

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 11751 - L2 Version 2  
Chandra X-Ray Center

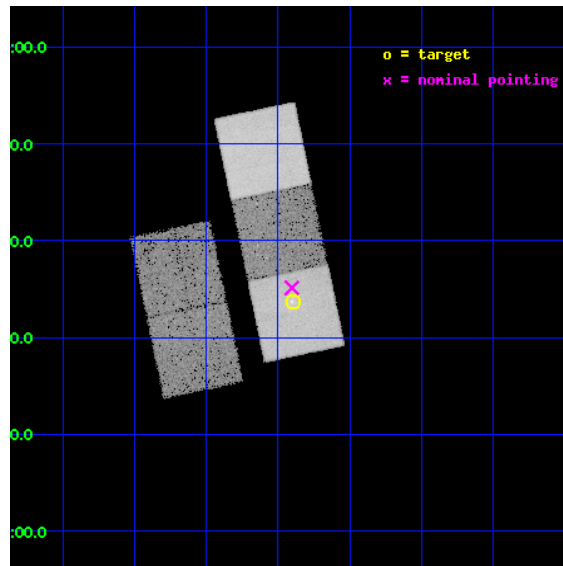
L2 Processing Date : Jun 15 2012

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# 1 Front

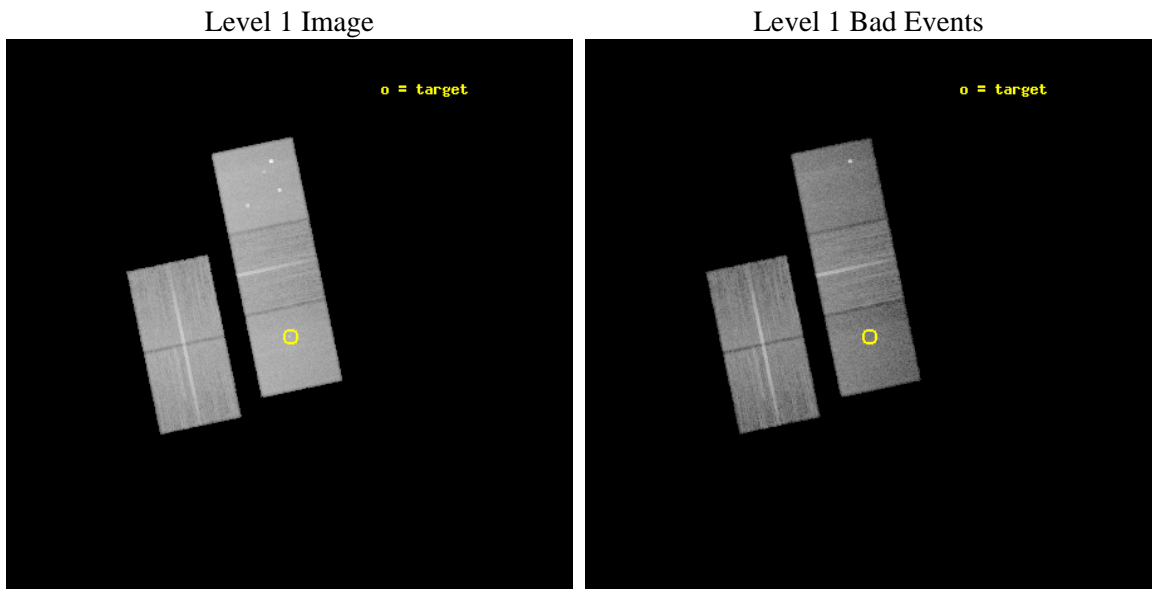
seq_num	800891	Sequence number
obs_id	11751	Observation id
title	Strong shocks, cavities and AGN heating in galaxy groups	Proposal
observer	Dr. Ming Sun	Principal investigator
object	3C88	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	51.973333	Observer's specified target RA [deg]
dec_targ	2.561389	Observer's specified target Dec [deg]
ra_nom	51.975854497896	Nominal RA [deg]
dec_nom	2.585507418355	Nominal Dec [deg]
roll_nom	78.156520151781	Nominal Roll [deg]
revision	2	Processing version of data
ontime	20184.100155234	Sum of GTIs [s]
livetime	19920.380027388	Livetime [s]
ontime2	20180.959184825	Sum of GTIs [s]
ontime3	20174.6772241	Sum of GTIs [s]
ontime5	20184.100155234	Sum of GTIs [s]
ontime6	20177.818124771	Sum of GTIs [s]
ontime7	20184.100155234	Sum of GTIs [s]
l2events	254374	Number of level 2 events



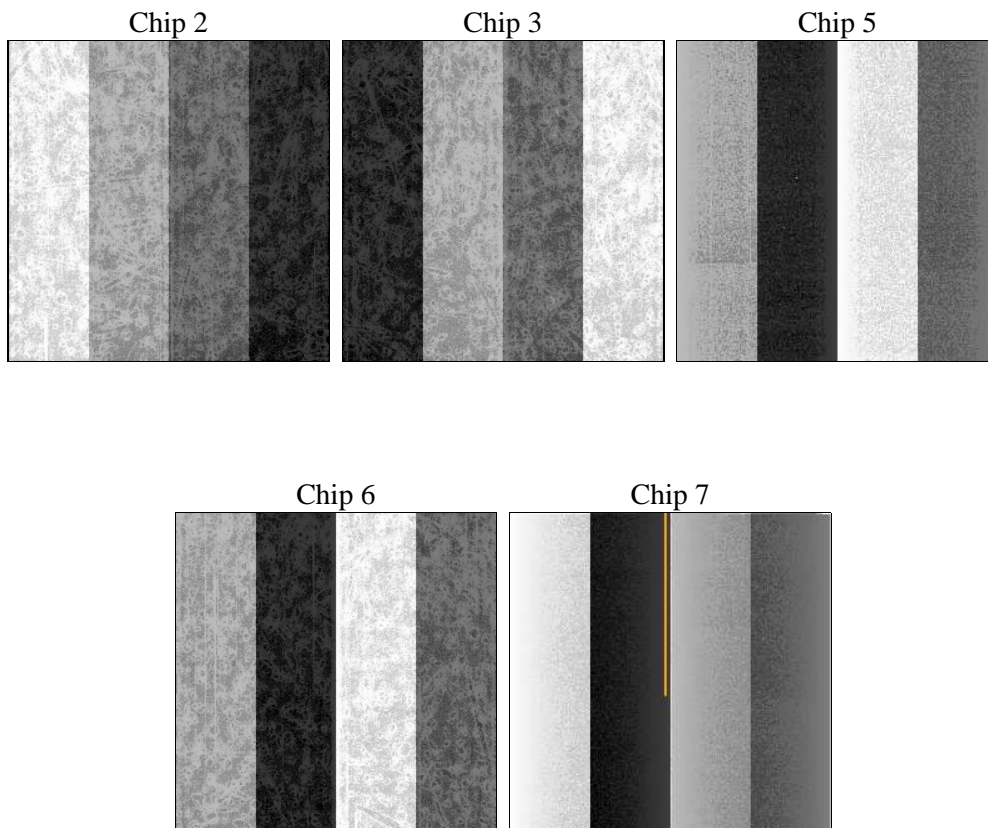
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	20184.100155234	Sum of GTIs [s]
caldbver	4.4.10	&#160	ontime2	20180.959184825	Sum of GTIs [s]
date	2012-06-15T12:26:07	Date and time of file creation	ontime3	20174.6772241	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	20184.100155234	Sum of GTIs [s]
			ontime6	20177.818124771	Sum of GTIs [s]
			ontime7	20184.100155234	Sum of GTIs [s]
			l1events	1034687	Number of level 1 events

### 2.1.4 Events

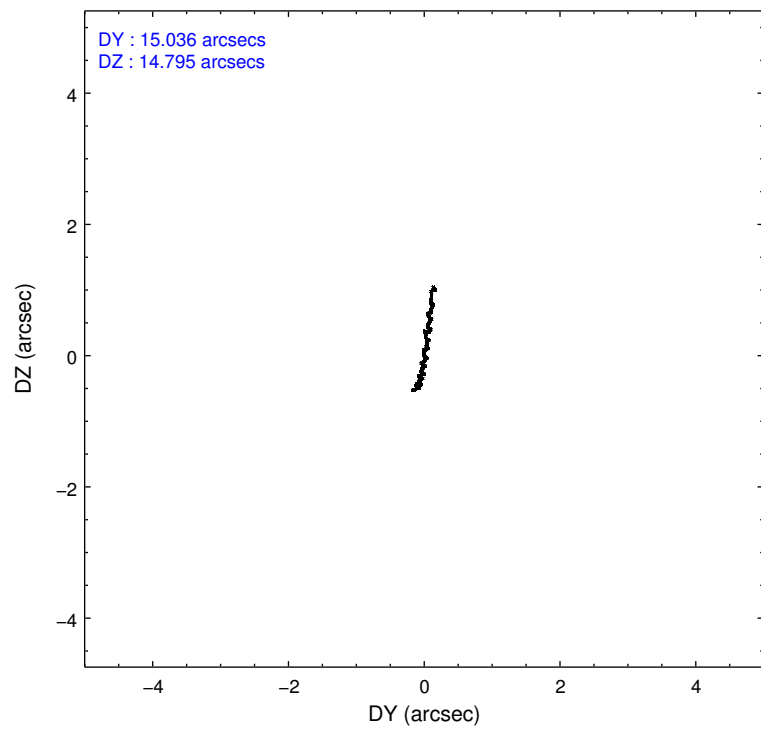
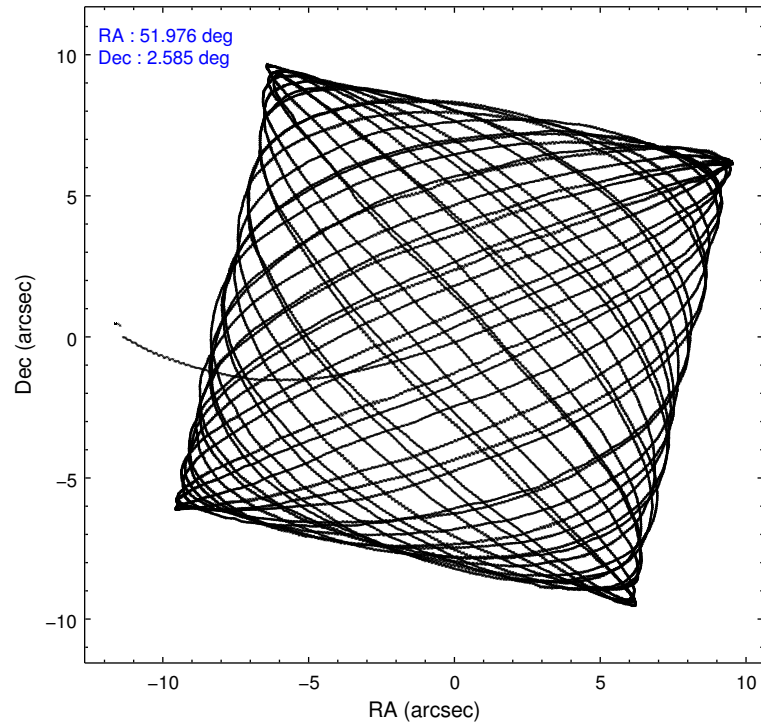
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7
level 1 events	185826	179729	268452	185342	215338
rejected events	168591	163116	140875	166953	120119
rejected %	90%	90%	52%	90%	55%

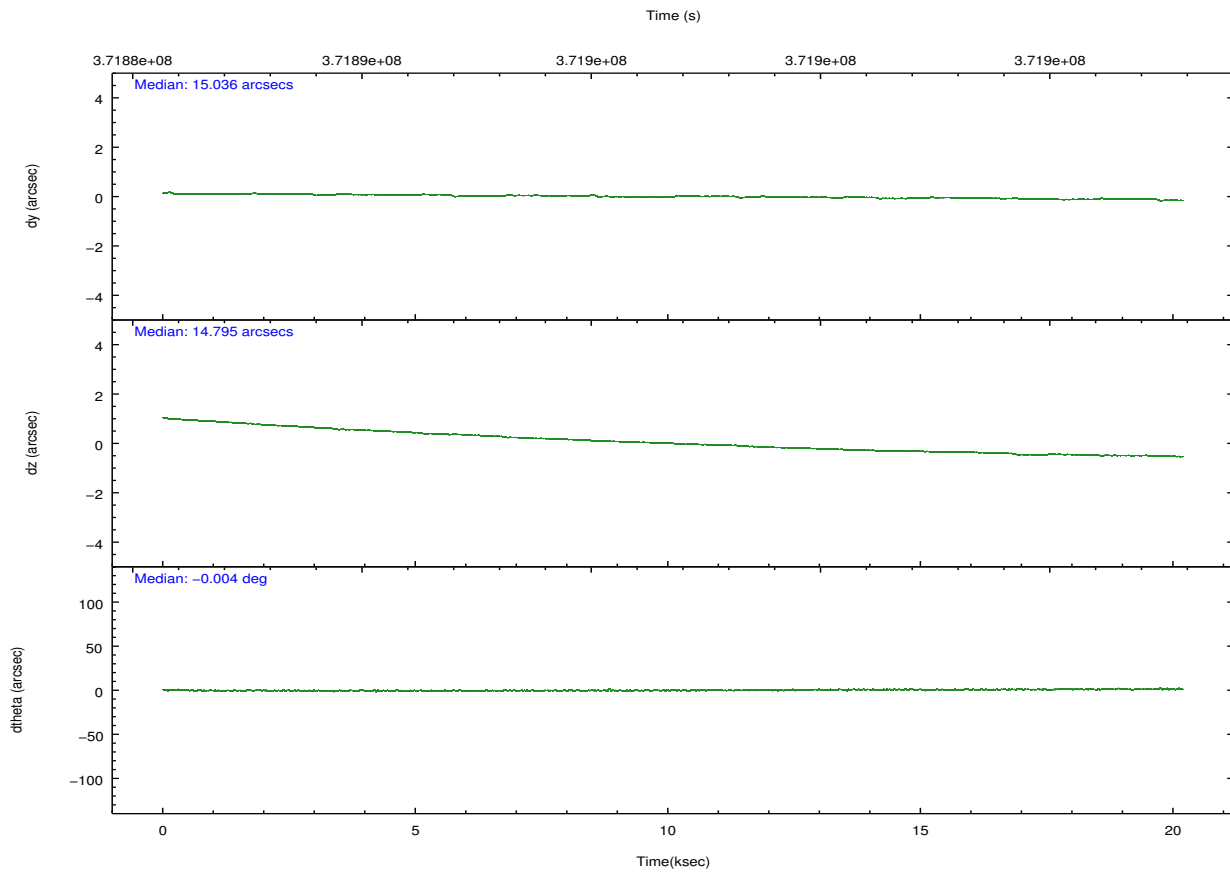
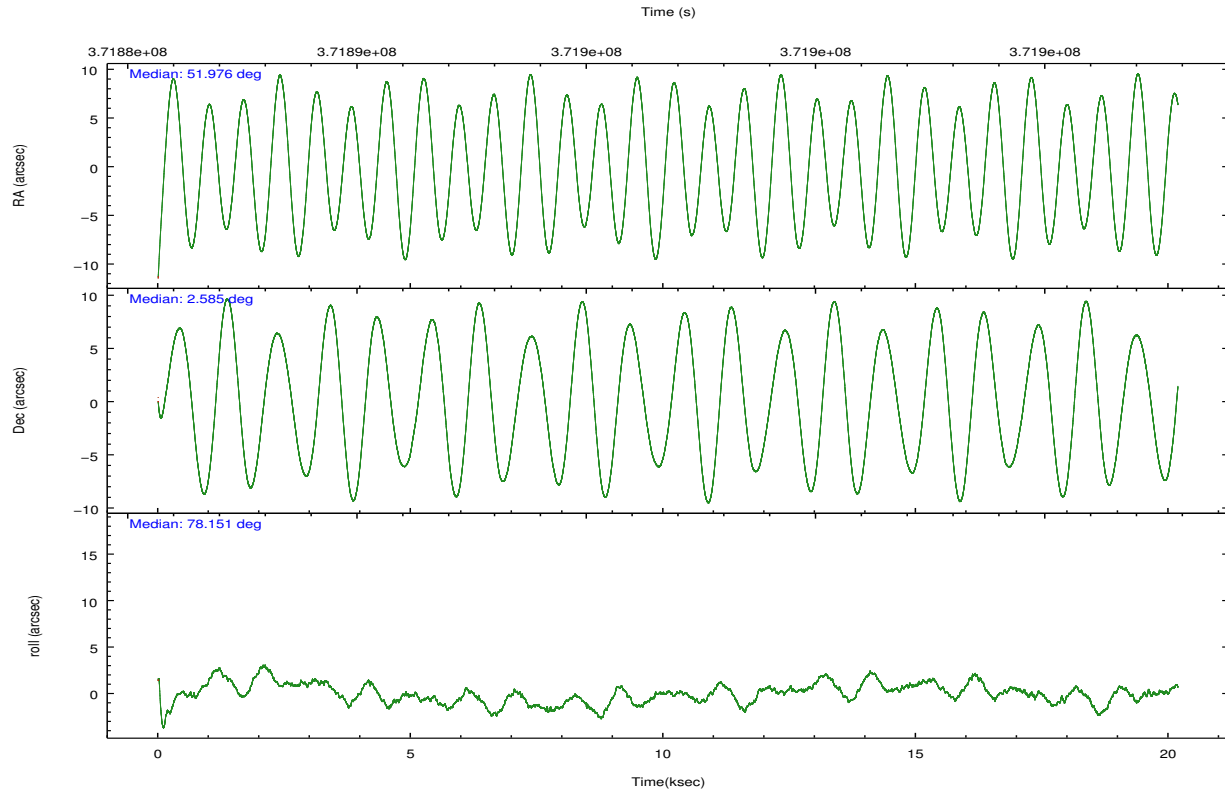
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7
grade 0 events	6562	6094	13060	6690	9767
	3%	3%	4%	3%	4%
grade 1 events	112	108	516	88	277
	0%	0%	0%	0%	0%
grade 2 events	4347	3831	41768	4316	20672
	2%	2%	15%	2%	9%
grade 3 events	1888	1958	5044	2051	9165
	1%	1%	1%	1%	4%
grade 4 events	1927	1931	4708	2026	9015
	1%	1%	1%	1%	4%
grade 5 events	6156	7597	20516	7705	22367
	3%	4%	7%	4%	10%
grade 6 events	3332	3609	68960	4175	51030
	1%	2%	25%	2%	23%
grade 7 events	161502	154601	113880	158291	93045
	86%	86%	42%	85%	43%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-23567	ACIS-23567	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	51.984733	51.97585449789565	CCD I2 on	O1	Y
[deg] Pointing Dec	2.559650	2.585507418354958	CCD I3 on	Y	Y
[deg] Pointing Roll	77.999499	78.15652015178104	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	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	N	N
[s] Observation start time (MET)	371886887.184000	371885410.00594	CCD S5 on	N	N
Observation start date	2009-10-14T05:53:41	2009-10-14T05:30:10	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	371906887.184000	371907418.29455	On-chip summing requested	N	N
Observation end date	2009-10-14T11:27:01	2009-10-14T11:36:58	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



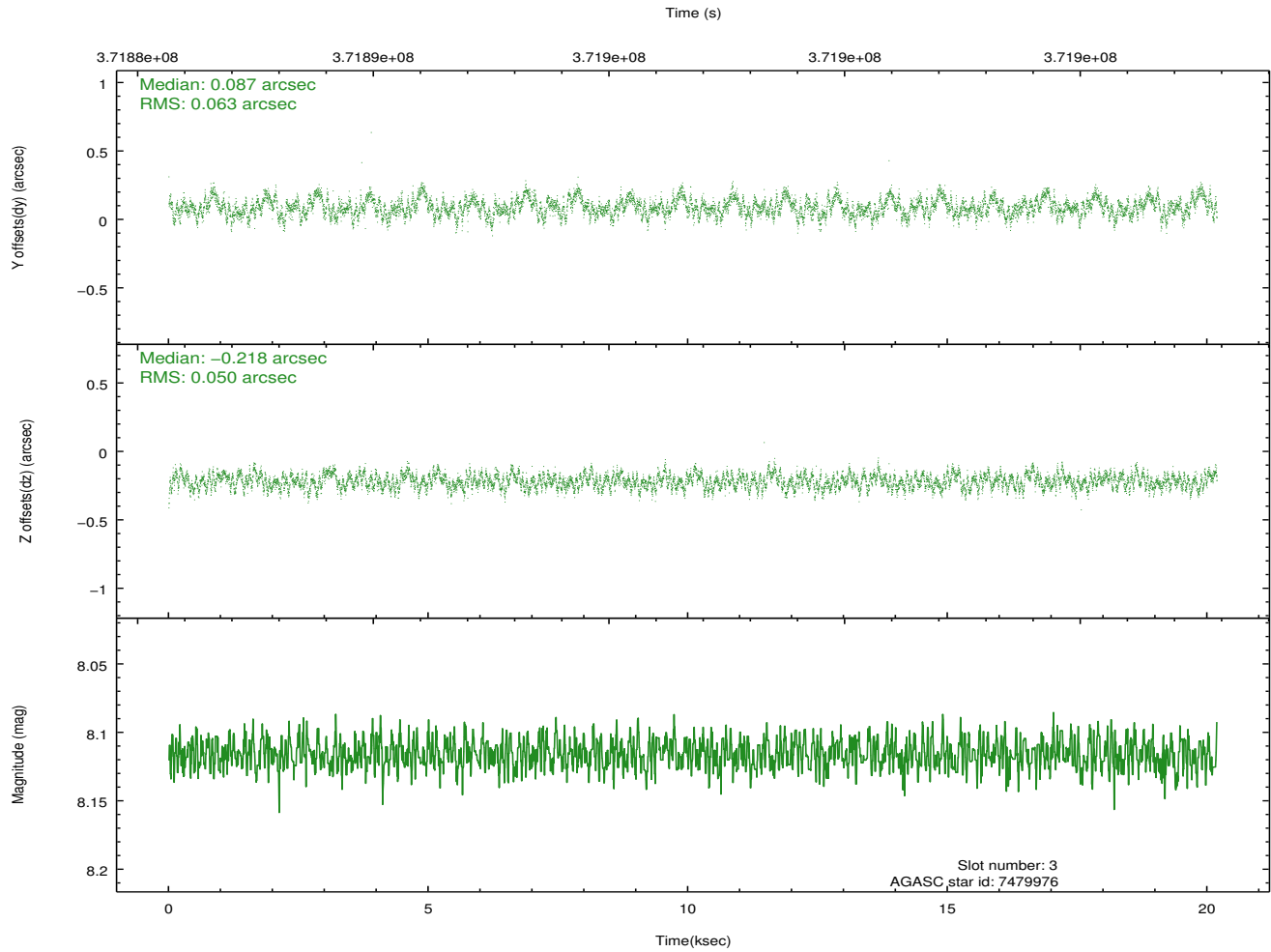
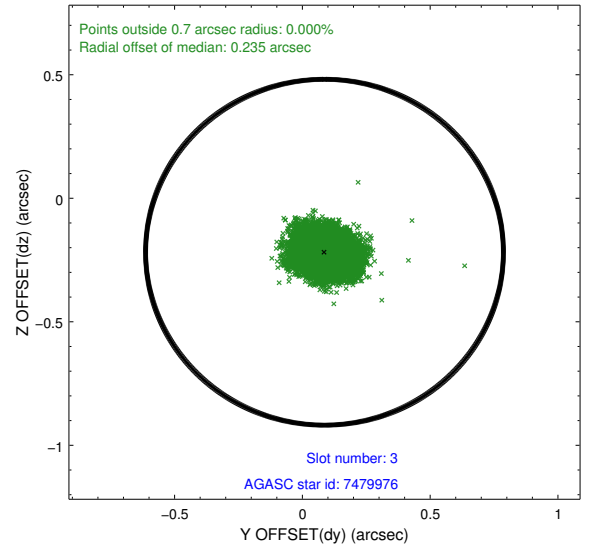
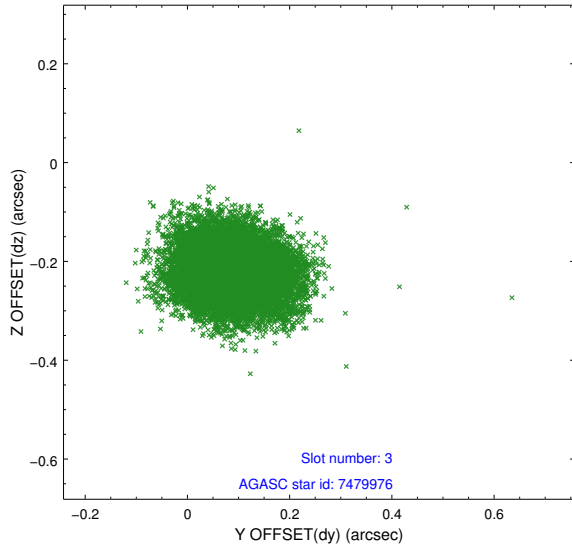


### Slot Statistics

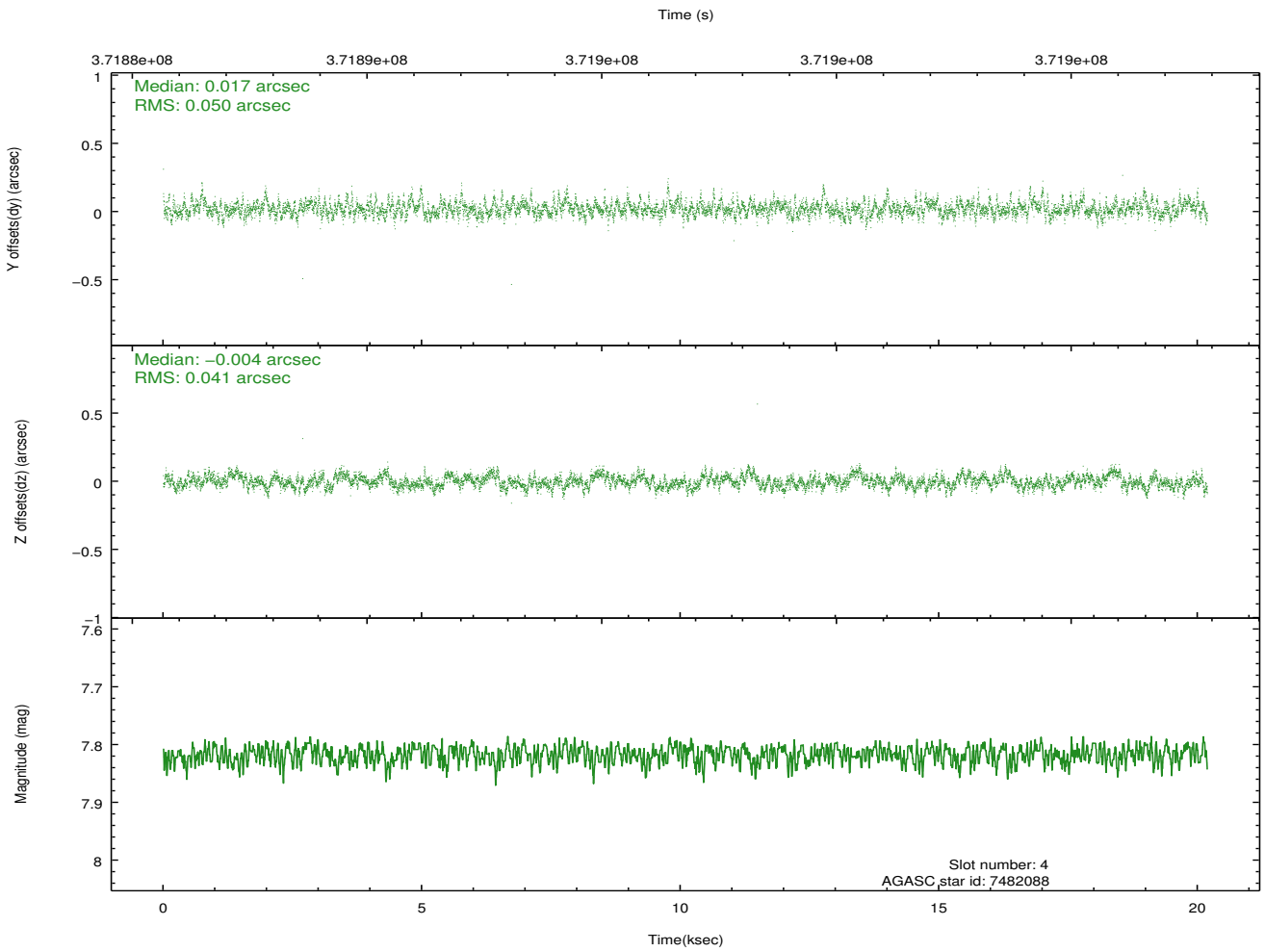
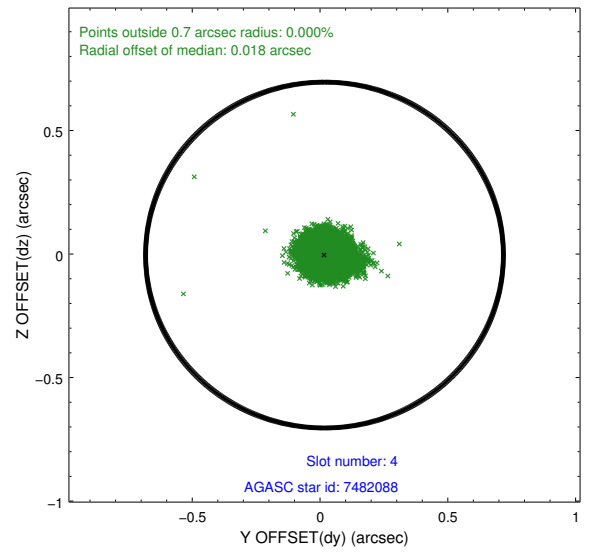
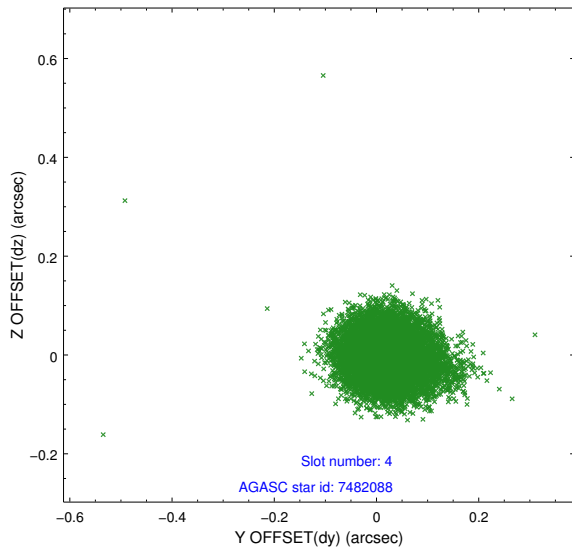
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.89	4925	-0.096	-0.043	0.013	0.020	0.000000	0.000000	-768.09	-1736.23
1	FID	ACIS-S-4	6.98	4925	0.217	0.058	0.006	0.011	0.000000	0.000000	2145.40	172.17
2	FID	ACIS-S-5	7.01	4925	-0.152	-0.007	0.012	0.019	0.000000	0.000000	-1820.77	165.97
3	GUIDE	7479976	8.12	9845	0.087	-0.218	0.086	0.135	51.609520	2.169750	-1653.19	1028.29
4	GUIDE	7482088	7.82	9847	0.017	-0.004	0.067	0.111	51.807690	2.280173	-1116.57	413.56
5	GUIDE	7864464	9.07	9840	0.003	-0.058	0.081	0.135	51.892106	3.187870	2142.78	796.00
6	GUIDE	7867360	9.14	9845	-0.136	-0.003	0.079	0.127	51.860417	2.901354	1110.63	693.29
7	GUIDE	8390776	9.63	9831	0.029	0.283	0.125	0.203	52.520913	2.154889	-1023.37	-2189.36

## 2.4 Star Slots

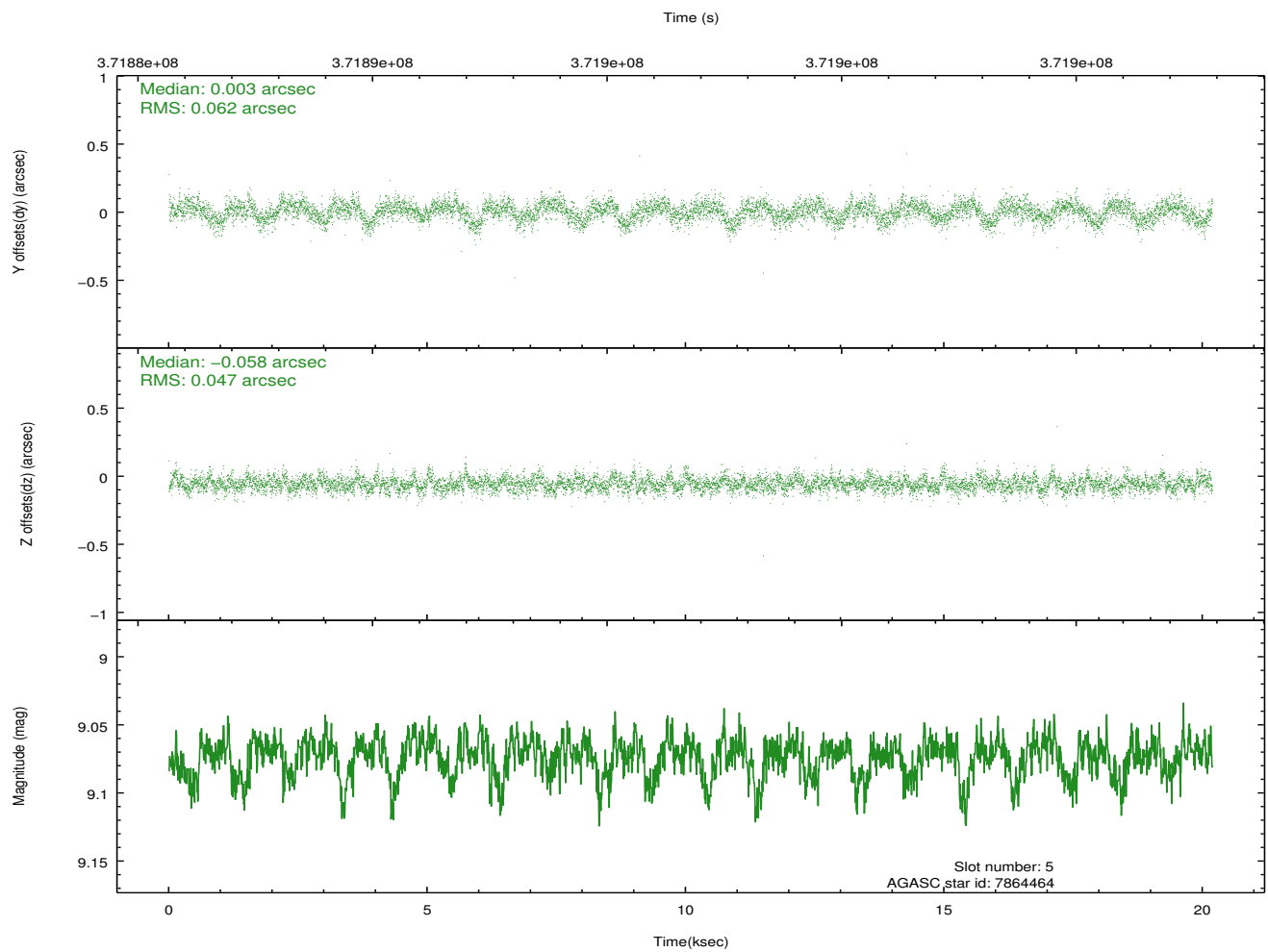
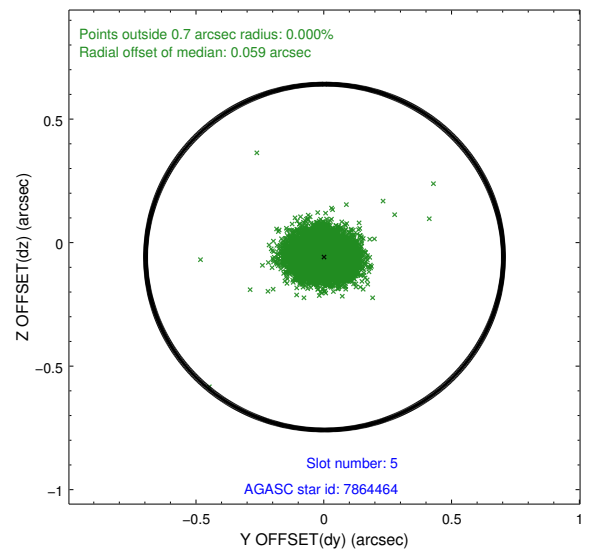
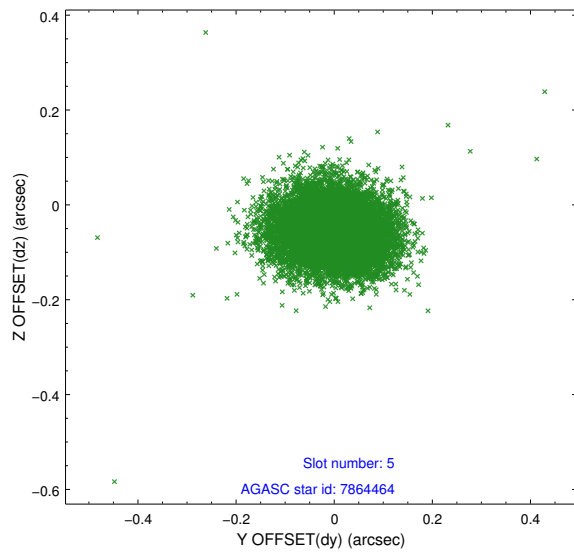
### 2.4.1 Slot 3



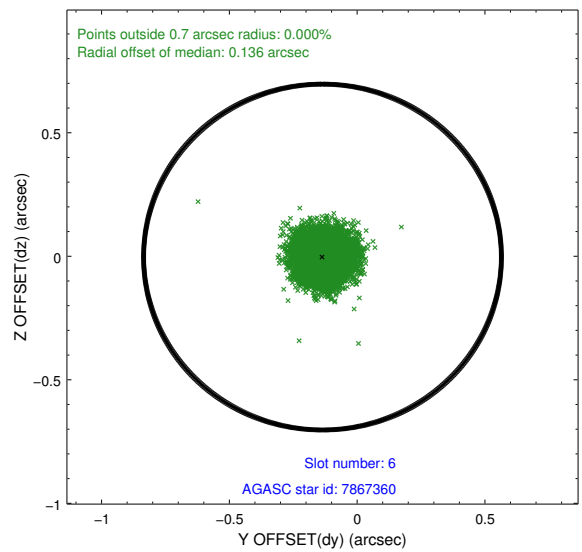
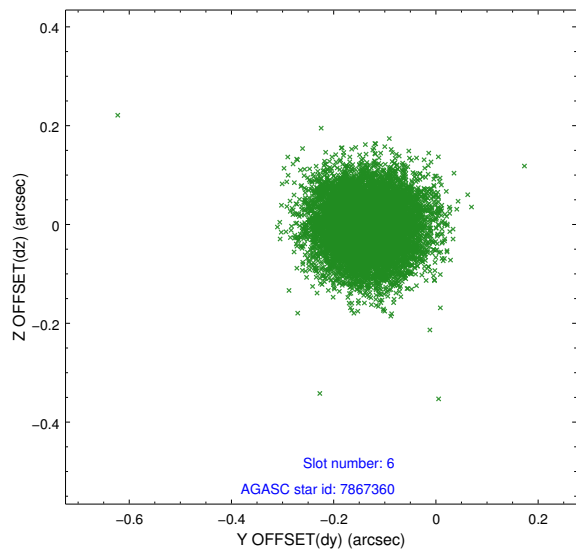
### 2.4.2 Slot 4



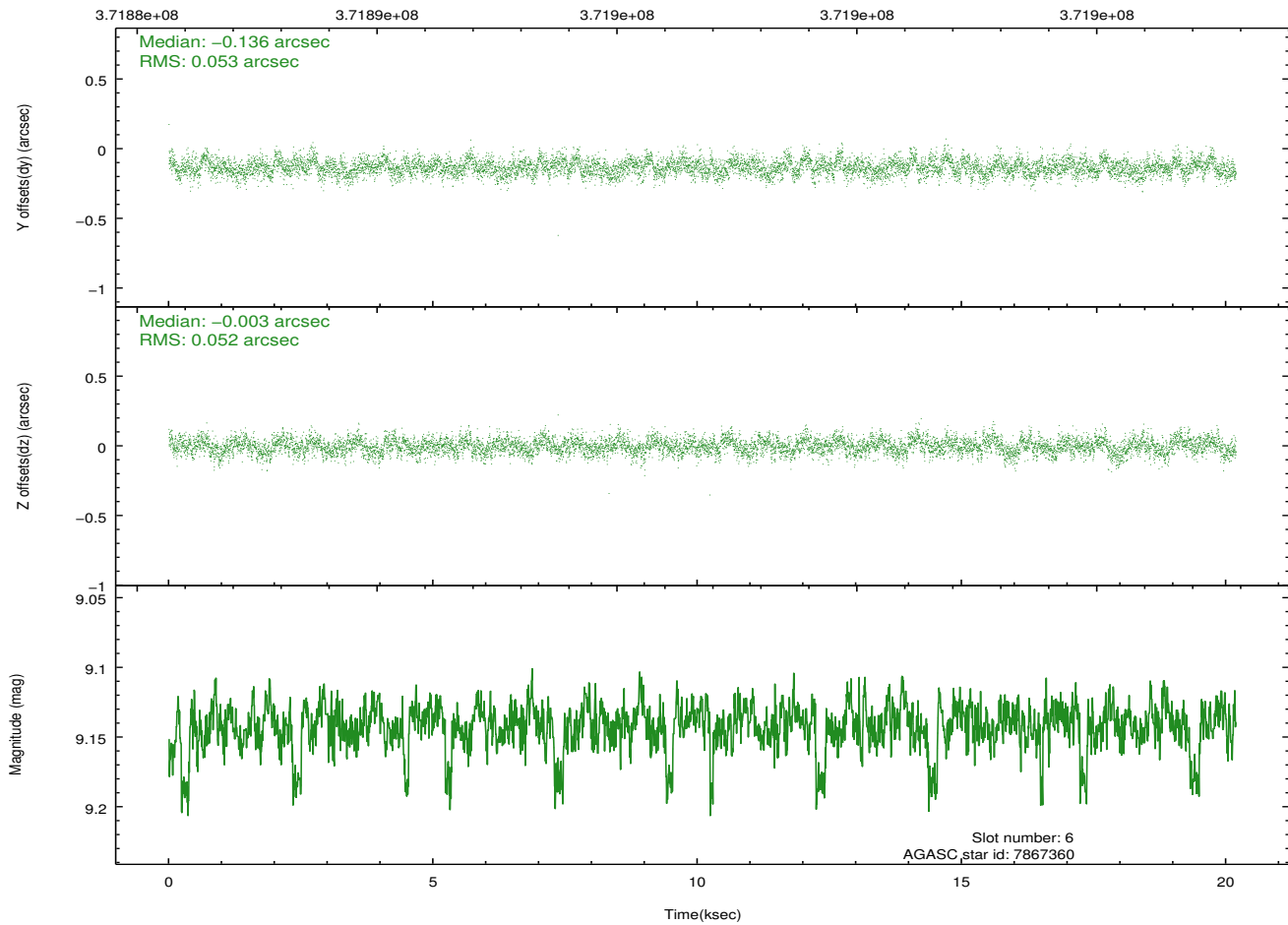
### 2.4.3 Slot 5



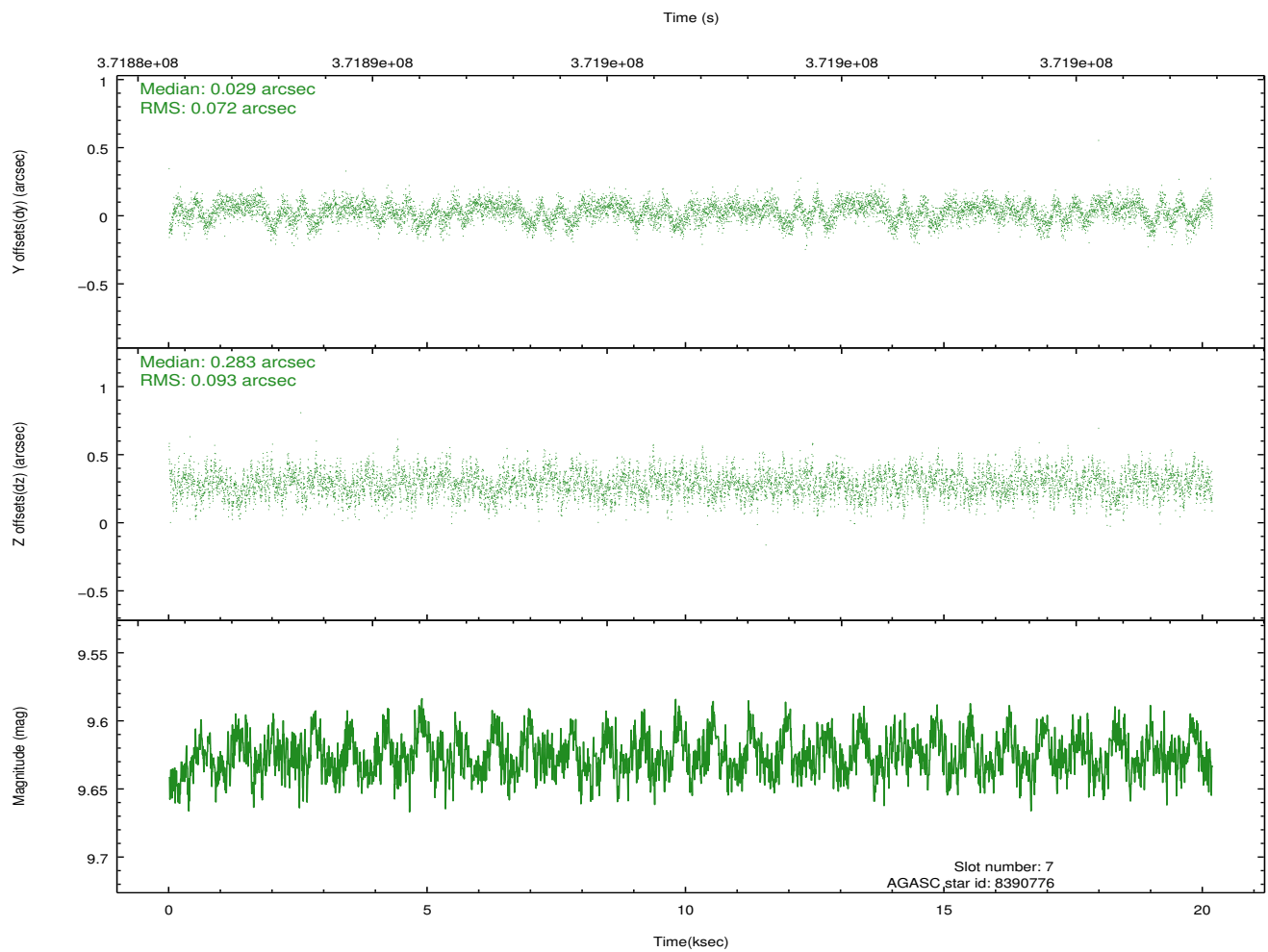
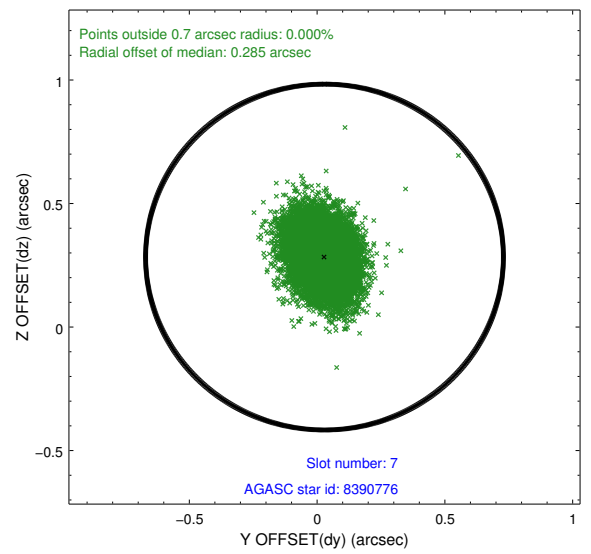
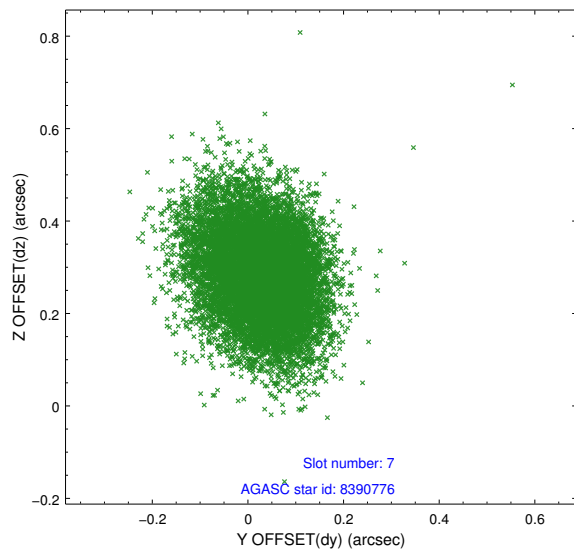
## 2.4.4 Slot 6



Time (s)

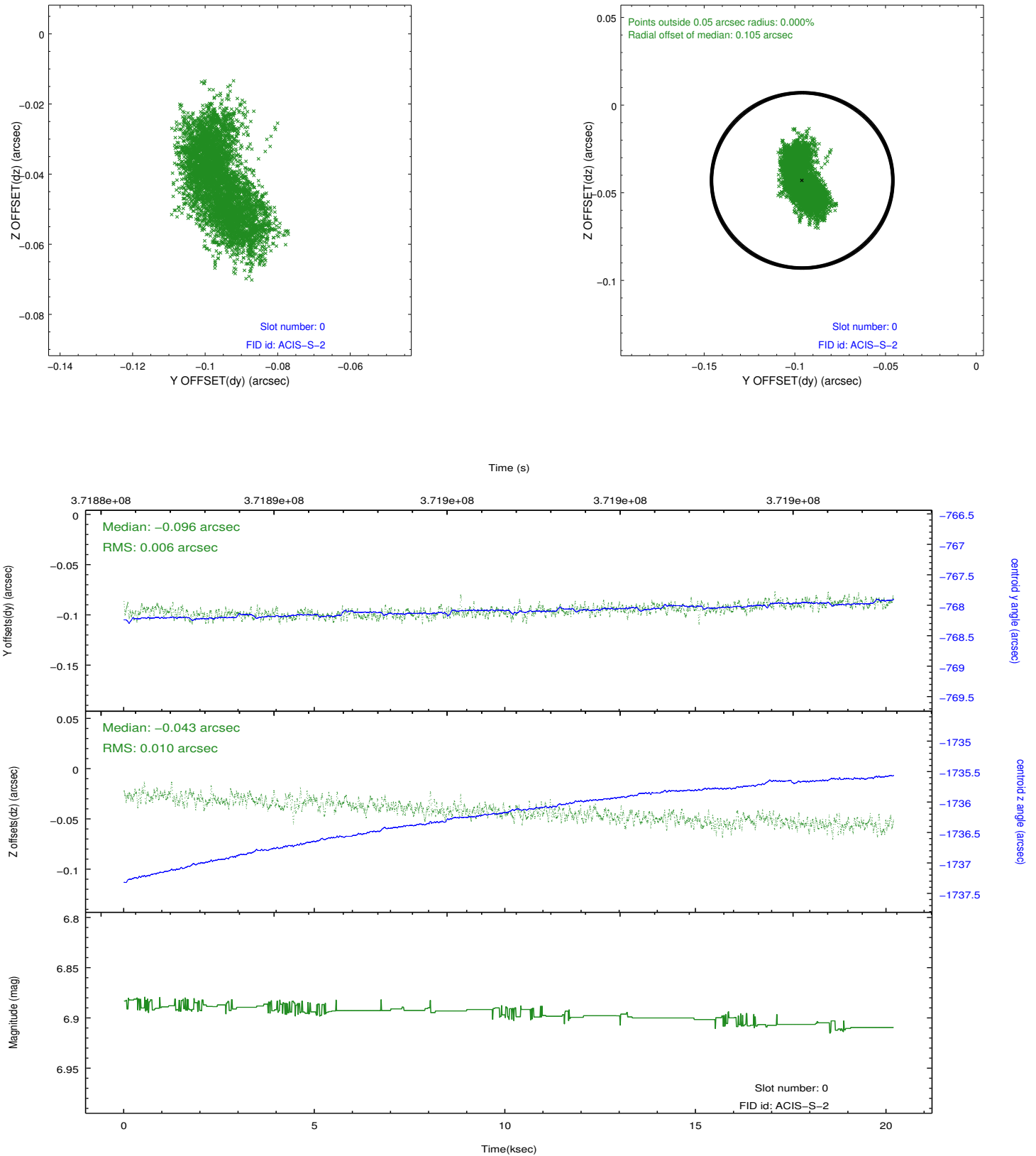


## 2.4.5 Slot 7

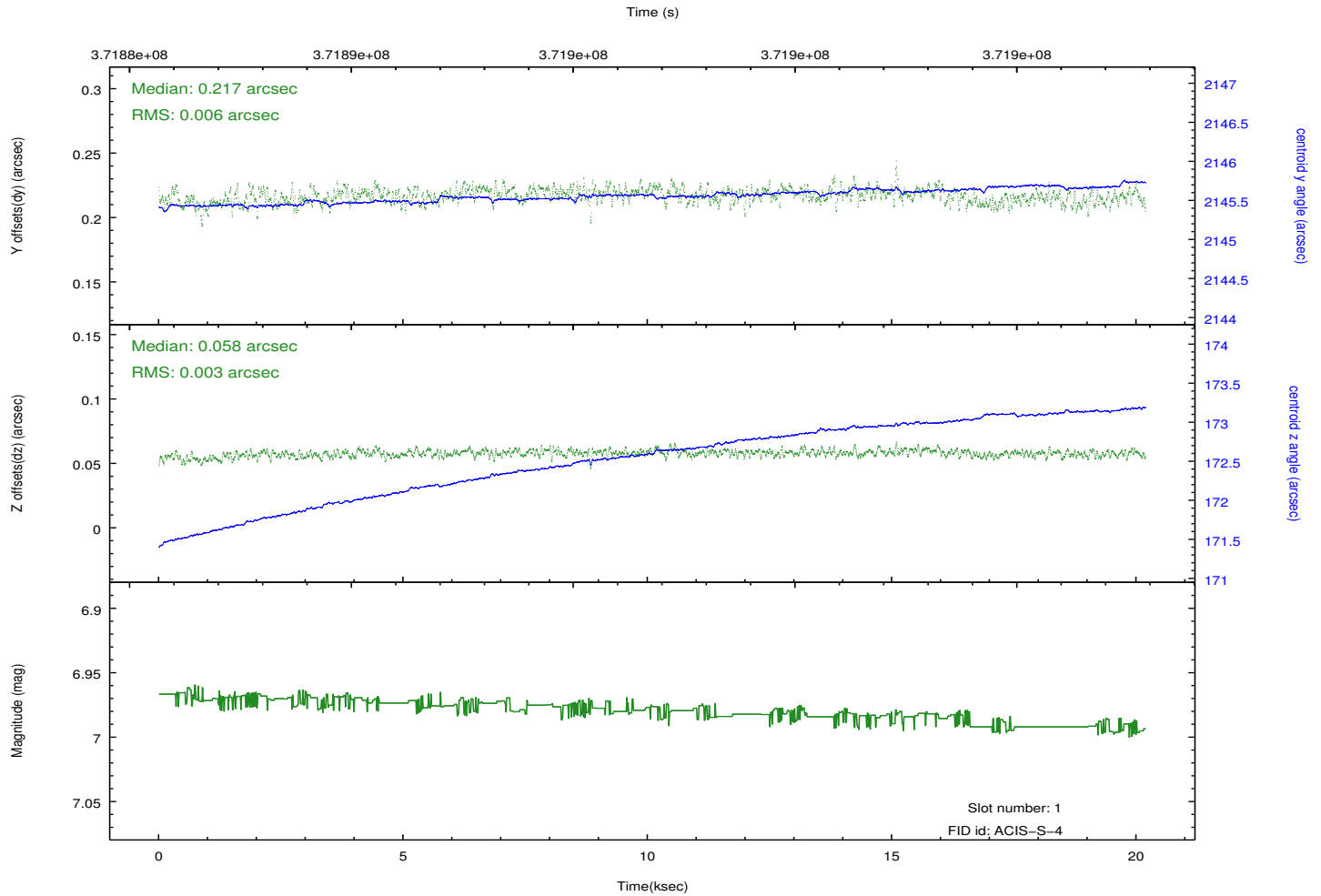
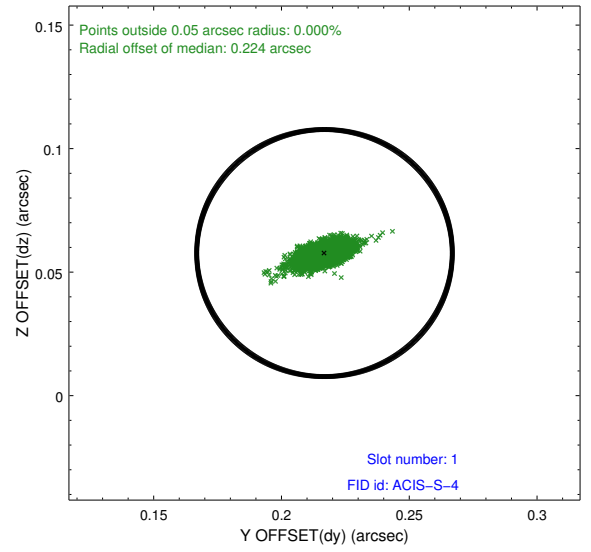
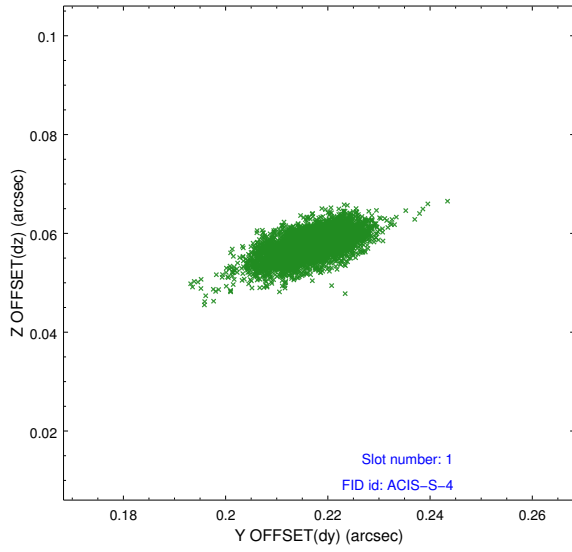


## 2.5 FID Slots

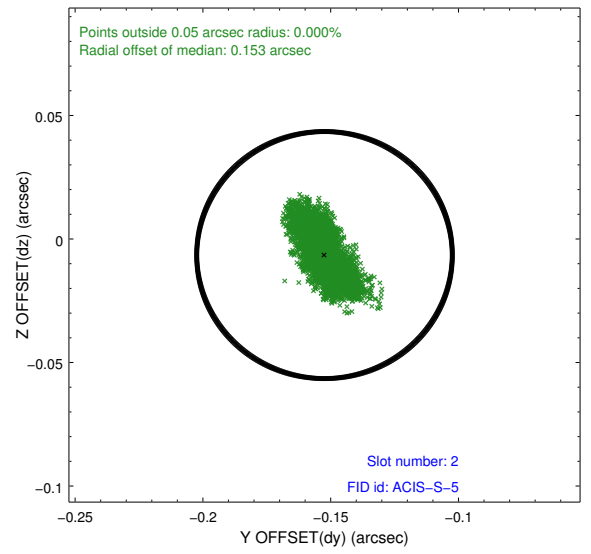
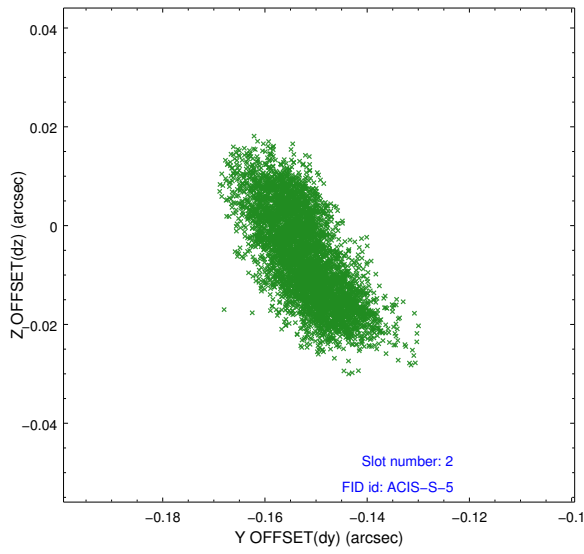
### 2.5.1 Slot 0



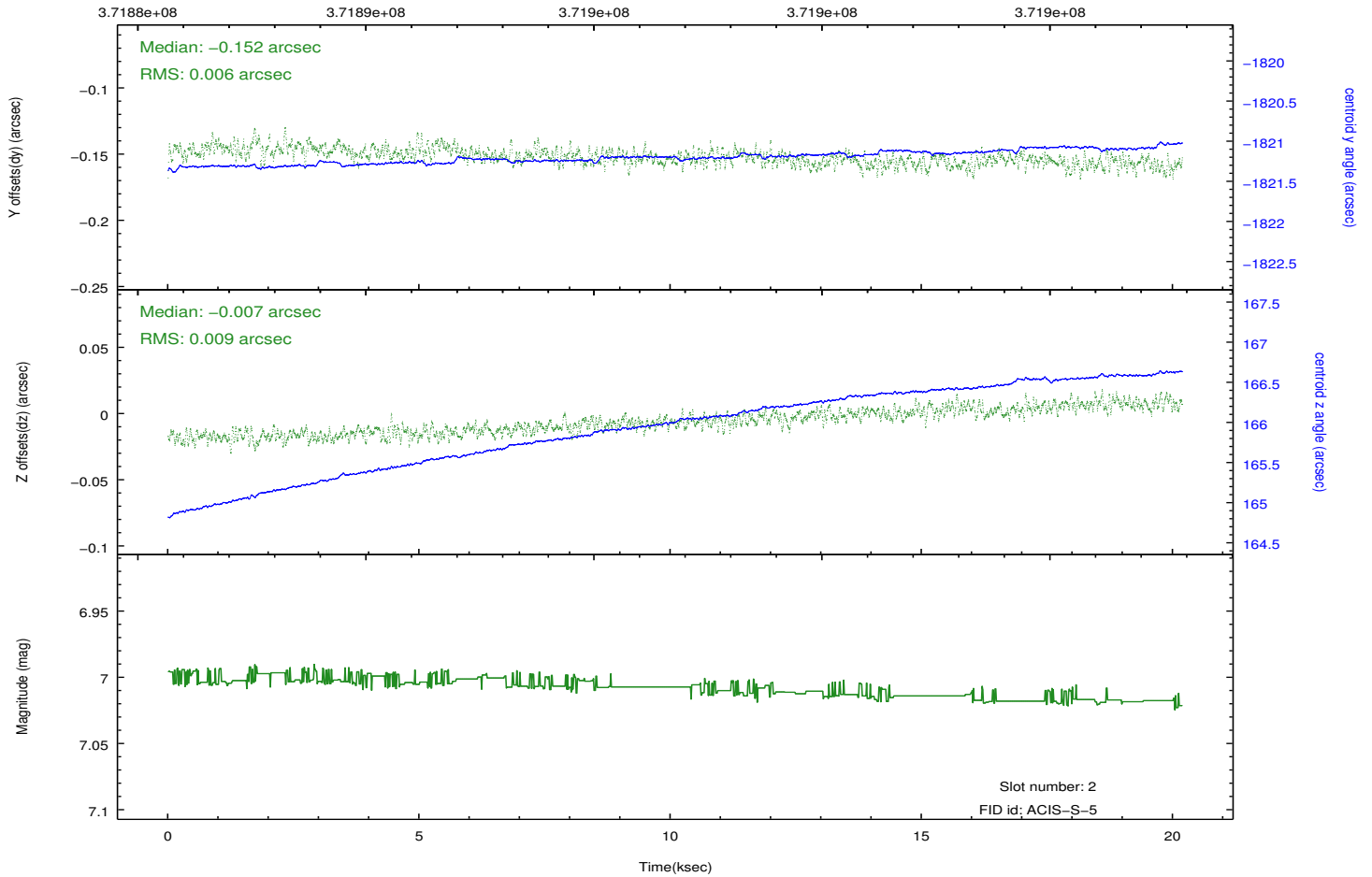
## 2.5.2 Slot 1



### 2.5.3 Slot 2



Time (s)



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2012.06.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	20.184100155234

## A.2 Comments

Joint proposal with NRAO.