

Trigger Update

- Physics_pp_V1 menu now online – starting from data period E (run 160296 and later)
 - New streams!
 - Muons replaces MuonswBeam
 - Egamma and JetTauETmiss replace L1Calo
 - MinBias keeps the same name

- Egamma triggers have been re-tuned – starting from data period E1 (run 160387 and later)
 - Shower shape description in MC not perfect – cuts tuned on MC were rejecting few % W electrons
 - Cut on shower shape loosened to increase efficiency

- Muon trigger changes
 - L2 muon algorithm (muFast) thresholds tuned to improve efficiency in regions with low B field
 - Rate increase means we may need mu10_medium/_tight above $L=5 \times 10^{31} \text{cm}^{-2}\text{s}^{-1}$
 - L1_MU6 and L1_MU10 efficiency lower than expected – 5% effect in barrel, 10% effect in endcap
 - Changing HLT chains to be seeded from L1_MU0 instead of L1_MU6/10, to recover efficiency

- Bug found in jet triggers – HLT in passthrough, but rejects events where no jet was found
 - Lost 0.64% of events selected by L1_J5 (central), but 41% of events selected by L1_FJ5 (forward)
 - Affects only data period E and will be fixed soon (likely this week)

- Time-alignment of L1Calo towers in transition region between barrel and endcap
 - Currently triggering on presampler only before summing over presampler + barrel + endcap
 - Efficiency likely to change once this happens