***Meeting Minutes***

***106th SRF R&D Meeting***

**Date:** Wednesday, March 23rd, 2022

**Present:** MWi, LS, LE, JW, RG, DK, RMV

Virtual: Jacek, Artem, LT, Arti, EV

**Slides:** All presentations and the meeting minutes are available on INDICO

<https://indico.desy.de/indico/category/422/>

**I Status**

Sample Furnace (CB):

Cornelius is almost finished with drawings for pump stand mounts.

Single-cell Furnace (Higrade lab, Rezvan):

On Thursday technicians from Xerion visit because of pre-pump problems.

Ricardo:

QPR is under assembly. Input and pick-up antennas were installed together with the blind sample flange. The QPR was leak-tested in the clean room and is leak-tight. Now it is ready to go into the local clean room to install the HZB sample. Installation in the Insert IV is next. At the moment waiting for the sample unit that has to be machined in next 4-6 weeks. RadiPower power meters were installed in AMTF XATC1 DAQ to measure refl, transm power etc.

Higher beta test (beta>100) is necessary with a single-cell cavity to simulate the QPR input antenna, which has a high beta. Mateusz proposed to change Qext with movable antenna at 1.5K to achieve higher beta.

f vs. T:

Discussion is planed with Jürgen and colleagues about the possibility to achieve same cooldown speeds, especially slow ones (fast as possible is easy but slowing down or special speed when crossing Tc is very difficult).

Rezvan

XPS on HPR samples done, interesting results on different thickness of oxides on samples.

Thicker layer was measured on a sample that received 18x HPR compared to shorter HPR’s.

B-mapping (Jonas)

Evaluation board PCBs should arrive on 15.09.2022 - ready for cryo-tests after subsequent equipment, programming and pre-testing.

Firmware needs to be adapted to control the added H-bridges/multiplexers. The calibration bug fix is ongoing.

Deficiencies of the DESY-Bartington-magnetometer setup are going to be solved by Anti-aliasing filters - cryo-tests pending due to still missing feed-through.

Detlef:

PUBD now different than in the past, so far publications were given to Katrin or Alexandra: they uploaded the publications after they were published– now its stricter. For conference proceedings the main authors have to upload the paper before the conference and it has to go through a small review process, where also the library will check formal or layout issues, also all co-authors have to agree to this contribution. Finally, the directorate (for conference publications Hans) has to review and sign or release the paper. All this has to take place before the conference. Christel Övermann is a person with more detailed information’s.

TTC: Meeting is mid of October, today was another preparation meeting, still not confirmed if in person or not, no restrictions are announced so far. So it is likely that it is happening in person. Certain invitation letters are still missing. Program is more or less finalized, most suggested invitees confirmed their participation.

Hiii furnace

The Hiii furnace has only one working cryo pump at the moment.

A test run will be made to check if the desired vacuum pressure can be reached for further cavity treatment.

The second pump is going under maintenance by the company Leybold.

CB will check one or two of the cleanroom stored samples with the SEM at the TU.

**II Status mid T slides (linac paper) from Lea**

Shown are the 4 latest cavities results from Zanon 2x2 with and without caps.

Also shown DESY cavities together with SIMS profile from samples show differences in oxygen profiles.

DESY treatments were better than Zanon wrt. cavity performances, but all were very sensitive to flux trapping.

The mid T baked cavities show a dip on f vs T => to be analysed in more detail

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| |  |  | | --- | --- | | **Abbreviations:** Christopher Bate (CB), Serena Barbanotti (SB), Thorsten Büttner (*TB*), Getnet Deyu (GD), Alexey Ermakov (AE), Lukas Ebeling (LE), Rezvan Ghanbari (RG), Isabel Gonzales (IG), Vladimir Gubarev (*VG*), Birte van der Horst (*BvdH*), Wolfgang Hillert (WH), Jens Iversen (*JI*), Kay Jensch (*KJ*), Daniel Klinke (DaK), Denis Kostin (*DK*), Ricardo Monroy-Villa (RMV), Carsten Müller (*CMu*), Andrea Muh (*AM*), Detlef Reschke (*DR*), Helmut Remde (*HR*), Jörn Schaffran (*JSch),* Manuela Schmökel (*MS*), Jacek Sekutowicz (*Jacek*), Lea Steder (*LS*), Nicolai Steinhau-Kühl (*NSK*), Alexey Sulimov (*ASu*), Jan-Hendrik Thie (*JHT*), Lennart Trelle (LT), Elmar Vogel (*EV*), Nicholas John Walker (*NJW*), Hans Weise (*HW*), Marc Wenskat (*MW*), Mateusz Wiencek (*MWi*), Jonas Wolff (JW) | **Abbreviations:** Andrea Bellandi (ABe), Christopher Bate (CB), Serena Barbanotti (SB), Reinhard Brinkmann (*RB*), Thorsten Büttner (*TB*), Arti Dangwal-Pandey (*ADP*), Alexey Ermakov (AE), Lukas Ebeling (LE), Isabel Gonzales (IG), Vladimir Gubarev (*VG*), Birte van der Horst (*BvdH*), Wolfgang Hillert (WH), Jens Iversen (*JI*), Kay Jensch (*KJ*), Daniel Klinke (DaK), Denis Kostin (*DK*), Youfeng Liu (YL), Lutz Lilje (*LL*), Chen Luo (CL), Ricardo Monroy-Villa (RMV), Carsten Müller (*CMu*), Andrea Pörschmann (*AP*), Detlef Reschke (*DR*), Helmut Remde (*HR*), Kay Rehlich (KR), Jörn Schaffran (*JSch),* Manuela Schmökel (*MS*), Jacek Sekutowicz (*Jacek*), Sven Sievers (SSv), Guilherme Semione (*GS*), Lea Steder (*LS*), Nicolai Steinhau-Kühl (*NSK*), Alexey Sulimov (*ASu*), Jan-Hendrik Thie (*JHT*), Elmar Vogel (*EV*), Nicholas John Walker (*NJW*), Hans Weise (*HW*), Marc Wenskat (*MW*), Mateusz Wiencek (*MWi*) | |