sPHENIX Commissioning Progress

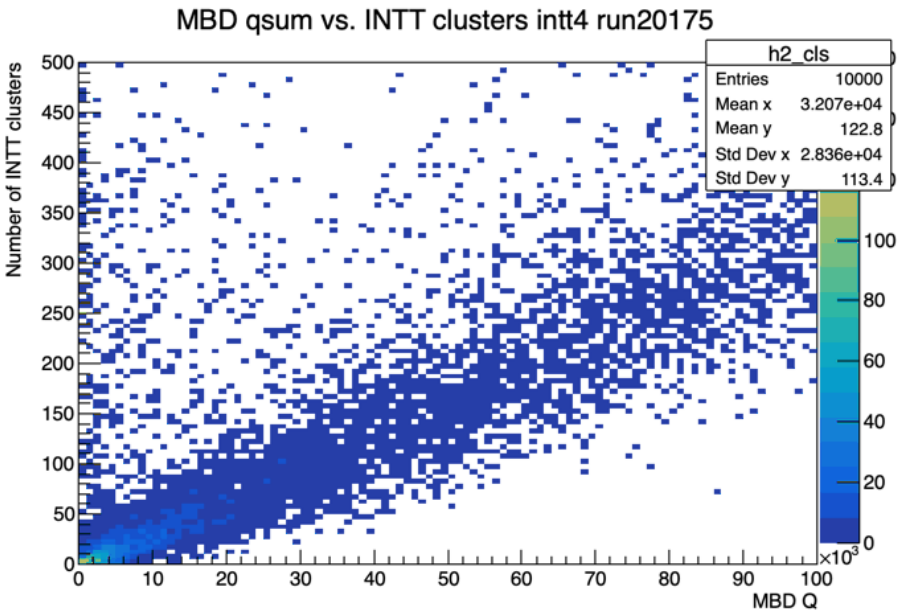
- We discussed with C-AD about MVTX background and have done single-beam studies again with zero-crossing-angle (with MVTX/INTT/MBD). This may take some time, especially when we may need to send some signals to C-AD/MCR so that they may have some feedback when trying to reduce the MVTX background.

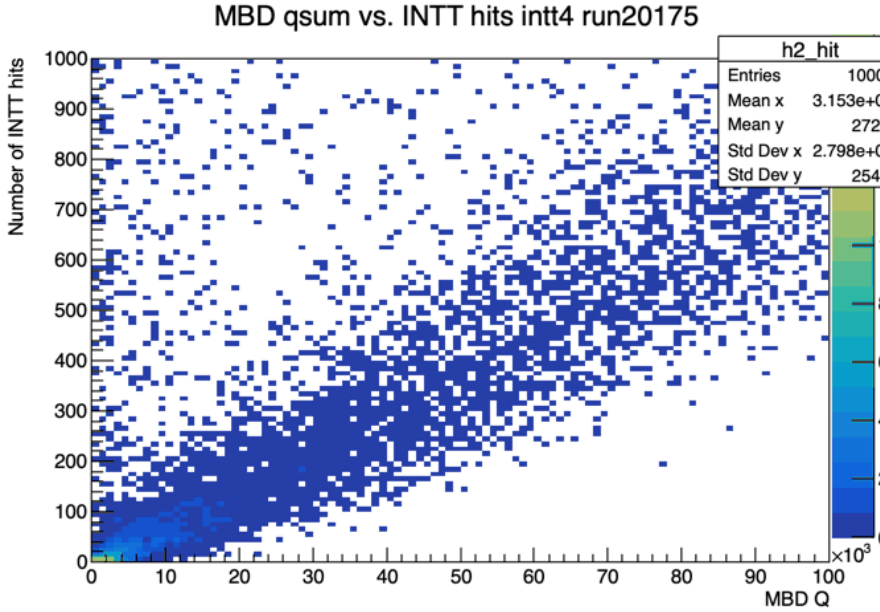
- A new TPC spark detector was installed on Friday (June 30) to improve the high voltage operation for the GEM detectors of TPC.

- Calorimeter readout is now much smoother. Our DAQ are now operating in global-mode/big-partition with all the detectors routinely except TPC and MVTX.

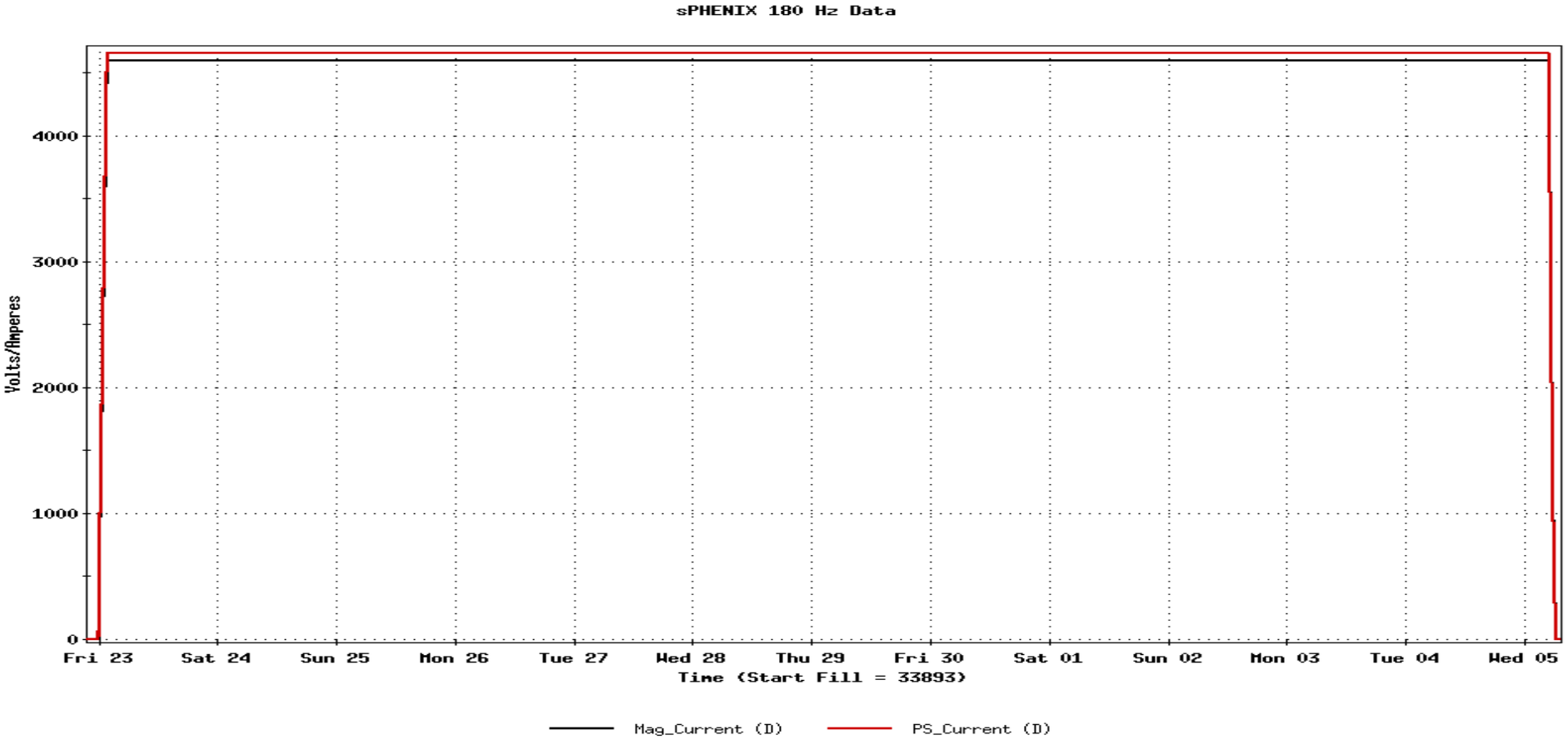
- We are installing the 2nd half of sEPD on the south side on July 5 and its electronics on July 19.

First correlation plots between INTT and MBD





sPHENIX SC Magnet stayed on > 12 days until we ramped it down today for sEPD installation



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.