



ANNIE: Accelerator Neutrino Neutron Interaction Experiment

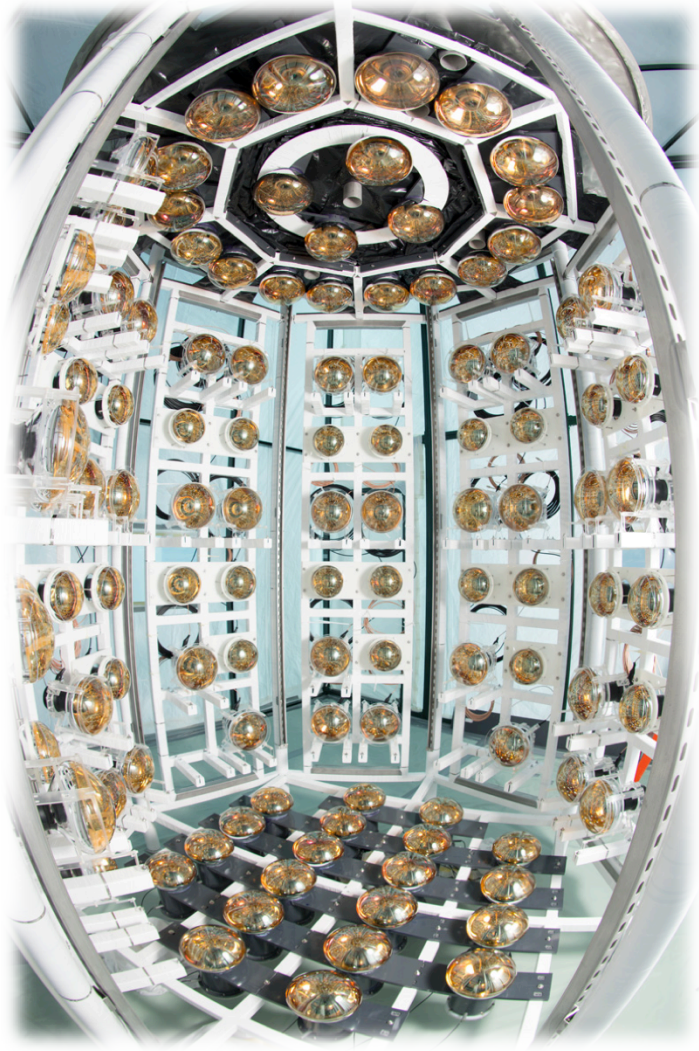
Emrah Tiras
on behalf of ANNIE collaboration

Iowa State University

PMG/All Experiments Meeting, Fermilab
August 6, 2020



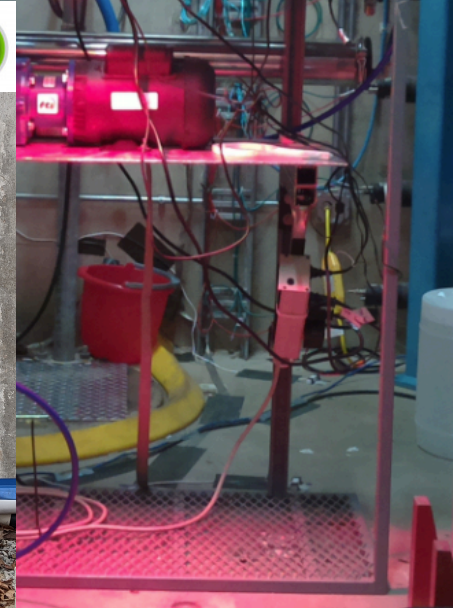
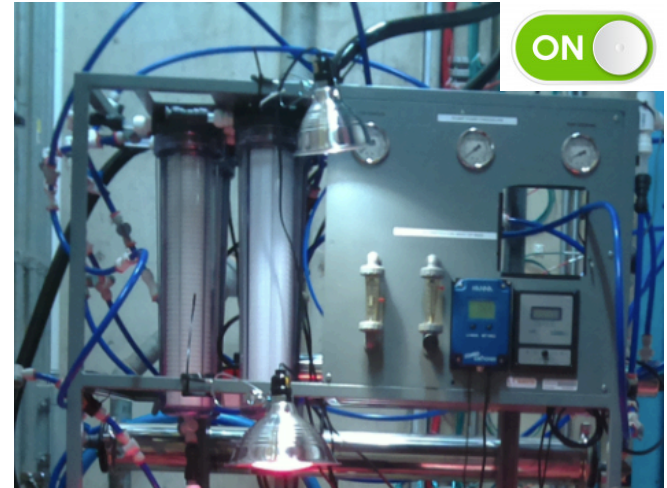
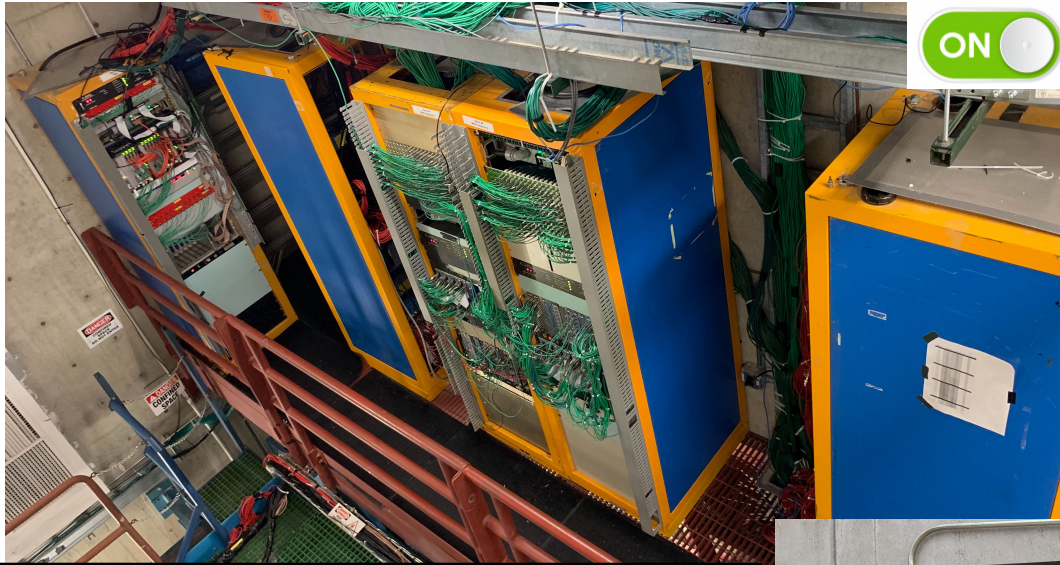
Updates from ANNIE



Since the last PMG meeting:

- ▶ The ORC for the water filtration system of the ANNIE's Gadolinium-loaded detector was approved.
- ▶ Experiments Operations Plan (EOP) is under the final review for approval.
- ▶ We have been monitoring the water transparency and keeping an eye on all the electronics and detector components.
- ▶ Hazard Analysis to resume characterization of the LAPPDs at Lab6 was approved.
- ▶ A new institution: Prof. Andy Mastbaum from Rutgers University joined ANNIE.
- ▶ Two talks at New Perspectives, one talk at ICHEP and one talk at NPML.

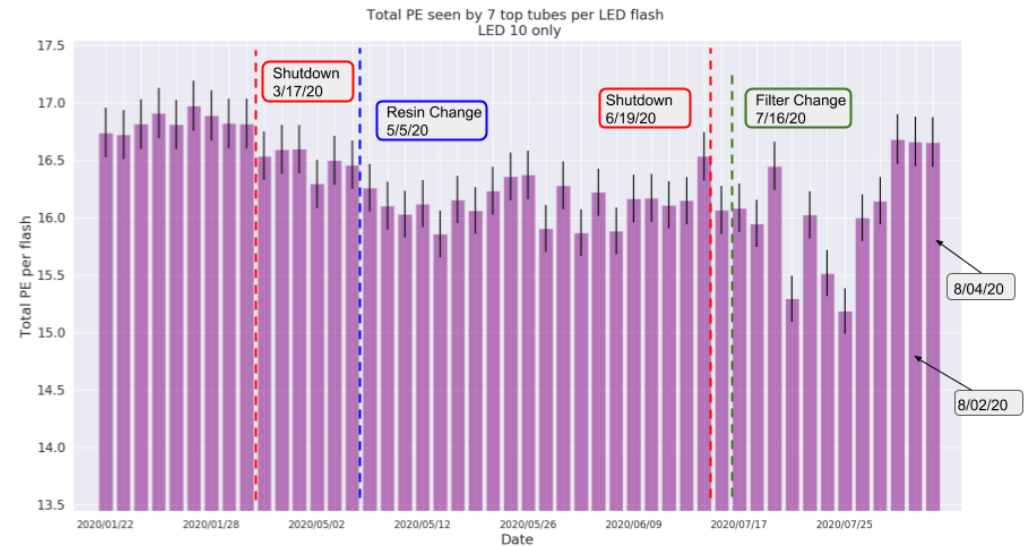
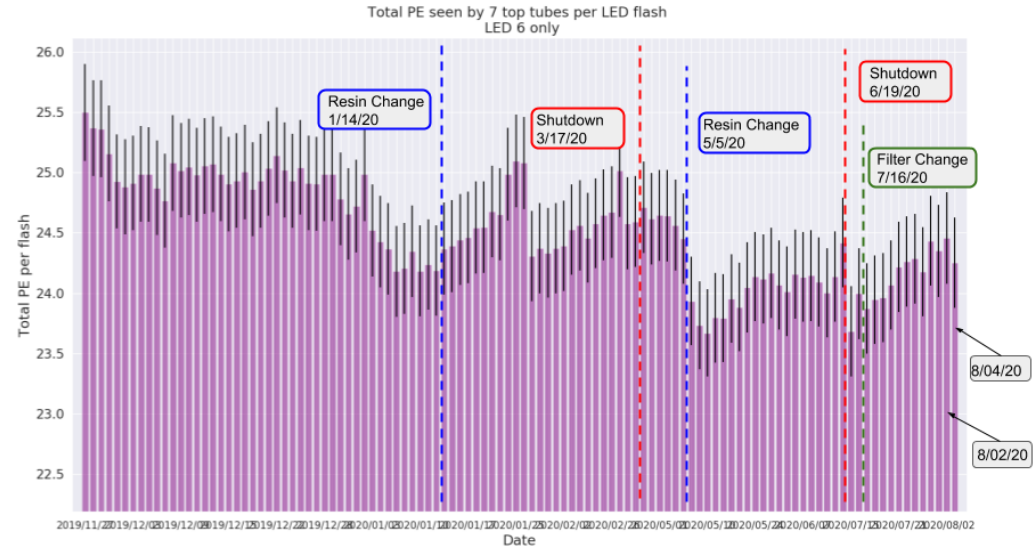
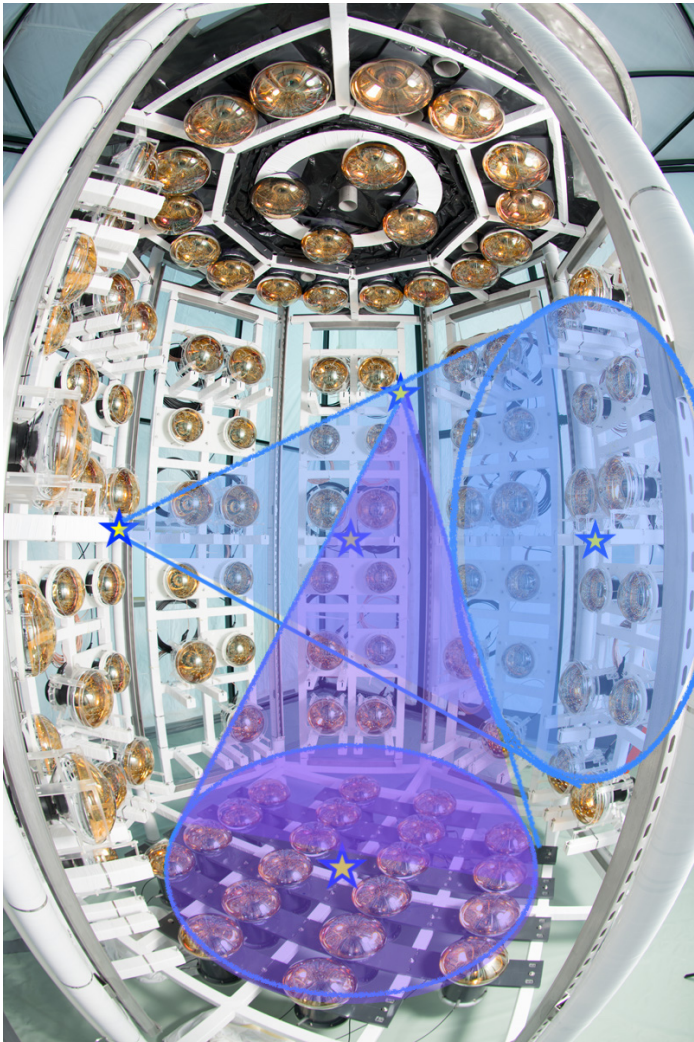
Secure Operations Mode



- All the PMTs, VME and HV systems are on.
- Water filtration/recirculation system is working. It's remotely controlled and being monitored 24/7.
- The water volume is continuously being flushed by Nitrogen to prevent bacterial growth in the tank.
- We are keeping an eye on things and perform weekly checks.

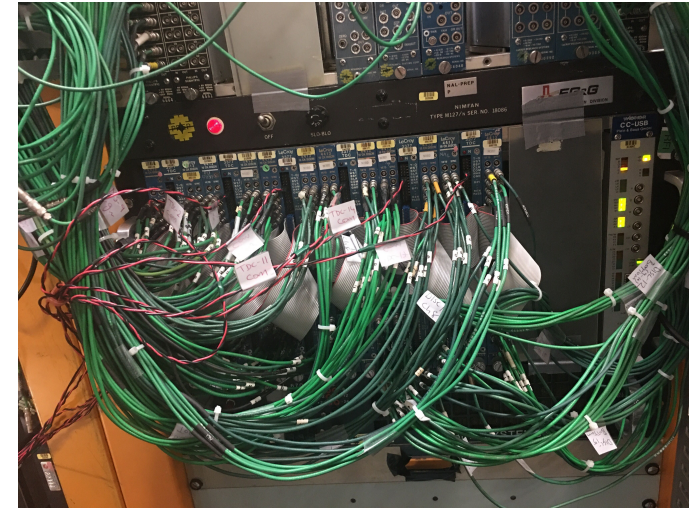
Water Transparency Monitoring

4-5% drop in the last 8-9 months



Current issues and plans

- We had an issue with one of the CAMAC crates which digitizes half of the Muon Range Detector (MRD) and Front Muon Veto (FMV) channels for ANNIE (170-180 channels).
 - It was replaced but the system is not fully recovered yet. We are still working on the software update and also testing new controller modules.
- Low-voltage unit for one of the LeCroy HV systems was broken - we replaced it and also we got a spare LeCroy HV power supply with several cards from MiniBooNE.



Plans:

- We will continue with the water transparency measurements.
- We will start source calibration tests at the beginning of September.
- Final calibration of MRD and FMV is planned to be done in September.
- LAPPD characterization will resume at Lab6 starting this Friday.

