Contribution ID: **880** Type: **Poster**

Data-driven dilepton background estimation improvements for the Drell-Yan analysis at CMS

Friday, 19 July 2024 20:40 (20 minutes)

This poster will present the Drell-Yan differential cross-section measurement in the wide dilepton mass range of 40-3000 GeV. The measurement was done using 2016-2018 CMS experiment data. A special emphasis will be placed on the background estimation procedures in dielectron and dimuon measurements.

The precision measurements of the Drell-Yan process are important inputs to parton distribution function fits, perturbative QCD tests, searches for new physics and so on. Therefore, it is important to achieve the highest possible accuracy and precision.

Data-driven techniques were employed to estimate both prompt and non-prompt lepton backgrounds to keep the statistical and systematic errors as low as possible. We use eμ event sample and same-sign dilepton samples for prompt and non-prompt lepton background estimations respectively, with some improvements over the typical implementations. We will present these techniques in detail during the conference.

Alternate track

I read the instructions above

Yes

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Session Classification: Poster Session 2

Track Classification: 04. Top Quark and Electroweak Physics