

SM@LHC 2021

Contribution ID: 10

Type: not specified

Electroweak corrections to the angular coefficients of Z-boson production and decay at finite- p_T

Wednesday 28 April 2021 17:00 (10 minutes)

The five dominant angular coefficients A_i parametrizing the Drell-Yan process in the Z-boson mass range is examined, differentially in the dilepton transverse momentum p_T . The corresponding Lam-Tung relation $A_0 - A_2$ was previously found at ATLAS and CMS to deviate from SM higher-order QCD corrections. We investigate if this discrepancy can be due to electroweak effects by calculating the fixed-order NLO electroweak corrections to these coefficients and the Lam-Tung relation. This is done by extrapolating to a full phase space coverage of calculations performed with a single lepton transverse momentum cut. The electroweak effects on the distributions are found to be small but not negligible in the low- p_T range. Two of the coefficients are found to be highly sensitive to electroweak parameters. The Lam-Tung relation is found to have a significant contribution in the low- p_T region from these electroweak corrections.

Authors: FREDERIX, Rikkert (Lund University); VITOS, Timea (Lund University)

Presenter: VITOS, Timea (Lund University)

Session Classification: YSF