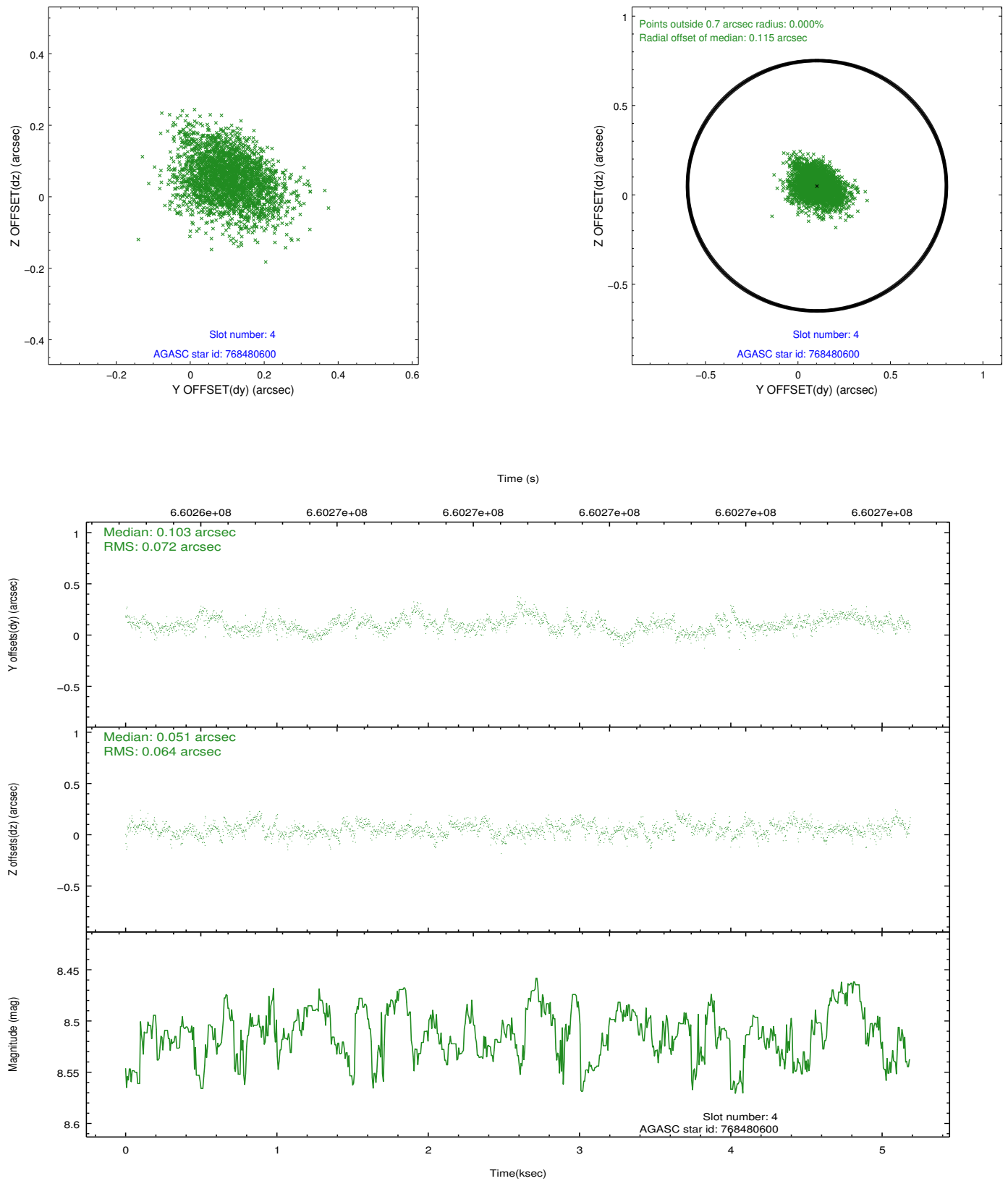


Slot Statistics

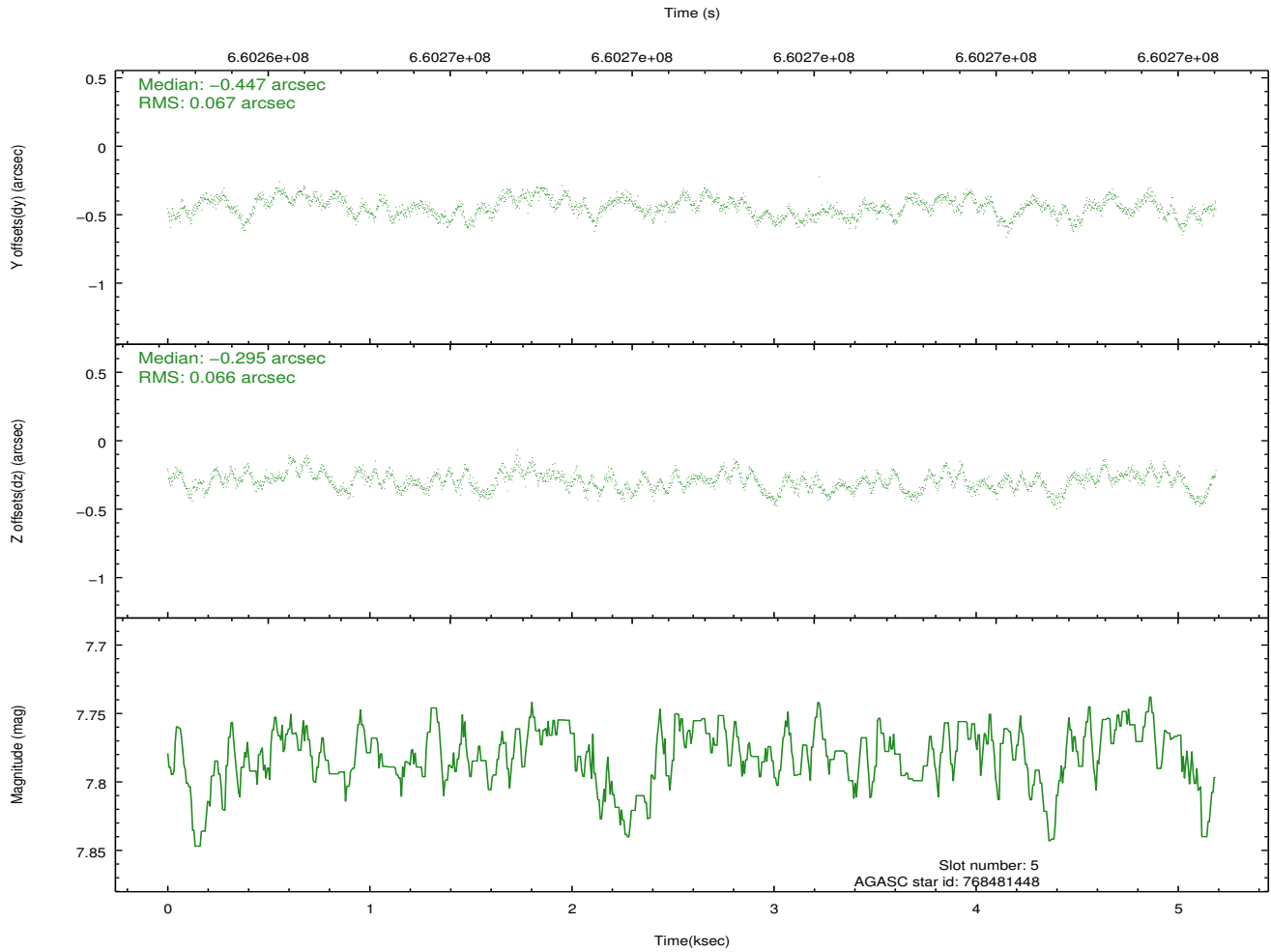
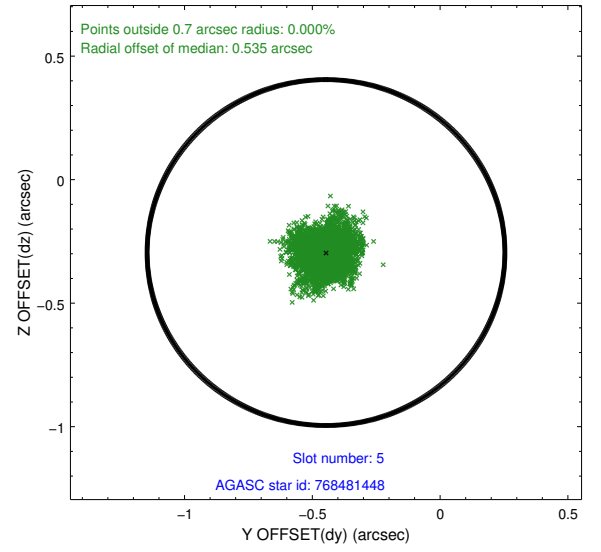
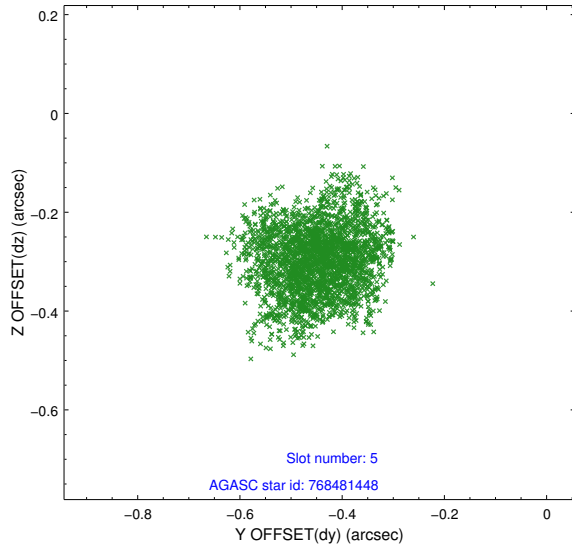
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.18	1266	1.000	-0.410	-0.286	0.008	0.013	0.000000	0.000000	-765.40	-1738
1	FID		ACIS-S-4	7.32	1265	1.000	0.462	0.226	0.008	0.014	0.000000	0.000000	2148.23	168
2	FID		ACIS-S-6	7.44	1266	1.000	-0.080	0.068	0.008	0.014	0.000000	0.000000	398.43	807
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	768480600	8.51	2530	1.000	0.103	0.051	0.101	0.168	40.992909	-15.785552	981.00	-1295
5	GUIDE	used	768481448	7.78	2531	1.000	-0.447	-0.295	0.104	0.156	41.719335	-15.287038	1880.64	1663
6	GUIDE	used	768481512	9.52	2527	1.000	0.419	0.588	0.159	0.252	40.348930	-15.497051	-1418.29	-1843
7	GUIDE	used	768482072	7.56	2530	1.000	-0.079	-0.340	0.107	0.159	41.302106	-15.426646	1038.45	382

2.4 Star Slots

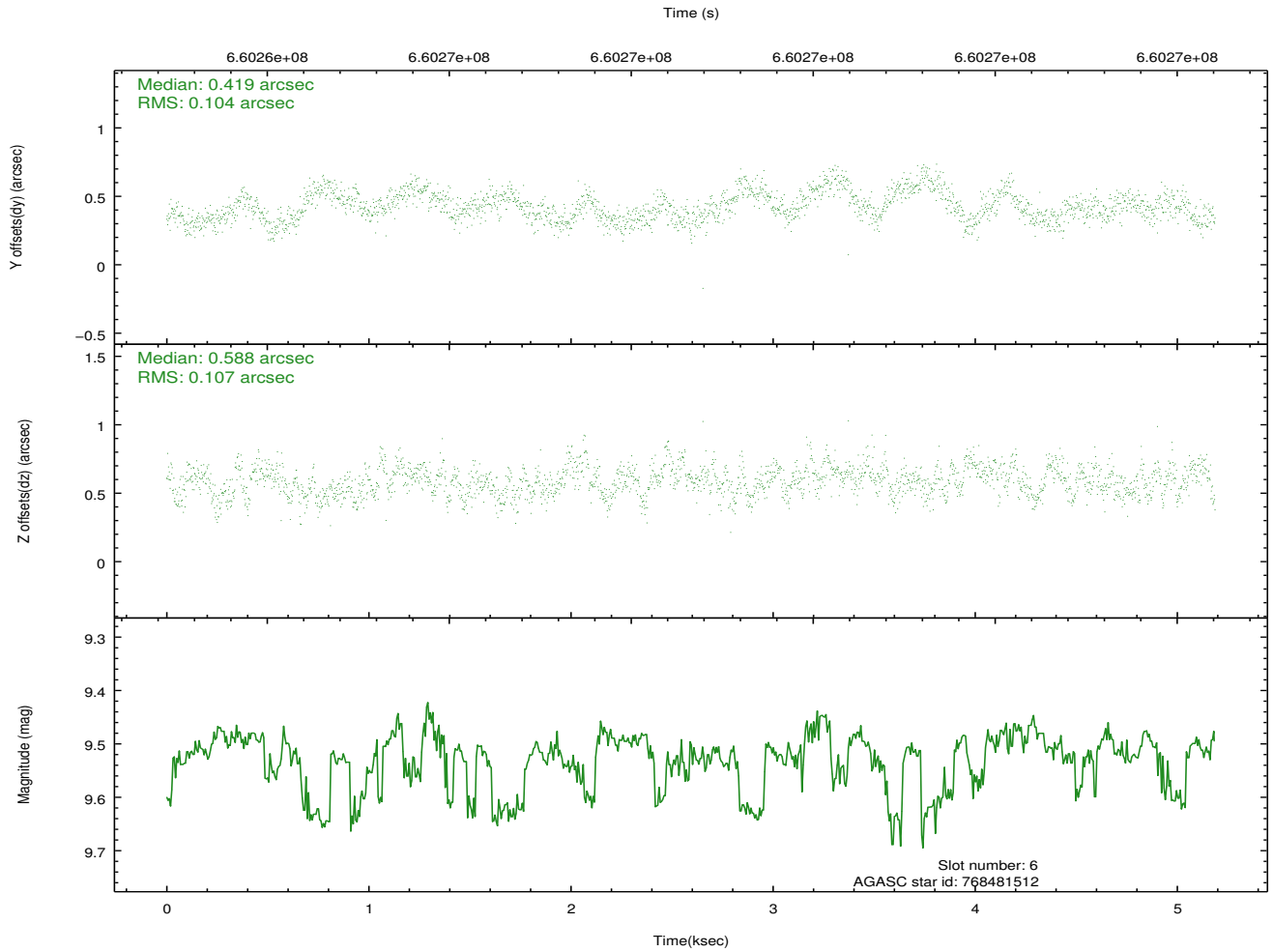
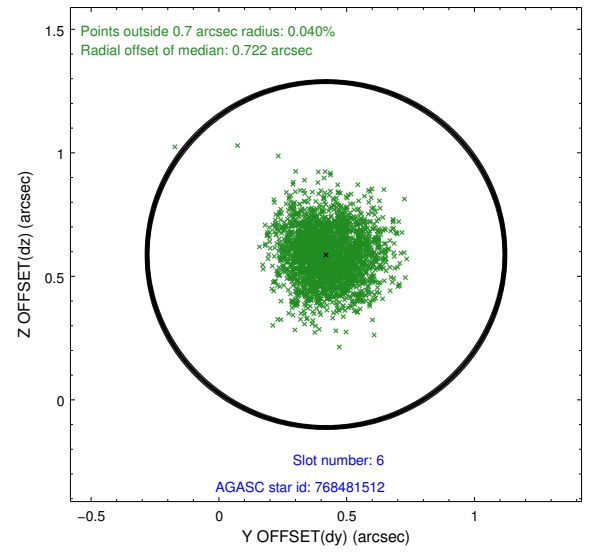
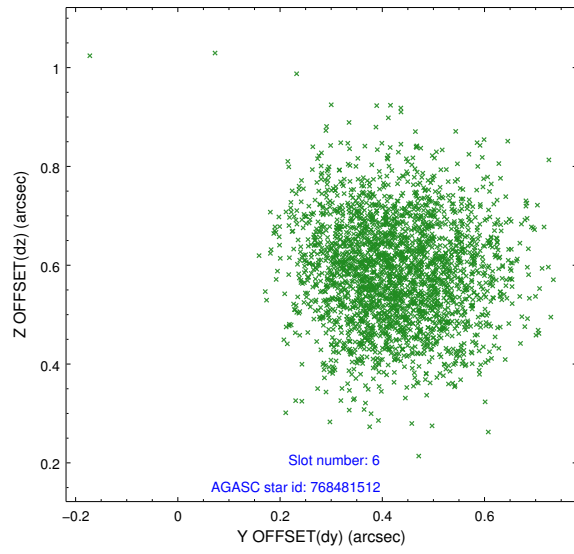
2.4.1 Slot 4



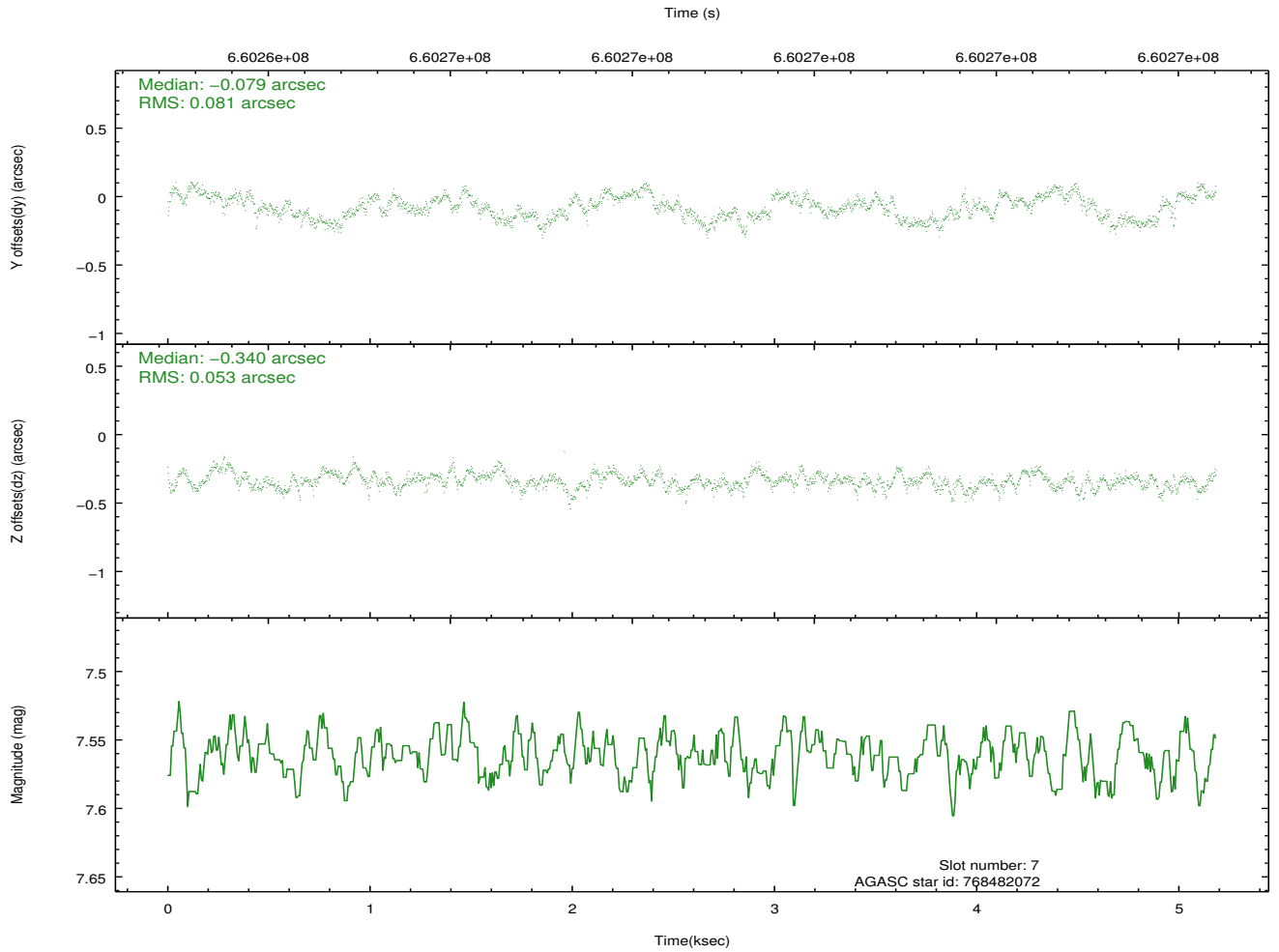
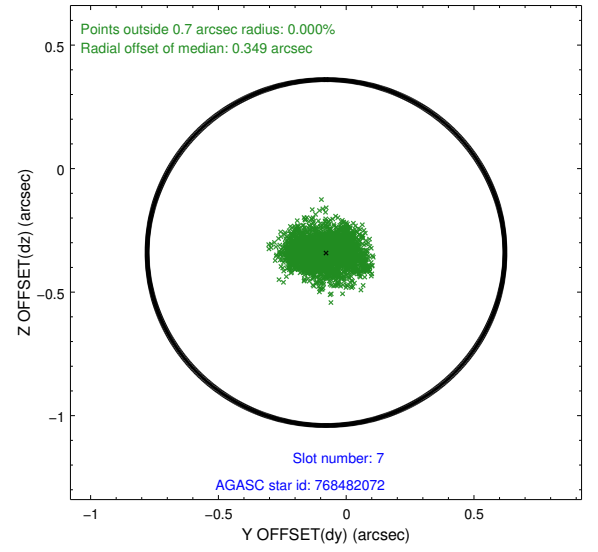
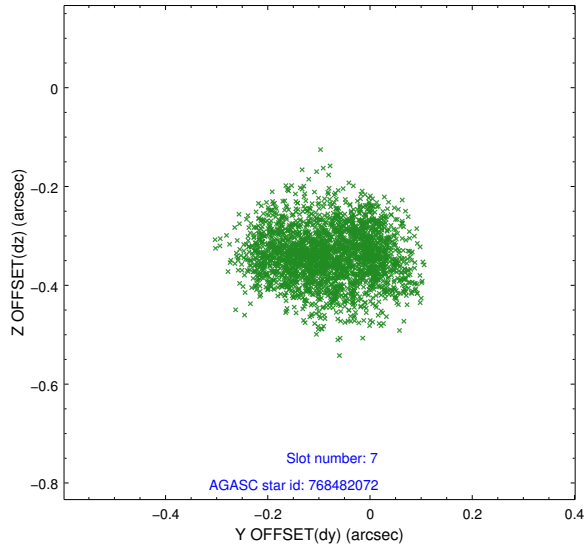
2.4.2 Slot 5



2.4.3 Slot 6

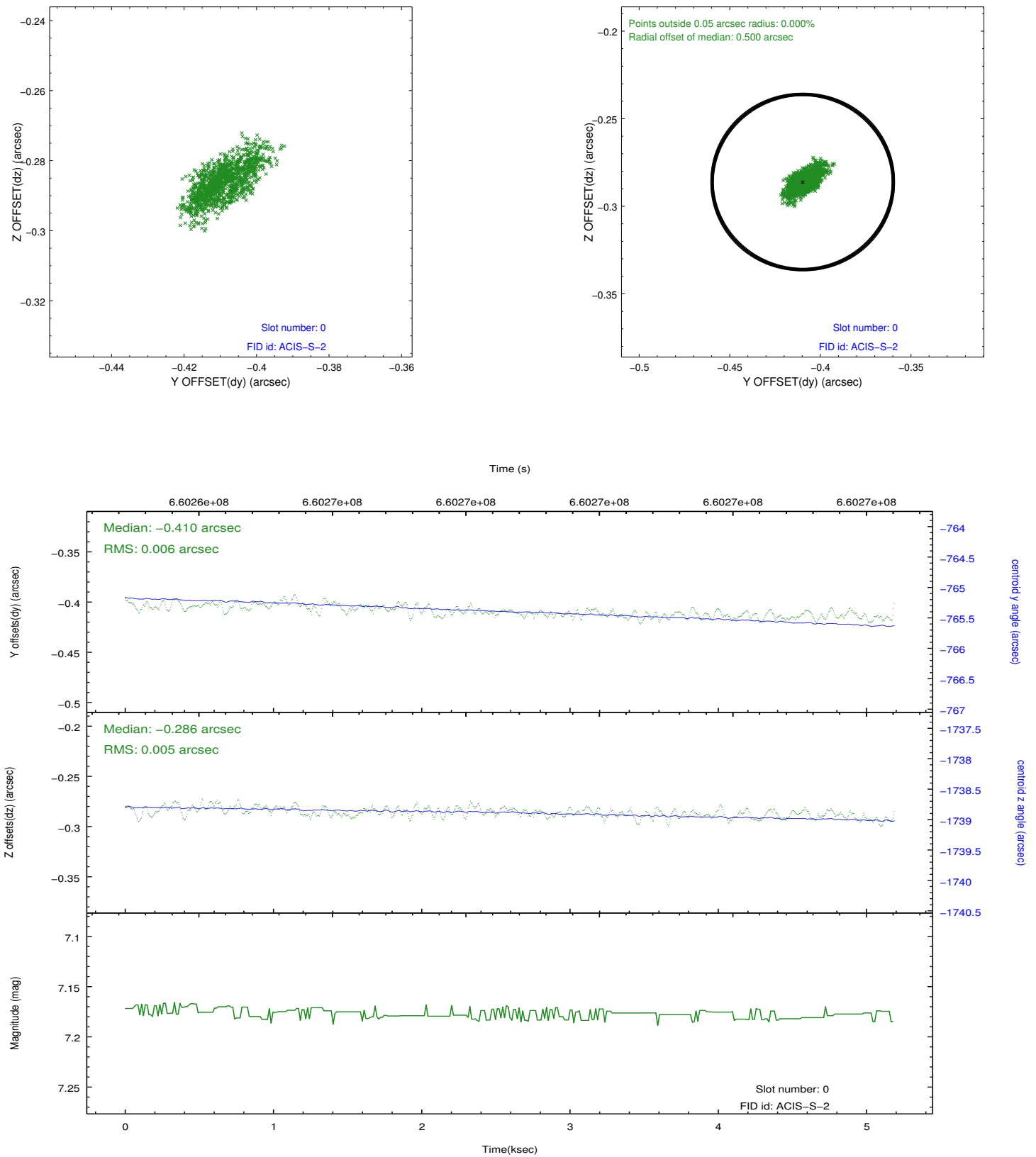


2.4.4 Slot 7

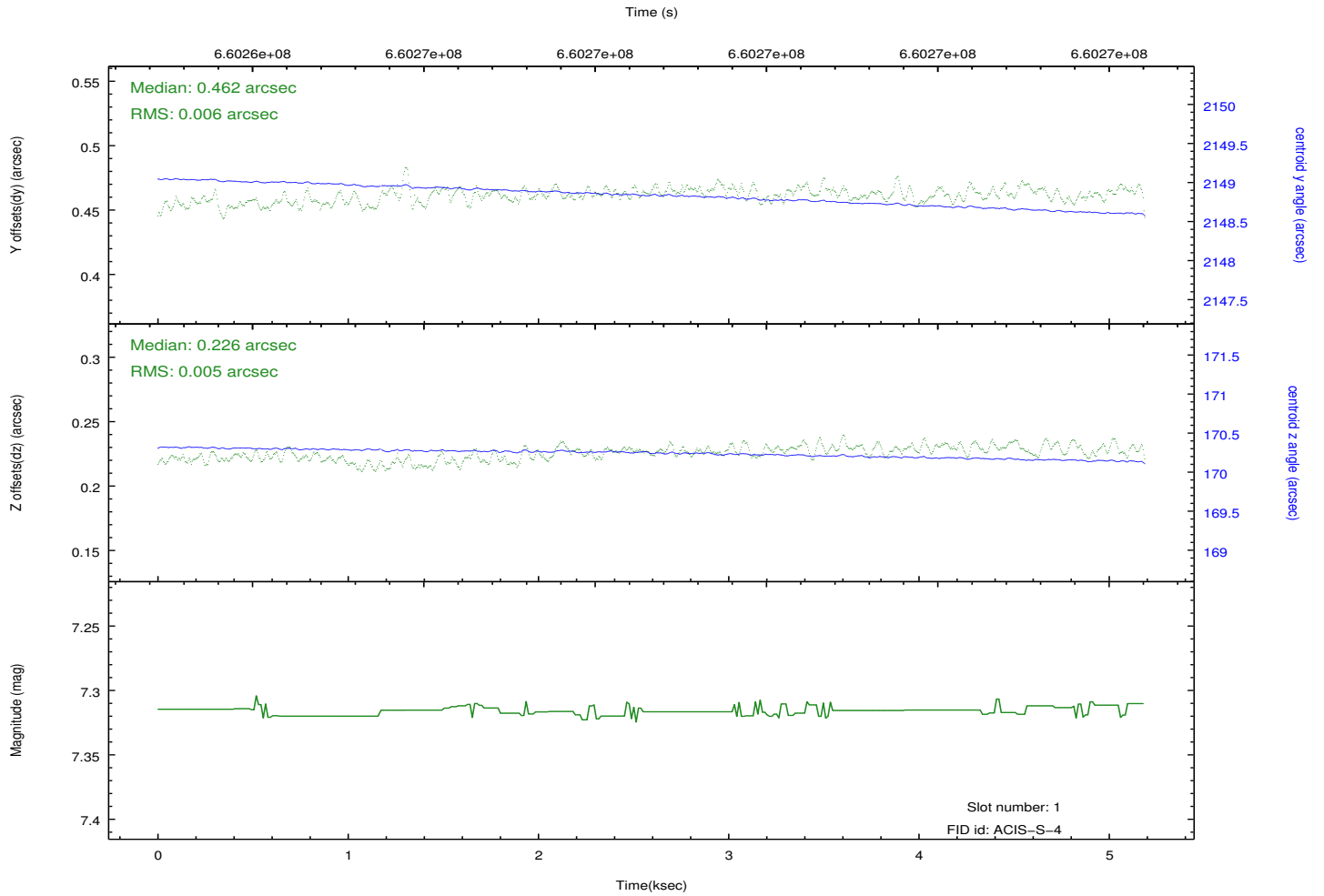
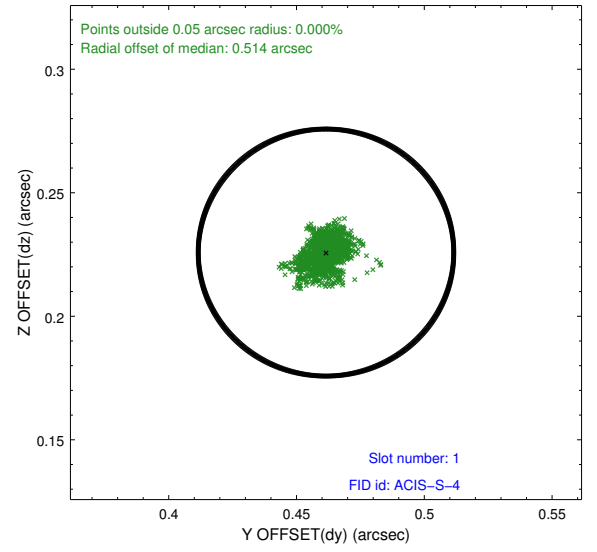
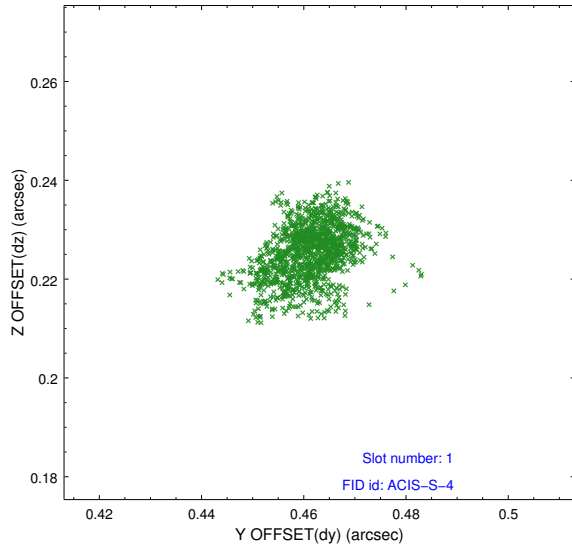


2.5 FID Slots

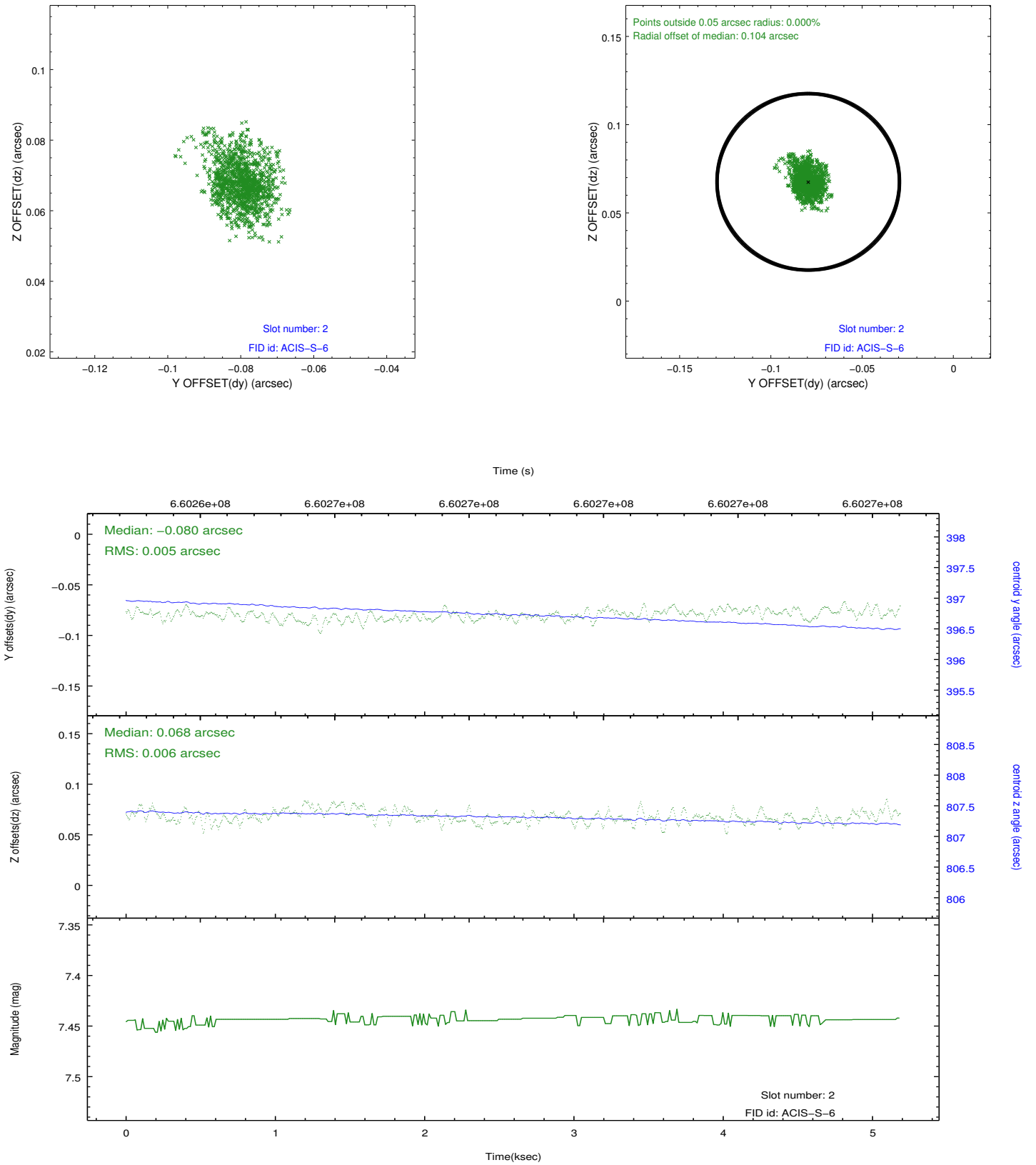
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2018.12.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.1863000400066

A.2 Comments

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

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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 guide star from the solution.