

V&V Reference Report

L2 ASCDS Version : 8.5.1.1

Observation 3902 - L2 Version 4
Chandra X-Ray Center

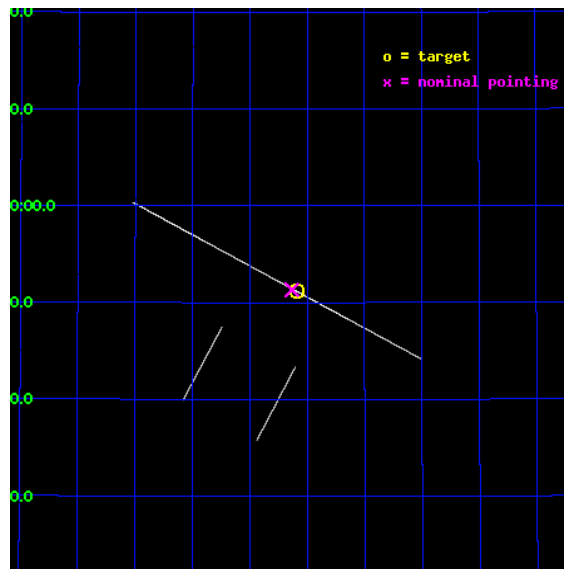
L2 Processing Date : Jan 8 2013

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1 Front

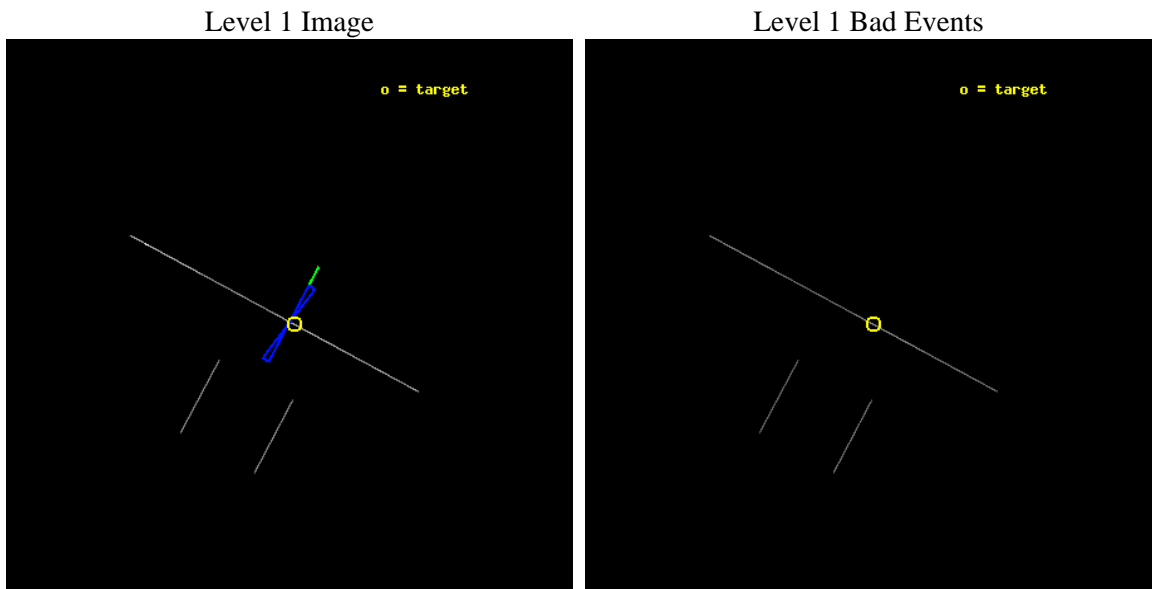
seq_num	500381	Sequence number
obs_id	3902	Observation id
title	PSR J2021+3651: A GAMMA-RAY PULSAR AT THE EDGE OF THE GALAXY?	Prop
observer	Dr. Mallory Roberts	Principal investigator
object	PSR J2021+3651	Source name
ra_targ	305.271667	Observer's specified target RA [deg]
dec_targ	36.852333	Observer's specified target Dec [deg]
ra_nom	305.28313890067	Nominal RA [deg]
dec_nom	36.855321543633	Nominal Dec [deg]
roll_nom	28.149743560309	Nominal Roll [deg]
revision	4	Processing version of data
ontime	20764.25	Sum of GTIs [s]
livetime	20683.139648438	Livetime [s]
ontime2	20764.25	Sum of GTIs [s]
ontime3	20764.25	Sum of GTIs [s]
ontime5	20764.25	Sum of GTIs [s]
ontime6	20764.25	Sum of GTIs [s]
ontime7	20764.25	Sum of GTIs [s]
ontime8	20764.25	Sum of GTIs [s]
l2events	246925	Number of level 2 events



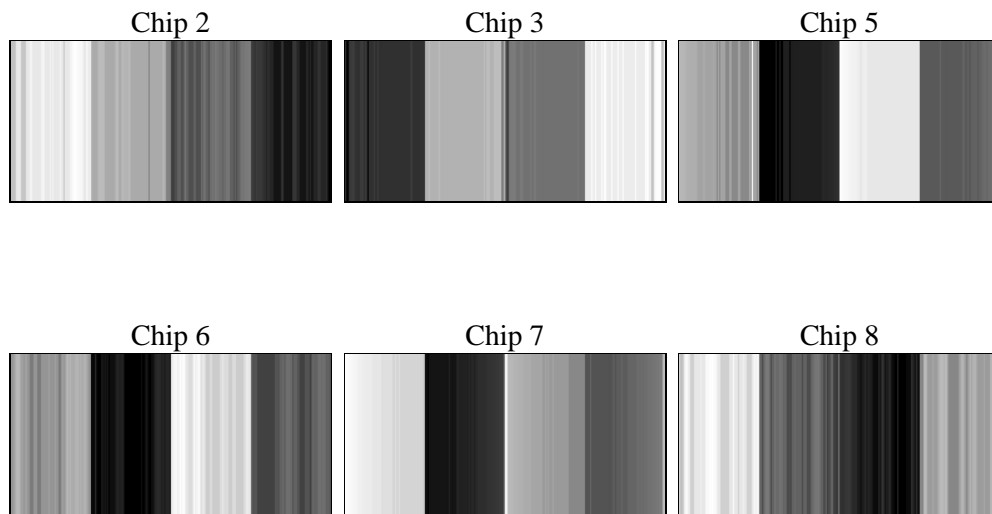
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	19700.000000	[s] Scheduled observation exposure time
ascdsver	8.5.1.1	Processing system revision	ontime	20764.25	Sum of GTIs [s]
caldbver	4.5.5	 	ontime2	20764.25	Sum of GTIs [s]
date	2013-01-08T10:56:41	Date and time of file creation	ontime3	20764.25	Sum of GTIs [s]
revision	4	Processing version of data	ontime5	20764.25	Sum of GTIs [s]
			ontime6	20764.25	Sum of GTIs [s]
			ontime7	20764.25	Sum of GTIs [s]
			ontime8	20764.25	Sum of GTIs [s]
			l1events	416739	Number of level 1 events

2.1.4 Events

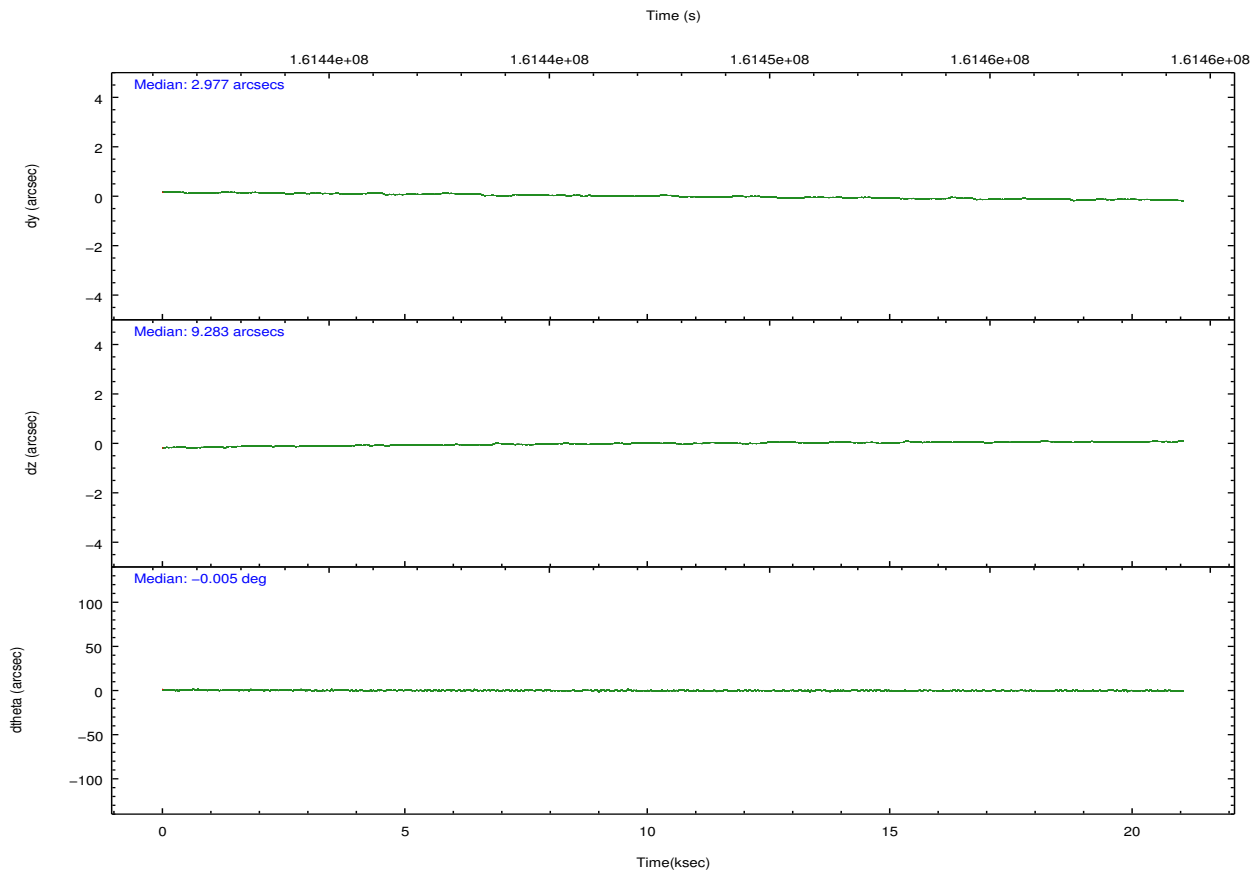
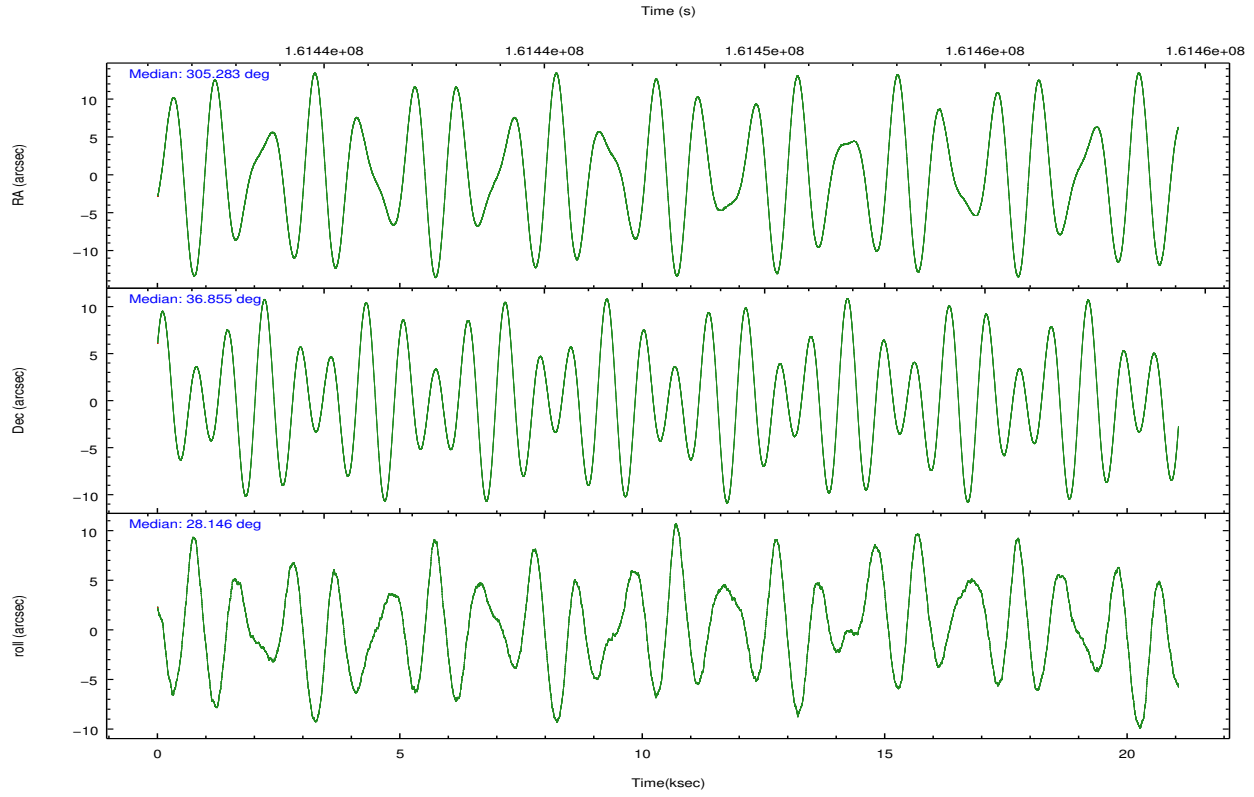
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	26766	28361	176839	33471	94375	56927
rejected events	4767	6973	12129	5626	15450	7897
rejected %	17%	24%	6%	16%	16%	13%

	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	3245	2621	65110	3497	8674	9582
	12%	9%	36%	10%	9%	16%
grade 1 events	98	94	211	106	199	206
	0%	0%	0%	0%	0%	0%
grade 2 events	8453	8632	43495	12356	19692	15341
	31%	30%	24%	36%	20%	26%
grade 3 events	2956	2941	2670	3170	6301	5782
	11%	10%	1%	9%	6%	10%
grade 4 events	2963	2443	2560	3016	6211	5724
	11%	8%	1%	9%	6%	10%
grade 5 events	4665	4624	11893	5519	15228	7633
	17%	16%	6%	16%	16%	13%
grade 6 events	4386	4755	50900	5807	38070	12659
	16%	16%	28%	17%	40%	22%
grade 7 events	0	2251	0	0	0	0
	0%	7%	0%	0%	0%	0%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	ACIS-235678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	CC33_FAINT	CC33_FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	305.265601	305.2831389006737	Subarray requested	NONE	NONE
[deg] Pointing Dec	36.832001	36.85532154363253	Alternating exposures requested	N	N
[deg] Pointing Roll	28.003637	28.14974356030945	[s] Primary exposure time	0.000000	0
[deg] Roll angle	33.000000	33.000000			
[deg] Roll tolerance	5.000000	5.000000			
Roll constraint allows 180D rotation	Y	Y			
[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)	161438640.184000	161437093.90856			
Observation start date	2003-02-12T12:02:56	2003-02-12T11:38:13			
[s] Observation end time (MET)	161458340.184000	161458636.33447			
Observation end date	2003-02-12T17:31:16	2003-02-12T17:37:16			
Read mode	CONTINUOUS	CONTINUOUS			

2.3 Aspect

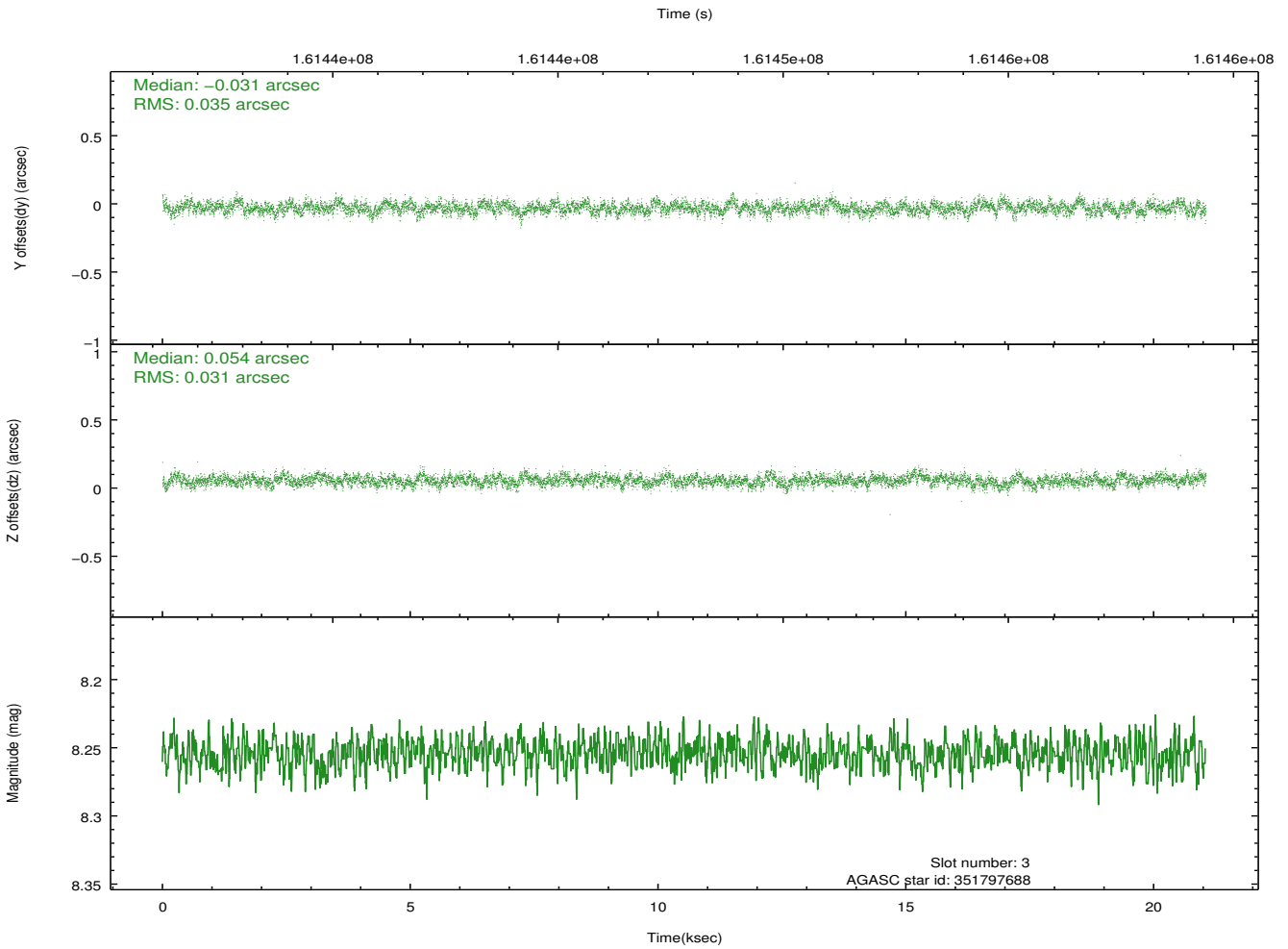
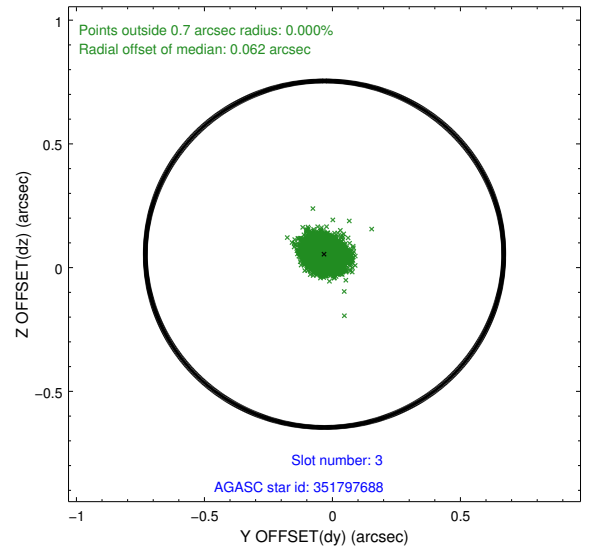
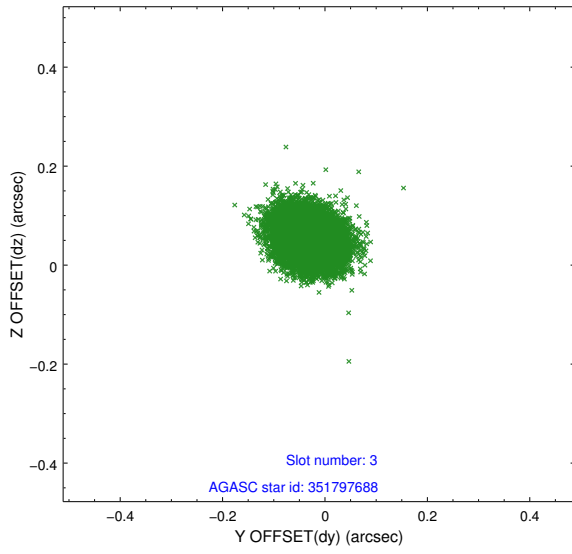


Slot Statistics

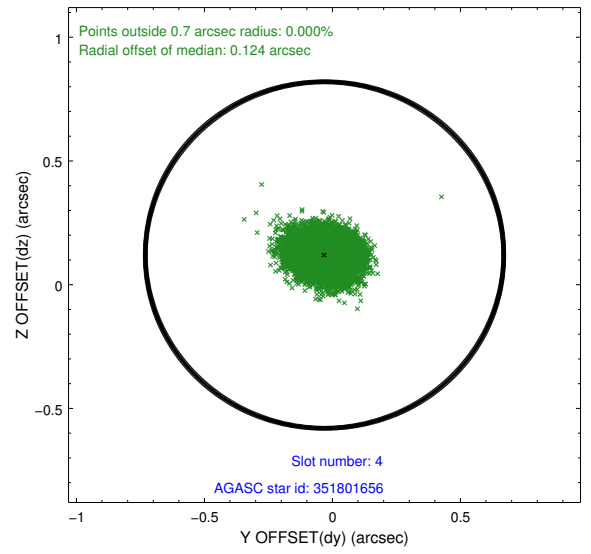
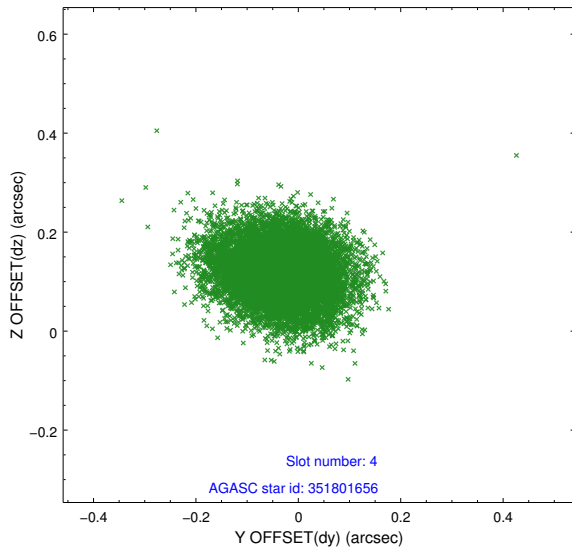
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	5136	-0.036	-0.009	0.007	0.012	0.000000	0.000000	-755.63	-1730.51
1	FID	ACIS-S-4	7.20	5136	0.007	0.020	0.007	0.013	0.000000	0.000000	2157.59	177.86
2	FID	ACIS-S-5	7.24	5134	-0.001	-0.002	0.009	0.015	0.000000	0.000000	-1808.24	171.65
3	GUIDE	351797688	8.25	10271	-0.031	0.054	0.049	0.081	305.702978	37.435347	2125.03	1333.57
4	GUIDE	351801656	9.45	10251	-0.031	0.120	0.087	0.145	305.958441	36.522506	1250.50	-1918.10
5	GUIDE	351812608	8.23	10268	0.129	-0.078	0.062	0.098	304.539634	36.570010	-2291.88	159.47
6	GUIDE	351803264	9.13	10269	-0.066	0.043	0.100	0.153	305.048112	36.103142	-1790.25	-2019.05
7	GUIDE	413143680	9.15	10245	0.004	-0.137	0.109	0.172	305.316452	37.600642	1427.24	2374.90

2.4 Star Slots

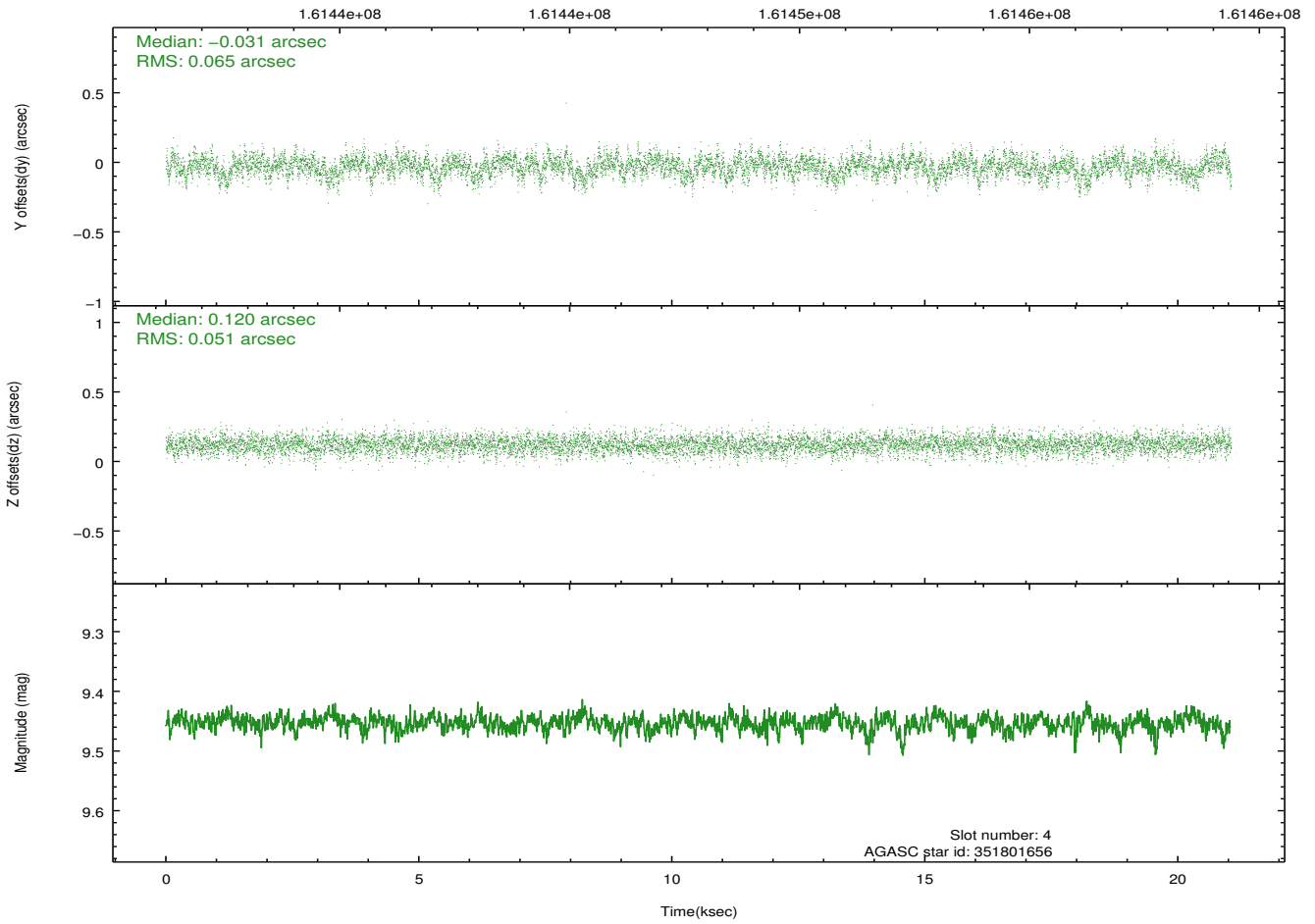
2.4.1 Slot 3



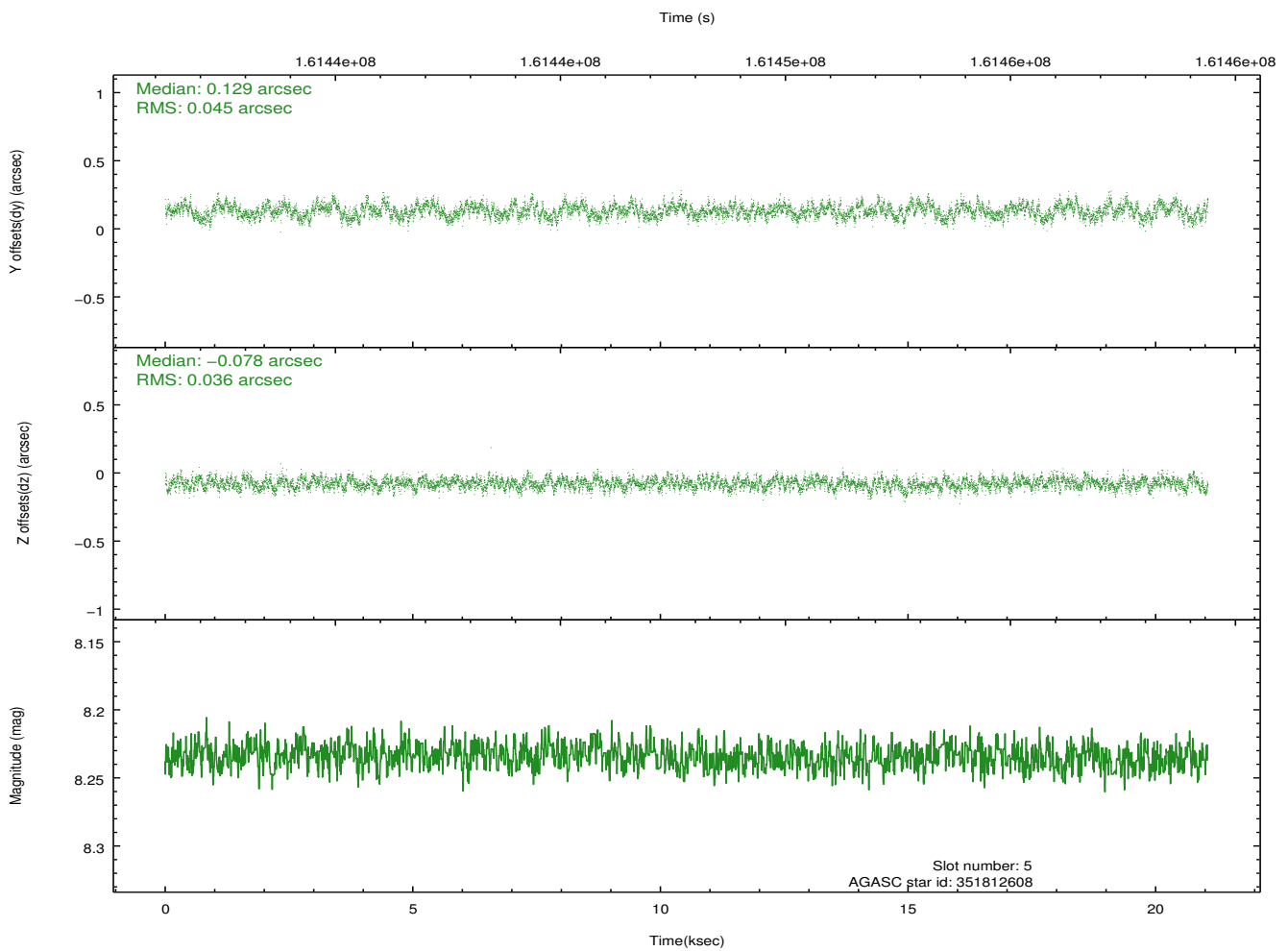
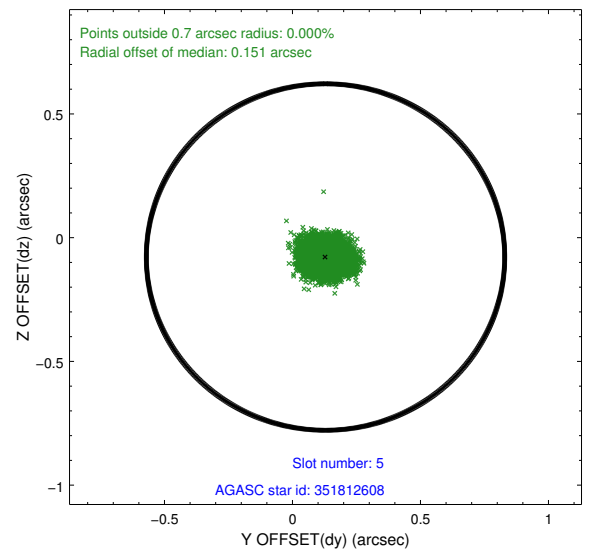
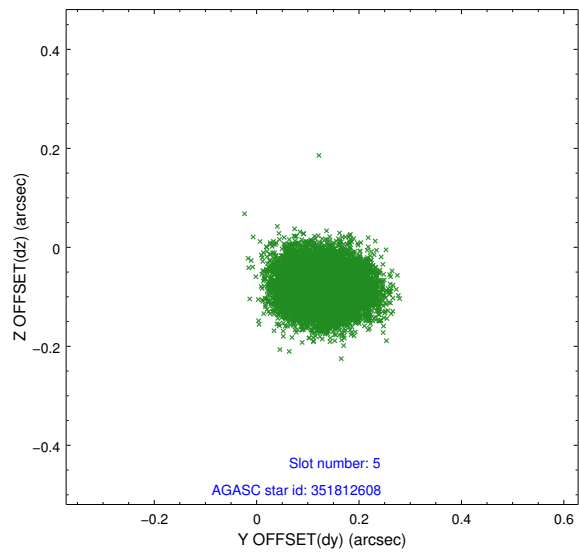
2.4.2 Slot 4



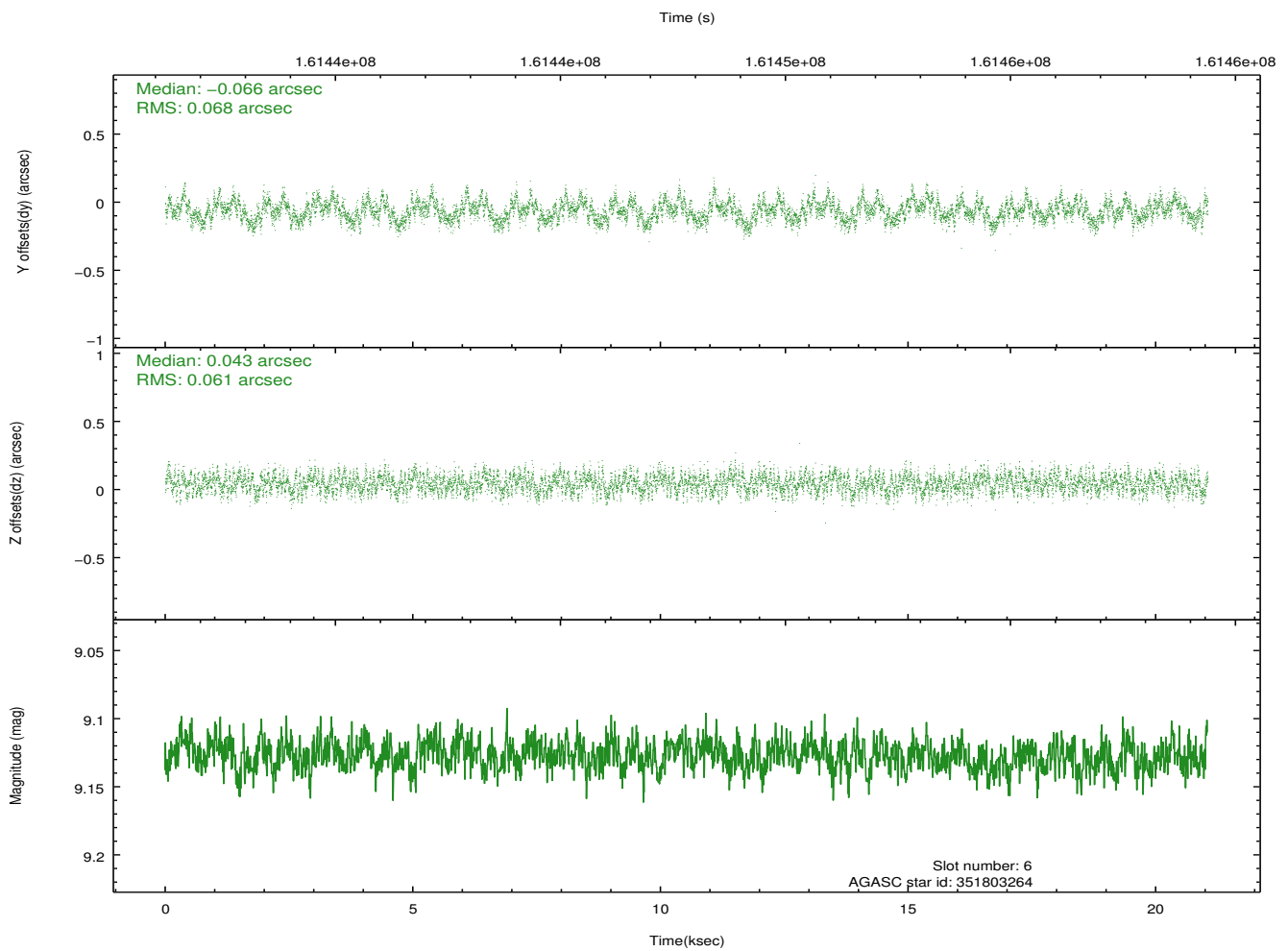
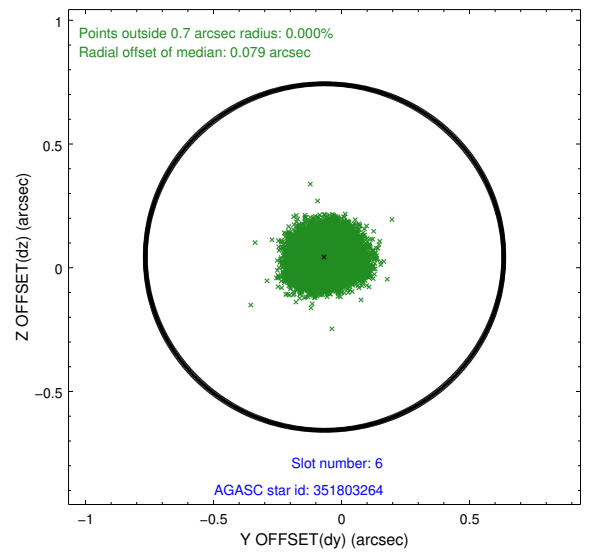
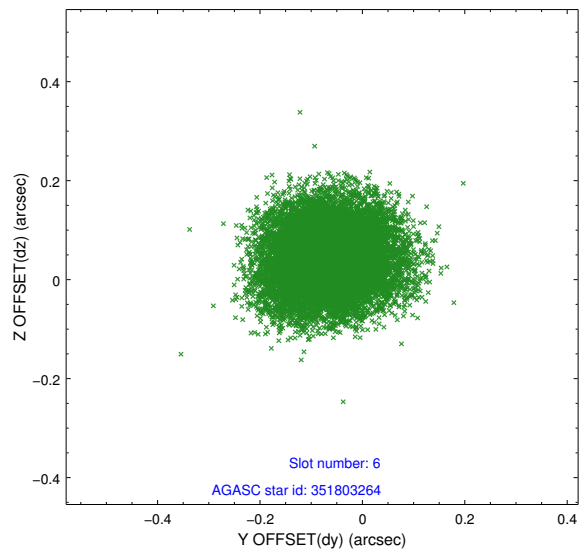
Time (s)



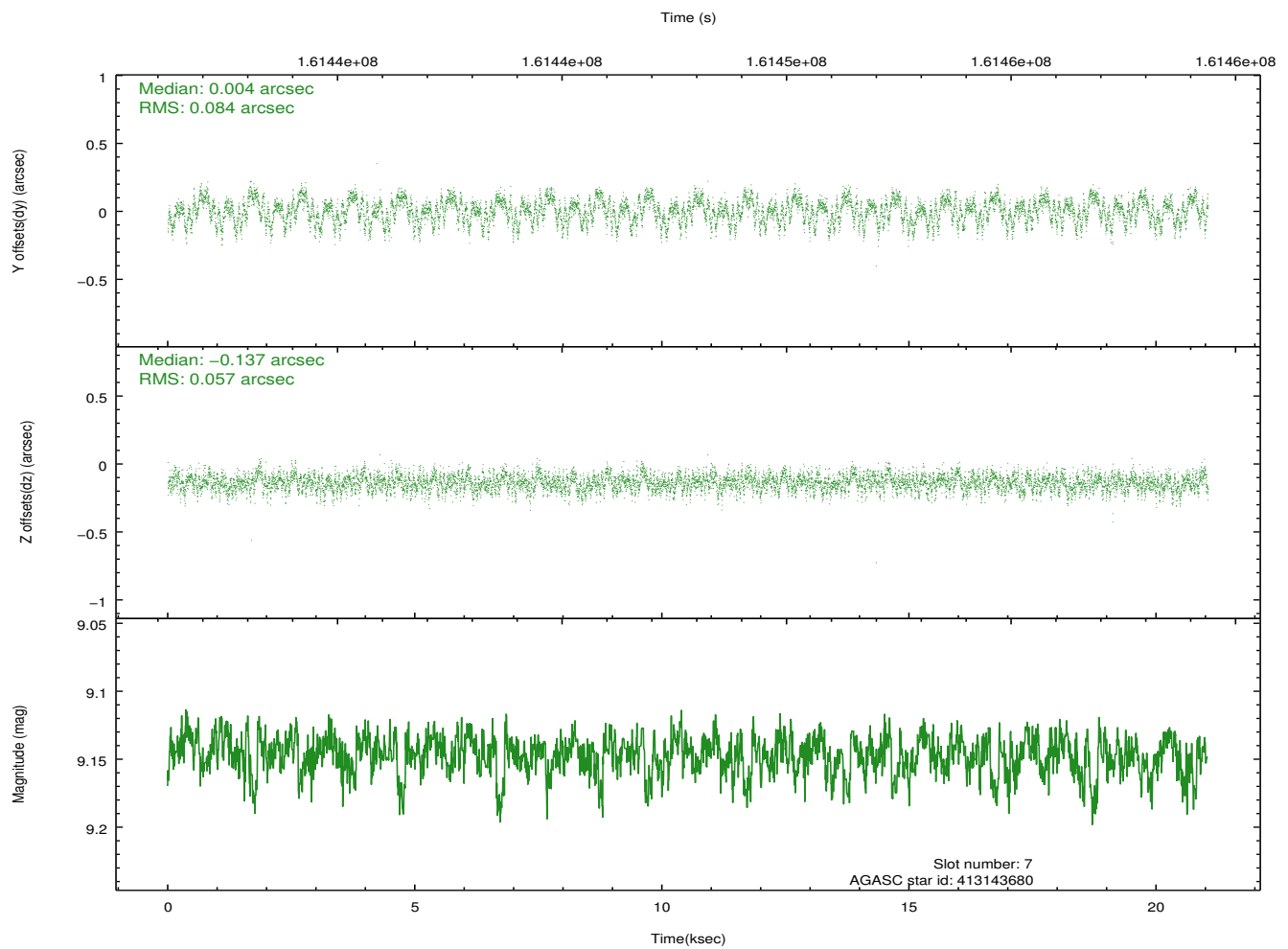
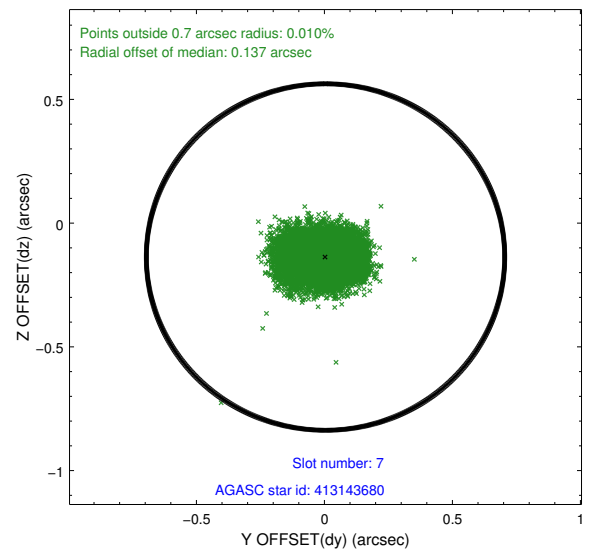
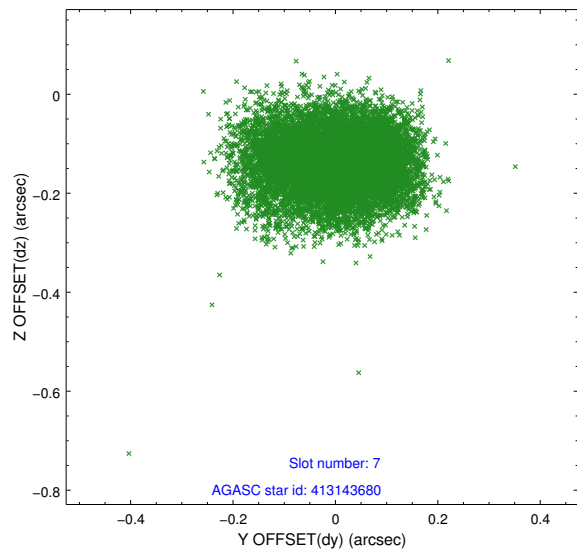
2.4.3 Slot 5



2.4.4 Slot 6

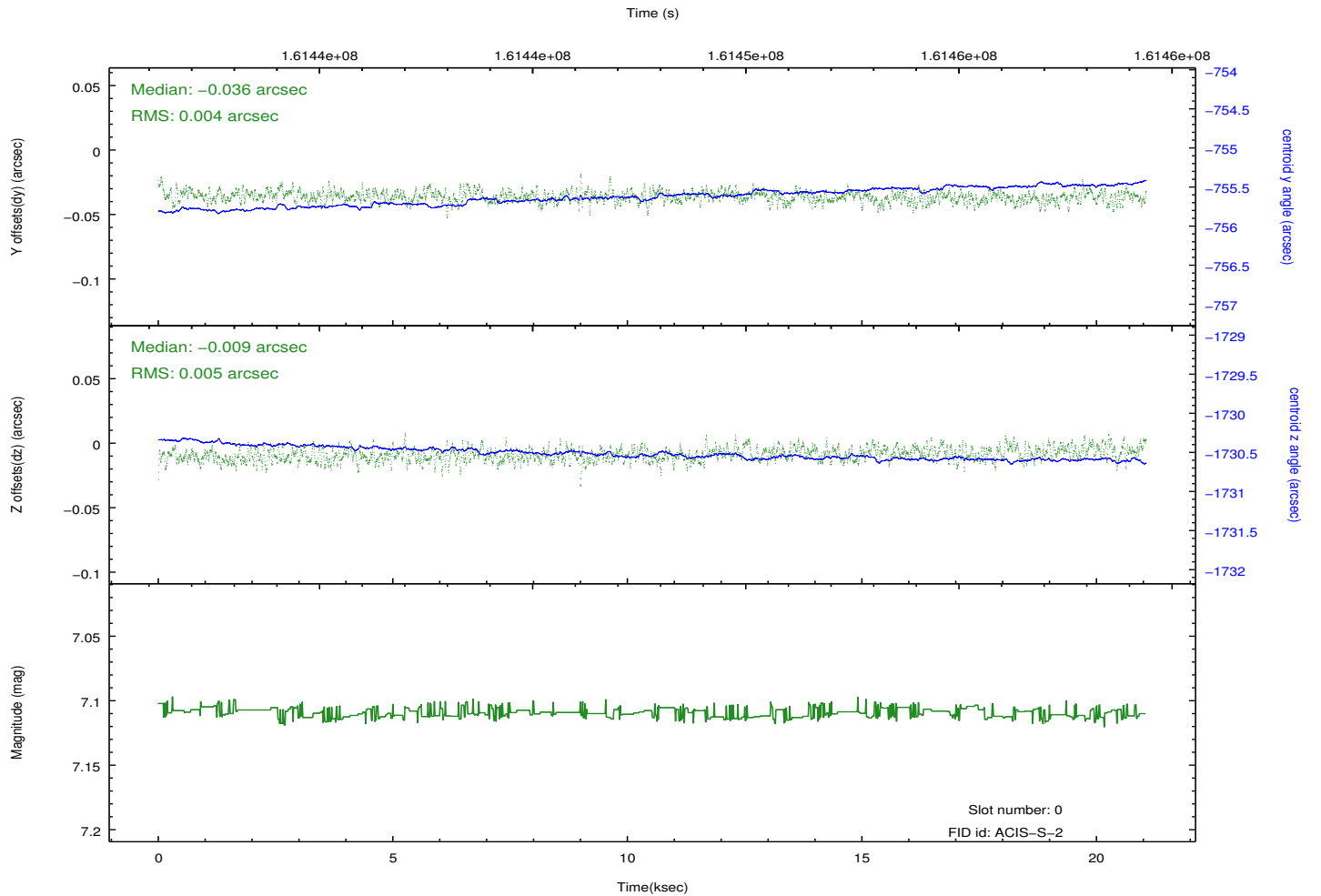
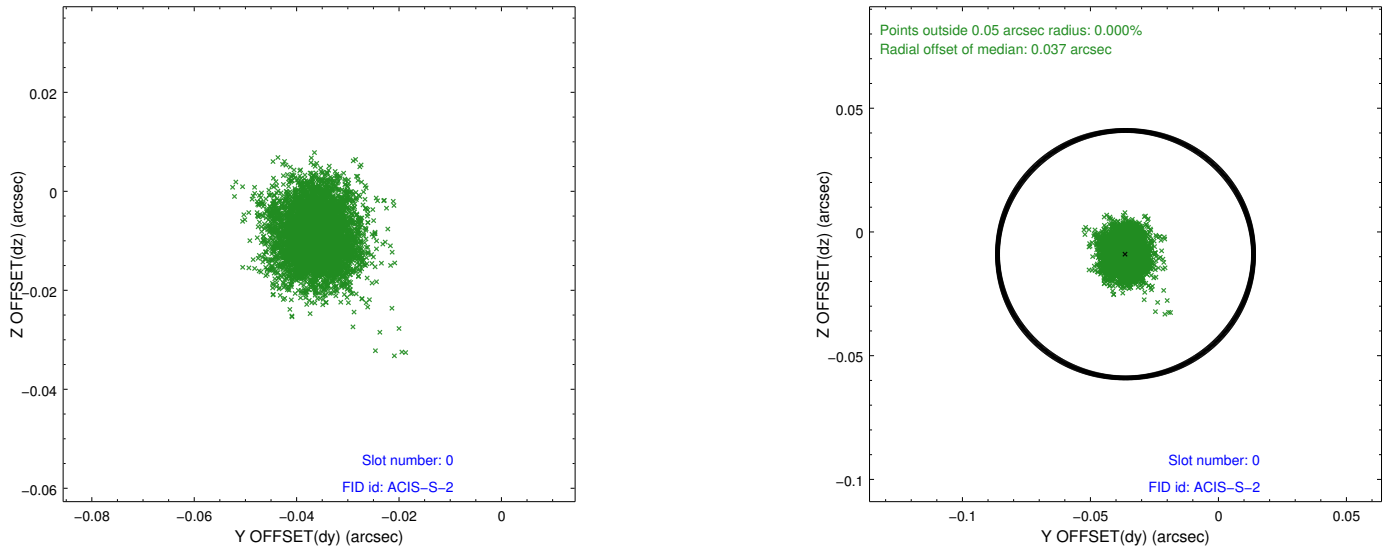


2.4.5 Slot 7

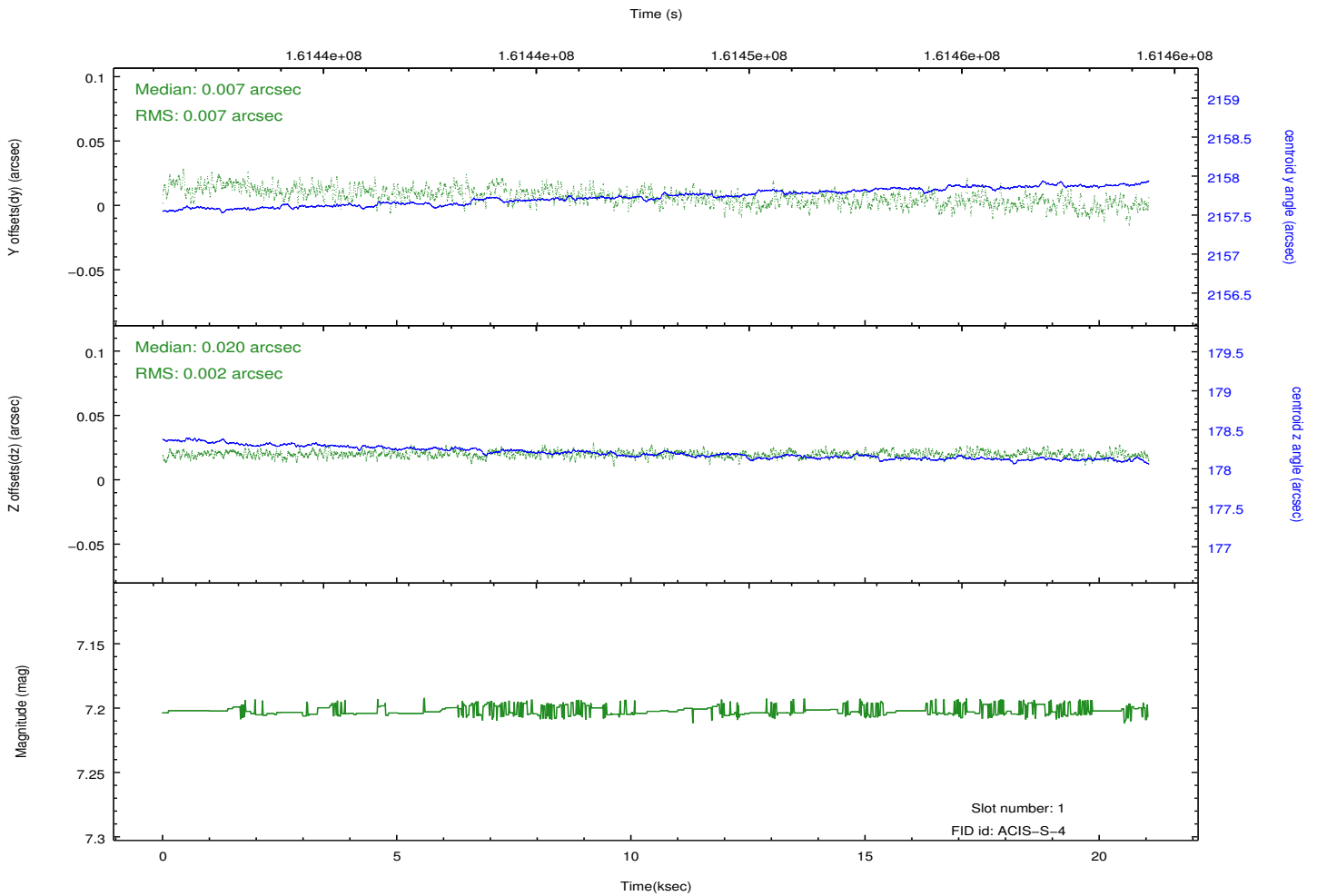
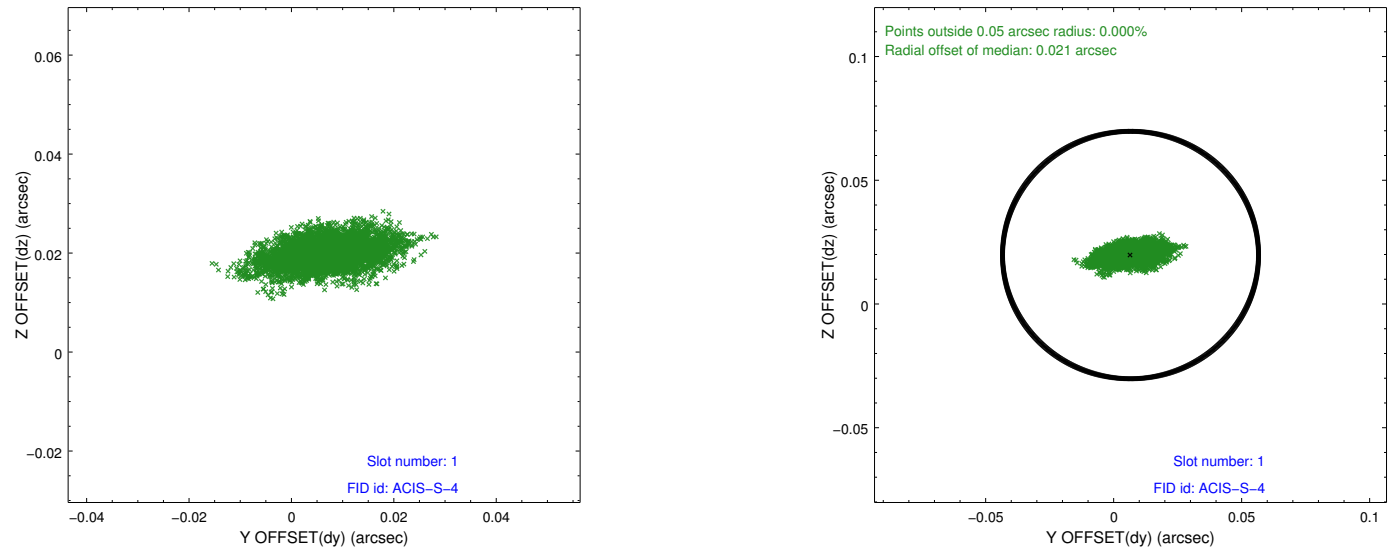


2.5 FID Slots

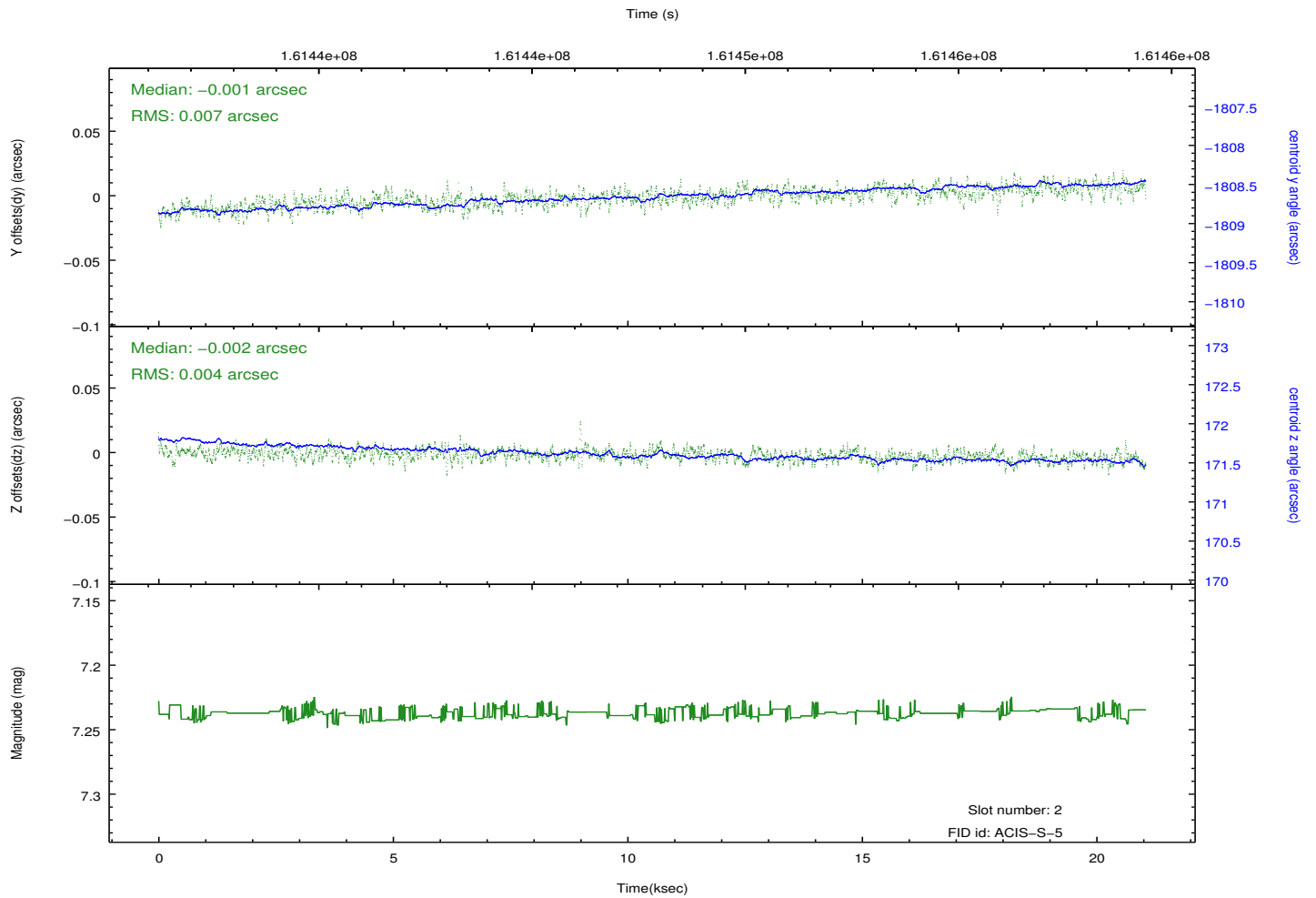
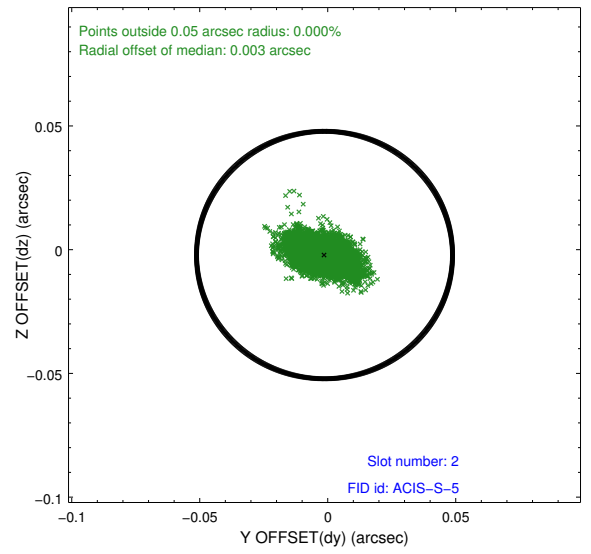
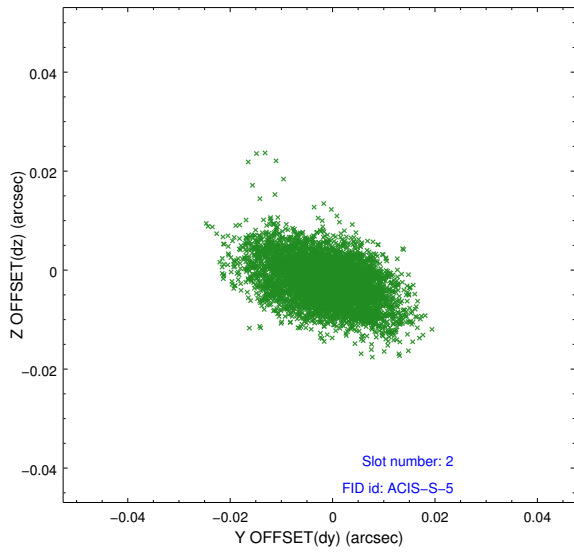
2.5.1 Slot 0



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)	2013.01.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.767

A.2 Comments

Bias map for chip 3 was lost due to a telemetry dropout. A replacement bias file was created using the Level 0 event and exposure data to model a reasonable bias map for chip 3. The target does not fall on chip 3.

===

The technique uses the bias-less FEP event islands as the basic input. The event islands are corrected for overclocking, then arranged in an array according to their CCD columns, with the center pixel in each island excluded. The output bias value for each column is identified as the value for which 62.5% of all the pixels in the column have a higher value. The output is a one dimensional array of bias values, which is replicated to produce the 2-dimensional bias image. All columns in the output bias image have the same value.