Silicon strip tracker

Detector Performance plots

- Some updates for 2011 summer conferences

- Synchronization
- Signal to noise map
- dE/dx
SST: Signal time profile

- Contact: christophe.delaere@cern.ch
- Time profile of the signal in different parts of the silicon strip tracker.
  - Obtained in dedicated run with randomized timing.
  - Shows the expected width of 12ns.
  - Used to optimize readout timing
    - Maximum should be at 0.
- High resolution plots at https://twiki.cern.ch/twiki/bin/view/CMSPublic/DPGResultsTRK
SST: readout synchronization

- **Contact:** Christophe.delaere@cern.ch
- Measured position of the signal maximum in layers of the silicon strip detector, with respect to the nominal sampling point.
- Deviations are within ~1ns. Impact on signal amplitude is ~1%
- High resolution plots at  
  https://twiki.cern.ch/twiki/bin/view/CMSPublic/DPGResultsTRK
Map of the S/N in SST

- Contact: laura.borrello@cern.ch
- Measured value of the signal to noise ratio in the silicon strip detector.
- Two typical values: ~20 in thin sensors (300um) and ~30 in thick sensors (500um)
- High resolution plots at https://twiki.cern.ch/twiki/bin/view/CMSPublic/DPGResultsTRK

https://twiki.cern.ch/twiki/bin/view/CMSPublic/DPGResultsTRK
dE/dx in SST

- Contact: loic.quertenmont@cern.ch
- dE/dx measured in the silicon strip tracker versus track momentum.
  - Kaons, protons, deuterons and tritium are visible.
  - Red lines are Bethe-Bloch expectations extrapolated from a fit of the proton line.
  - Small deviation at large dE/dx from saturation.
- High resolution plots at https://twiki.cern.ch/twiki/bin/view/CMSPublic/DPGResultsTRK
dE/dx in SST

- Contact: loic.quertenmont@cern.ch
- dE/dx measured in the silicon strip tracker versus track momentum and charge.
  - Kaons, protons, deuterons and tritium are visible.
  - Charge asymmetry clearly visible for protons, deuterons and tritium.

High resolution plots at https://twiki.cern.ch/twiki/bin/view/CMSPublic/DPGResultsTRK