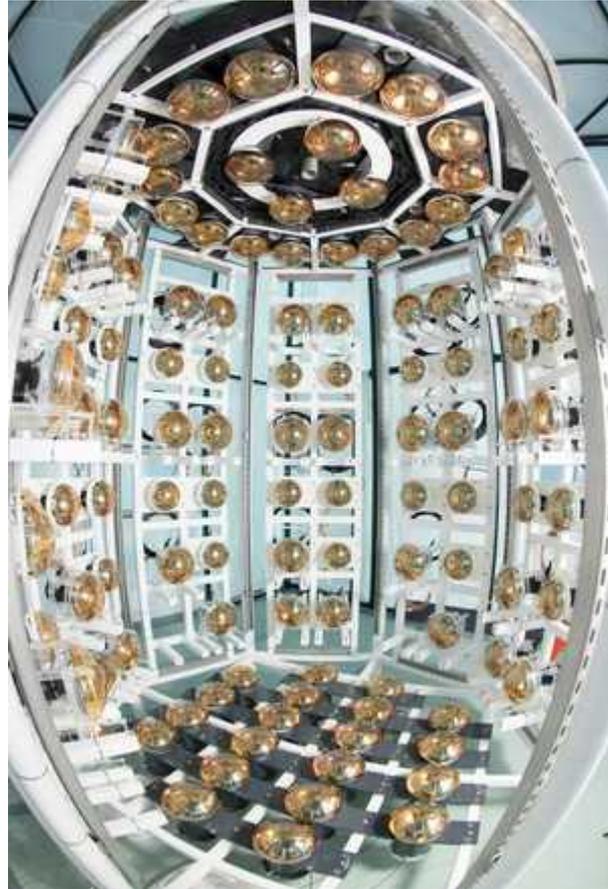




# **ANNIE: Accelerator Neutrino Neutron Interaction Experiment**

**Vincent Fischer  
on behalf of the ANNIE collaboration**

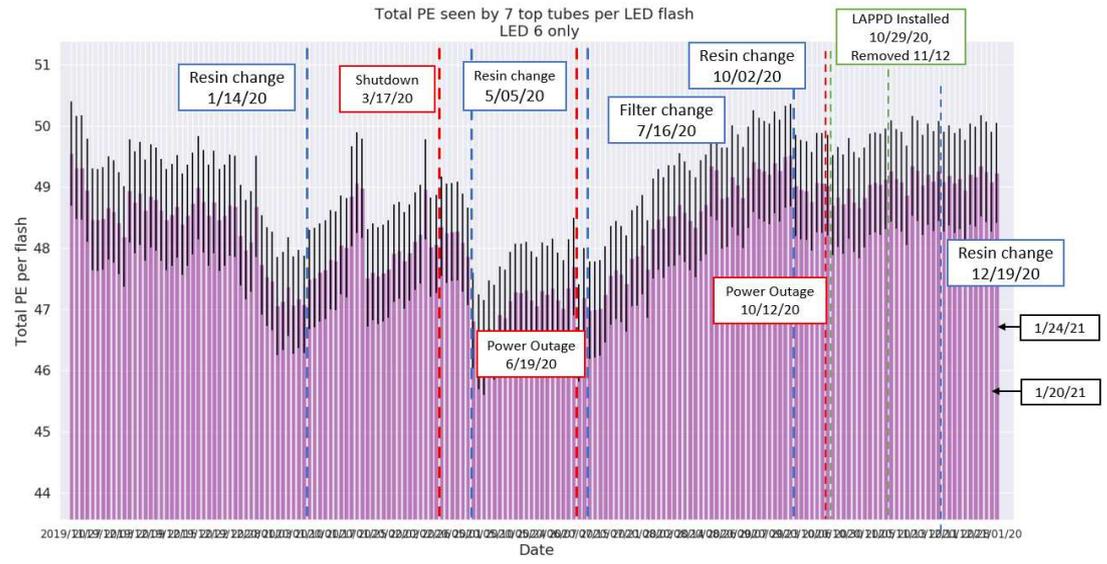
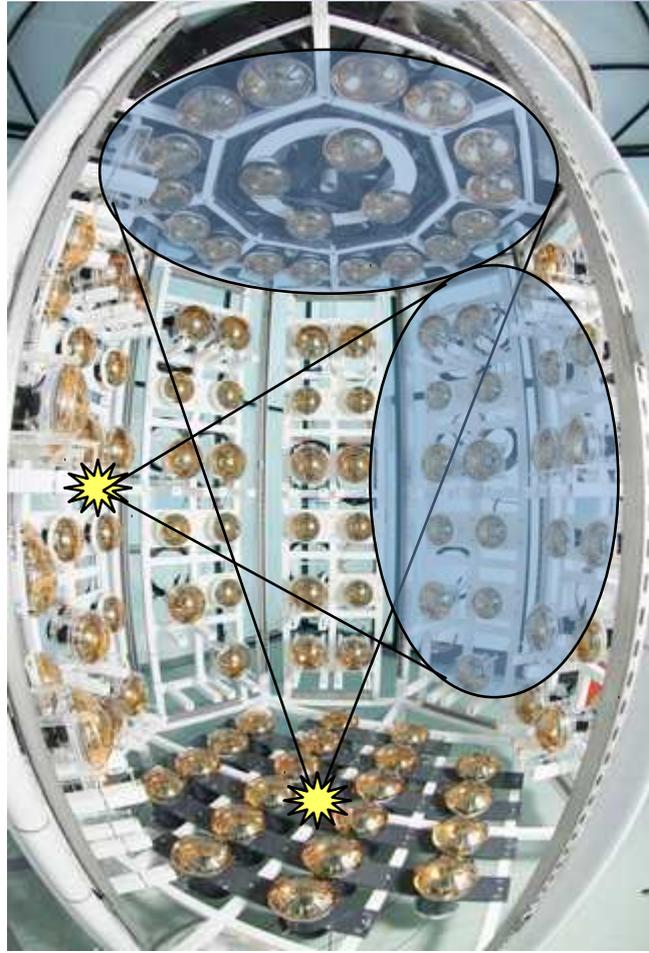


## Since the last PMG meeting:

- Maintenance operation on the water system
- LAPPD characterization ongoing at Lab 6 + ORC readiness
- Stable and smooth data taking
- Continuous 24/7 shifts throughout the break
- New arrival onsite:  
Venkatesh Veeraraghavan – Postdoc from Iowa State University

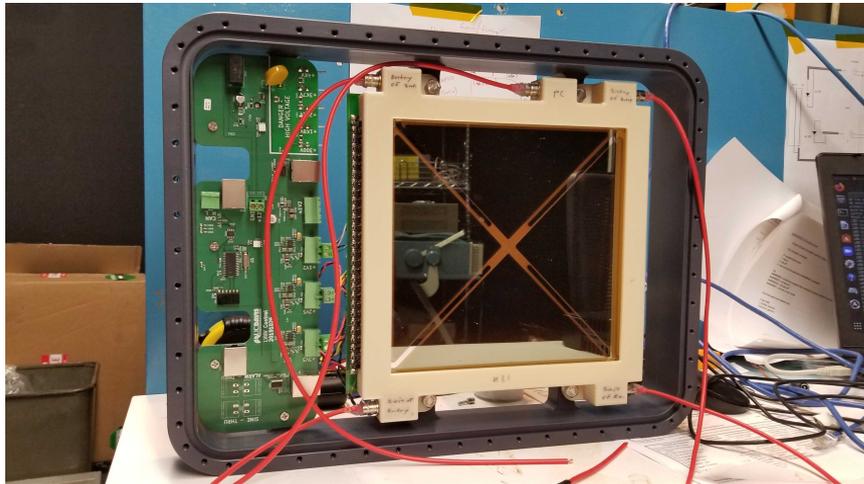
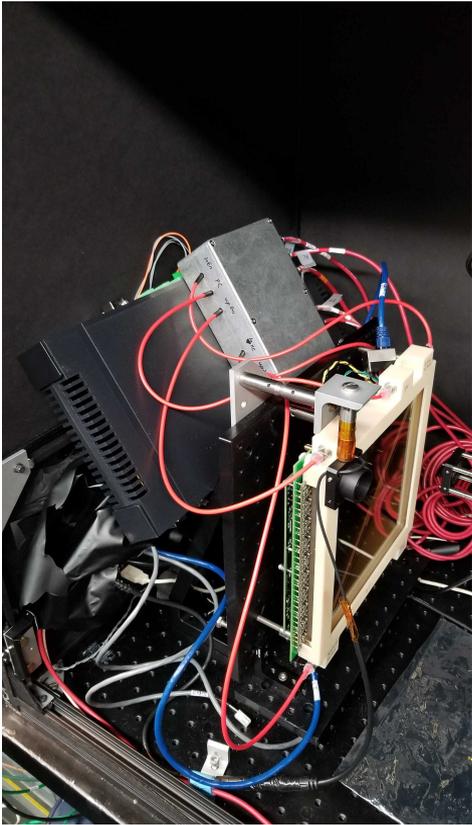
- Right before the break, data from the MRD was not accessible when taking beam runs
- Issue seems to be coming from the communication with the CAMAC crates handling the MRD and front veto data
- Issue: USB library problem
- A compiled version of the library was found and copied
- **MRD and Front Veto are back online**

# Water quality is stable



- Water flow at the skid was 0.5 GPM after the break
- After changing the main filter → Back to 1.5 GPM
- Air conditioning was tuned:
  - Hall temperature ~16 degrees C
  - Water temperature now at ~20 degrees C

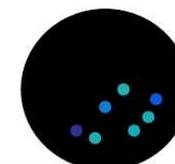
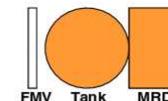
- First LAPPD to be deployed in ANNIE fully characterized (gain, timing, QE)
- Various tests and fixes to improve the data taking rate
- Readiness for next ORC:
  - Power LAPPD high voltage and electronics using dedicated LVHV board



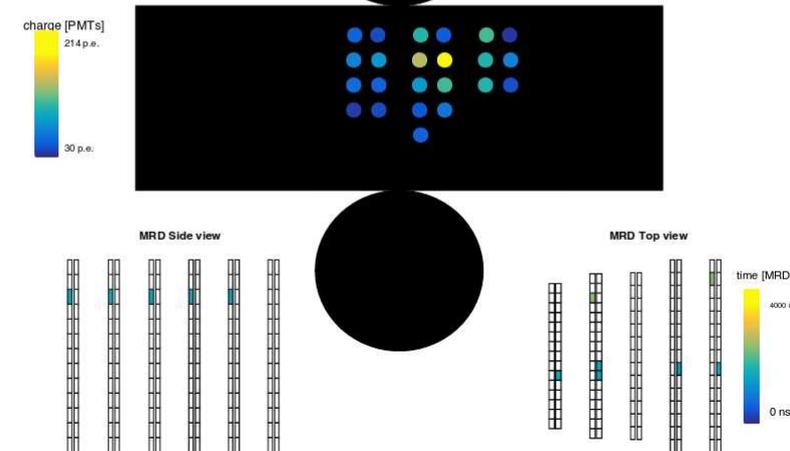
Fit test in waterproof housing

- ANNIE is taking data with all sub-detectors: Front Veto, Tank PMTs and MRD
- Beam trigger has been commissioned:
  - Beam signal has been show to be consistent with previous runs. Working on refining background triggers.
- ANNIE is now ready to start “physics data taking”. We will inform MCR.

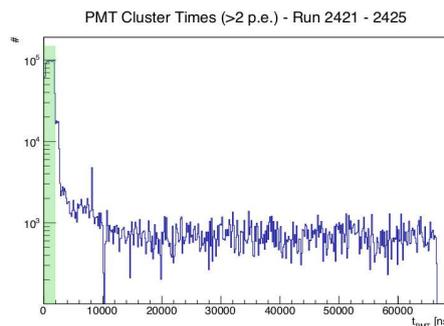
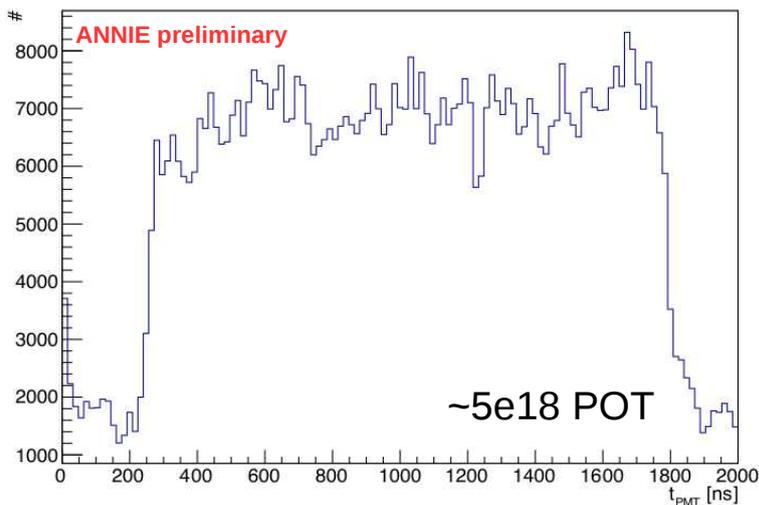
ANNIE Phase II  
 Date: 2021/1/21-10:37  
 ANNIE Run: 2421 (Beam)  
 ANNIE Event: 333540  
 PMTs: 30 hits / 2562 p.e.  
 LAPPDs: 0 module(s) / 0 hits  
 Cluster Time: 865 ns  
 Trigger: Beam



ANNIE preliminary



PMT Cluster Times (>2 p.e.) - Run 2421 - 2425 (~180 hours)



Extended readout (70 us)

ANNIE Event Fractions - Run 1634/2280

