

V&V Reference Report

L2 ASCDS Version : 10.7.1

Observation 21193 - L2 Version 1
Chandra X-Ray Center

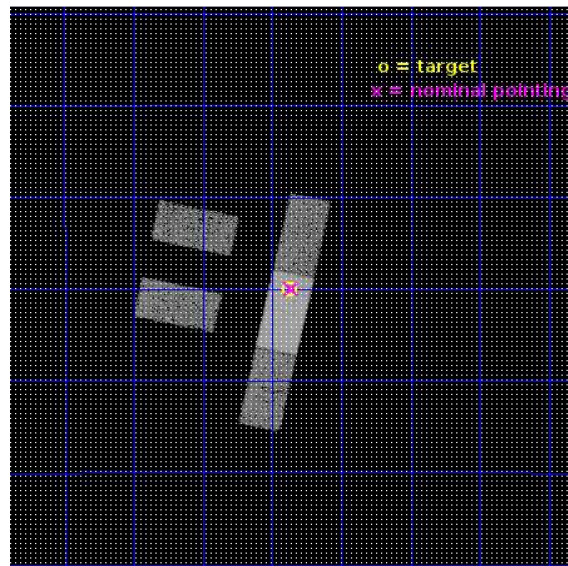
L2 Processing Date : Mar 27 2019

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1 Front

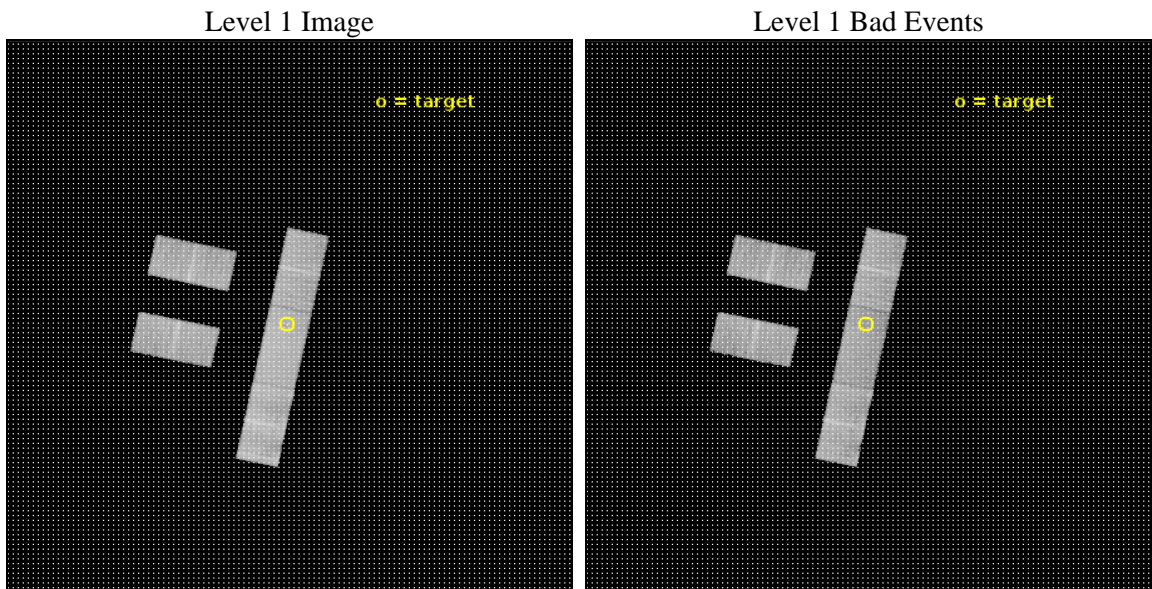
seq_num	201247	Sequence number
obs_id	21193	Observation id
title	Testing X-ray activity as an age indicator	Proposal title
observer	Christian Schneider	Principal investigator
object	HD 201796	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	318.094583	Observer's specified target RA [deg]
dec_targ	-15.000306	Observer's specified target Dec [deg]
ra_nom	318.09056321989	Nominal RA [deg]
dec_nom	-14.99915816224	Nominal Dec [deg]
roll_nom	102.15559728836	Nominal Roll [deg]
revision	1	Processing version of data
ontime	16979.600476265	Sum of GTIs [s]
livetime	16579.355333393	Livetime [s]
ontime2	16976.118585229	Sum of GTIs [s]
ontime3	16976.118465781	Sum of GTIs [s]
ontime6	16977.859446168	Sum of GTIs [s]
ontime7	16979.600476265	Sum of GTIs [s]
ontime8	16979.600476265	Sum of GTIs [s]
l2events	67588	Number of level 2 events



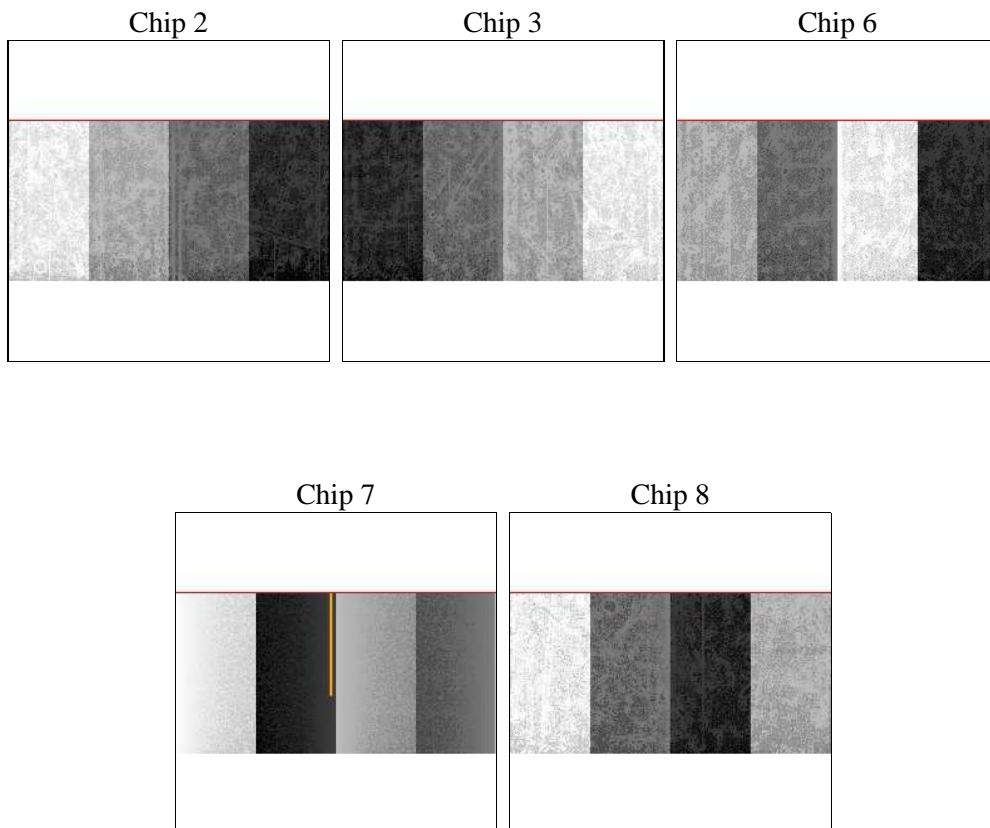
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	16956.000000	[s] Scheduled observation exposure time
ascdsver	10.7.1	Processing system revision	ontime	16979.600476265	Sum of GTIs [s]
caldsver	4.8.2	 	ontime2	16976.118585229	Sum of GTIs [s]
date	2019-03-27T04:26:32	Date and time of file creation	ontime3	16976.118465781	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	16977.859446168	Sum of GTIs [s]
			ontime7	16979.600476265	Sum of GTIs [s]
			ontime8	16979.600476265	Sum of GTIs [s]
			l1events	391587	Number of level 1 events

2.1.4 Events

	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	68124	66224	71770	89700	95769
rejected events	60319	58256	63674	49549	70065
rejected %	88%	87%	88%	55%	73%

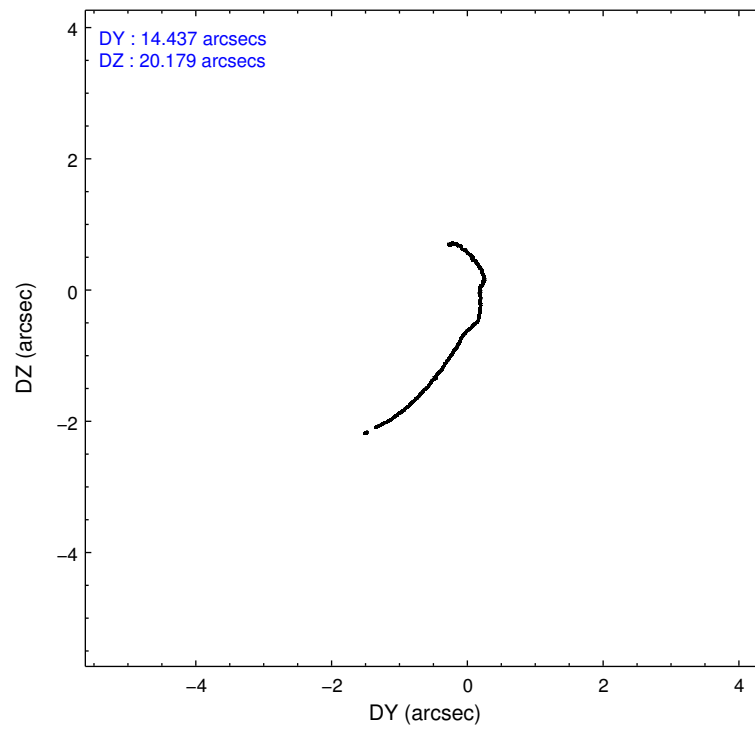
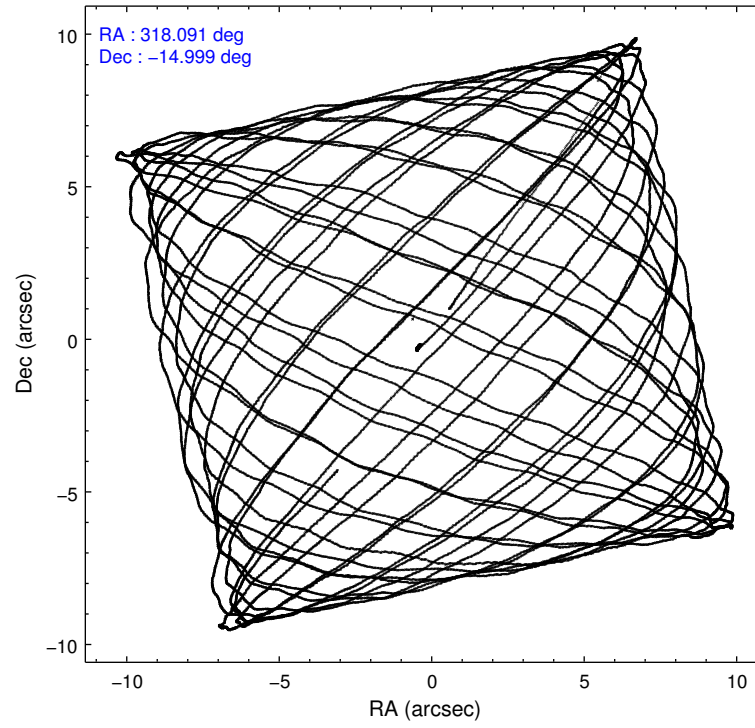
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	2619	2904	2595	4034	7419
	3%	4%	3%	4%	7%
grade 1 events	31	33	31	151	49
	0%	0%	0%	0%	0%
grade 2 events	1877	1687	1876	8879	6180
	2%	2%	2%	9%	6%
grade 3 events	882	971	980	3833	2659
	1%	1%	1%	4%	2%
grade 4 events	990	911	927	3733	2501
	1%	1%	1%	4%	2%
grade 5 events	2694	3232	3330	9239	4881
	3%	4%	4%	10%	5%
grade 6 events	1519	1578	1789	20002	7175
	2%	2%	2%	22%	7%
grade 7 events	57512	54908	60242	39829	64905
	84%	82%	83%	44%	67%

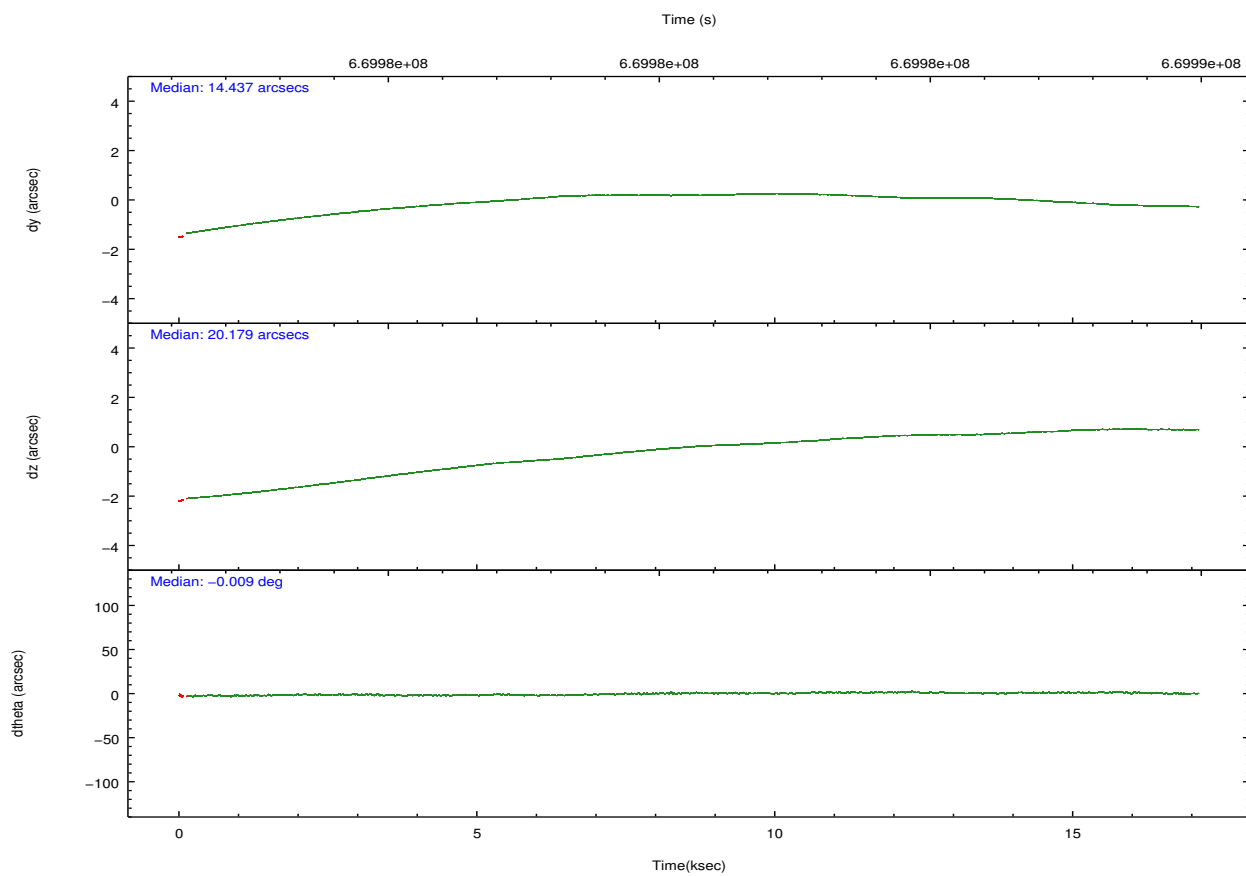
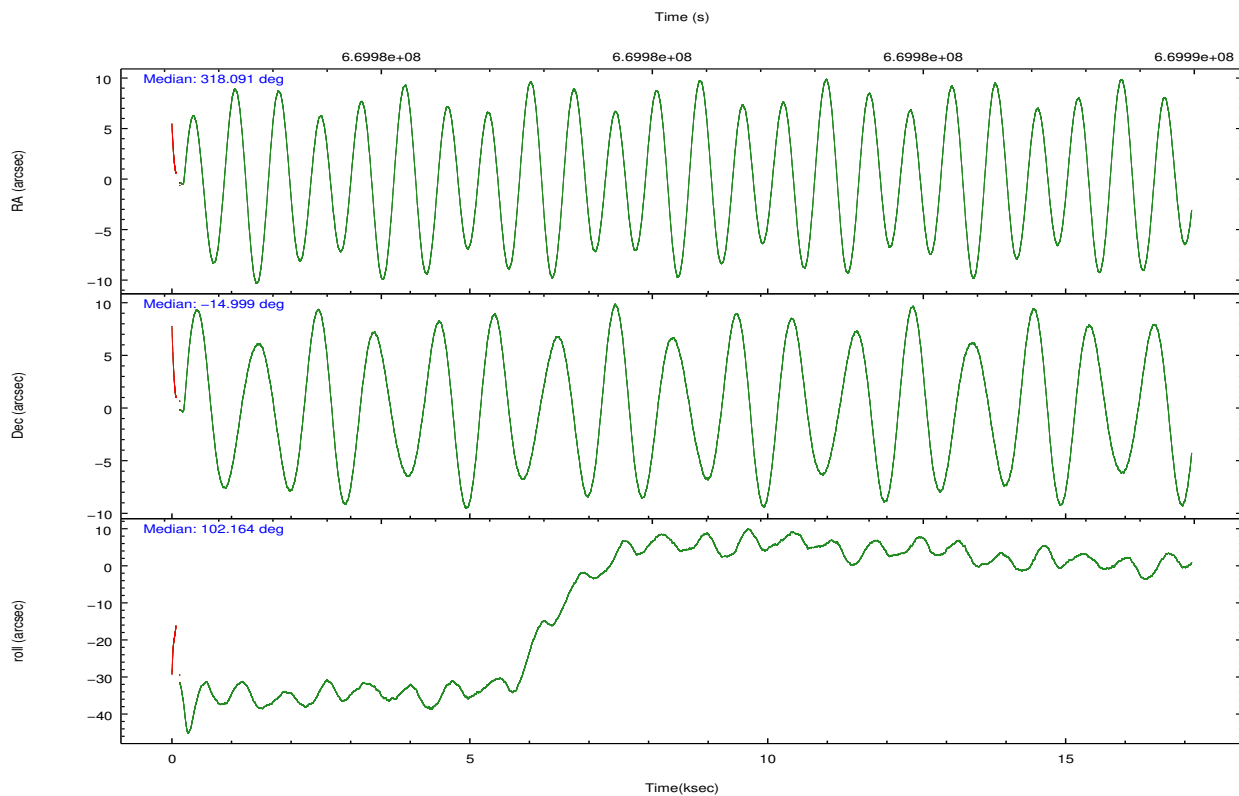
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-23678	ACIS-23678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	318.109901	318.0905632198893
[deg] Pointing Dec	-15.019264	-14.99915816223967
[deg] Pointing Roll	102.003963	102.1555972883617
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1400660498719
[mm] SIM translation stage offset	0	0.00754346686406393
[s] Observation start time (MET)	669972131.184000	669971146.60985
Observation start date	2019-03-26T07:21:02	2019-03-26T07:05:46
[s] Observation end time (MET)	669989087.184000	669990413.536
Observation end date	2019-03-26T12:03:38	2019-03-26T12:26:53
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	O1	Y
CCD I3 on	Y	Y
CCD S0 on	N	N
CCD S1 on	N	N
CCD S2 on	Y	Y
CCD S3 on	Y	Y
CCD S4 on	Y	Y
CCD S5 on	N	N
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	CUSTOM	1/2
Subarray start row	257	257
Subarray row count	512	512
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	1.7

2.3 Aspect



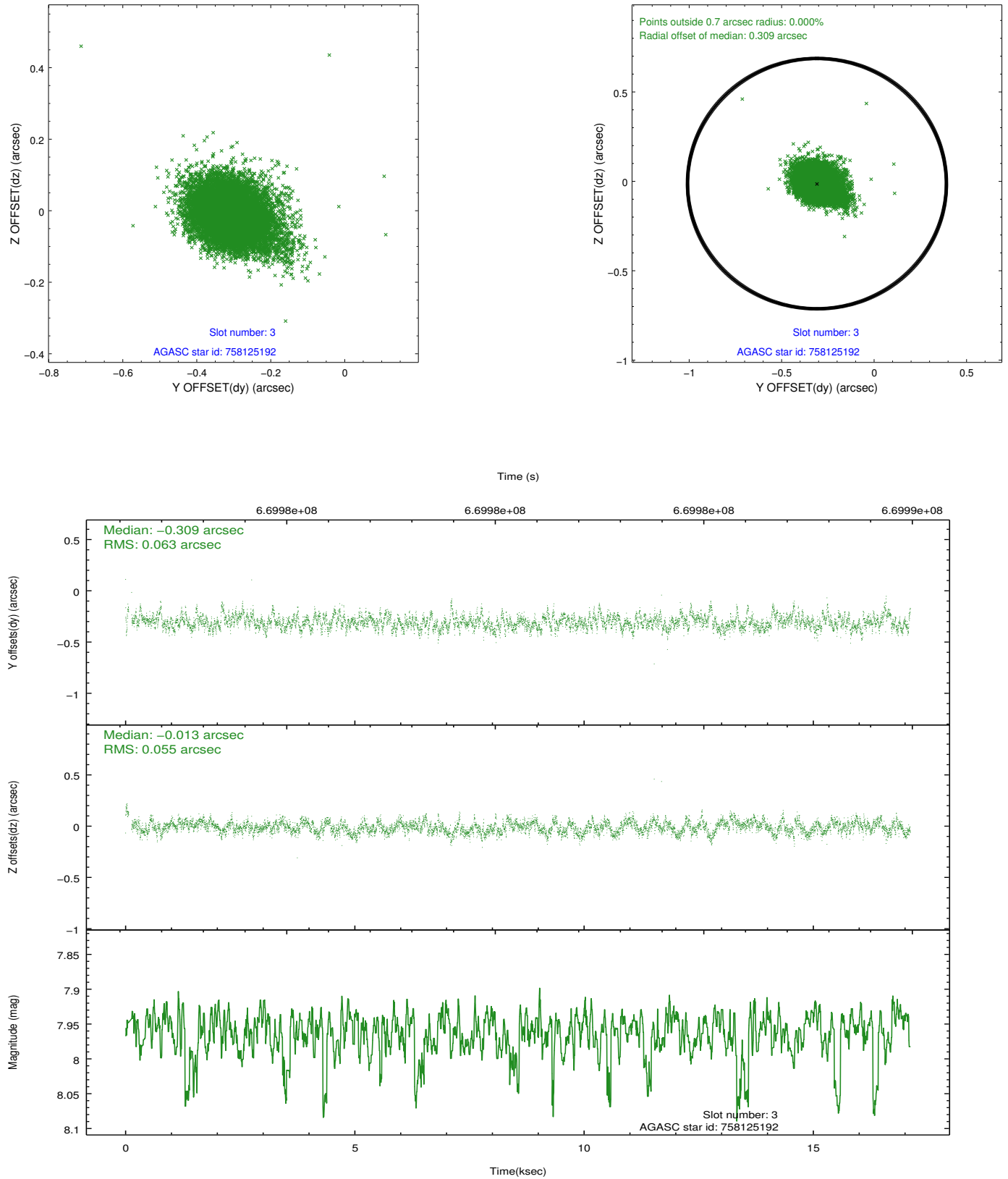


Slot Statistics

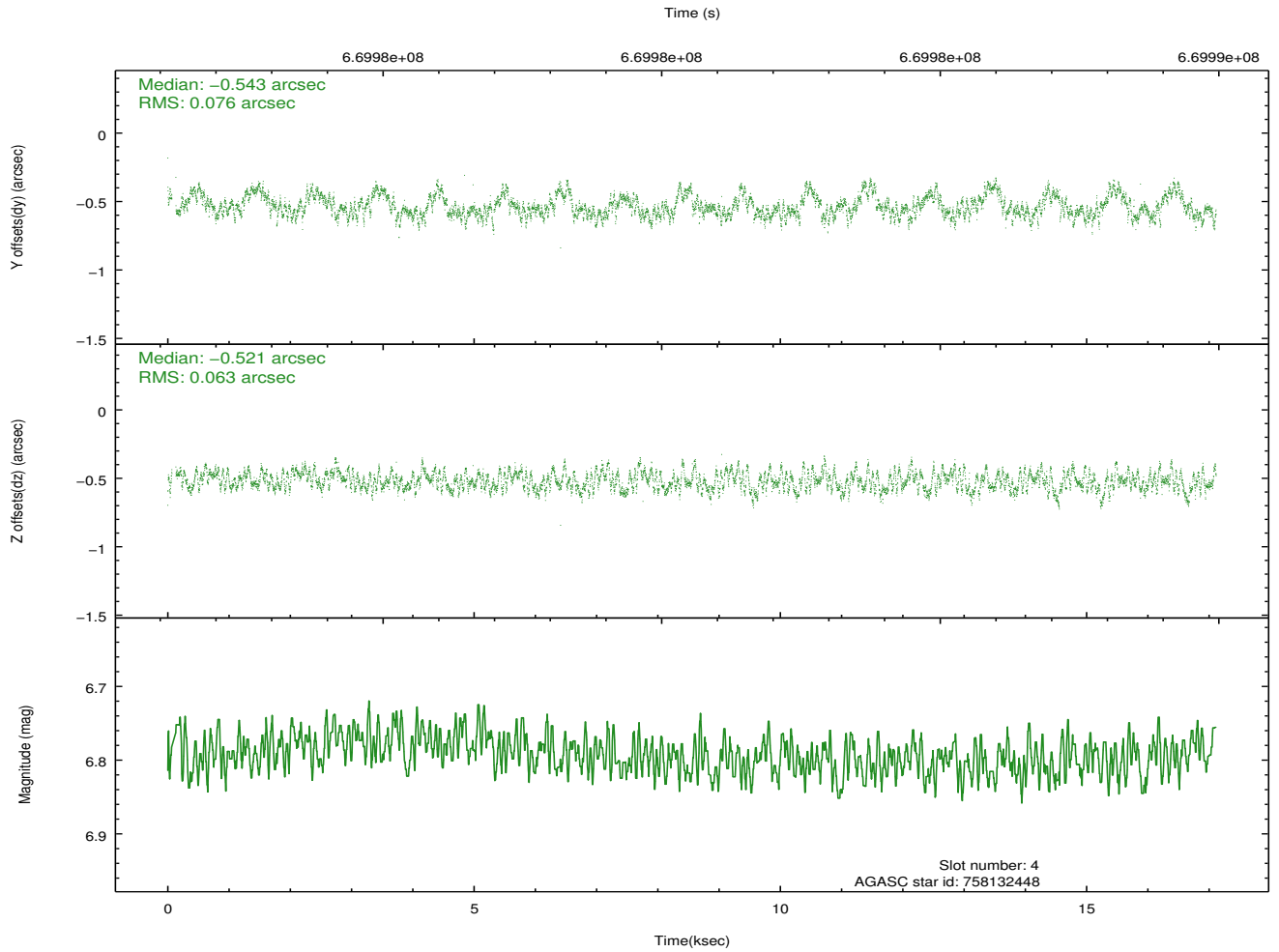
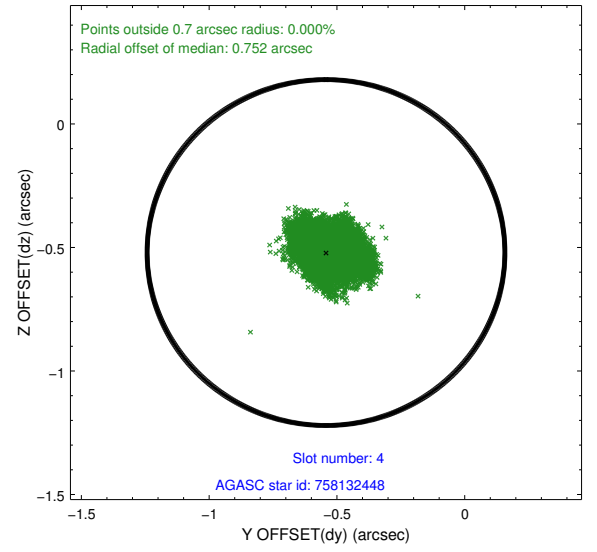
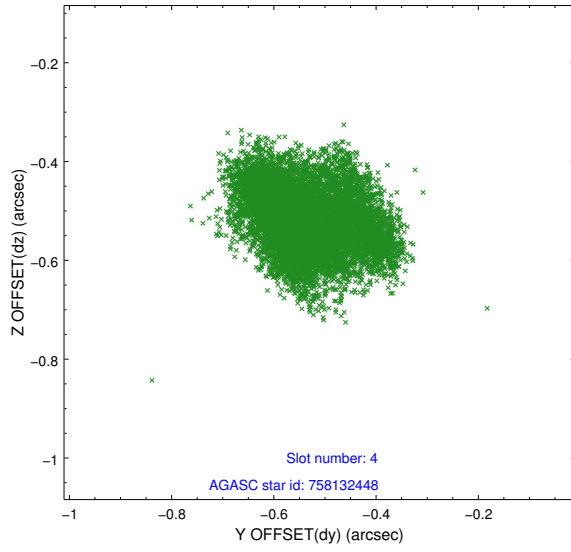
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-1	7.08	4160	1.000	0.177	-0.089	0.032	0.053	0.000000	0.000000	929.07	-1737
1	FID		ACIS-S-5	7.08	4160	1.000	-0.488	0.053	0.013	0.047	0.000000	0.000000	-1820.56	160
2	FID		ACIS-S-6	7.24	4160	1.000	0.289	0.050	0.041	0.096	0.000000	0.000000	394.32	804
3	GUIDE	used	758125192	7.96	8314	1.000	-0.309	-0.013	0.086	0.145	318.025223	-14.558210	1684.85	-56
4	GUIDE	used	758132448	6.79	8320	1.000	-0.543	-0.521	0.108	0.166	317.922244	-14.472376	2061.56	229
5	GUIDE	used	831916232	8.48	8314	1.000	0.577	0.346	0.121	0.197	318.791880	-15.125529	-869.62	-2236
6	GUIDE	used	831917848	9.00	8305	1.000	0.270	0.189	0.130	0.207	318.446219	-15.320827	-1305.47	-915
7	MONITOR	unused		0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0

2.4 Star Slots

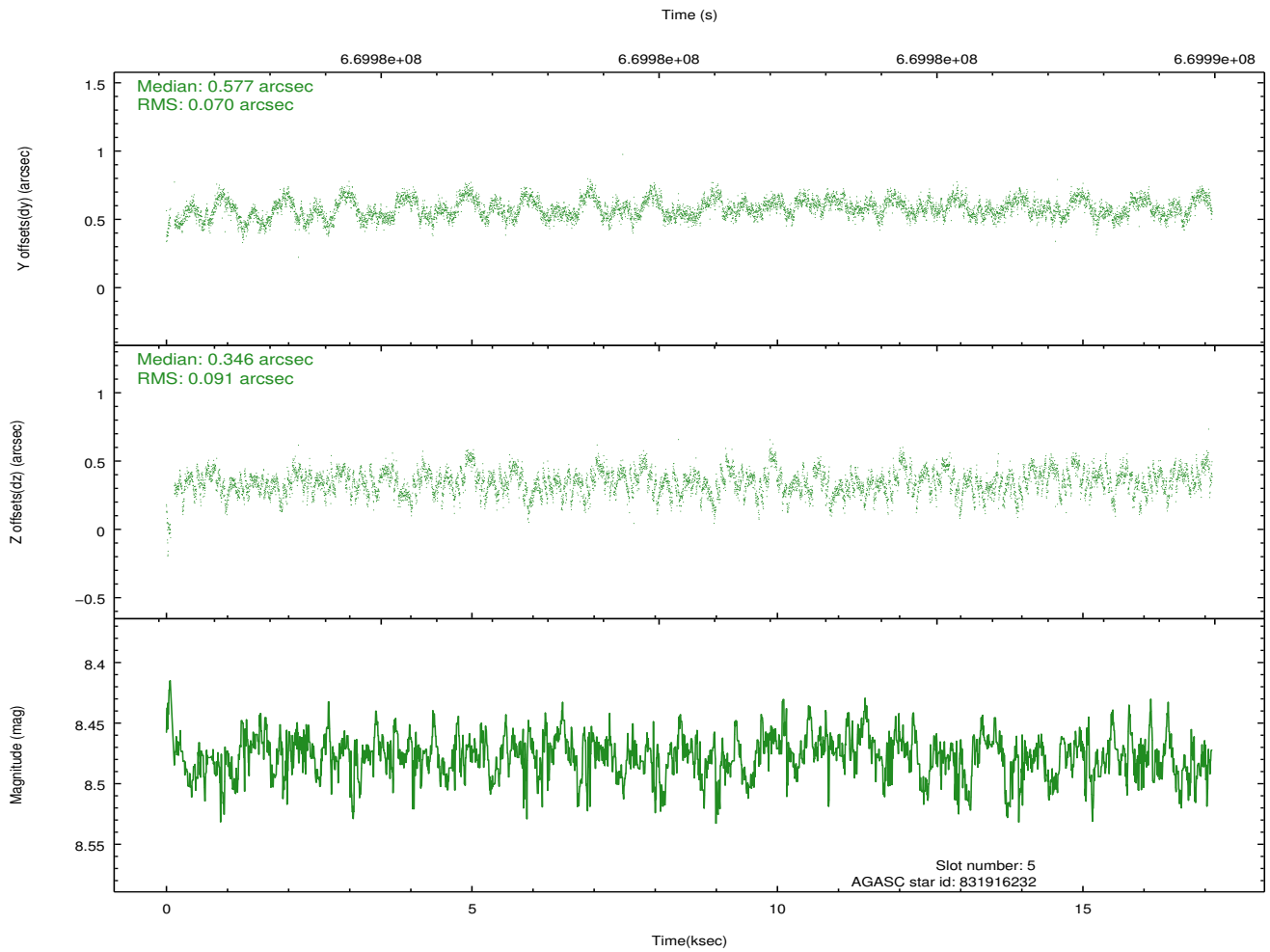
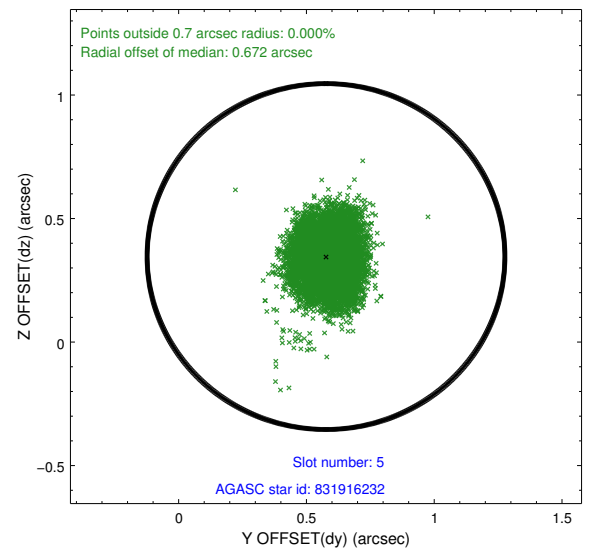
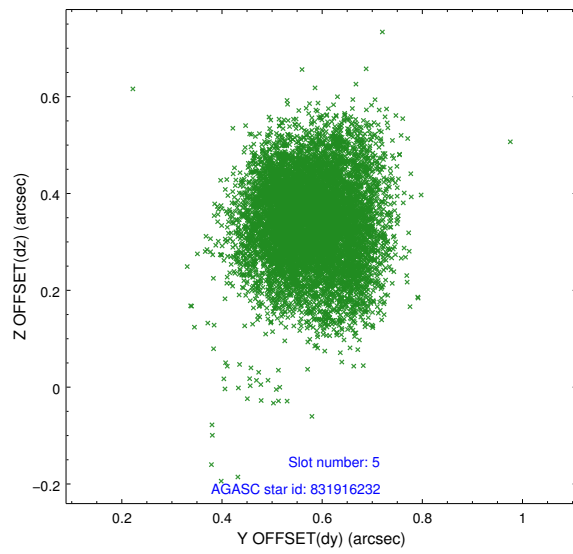
2.4.1 Slot 3



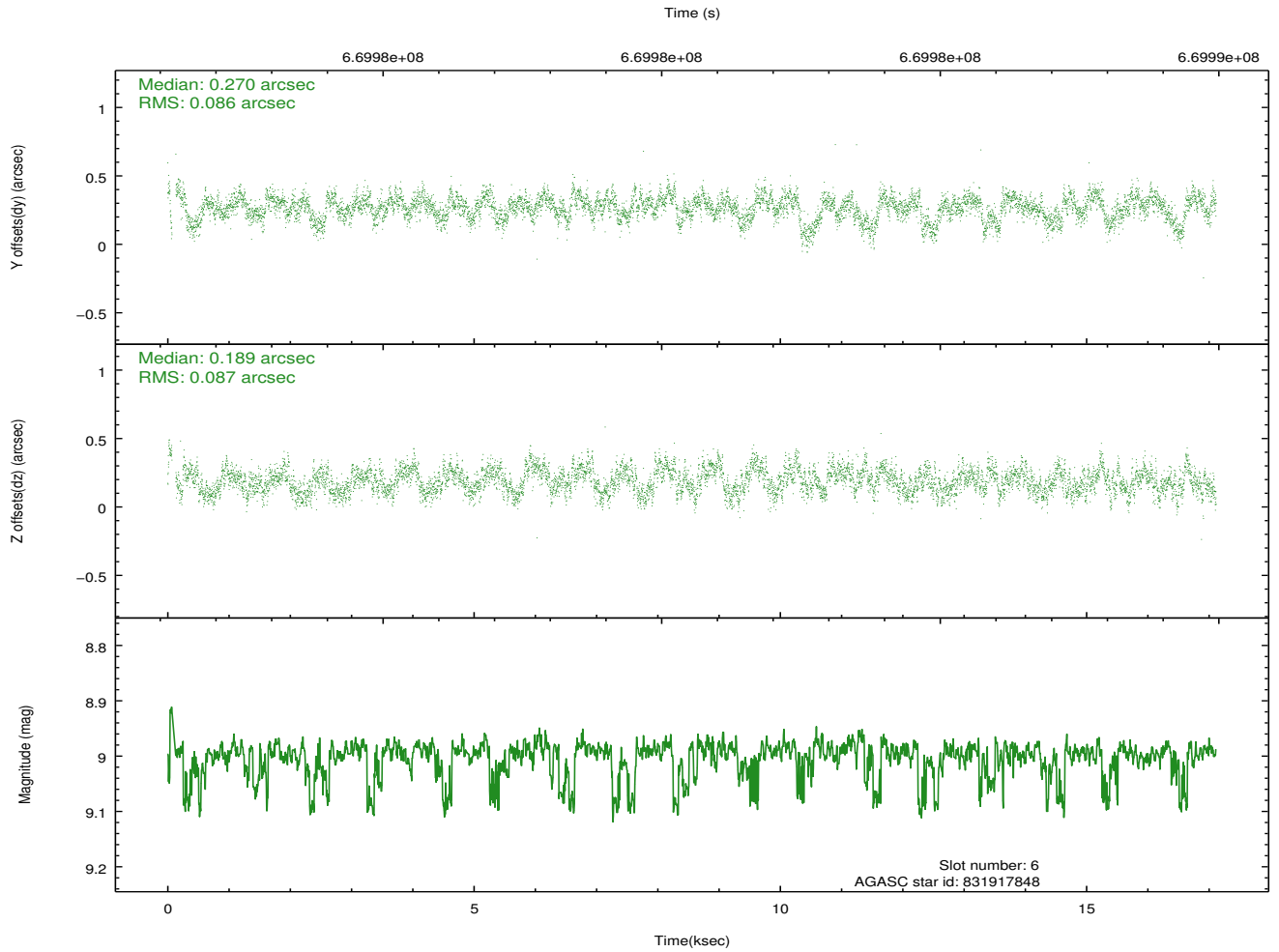
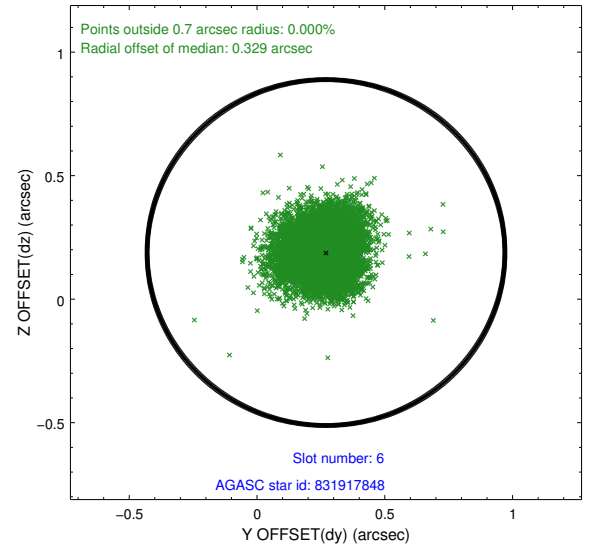
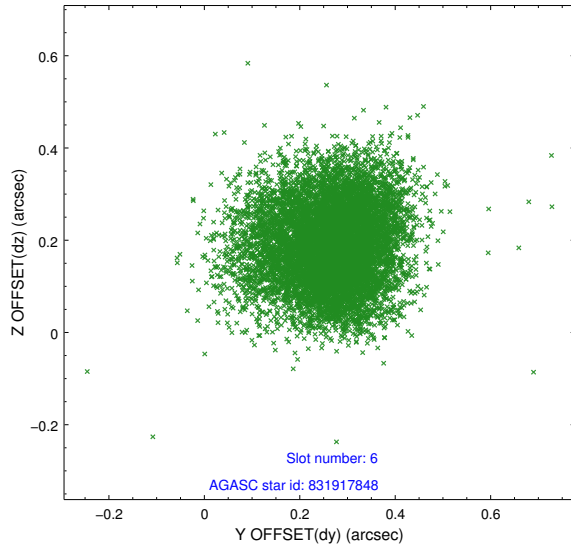
2.4.2 Slot 4



2.4.3 Slot 5

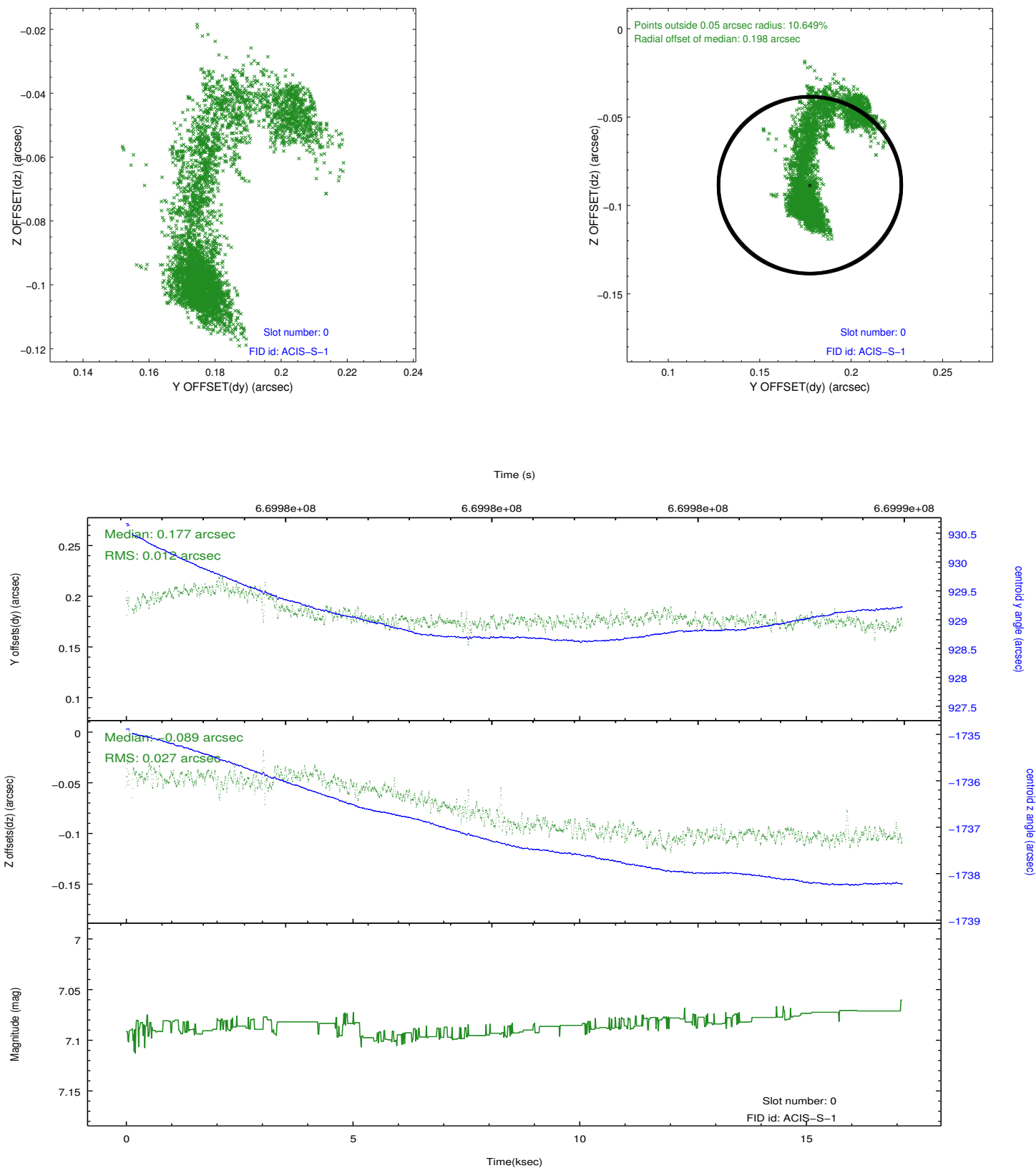


2.4.4 Slot 6

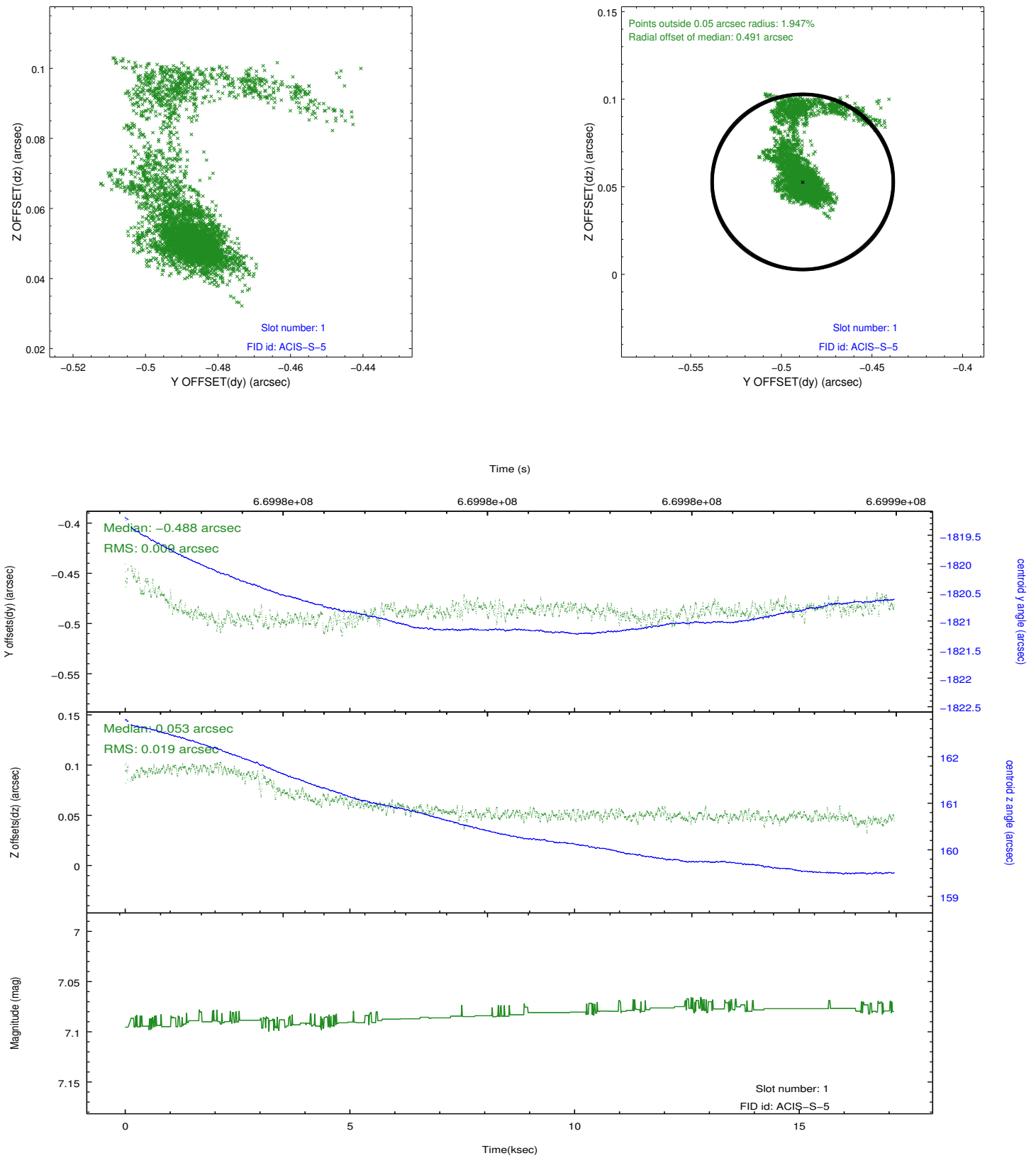


2.5 FID Slots

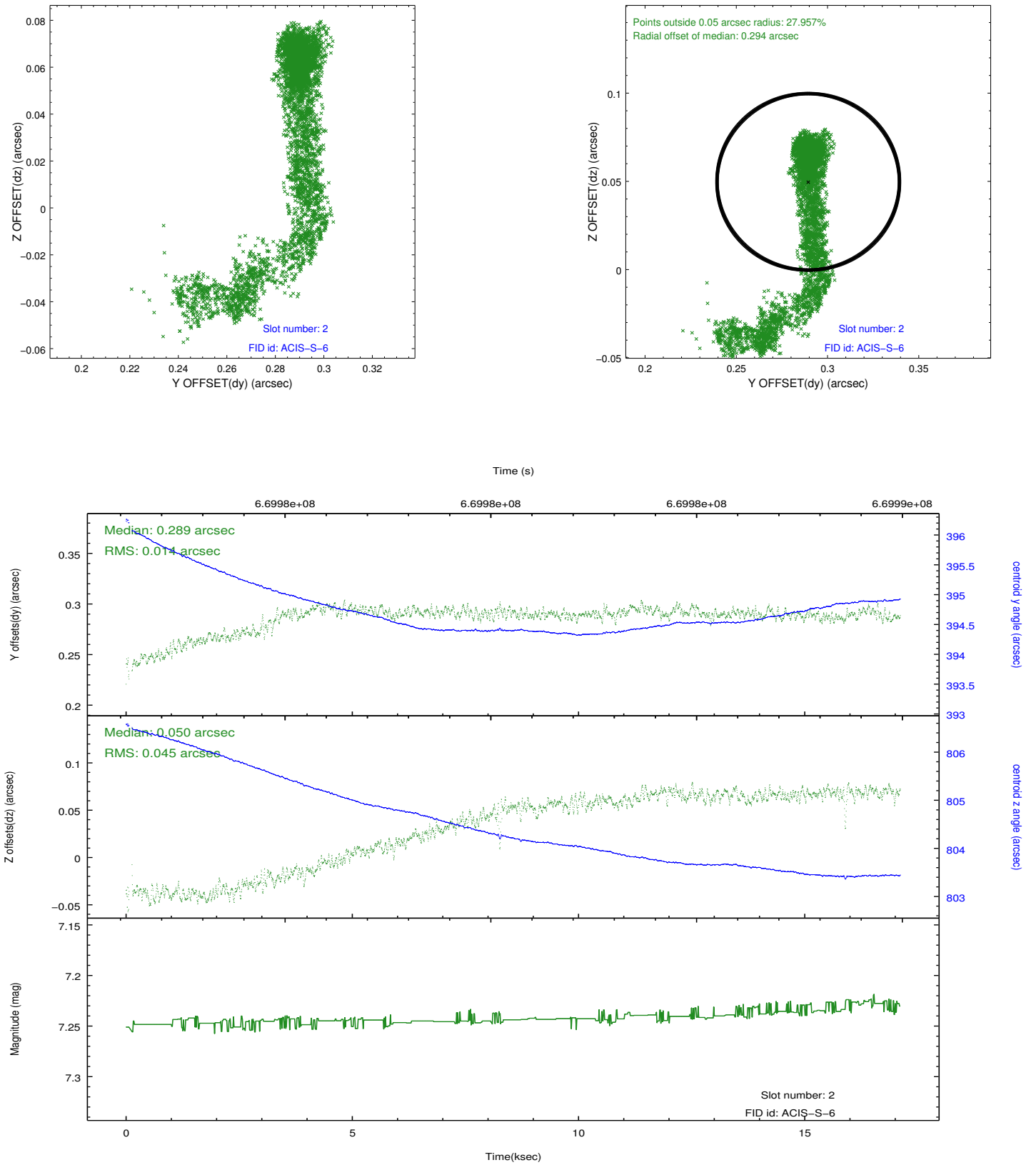
2.5.1 Slot 0



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)	2019.03.27
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	16.979600476265

A.2 Comments

Target optically monitored during observation. The ACA has the capability to devote one or more of the eight image slots to "monitor" particular sky locations. This allows simultaneous optical photometry of one or more targets in the ACA field of view. These optical sources can be slightly fainter than the ACA guide star limit of $m_{ACA} = 10.2$ mag. The bright-end limit for monitor star photometry is $m_{ACA}=6.2$ mag. However, since there are a fixed number of image slots, devoting a slot to photometry instead of tracking a guide star results in a degradation of the image reconstruction and celestial location accuracy (Section 5.4). Using one monitor slot represents a 15 - 25% increase in the aspect image reconstruction RMS diameter, depending on the particular guide star configuration. Two monitor slots would increase the diameter by about 50 - 60%, but this configuration is not operationally allowed under normal circumstances. The photometric accuracy which can be achieved depends primarily on the star magnitude, integration time, CCD dark current, CCD read noise, sky background, and the CCD dark current uncertainty.