Contribution ID: **197** Type: **Poster**

Machine learning based tau lepton identification for the CMS high-level trigger deployed for 13.6 TeV proton-proton collisions

Thursday 18 July 2024 20:40 (20 minutes)

Tau leptons are very important objects for testing the predictions of the standard model, such as the characterization of the Higgs boson. Tau leptons are also vital in the search for beyond the standard model physics, as many models predict new particles which decay into final states with tau leptons. An efficient tau lepton trigger is therefore essential to maximize the physics reach of the CMS experiment. This talk will describe the latest online reconstruction algorithms used to trigger on tau leptons with the CMS detector that utilize machine learning based methods for the first time. The performance of the algorithms are validated using proton-proton data collected by the CMS detector at a center of mass energy of 13.6 TeV.

Alternate track

1. Computing, AI and Data Handling

I read the instructions above

Yes

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Session Classification: Poster Session 1

Track Classification: 14. Computing, AI and Data Handling