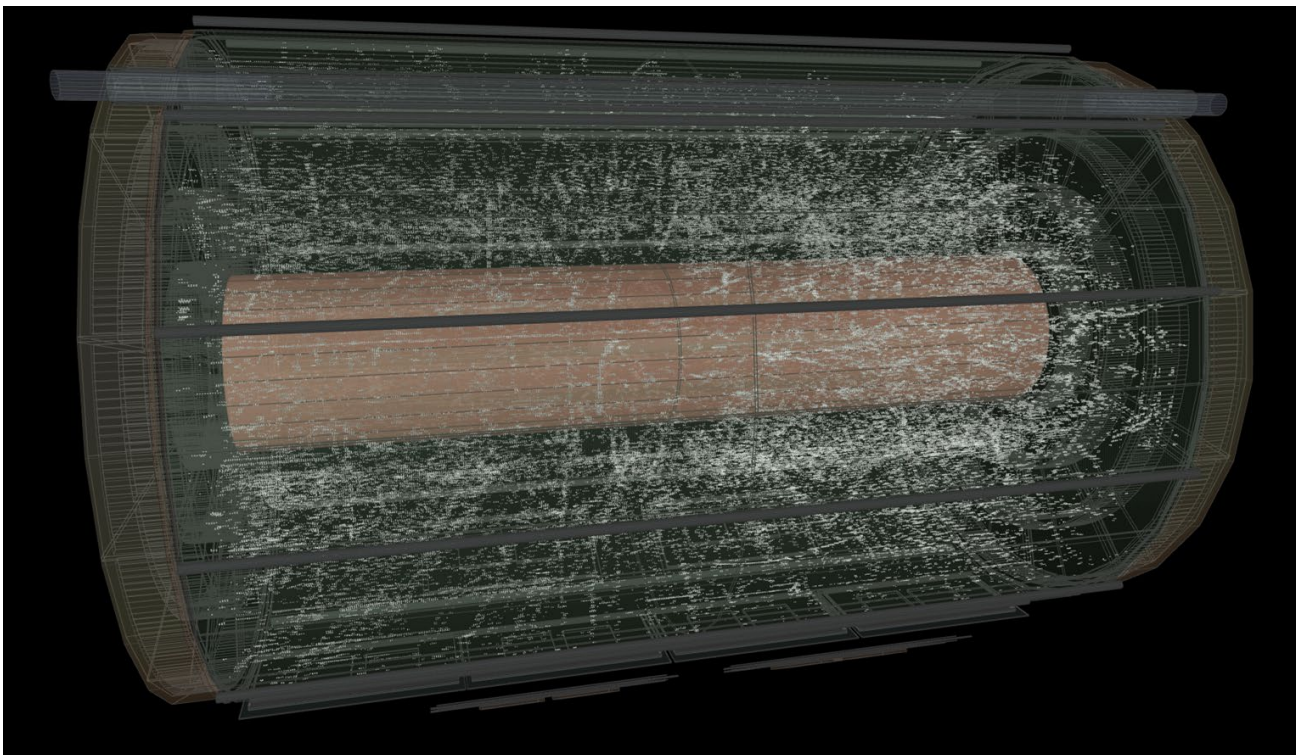


sPHENIX Commissioning Progress

- The sEPD on the north side of sPHENIX is installed and the sEPD in the south side is planned to be installed in the next Maintenance Day. This is the last detector subsystem to be installed in sPHENIX.
- The magnet is back at full-field after replacing the cables in the quench detection system and bus joint resistance measurements.
- The MVTX and TPC commissioning have been advanced with special runs/beams.
 - We'll have a meeting to discuss about the MVTX background with C-AD.
- Initial crossing-angle studies are done and now crossing-angle operation is routine with automatic online monitoring. Work still needs to be done to understand the effect of the crossing angle on collision rates.
- Commissioning of the readout for the calorimeters continues to progress.

TPC: Promise of MIP-ionizing tracks (in B-field)



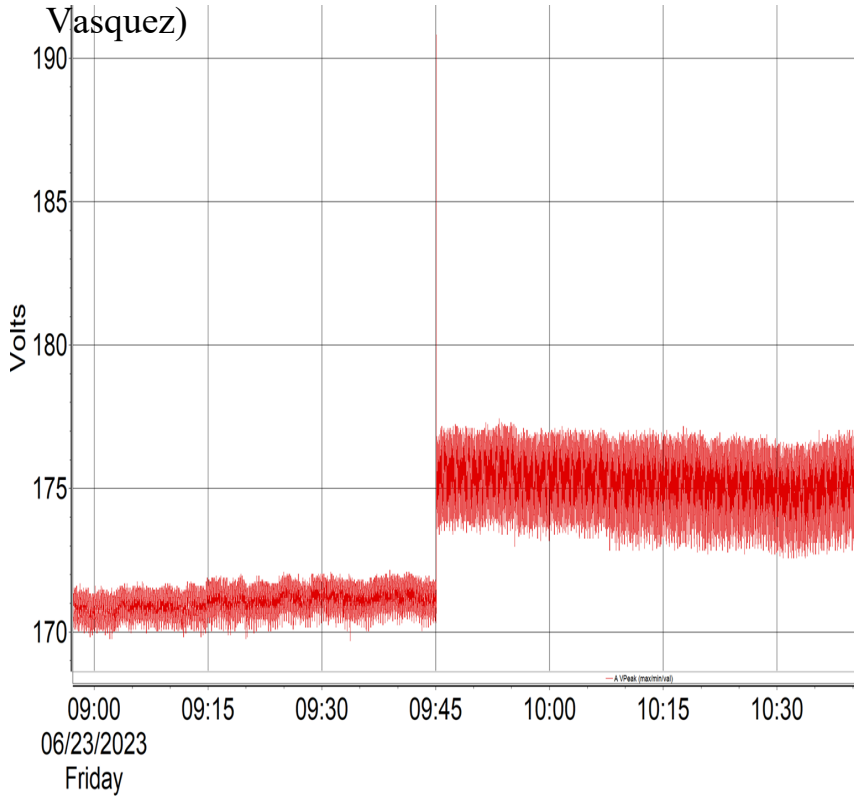
- In animation:

<https://indico.bnl.gov/event/19274/contributions/78019/attachments/48222/81889/EVENT%20DISPLAY%2010931.mp4>

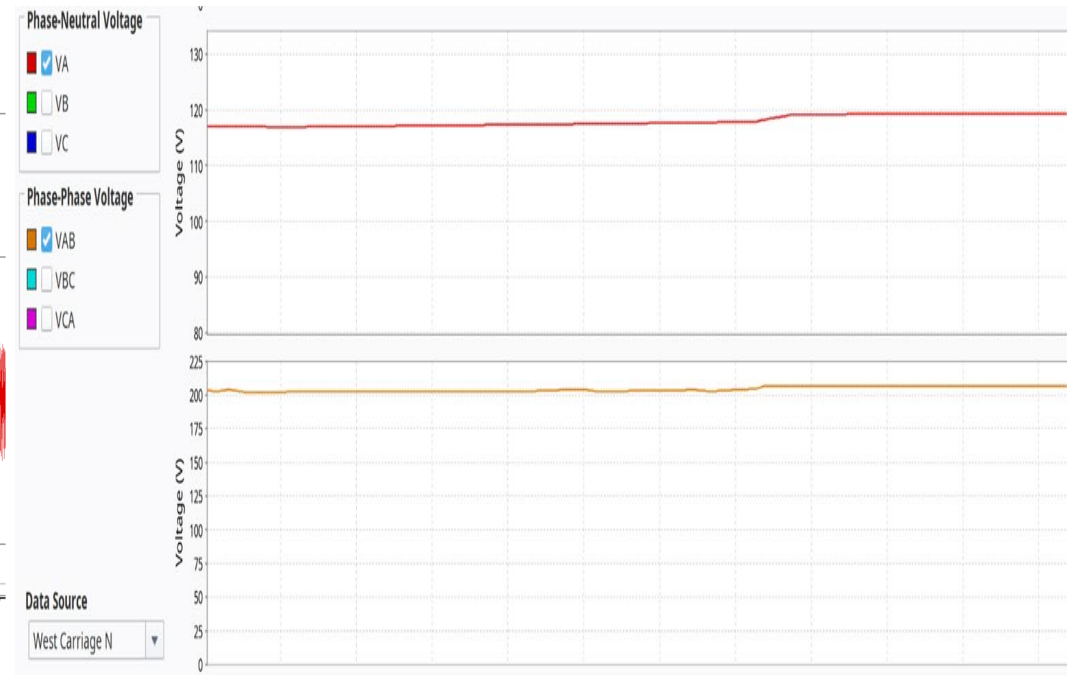
June 23 “PSEG capacitor bank online for summer”

120 V in 1008 (from P. K. Feng)

sPHENIX monitoring for power distribution panel (from J. Vasquez)



Event #1 at 06/21/2023 18:48:07.368
Halfcycle data



12 week sPHENIX Commissioning Plan



- 2 weeks of stores with 6-28 bunches @ zero crossing angle (<2 kHz) for initial tune-up of timing and trigger.
 - The magnet doors will be closed and the magnet ramped at the earliest at one end of this period.
- 2 weeks of stores with 111 bunches @ zero crossing angle (1-5 kHz) for optimizing trigger, plus data analysis & diagnosis.
 - The trigger developed in the first two weeks will provide physics triggers for all other detectors
- 1 week of machine studies of optimizing crossing angle.
 - The major goal of this period will be to demonstrate the narrower vertex distribution and reduced rates in the TPC allowed by the crossing angle. The evidence for this will come from the vertex distribution from the trigger and hit distribution in the TPC and the silicon detectors.
- 1 week of 111 bunches @ non-zero crossing angle for calorimeter timing/tune-up.
 - As the luminosity nears the design, the experiment will continue to collect data from as many of the sub-detectors as possible, and the radiation damage to the silicon photomultipliers will be carefully monitored.
- 4 weeks of 111 bunches @ non-zero crossing angle (1-5 kHz) for operating tracking detectors including TPC.
 - This running period is designed to collect data from all detectors which will asymptotically approach physics data at modest rate. Any detectors which are having problems taking data or keeping up with the rate will be debugged during this period.
- 2 week of 111 bunches @ non-zero crossing angle with increasing collision rates (15-20 kHz).
 - This period is a dry-run of operation for physics which will develop software and procedure for physics data taking, which immediately follows this period.