

# **BTOF Update Misc.**

**Ken Suzuki / Dominik Steinschaden**

# Members I/O

- Nico finishing his master thesis. Goes to Etienne Aufray's group at CERN. Thanks for a good work and good luck for his PhD.
- William is a new member (master study).
- Dominik writing PhD thesis.
  - any interesting offer for PD?

# TDR Approved

- Feb. 14, 2018 (submission Mar. 2017)
  - Thanks once again for everyone!
  - It hasn't appeared yet on FAIR webpage. Should we push?
- Updates? (though I don't think it's possible)
  - many new information, materials
  - language correction (as we are almost certain that the ECE asks at least some minor modifications, we planned to do it at that opportunity...)
- Publish?
  - Some TDRs have been published. Some on arXiv. But not all.
  - I want to put it at least on arXiv. How should we proceed? Is there a guideline?

# Temperature Chamber

- A new temperature chamber arrived at SMI.
- Great work by Nico for a lot of paper works and negotiations with companies.
- For what?
  - Basically one should imagine a similar usage as the “APD-lab” at Heck Office.
  - It improves in general the measurement environment, as SiPM performance is temperature dependent. So far most of measurements were done in “room temperature” whose definition varies. In most of earlier measurements the room temperature were higher than what we would expect at the PANDA hall. I don’t think it’s critical but the reliability of our data improves.
  - Precise determination of the breakdown voltage and noise measurement, they are getting less important since the homogeneity of SiPMs is increasing than earlier time, especially for the Hamamatsu product. They provide also the  $V_{BD}$  for each device.
  - That’s also for us to sustain our technological advance of SiPM and produce other SiPM related technical publications.
  - Whether or not, we do such a detailed check of individual SiPM (16k pieces) is undecided. It’s rather unrealistic to do it with one temperature chamber in Vienna. I’m interested in the GSI APD-lab facility if we decided to do. Or we can simplify it by trusting the value that the producer provides. In the TDR, our decision on hybrid-connection or a series connection was open. Sorting SiPMs by the  $V_{BD}$  is important if we go for the hybrid connection. Meanwhile we more or less decided to go for a series connection.
  - If we skip screening of all SiPMs one by one, then the next chance we can check them is after we soldered them on our “sensor-board” where 4 or 8 (single or double sided) SiPMs are soldered. In case of malfunction, we through them out in this unit. We purchases 10% spare. If this is enough, it’s probably worth saving resources of doing a individual check. Nevertheless we bought one chamber to “prepare” for all options.

# Temperature Chamber



arrived.

**Vötsch = Weiß Technik (acquired)  
VT7021**

**-70 to 180 degree**

**and found a place.**



Ken Suzuki, 8.2.2018

# Funding

- Austrian scientists trying to establish a new funding scheme where a construction cost in an international project can be applied. It's called GROFO.
- In the meeting in Jan. 2018, the preparatory committee chose our BTOF application (incl. all BTOF costs, but no other Austrian EOI) as the most suitable example and decided to push this as a top priority. A full proposal is due in mid. May 2018.
- Even if we stay at the top position, there's simply no guarantee. No prediction either if it's successful at all, when the money could be available.

# PostDoc Position in Vienna

- It is internally “approved” that we open a two-year PD position for the PANDA BTOF project
  - to accelerate the FEE development
  - We are still waiting for an official approval of the institute’s budget.