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### **Experiences on QCD Monte Carlo simulations: a user point of view on the inclusive jet cross-section simulations**

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In the last couple of years important progresses in the simulation of the QCD high  $p_T$  processes have been carried out. In this talk, a review of the tools and techniques historically used to simulate QCD cross sections will be presented from a user point of view. The benchmark process selected for the discussion is the inclusive jet cross section. The talk will focus on the uncertainties of the Next to Leading Order (NLO) cross sections, on the strategies adopted to correct for the non perturbative effects such as the hadronization and the underlying event, and the new techniques derived during the last years to incorporate in a coherent way the NLO matrix elements in the Monte Carlo generators.

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