

Z-Boson Mass Reconstruction

Measurement of Standard Model Z-boson productions in the muon and anti-muon decay channel is presented. The data are collected from proton-proton collisions by the Compact Muon Solenoid (CMS) experiment at the Large Hadron Collider (LHC) in 2012, at the center-of-mass energy 8 TeV and integrated luminosity of 19.70 fb^{-1} . The kinematic variables e.g. transverse momentum, rapidity and azimuthal angle, of the reconstructed Z-bosons and their masses will be presented. The result shows a good agreement between the data and the Standard Model prediction. This study can provide the insight of perturbative Quantum Chromodynamics and can be used to constrain a major background for the Standard Model and beyond Standard Model searches.

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