



Ідентифікатор подання: 109

Тип: Секційна доповідь

## Muon Pair Production in Proton Collisions at the LHC

*четвер, 29 травня 2025 р. 15:55 (20 хвилин)*

Muon Pair Production in Proton Collisions at the LHC

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Integral and differential cross sections for muon pair production in pp scattering are computed at energy  $s^{1/2}=13$  TeV. The hard parton processes with NpNLO and NpNLO+1 outgoing gluons or quarks for NpNLO = 0,...,3 are simulated with MadGraph5\_aMC@NLO. The generated events are showered with Pythia 8. For matching the matrix elements with the parton showers and merging the matrix elements with different multiplicities the MLM and FxFx approaches are employed as implemented in MadGraph and Pythia. Dependence of the cross sections on the scale parameter  $Q_{cut}$  and number of matched jets is discussed. The calculated cross sections are compared with results of the recent ATLAS, CMS and LHCb measurements at the LHC.

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**Тип засідання:** Теоретична ядерна фізика

**Класифікація за напрямком:** Теоретична ядерна фізика