

KW 29/2020

Date:	14.7.2020 - 20.7.2020
Project:	Eigenforschung: EM-3SPEK
Titel:	
Proposer:	
Exp. Group:	
Local contact:	Armin Hoell
Instrumental setup:	
FSQN:	
DIR:	tg14-ptb-Perowskite-Cu-Ni-NP-
Sensitivity:	Au-Pt-NP-SAXS_A SAXS_Ni ^o _k
Important setup values: (position, encoder etc)	
Comments:	Same standards as used: 2019 Nov-Dec.

Order PTB

20-KW29tg 14

Keysight 1: Bev.-stapdiode SAXS

Keysight 2: New - Ref (Spalldiode)

Keysight 3: Rot - Diode

Keysight 4: Thin diode (Monitor)

13.07.20

Ausdruck Motore nach Voraufbau des HZB
Robert Krammer

14.07.20

[Marion/Armin/Christian/Dirk at BL]
Tuesday \approx 10:00:

Volumen is ok; V10 + V11: unable to open!

Pos.:

Reference Holder:

103	<input type="radio"/>	Agbelemanate
113	<input type="radio"/>	Agbelemanate 11/2019 (Röse chemicals)
123	<input type="radio"/>	GC1K (C) 54nm 2017!
133	<input type="radio"/>	Empty

$$E = 8 \text{ keV}$$

suddenly V10 and V11 are ok; why?

14.07.20

1.) mono - 2nd - wheel scan at 8keV

using "Auto-m2wd-wheel-8keV.scanl" 1.h5

2.) Det-SAXS at sandwich $\approx 3333,714$ bcdmg

$$\text{HH} = 43,473 \text{ det-SAXS}$$

- this I will leave unchanged except that was used by PTB!

3.) slit 5 open! beam at Beugungsdrode 1,

4.) Beamline

Beam through slit 4 and through Pinhole 1
($5 \times 20 \mu\text{m}$)
size

Slit 5 (guard slit) $1 \times 1 \text{ mm}$ ($\text{h} \times \text{v}$)

5.) positioning of the beamstop
at Slit 5 = 1×1 ($\text{h} \times \text{v}$)

selv grte Positi (Beamstop) \rightarrow 007.tif

setup up to now:

-2.h till -8.h

& Pilatus-tif

001.tif till 007.tif

Now the SAXS - sample holder

1st scan: VS-X : 90 - 134 $\Delta = 1$ -9,45

\Rightarrow x-Position not bad

y-Position total wrong

2nd scan VS-y (relative -4 ($\Delta = 0,25$) + 4

modified VS-y -5,30 auf 0 -10,45

SD = 3776,26 nm

test Agkohle -11,45 - 008.tif

test gC -12,45 - 009.tif

1st sample holder Alumina:

scan X (hv1) with auf (error)

-13.h5

tif			X	countrate
10	1	Joel "ACN-MA"	12,44	18
11	2	MAMAPI by Oleks	17, 28 *	10
12	3	Oleks - "1M - PbI ₂ "	22,45	7
13	4	Oleks - "0,01M - PbI ₂ "	27,94	11
14	5	Oleks - "0,001M - PbI ₂ "	33,30	" 57 19
15	6	DMF	39,23	15
16	7	DMSO (Jinzhao)	43,62	4
17	8	DMF : QMSO 6:1	50,97	10
18	9	Jinzhao - "2Me - Ref"	56,70	5
19	10	Jinzhao - "2Me + QMSO"	62,06	5
20	11	3Cat + FACL	67,80	4
21	12	5%Rb - MAPI	73,60	3
22	13	5%Cs - MAPI	79,19	5
23	14	5%K - MAPI	85,68	5

24.tif AgBeli

179997/_{10sec} → 1st sample scan X ⇒ 00014.h5

25.tif GC

2143/_{10sec}

00015.h5 ⇒ Xscan für erste Probe

26.tif

empty

66 counts
/10sec

00016.h5 ⇒ Yscan für zweite Probe (Lsg leicht versetzt)

Xscan auf Y=3

↳ 00018.h5

Xscan auf Y=-3

↳ 00019.h5

⇒ Probe ist und bleibt einfach "ändern"

change Y-pos to y = +3

↳ X set to 0

10 sec scan for countrate: 00021.h5

start 15:37. ⇒ 00022.h5

Long Distance ; Sample holder 1 → 00022.h5 1) Start: 15:37 ; 14.07.201

00023.h5 2) 18:19

sample	Aqu. time (sec)	.tif	①	.tif	②
ACN-MA	600	27.tif		44	
MAMAFT	600	28.tif		45	
1M-PbI ₂	600	29		46	
0,01M-PbI ₂	600	30		47	* extra → 000 Beam dump
0,001M-PbI ₂	600	31		48	
DMF	600	32		49	
"DMSO"	600	33		50	
DMF:DMSO 6:1	600	34		51	
2Me-Ret	600	35		52	
2Me + DMSO	600	36		53	
3Cat + FACL	600	37		54	
5%Rb-MAPt	600	38		55	
5%Cs-MAPt	600	39		56	
5%K-MAPt	600	40		57	
AgBeh	10	41		58	
GC	300	42		59	
EB	600	43.tif		60	

Beam dump at 18:52 to end: ~ 21:30

charge to sample holder 2

Sample holder 2

No	Label	Name	X-Pos.	Count rate / 10sec	tr
1	0	1.3M - MAPI	12,42	3	83
2	1	1.2M - MAPI	16,8	4	82
3	2	1M - MAPI	20,97	4	81
4	3	0.8M - MAPI	24,93	5	80
5	4	0.6M - MAPI	29,18	4	79
6	5	0.4M - MAPI	33,37	7	78
7	6	0.2M - MAPI	37,62	5	77
8	7	0,1M - MAPI	41,96	17	76
9	8	0,05M - MAPI	50,87	16	75
10	9	0,01M - MAPI	54,80	7	74
11	10	0,605M - MAPI	58,20	12	73
12	11	0,001M - MAPI	61,88	8	72
13	C1,2	1,2M - 3cat-C	65,87	5	71
14	C0,8	0,8M - 3cat-C	69,42	"73"	70
15	C0,5	0,5M - 3cat-C	73,2	4	69
16	C0,1	0,1M - 3cat-C	77,18	68	68
17	0M1	MAPI OR HV	81,14	15	67
18	0M2	MAPI - DMF	84,82	4	66
19	EC	Ref	89,10	8	65
	AgBeh	Ref	113	181430	64
	GC	Ref	123	2063	63
	EB	Ref	133	28	62

contains all 3 runs ①②③

~~1st run~~ → 000207.h5

→ 3 Repetitions

8KeV

~~2nd run~~ → 00027.h5

start: 22:37 ; 14.07.2020

~~3rd run~~ → 00028.h5

①

②

③

sample	name	Aque. Time	.tif	.tif	.tif
EB	(empty)	600	84	106	128
GC		300	85	107	129
AgBeh		10	86	108	130
EC	(empty)	600	87	109	131
0M2		600	88	110	132
0M1		600	89	111	133
C0,1		600	90	112	134
C0,5		600	91	113	135
C0,8		600	92	114	136
C-1,2		600	93	115	137

"Label" conc.	Agr. Time	(1).tif	(2).tif	(3).tif
11 0.001	600	94	116	138
10 0.005	600	95	117	139
9 0.01	600	96	118	140
8 0.05	600	97	119	141 * P. Feature
7 0.1	600	98	120	142
6 0.2	800	99	121	143
5 0.4	600	100	122	144) sehr 3wöchig
4 0.6	600	101	123	145
3 0.8	600	102	124	146
2 1	600	103	125	147
1 1.2	600	104	126	148
0 1.3	600	105	127	149

Ende : 09:08, 15.07.2020

15.07.20

15.07.20

15.07.2020

~09:15 Start Umbau von Long Distance (SD)

to short SD. (349)

$$\text{det} \cdot S4XS = 349,69 \text{ (abendkontroll)} \\ H \cdot H = 3012,857$$

m2ndwheel - san @10 keV & tests \rightarrow 00028.h5 - 00036.h5B. Step: BS-X = 10,4 and BS-Y = 6,6

start, Messung precursor Perovskite solution (Marion) / sample holder 2

(see p.260) \rightarrow @ 12:06, 15.07.2020 @ 00037.h5
@ 00039.h5

Label	Agr. Time	(1).tif	(2).tif
1 EB	600	159	182
2 GC	300	160	183
3 AgBeh	10	161	184
4 EC	600	162	185
5 OM2	800	163	186
6 OM1	600	164	187
7 CO.1	600	165	188
8 CO.5	600	166	189

Label	Agr. Time	①.tif	②.tif
9 C - 0,8	600	167	190
10 C - 1,2	600	168	191
11 A1 - 0,001	600	169	192
12 A0 - 0,005	600	170	193
13 9 - 0,01	600	171	194
14 8 - 0,05	600	172	195
15 7 - 0,1	600	173	196
* Vorpchen 16 6 - 0,2	800 *	174	197
17 5 - 0,4	600	175	198
18 4 - 0,6	600	176 °K	199
- 19 3 - 0,8	600 pos. 24,93	177 (*)	200
20 2 - 1	600	178	201
21 1 - 1,2	600	179	202
22 0 - 1,3	600	180	203.tif

(*) Ben. dopp. at 15:00 - at Supp. 3 = 0,8; ab position

Pos. 24,93 0,8 mol/L

00038.h5

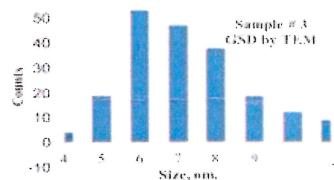
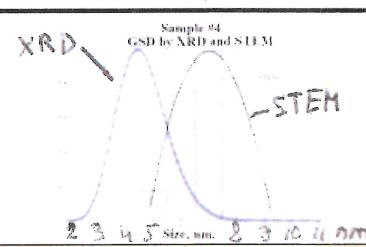
/ Nach-essen für 177.tif

≡

181.tif

Au Pt Catalysts via Smirnov crystalline nanoparticles: "short distances"

15.07.20 263

		History	Shape	Internal Structure	Size	Comment
ex-situ #1 Au55-Pt45@SiO ₂ (metal loading ~10%)	#1	Initial state	DECA	Alloy	by XRD ~ 3 nm; by simulation ~ 4 nm	
	#2	After 550 °C	DECA	Alloy + Core(Pt)/Shell(Au)	by XRD ~ 3.4 nm	
	#3	After 800 °C	CUB + DECA	Core(Pt)/Shell(Au) + Janus	by XRD ~ 5.4 nm by TEM ~ 6- 7 nm	
#06_11_01_19 Au55-Pt45@C (metal loading ~15-20%)	#4	Initial state	DECA	Alloy	by XRD ~ 4.5 nm by TEM ~ 7 nm	
	#5	After 450 °C	CUB + DECA	Janus (something else?)	by XRD ~ 24 nm	

Holder No. 3:

empty capton

O^{2*} Capton

#5

O

#4

O

#3

O

#2

O

#1

O

free

Ag Behnke

GCK

Positions ↓ scan 00040.h5

3278

Scan 041.h5

4277

counts 110 s

5277

208 49521cnts

6117

207 41000cnts

7314

205.tif 18800cnts

8312

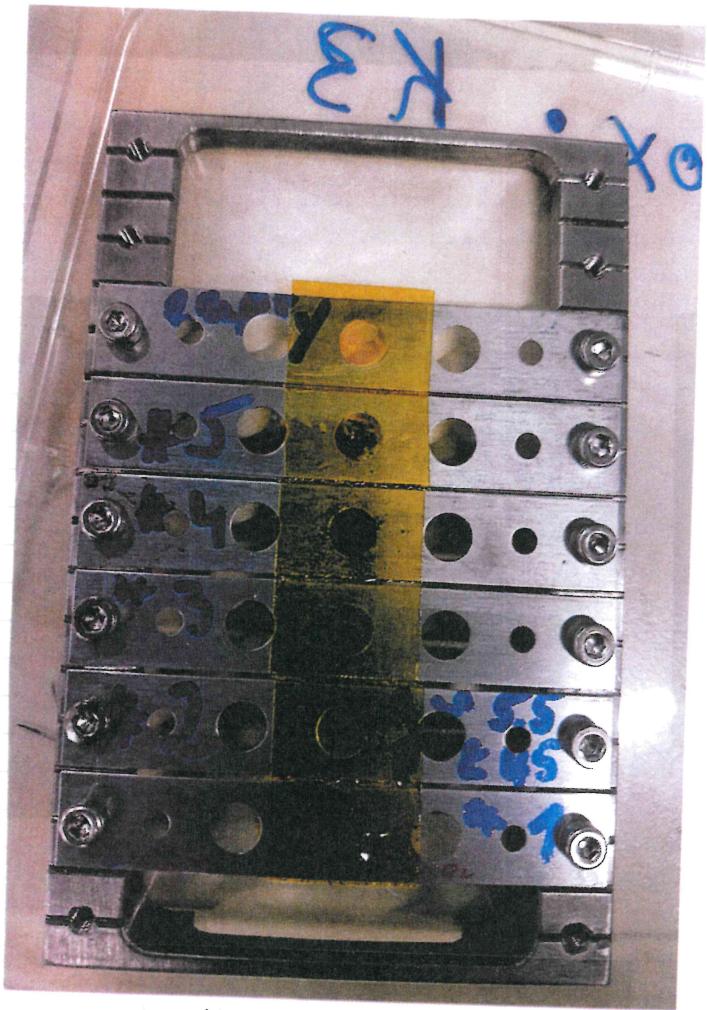
204.tif 4869cnts

113

123

133

15.07.2020

→ 20⁴⁵short distance10keV= 42.0h5

<u>sample</u>	<u>tif.</u>	<u>$t = [s]$</u>	<u>-</u>
empty beam $\phi 5$	210	300	
g C/K 54um	211	300	
Ag Detektor 11/2019	212	10	
#1	213	360	
#2	214	100	
#3	215	90	
#4	216	90	
#5	217	75	
empty → Kapton	218	660	

Proberhalte Nr. 1 / short distance

shift the whole holder to $y = -11,0$ because one sample is not good filled

Start: 22:39
~~- 00045.h5~~ ↘ falsche Y
 ↗ 00046.h5

EB	Xscan: 00043.h5	Gf.	concnrate/10 sec	Aq. time
13}	133	/	/	600
GL	123	/	/	300
AgBelt	113	/	/	10
1 5% K-MAPt	85,68	219	15	600
2 5% ^{CS} MAPt	79,22	220	14	600
3 5% ^{Rb} MAPt	73,49	221	16	600
4 3Cat + FACL	67,85	222	14	600
5 2ME + DMSO	62,13	223	26	600
6 2ME + Ref	56,55	224	26	600
7 DMF: DMSO 6:1	50,97	225	8	600
8 "DMSO "	43,7	226	"56 "	600
9 DMF	39,21	227	9	600
10 0,001M - PbI ₂	33,35	228	328	600
11 0,01M - PbI ₂	27,97	229	9	600
12 1M - PbI ₂ *	21,82	230	16	600
13 MAMApt *	17,3	231	15	600
14 ACN-MA	11,75	232	23	600

→ Y-Position korrigiert! 00046.h5 Start 23:08

sample	X ₇	Y ₇	①.tif	②.tif	③.tif
EB	133	0	235	252	269
GC	123	0	236	253	270
AfCh	113	0	237	254	271
5K-MAPt	85,6	-11	238	255	272
5G-MAPt	79,2	-11	239	256	273
5Rb-MAPt	73,49	-11	240	257	274
3Cat-FACt	67,8	-11	241	258	275
2Me+OMSO	62,1	-11	242	259	276
2Me+Pbt	56,5	-11	243	260	277
OMF/OMSO 6:1	50,9	-11	244	261	278
"OMSO"	43,7	-11	245	262	279
OMF	39,2	-11	246	263	280
0.001M-PbI ₂	33,3	-11	247	264	281
0.01M-PbI ₂	27,9	-11	248	265	282
1M-PbI ₂	21,8	0	249	266*	283
MAMA Pt	17,3	-11	250	267	284
ACN-Na	11,7	-11	251	268	285

- da wir den Xscan auch auf der Position gemessen haben

ende:

1.6.07.20

▷ Probe hat sich leicht vom Probenhalter gelöst!

- das sieht man an der Transmission als auch an den Streubildern;
- 266.tif zeigt einen Streifen, da da die Glasfaspillen an der Kante gebrochen sind,
- 283.tif: keine Probe mehr drin

Agon at Beam line:

Thursday

1. 6. 07. 20²⁶⁷

Robert / Marion / Uwe / Maria (BAM) / Armin

Test energies for Ni/Cu first measurements:

SAXS/ASAXS Proben

1 mm Borosilikat-Kapillaren

Annahme

Markierung	Probennummer	size [nm]	Ni:Cu	Verdünnung relativ
I	223	18	3:1	-
II	214	17	5:1	-
III	211	19	1:1	1:1
I	187	15	1:1	1:1
II	193	8	1:1	1:1
III	207	8	3:1	1:1
+				



1
2
3
4
5
6
7
8
9

Probenr. Probe	N:Cu	NP
1 193 214 neu	X	
2 207		Y
3 211 193		
4 187		
5 211		
6 214 neu		
7 223		
8 Hexan		
9 leer		
EB		

- 1) second wheel scan.
 2) 7000 keV, 10s scan alle Proben

sample	X	Y	10s counts	# 53.hdf	Z 000 eV
				10s Test SAYS.tif	Pilatus Acq. Time s
EB	133	0	7	286	600
GC	123		1001	287	300
AgBeh	113		48000	288	10
leer	88,19		8	289	600
Hexan	83,13	*	17	290	600
223	78,59		2800	291	300
214neu	73,08		8300	292	300
211	68,65		4500	293	420
187	63,36		2000	294	600
193	57,96		250	295	600
207	53,29		500	296	600
193neu	43,53	0	500	297	600

hdf # 54.h5

Mono 2nd Wheel Scan 8937 eV hdf # 55.h5

Sample	x	y	10s Test tif	8973eV ots #56.hdf	1.54x5 Purdgaang #57.hdf
EB	133		310	6	322
GC	123		311	219	323
AgBeh	113		312	9000	324
leer	88.19		313	100	325
Hexan	83.15		314	16	326
223	78.59		315	3800	327
214new	73.08		316	4200	328
211	68.65		317	1900	329
187	63.36		318	1000	330
193	57.96		319	170	331
207	53.29		320	340	332
193new	43.53		321	266	333
			SAXS	8975 eV	# 57.hdf

Mono 2nd wheel scan ~~8000 eV~~ 8327 eV #58

EB	133	334	#59	6	#60.h5
GC		335		327	347
AgBeh		336		16900	348
leer		337		276	349
Hexan		338		253	350
223		339		4200	351
214new		340		4300	352
211		341		2500	353
87		342		1290	354
93		343		180	355
07		344		340	356
93new		345		345	357

Cu-foil: Energy-Scan/Christina

Woche 28: #2 und #3 am 7.7.2020

How to do it: Scan mit der Diode hinter dem

-1. wheel des Monos.

- vor Mono: Cu-foil in

Cu-Folie fand 8980,0 eV

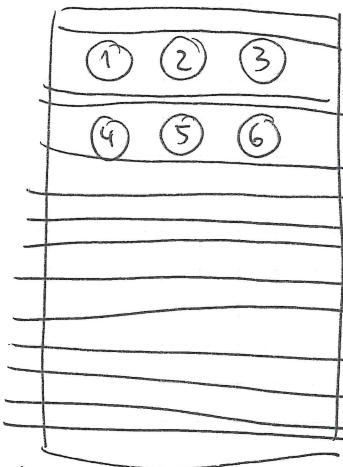
Theoriewert: 8980,5 eV

$$\Delta E = +0,5 \text{ eV}$$

Achting: bis hier
war beim Pitatus die
Energie stets 10keV
Threshold 5keV und
High Gain an!

d.h. Einstelle z.B. 8830 eV wäre 8830,5 eV
Es wird nichts eingestellt

Halter



Ni/Cu-NP / Proben 1-6 zusätzlich

	1	empty (Kapton)
	2	empty (after hexane) (Kapton)
a	3	MH 232
b	4	MH 195
c	5	MH 217
d	6	MH 203
e	a	MH 93 neu
f	b	MH 207
g	c	MH 93
h	d	MH 187
i	e	MH 211
	f	MH 214 neu
	g	MH 223
	h	Hexan
	i	leer

Skript:

* Mono 7keV

Samples

Mono 800eV

Samples

Mono 8239 eV

Samples

Mono 8304 eV

Samples

Mono 8324 eV

Samples

Mono 8330 eV

Samples

Mono 8373 eV

Samples

Mono 10000 eV

Samples

sample	x	y	y	10s count(s) (san 75.h5 + 76.h5 empty hole + redefine)	aq. time	Start: 21:53				1. 6. 07. 20	271
	7000 eV	8004 eV	8239 eV			91.h5	93.h5	95.h5	97.h5		
EB	133	0	170	600	378	396	414	432			
GC	123	0	1100	300	379	397	415	433			
AgBeli	113	0	53000	10	380	398	416	434			
leer	88,16	0	10	600	381	399	417	435			
hexan	83,10	0	122	600	382	400	418	436			
223	78,56	0	8500	300	383	401	419	437			
214 neu	73,03	0	8600	300	384	402	420	438			
211	68,65,59	0	5000	420	385	403	421	439			
187	63,33,33	0	2300	600	386	404	422	440			
193	57,93,94	0	270	600	387	405	423	441			
207	53,27	0	500	600	388	406	424	442			
193 neu	43,51	0	500	600	389	407	425	443			
203	23	9,50	20000	150	390	408	426	444			
217	23	100	10000	300	391	409	427	445			
195	23	-9,15	10000	300	392	410	428	446			
232	13	7,8	1000	600	393	411	429	447			
empty Kapton, Hexan	13	0	300	600	394	412	430	448			
empty Kapton	13	-9,15	300	600	395	413	431	449			

nad(Cu) *E = $\sqrt{10000}$ eV

uedge) *E = $\sqrt{8973}$ eV

w/Nit(Cu) *E = $\sqrt{7000}$ eV

optimierung: 90.h5

Energie	E mess(freal)	f'	f''	ΔE
<u>E_K = 8333 eV</u>		-9,38	2,93	
<u>V * 8330 eV</u>		-7,86	0,741	-3 eV
<u>V * 8324 eV</u> $\hookrightarrow -100.h5$		-6,63	0,1541	
<u>V * 8304 eV</u> $\hookrightarrow -38.h5$	16	-5,35	0,492	
<u>* 8239 eV</u> $\hookrightarrow -96.h5$		-4,11	0,489	
<u>* 8004 eV</u> $\hookrightarrow -94.h5$		-2,86	0,514	

Sample	X	Y	a.g. time	8524 eV	8526 eV	8575 eV	10000 eV
				-99.65	-101.65	-103.65	-107.65
EB	133	0	600	450	468	486	504
GC	123	0	300	451	469	487	505
ArgBeli	113	0	10	452	470	488	506
Leer	88,16	0	600	453	471	489	507
Hexan	83,10	0	600	454	472	490	508
223	78,56	0	300	455	473	491	509
214 neu	73,03	0	300	456	474	492	510
211	68,59	0	420	457	475	493	511
187	63,33	0	600	458	476	494	512
193	57,94	0	600	459	477	495	513
207	53,27	0	600	460	478	496	514
193 neu	43,51	0	600	461	479	497	515
203	23	9.5	150	462	480	498	516
217	23	1.0	300	463	481	499	517
195	23	-9.15	300	464	482	500	518
232	13	7.8	600	465	483	501	519
empty Kapton, Hexan	13	0	600	466	484	502	520
empty Kapton	13	-9.15	600	467	485	503	521

↓ Dauer ~ 2h20m (mit Energiescan)

$$\text{? Diffr. auf } \approx 350 : SD \approx 806 \text{ nm (a)} \quad g \cdot SD = \text{constant!}$$

$$\text{? Diffr. auf } \approx 1000 : SD \approx 1450 \text{ nm (b)}$$

$$(a) g \sim \approx 0,2 \text{ nm}^{-1}$$

$$(b) g \sim \approx 0,1 \text{ nm}^{-1}$$

Der 10000 eV mimo scan fehlt eigentlich ???
Es scheint alles ok zu sein aber der Fluss ist höher als erwartet!

1) scan rotodide:	-80 ($\Delta = -1$)	-110
10keV		= 105, h5
Position Diode	tif	
Scan	-85	-522, tif
Diode	-90	523
	-95	524
	-100	525
	-105	526
		Diode arbeitet bei -94!

Finescan Diode: 107, h5

<u>Samples Maria:</u>		(Powder)
Ner:		Det-SAXS = 970
(ein Baly)		HH = 2406, 322 !
sample	x	y
		ap. time (10keV)
		7000eV
		-113, h5
EB		
g CLK		
Ag beh.		
203		
217		
195		
232		
empty capto		
+ Hexan		

stop!

change bellow system!

Friday $\approx 17^{38} - 18^{28}$ Umbra
one bellow \rightarrow two bellows

sample holder will sample Maria remains!

Benchtop: New $BS-X = 11,2$ $BS-Y = 7,8$

Test:	10 ³ counts	time s	new 2nd wheel 7000 eV -127,h5	wheel 80040V -129,h5	-131,h5	-133,h5
EB	48	300	568,64	585	602	619
gc	330	300	569	586	603	620
Ag Behe	39000	10	570	587	604	621
leer	77	600	571	588	605	622
Hexcam	48	600	572	589	606	623
223	217	300	573	590	607	624
214neu	237	300	574	591	608	625
211	152	420	575	592	609	626
187	87	600	576	593	610	627
193	56	600	577	594	611	628
207	55	600	578	595	612	629
193neu	52	600	579	596	613	630
203	4500	150	580	597	614	631
217	433	300	581	598	615	632
195	770	300	582	599	616	633
232	140	600	583	600	617	634
empty Kapton Hexcam	160	600	584	601	618	635

Sample	X	Y	8324 eV -136.h5	8330 eV -138.h5	8973 eV -140.h5	-142.h5 10 000 eV
EB			636	653	670	687
gC1K			637	654	671	688
4gBehe			638	655	672	689
leer			639	656	673	690
texan			640	657	674	691
223			641	658	675	692
214new			642	659	676	693
211			643	660	677	694
187			644	661	678	695
193			645	662	679	696
207			646	663	680	697
193 new			647	664	681	698
203			648	665	682	699
217			649	666	683	700
195			650	667	684	701
232			651	668	685	702
empty Rophm Hesing			652	669	686	703

18.07.20 End ≈ 13:34

Saturday Sarah & Anna

18.07.20

Au-PT Nanoparticle: long distance two bellows

Agar Holder No. 3 von Ilia Smirnov

Positions $y = 0$ cm²/101

+ -146 h

-145, h5

± 1f

712

x	y
○ 2*Caption	33,09
○ #1	42,72
○ #2	53,08
○ #3	63,50
○ #4	73,74
○ #5	83,75

33,09

13

712

42,72

370000

711

53,08

308.000

713

63,50

13300

710

73,74

3250

709

83,75

4300

708

leer

Agbete ○

Agbete ○ 1112019

GCK ○ 54n(c)

empty ○ hole #5

113

36000

706

123

370

705

133

10

704

sum y: -4 ($\Delta = 0,25$) + 4

-143, h5

food center = -0,0768

reduce to 0

max X: (samples)

-144, h5

nothing { -147, h5
-148, h5
-149, h5

long distance
at endstop

2nd wheel
-150.h5

2nd wheel

11.8.07.20 277
-152.h5 -150.h5

sample	pos. x	time [s]	2nd wheel -151.h5 10keV .fit	2nd wheel -153.h5 7keV
empty	133	300	714	723
IC/K	123	300	715	724
Ag Behe	113	10	716	725
#5	83,75	180	717	726
#4	73,74	300	718	727
#3	63,50	300	719	728
#2	53,08	100	720	729
#1	43,2	15	721	730
*Capton	33,09	600	722	731

end $\approx 16:50$

No w: short distance but two bellows Beamstop
Det-SAXS = 970 & HH = 2405,783 BS X=10,5

SAMPLE	POS.X	counts 10 s -156.h5	counts 10 s -158.h5	.fit	BS.Y = 6,7 (7keV)
empty	133	56	4	751	
IC/K	123	~ 1000	~ 100	752	
Ag Behe	113	~ 51000	~ 6100	753	
#5	83,75	~ 6400	~ 1800	754	
#4	73,74	~ 7700	~ 4300	755	
#3	63,50	~ 17000	~ 10400	756	
#2	53,08	~ 46000	~ 6600	757	
#1	43,2	~ 470000	~ 64000	758	
*Capton	33,09	20	12	759	

278 - ~~155. ns~~ 160. ns 161. ns
test measurement shows that @ short distance \rightarrow new Beamstop position necessary $\Rightarrow 7320.tif - 740.tif$

- 155. ns \rightarrow empty measurement 60 s $BS_x = 10.5$ $BS_y = 6.7$
~~- 741.tif~~

- 157. ns 2nd-wheel: change to 10keV

ARDEVIEWER: $SD = 1413.69 \text{ mm}$ / $Bx = 459.137$ $By = 555.469$
@ 7keV

ARDEVIEWER @ 10keV: $SD = 1413.88 \text{ mm}$ / $Bx = 459.572$ $By = 554.76$

SAMPLE	POSX	time [s]	160. ns 7 keV.tif	162. ns 10 keV.tif #1	163. ns 10 keV.tif #2
EMPTY	133	300	760	769	778
GCK	123	300	761	770	779
AgBeHe	113	10	762	771	780
#5	83.75	180	763	772	781
#4	73.74	300	764	773	782
#3	63.50	180	765	774	783
#2	53.08	60	766	775	784
#1	43.2	10	767	776	785
2*Capton	33.09	300	768	777	786

- 159. ns 2nd-wheel: change to 7keV

- 161. ns 2nd-wheel: change to 10keV

Sample	Posx	time	10 keV #3 (repetition)
E-phy Ø5			787
GCK			788
Azobenzonate			789
#15			790
#4			791
#3			792
#2			793
#1			794
2*Capton			795

/ end at ≈ 19.54
R. 16.1.2000

Monday

20.07.20

279

Shutdown BESSY : from 18.7.2020 / 8 pm
to about end of September 2020

sample chamber - VS - X = 133

- all samples out
- standard holder remains in the chamber

Agglomerate
Agglomerate 11/2019
GCK (c) 54mm
○ empty hole

det-SAXS $\approx 2700 !$