Towards to the First Measurement of the Drell-Yan Dimuon Differential Cross Section with the CMS detector

Tuesday 28 July 2009 16:30 (20 minutes)

We present the strategy of the measurement of the differential cross-section of Drell-Yan dimuon production in early proton-proton collision data produced by the LHC accelerator at $\sqrt{s} = 10$ TeV and collected by the CMS detector. We study the Drell-Yan dimuon process for the whole mass range, starting around the Υ peaks, and going through the Z peak to the kinematic limit. Events at the Υ and Z peaks are used to measure the trigger and reconstruction efficiencies from data by tag-and-probe method. Methods for signal selection and background rejection in the different mass ranges, where the sources and magnitude of backgrounds change substantially, are developed. We also discuss the experimental and theoretical systematic uncertainties and the implication for discovery of new physics by searching for deviations.

Author: LIU, Chang (Purdue)

Presenter: LIU, Chang (Purdue)

Session Classification: Electroweak Physics I

Track Classification: Electroweak Physics [W/Z]