

Study of the Calorimeter Trigger Simulation for the Belle II experiment

The Belle II experiment is under final stage of construction at KEK in Japan to probe New Physics beyond the Standard Model by measuring CP violation phenomena and rare decays of beauty, charm quark and tau lepton particles. The experiment is being performed at the SuperKEKB collider that does operate 40 times higher instantaneous luminosity than the KEKB. As a severe beam background environment is highly anticipated in the SuperKEKB, a simulation study of the Belle II calorimeter trigger system is very crucial to develop an appropriate trigger algorithm for high trigger efficiency of physics events and online luminosity against the beam background generation. We report preliminary results on various trigger logics and efficiencies of physics and Bhabha events using the Belle II Geant4-based analysis framework called Basf2.

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Track Classification: Trigger and data acquisition systems