Highlights

- The CMS experiment upgraded Level-1 trigger system to improve its performance and to operate within the predefined data-acquisition rate of 100 kHz at the instantaneous luminosity of 2×10^{34} cm^{-2}s^{-1}.
- Upgraded system is flexible for implementing further rate reduction and efficiency improvements with advancements of algorithms.
- For selecting events at the Level-1 trigger, a set of rules to express selection algorithm in an intuitive way has been introduced, e.g.
  dist{ JET32,MU0[MU-QLTY_DBLE] }[DPHI_MAX_0p4],
  computes distance of objects in curly brackets then apply $\Delta\phi$ cut.
- An algorithm is expressed in an abstract way to enable evolution of the Level-1 trigger algorithms.
- Automatic generation of selection algorithms both in firmware and in emulator will be possible from Level-1 trigger algorithm studies.