

Outline

Overview: Readout / Trigger / DAQ

1. Detector readout

- 1.1. Observables to be measured
- 1.2. Tracking / momentum measurement
- 1.3. Readout chain

2. Trigger

- 2.1. Trigger concepts
- 2.2. Discriminator
- 2.3. Efficiency, purity, turn-on curves
- 2.4. Latency, memory/ringbuffer, derandomization
- 2.5. Multi-level trigger
- 2.6. Trigger hardware
- 2.7. ASIC / FPGA
- 2.8. GPU
- 2.9. Pattern recognition
- 2.10. Associative memories
- 2.11. Latency
- 2.12. Trigger software

3. DAQ

- 3.1. DAQ concepts
- 3.2. Digitization (ADC/FACD), timing measurement (TDC)
- 3.3. Deadtime/backpressure, event building
- 3.4. DAQ hardware
- 3.5. DAQ software
- 3.6. Technology
- 3.7. Buses: NIM / VME / TCA
- 3.8. Modular electronics
- 3.9. Optical links