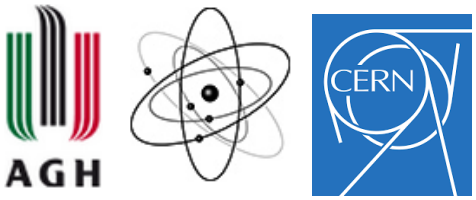

Real time analysis with the upgraded LHCb trigger in Run III

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22nd International Conference on Computing in High Energy and Nuclear Physics
Oct 10 - 14 2016, San Francisco USA

Highlights

- LHCb upgrade induces a number of critical changes in the detector construction and trigger infrastructure
- Need to remove hardware trigger (L0), i.e., move from the full detector readout done @1 MHz to 40 MHz one
- The upgraded LHCb must cope with up to five times higher inst. luminosity relative to Run II ($\mathcal{L} = 2 \cdot 10^{33}\ \mathrm{cm}^{-2}\mathrm{s}^{-1}$)
- Triggerless readout with the full software trigger that requires real-time calibration and alignment
- Offline-like reconstruction run in real time
- Use Run II trigger system as a testbed for new techniques for Run III
- **Huge Challenge!**