Particle Theory Seminar

B. Jantzen

PSI, Villigen

"Sudakov Logarithms for Neutral-Current Drell–Yan Processes at the LHC"

Thursday, March 13, 2008, 11:00 (!)

WBGB/021 (!)

Abstract:

The observation of Drell–Yan (DY) lepton pairs at the LHC will be an important tool for precision measurements, especially in the early phase of LHC with low luminosity. At high invariant masses of the lepton pair, the DY processes are backgrounds to new-physics searches, so precise theoretical predictions of the high-energy tails of the distributions are necessary. Recently QCD and electroweak corrections to charged- and neutral-current DY processes have been combined at the level of Monte Carlo programs. In this context the accuracy of the Sudakov approximation and its relevance for LHC predictions has been studied.
This talks reviews the calculation of the most precisely known two-loop prediction of electroweak Sudakov logarithms for neutral-current DY processes and presents results for differential partonic cross sections as well as for hadronic distributions.