Pilot Run DAQ

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Pilot Run DAQ

- Triggered DAQ
  - Beam, beam killer, random

- COMPASS DAQ - master
  - Silicon detectors with APV25
  - SciFi detectors with F1 and iFTDC readout
  - Maximum trigger rate 40 kHz

- TPC DAQ - slave
  - SIS3316 ADC with new firmware version, 19.44 MHz sampling frequency
  - Self triggering + external trigger
Synchronization

COMPASS DAQ
- Initiates start/stop of TPC DAQ synchronously with COMPASS DAQ as in 2018
- Run number => TPC DAQ

Time reference for SIS3316 ADC:
- TCS clock of 19.44 MHz (NIM)
- Start of spill RESET (NIM pulse)
- Spill gate (NIM level)
TPC Readout

- 4 x SIS3316
- Internal trigger
- External triggers
  - start/end of spill (NIM)
  - random trigger of 10-100 Hz (NIM)
- Readout
  - 4 x 1Gb Ethernet directly attached to DAQ PC
  - UDP packets
- Data contain:
  - Event number within spill
  - Time from start of spill
  - Event type: external/internal
  - Spill number

All information is collected in AMBER wiki:
https://twiki.cern.ch/twiki/bin/view/AMBER/PilotRunPreparation

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