



Laboratório de Instrumentação e
Física Experimental de Partículas

Seminário LIP

Quinta Feira, 11 de Outubro 2018

11:30

NNLO QCD predictions for inclusive jet production at the LHC

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Fixed order perturbation theory has been a reliable tool for improving the accuracy of the Standard Model predictions and establish its range of validity. In this talk I will present the calculation of the next-to-next-to-leading order (NNLO) QCD corrections to inclusive jet production and related observables at hadron colliders. To perform the calculation we employ the antenna subtraction scheme which correctly captures the universal infrared (IR) singular behaviour of the double-real, real-virtual and double-virtual contributions enabling an analytic cancellation of IR singularities between real and virtual corrections at NNLO. High-precision differential QCD predictions are discussed and compared to recent measurements of jet production at the LHC. We show that the NNLO correction significantly reduces the scale uncertainty compared to next-to-leading order (NLO) opening the path towards jet precision QCD phenomenology with the LHC.

Local: Sala de Seminários (311)

LIP, www.lip.pt

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Café e bolinhos 30 min antes