



Séminaire du Laboratoire de l'Accélérateur Linéaire

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Calibration of the top quark mass parameter of Pythia 8.2

In the first part of my talk I explain the basic concepts of quark masses in field theory and how one can interpret the meaning of top quark mass parameter in a Monte-Carlo event generator. Since event generators are a mixture of QCD inspired input at high scales as well as models for non-perturbative interactions at low scales, the correct interpretation is related to mass definitions which provide an infrared cutoff for perturbative contributions, which makes them fundamentally different from the well-known pole mass definition. In the second part I discuss a novel approach to calibrate the top quark mass parameter of Pythia 8.2 via a hadron level QCD NNLL/NLO calculation of the e^+e^- 2-jettiness distribution. This observable is closely related to the invariant mass distribution of reconstructed top quarks that also dominates the hadron collider top reconstruction analyses, so that the calibration procedure can be applied directly in existing top mass reconstruction analyses.

Salle 101 du LAL - Bât. 200, Orsay

Thé et café seront servis 5 mn avant le séminaire



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