Streaming Readout at the LHC

SR Mini Workshop at BNL
February 26, 2017

https://indico.bnl.gov/event/5807/

Streaming Readout

- No clear definition
    - Streaming Readout
    - Continuous Readout
    - Triggerless Readout
- Planned NP/HEP experiments with some sort of SR
    - CERN: ALICE, LHCb
    - RHIC: sPHENIX
    - FAIR: CBM
    - JLAB: CLAS12, …
- EIC
    - SR Working Group
    - eRD23

Key Questions

- What are the advantages and disadvantages a streaming DAQ at an EIC?
  - ▸ a must?
  - ▸ just an option?
- Is a mixed system possible/desirable or even needed?
  - ▸ Machine interface, calibration data (laser, pulser)
  - ▸ Fallback solution?
- Which model of a streaming DAQ is right for the EIC?
- What are the requirements?
  - ▸ Need for hard numbers
- What is the cost impact?

Agenda

10:30 Intro/Welcome   - Thomas 10+5 min

10:45 Data rates for current EIC Detector concepts - Jin Huang (30+10)

11:25 Streaming readout at ALICE and LHCb - Thomas Ullrich (30+10)

12:05 Lunch

13:30 Streaming Readout at sPHENIX - Martin Purschke (20+10)

14:00 Streaming Readout Consortium Plans - Jan Bernauer (20+10)

14:30 Summary of CSI meeting on data/trigger/machine learning/
        signal processing challenges associated with future BNL
        experiments - Shinjae Yoo (20+10)

15:00 Discussion (chair: Elke)

15:30 Adjourn