

2016-05-25 CSPAD Camera2 Alignment

[Back to CSPAD Alignment](#)

Content

- Content
- Optical measurements
- Quality check in X-Y plane
- Quality check in Z
- Constants
- References

Optical measurements

Comments from Gabriel Blaj:

Attached, the latest CXI Camera2 metrology, to be used in all experiments performed AFTER 2016.05.25. This replaces the previous version, 2016.02.05. Quads 0, 1 and 3 have been completely rebuilt; Quad 2 is unchanged. As always, please use only Mikhail's curated version; Excel files are known to contain bugs.

Thanks,
Gabriel

Metrology files:

- 2016-05-25-CSPAD-CXI-Camera2-Metrology.xlsx
- 2016-05-25-CSPAD-CXI-Camera2-Metrology.txt
- 2016-05-25-CSPAD-CXI-Camera2-Metrology-corr.txt

Quality check in X-Y plane

1st attempt:

segm: (dS)		S1	S2	dS1	dS2	L1	L2	dL1	dL2	angle(deg)	D1	D2	dD	d
Quad	1													
segm: -196	7	-20937 452	-21389 -26	314	-138	-43569	-43543	53	79	0.11576	48327	48523		

apply correction ~0.45mm for Quad 1 point 28:

< 28 65779 -384 121

> 28 65327 -384 121

segm: (dS)	S1 d(dL)	S2	dS1	dS2	L1	L2	dL1	dL2	angle(deg)	D1	D2	dD	d
Quad 0													
segm: 0	-20997 -101	-20896 -29	110	211	43550	43579	45	74	0.21109	48322	48354	-32	
segm: 1	-20966 -19	-20995 29	3	-26	43546	43596	-41	9	-0.01512	48349	48368		
segm: 2	-20947 -13	-20915 -50	-5	27	-43550	-43552	3	1	0.01447	48313	48326		
segm: 3	-20960 -23	-20951 41	-57	-48	-43540	-43581	58	17	-0.06905	48327	48350		
segm: 4	20921 27	20919 27	-3	-5	-43552	-43579	-4	-31	0.00526	48343	48316		
segm: 5	20918 -44	20916 33	1	-1	-43560	-43593	41	8	-0.00000	48314	48358		
segm: 6	-20951 -55	-20925 38	-159	-133	-43552	-43590	120	82	-0.19199	48313	48368		
segm: 7	-20919 3	-20911 4	119	127	-43549	-43553	-59	-63	0.16182	48314	48311		

Quad	1													
segm:	0	-20943	-20949	-6	-12	43546	43543	-2	-5	-0.01184	48321	48319		
	2	6	3											
segm:	1	-20908	-20917	-70	-79	43544	43545	-37	-36	-0.09803	48305	48306		
	-1	9	-1											
segm:	2	-20938	-20924	-37	-23	-43577	-43542	-8	27	-0.03946	48331	48323		
	8	-14	-35											
segm:	3	-20948	-20950	3	1	-43590	-43545	-47	-2	0.00263	48363	48321		
	42	2	-45											
segm:	4	20966	20956	-39	-49	-43555	-43547	-33	-25	0.05789	48341	48325		
	16	10	-8											
segm:	5	20926	20914	-29	-41	-43540	-43563	1	-22	0.04605	48309	48321		
	-12	12	23											
segm:	6	-20927	-20918	17	26	-43556	-43549	-18	-11	0.02828	48321	48313		
	8	-9	-7											
segm:	7	-20937	-20937	-138	-138	-43569	-43543	53	79	-0.18153	48327	48326		
	1	0	-26											
Quad	2													
segm:	0	-20944	-20953	91	82	43586	43585	40	39	0.11371	48356	48360		
	-4	9	1											
segm:	1	-20973	-20937	-121	-85	43574	43547	-53	-80	-0.13548	48323	48354		
	-31	-36	27											
segm:	2	-20911	-20953	10	-32	-43566	-43572	-7	-13	-0.01447	48350	48322		
	28	42	6											
segm:	3	-20908	-20909	-52	-53	-43544	-43546	27	25	-0.06908	48303	48305		
	-2	1	2											
segm:	4	20947	20911	58	22	-43547	-43547	9	9	-0.05263	48324	48306		
	18	36	0											
segm:	5	20917	20911	-86	-92	-43548	-43554	-38	-44	0.11709	48310	48314		
	-4	6	6											
segm:	6	-20908	-20907	66	67	-43545	-43572	-26	-53	0.08747	48323	48309		
	14	-1	27											
segm:	7	-20913	-20909	-46	-42	-43483	-43480	23	26	-0.05798	48245	48251		
	-6	-4	-3											
Quad	3													
segm:	0	-20999	-20955	35	79	43543	43569	38	64	0.07498	48365	48323		
	42	-44	-26											
segm:	1	-20907	-20905	-52	-50	43564	43549	-10	-25	-0.06709	48320	48307		
	13	-2	15											
segm:	2	-20936	-20910	-92	-66	-43544	-43576	48	16	-0.10391	48329	48319		
	10	-26	32											
segm:	3	-20932	-20904	-210	-182	-43551	-43555	92	88	-0.25784	48320	48312		
	8	-28	4											
segm:	4	20908	20949	1	42	-43545	-43550	-9	-14	-0.02829	48335	48297		
	38	-41	5											
segm:	5	20936	20931	-85	-90	-43560	-43546	-49	-35	0.11511	48322	48322		
	0	5	-14											
segm:	6	-20944	-20945	38	37	-43578	-43521	-70	-13	0.04934	48345	48303		
	42	1	-57											
segm:	7	-20919	-20942	90	67	-43563	-43553	-41	-31	0.10326	48324	48327		
	-3	23	-10											

Quality check in Z

segm:	SA	LA	XSize	YSize	dZS1	dZS2	dZL1	dZL2	dZSA	dZLA	ddZS	ddZL	dZX	dZY	
angXZ(deg)	angYZ(deg)	dz3(um)													
Quad	0														
segm:	0	-20946	43564	43564	20946	20	20	-8	-8	20	-8	0	0	-8	20
	-0.01052	0.05471	0.101												
segm:	1	-20980	43571	43571	20980	13	22	42	51	17	46	-9	-9	46	17
	0.06049	0.04643	8.923												
segm:	2	-20931	-43551	20931	43551	-51	-36	65	80	-43	72	-15	-15	-43	72

-0.11771	0.09472	-14.941												
segm: 3	-20955	-43560	20955	43560	-43	-42	43	44	-42	43	-1	-1	-42	43
-0.11484	0.05656	-0.940												
segm: 4	20920	-43565	43565	20920	474	338	25	-111	406	-43	136	136	-43	406
-0.05655	1.11181	-135.965												
segm: 5	20917	-43576	43576	20917	32	23	-74	-83	27	-78	9	9	-78	27
-0.10256	0.07396	-8.942												
segm: 6	-20938	-43571	20938	43571	-59	-37	-67	-45	-48	-56	-22	-22	-48	-56
-0.13135	-0.07364	-21.993												
segm: 7	-20915	-43551	20915	43551	-30	-14	-11	5	-22	-3	-16	-16	-22	-3
-0.06027	-0.00395	-15.994												
Quad 1														
segm: 0	-20946	43544	43544	20946	-6	-5	140	141	-5	140	-1	-1	140	-5
0.18421	-0.01368	1.011												
segm: 1	-20912	43544	43544	20912	13	-10	147	124	1	135	23	23	135	1
0.17763	0.00274	-23.008												
segm: 2	-20931	-43559	20931	43559	-39	-16	123	146	-27	134	-23	-23	-27	134
-0.07391	0.17626	-23.107												
segm: 3	-20949	-43567	20949	43567	-34	-16	167	185	-25	176	-18	-18	-25	176
-0.06838	0.23146	-18.193												
segm: 4	20961	-43551	43551	20961	386	88	263	-35	237	114	298	298	114	237
0.14998	0.64780	-297.902												
segm: 5	20920	-43551	43551	20920	-35	15	-38	12	-10	-13	-50	-50	-13	-10
-0.01710	-0.02739	50.029												
segm: 6	-20922	-43552	20922	43552	12	-60	66	-6	-24	30	72	72	-24	30
-0.06572	0.03947	72.026												
segm: 7	-20937	-43556	20937	43556	-71	-40	-19	12	-55	-3	-31	-31	-55	-3
-0.15051	-0.00395	-31.007												
Quad 2														
segm: 0	-20948	43585	43585	20948	0	0	0	0	0	0	0	0	0	0
0.00000	0.00000	0.000												
segm: 1	-20955	43560	43560	20955	0	0	0	0	0	0	0	0	0	0
0.00000	0.00000	0.000												
segm: 2	-20932	-43569	20932	43569	0	0	0	0	0	0	0	0	0	0
0.00000	0.00000	0.000												
segm: 3	-20908	-43545	20908	43545	0	0	0	0	0	0	0	0	0	0
0.00000	0.00000	0.000												
segm: 4	20929	-43547	43547	20929	0	0	0	0	0	0	0	0	0	0
0.00000	0.00000	0.000												
segm: 5	20914	-43551	43551	20914	0	0	0	0	0	0	0	0	0	0
0.00000	0.00000	0.000												
segm: 6	-20907	-43558	20907	43558	0	0	0	0	0	0	0	0	0	0
0.00000	0.00000	0.000												
segm: 7	-20911	-43481	20911	43481	0	0	0	0	0	0	0	0	0	0
0.00000	0.00000	0.000												
Quad 3														
segm: 0	-20977	43556	43556	20977	6	6	-94	-94	6	-94	0	0	-94	6
-0.12365	0.01639	0.069												
segm: 1	-20906	43556	43556	20906	-14	-10	-14	-10	-12	-12	-4	-4	-12	-12
-0.01579	-0.03289	3.995												
segm: 2	-20923	-43560	20923	43560	14	8	3	-3	11	0	6	6	11	0
0.03012	0.00000	5.988												
segm: 3	-20918	-43553	20918	43553	16	-17	-3	-36	0	-19	33	33	0	-19
0.00000	-0.02500	33.020												
segm: 4	20928	-43547	43547	20928	92	227	-254	-119	159	-186	-135	-135	-186	159
-0.24472	0.43529	134.575												
segm: 5	20933	-43553	43553	20933	44	42	-87	-89	43	-88	2	2	-88	43
-0.11577	0.11770	-2.018												
segm: 6	-20944	-43549	20944	43549	23	15	-104	-112	19	-108	8	8	19	-108
0.05198	-0.14209	8.147												
segm: 7	-20930	-43558	20930	43558	3	8	-29	-24	5	-26	-5	-5	5	-26
0.01369	-0.03420	-4.986												

Constants

✓ Archive: /reg/g/psdm/detector/alignment/cspad/calib-cxi-camera2-2016-05-25/calib/CsPad::CalibV1/CxiDs2.0:Cspad.0/geometry/0-end.data

References

- [CSPAD Alignment](#)