GEANT4 simulation of p-p at 13 TeV

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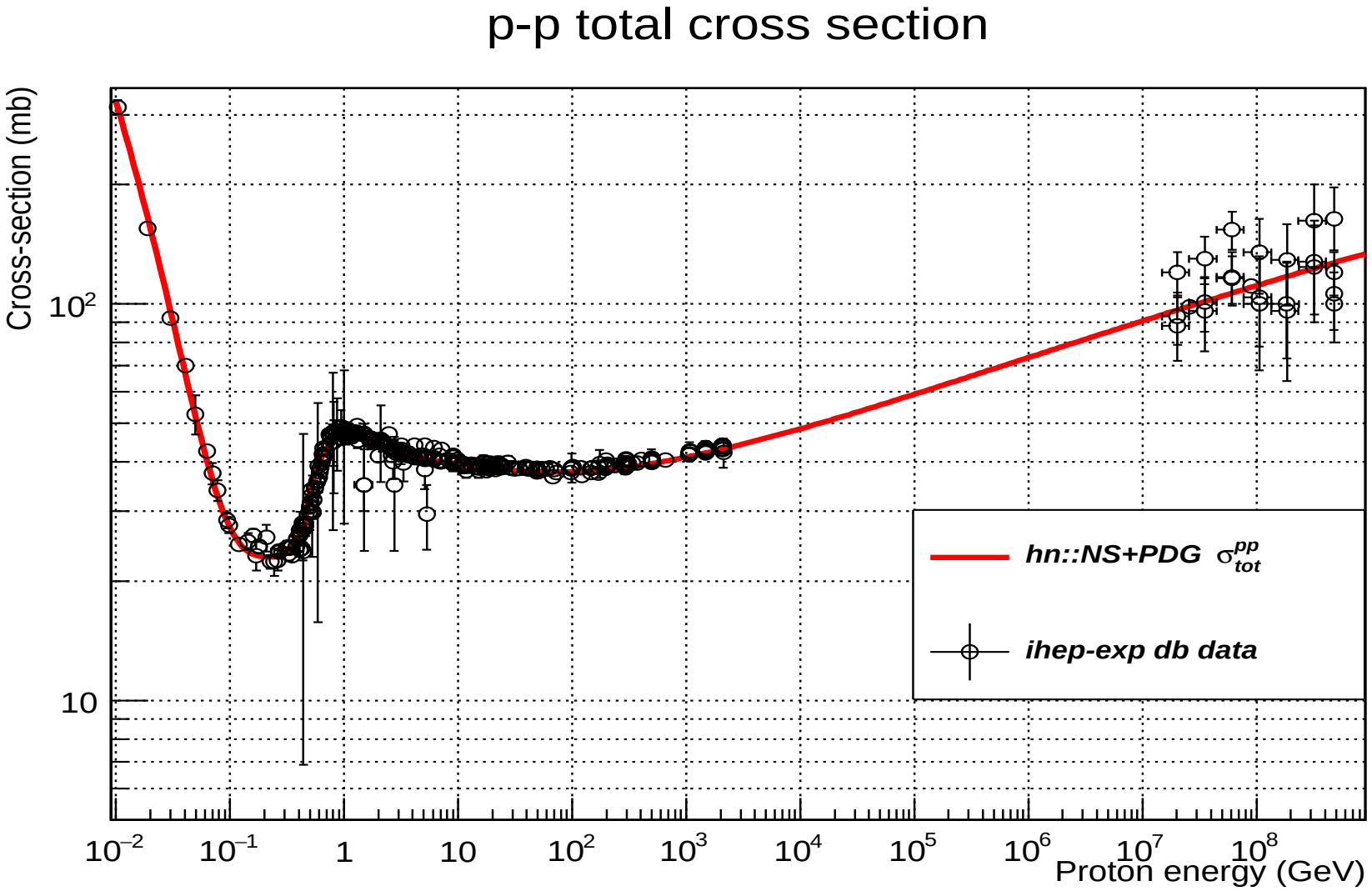
Abstract

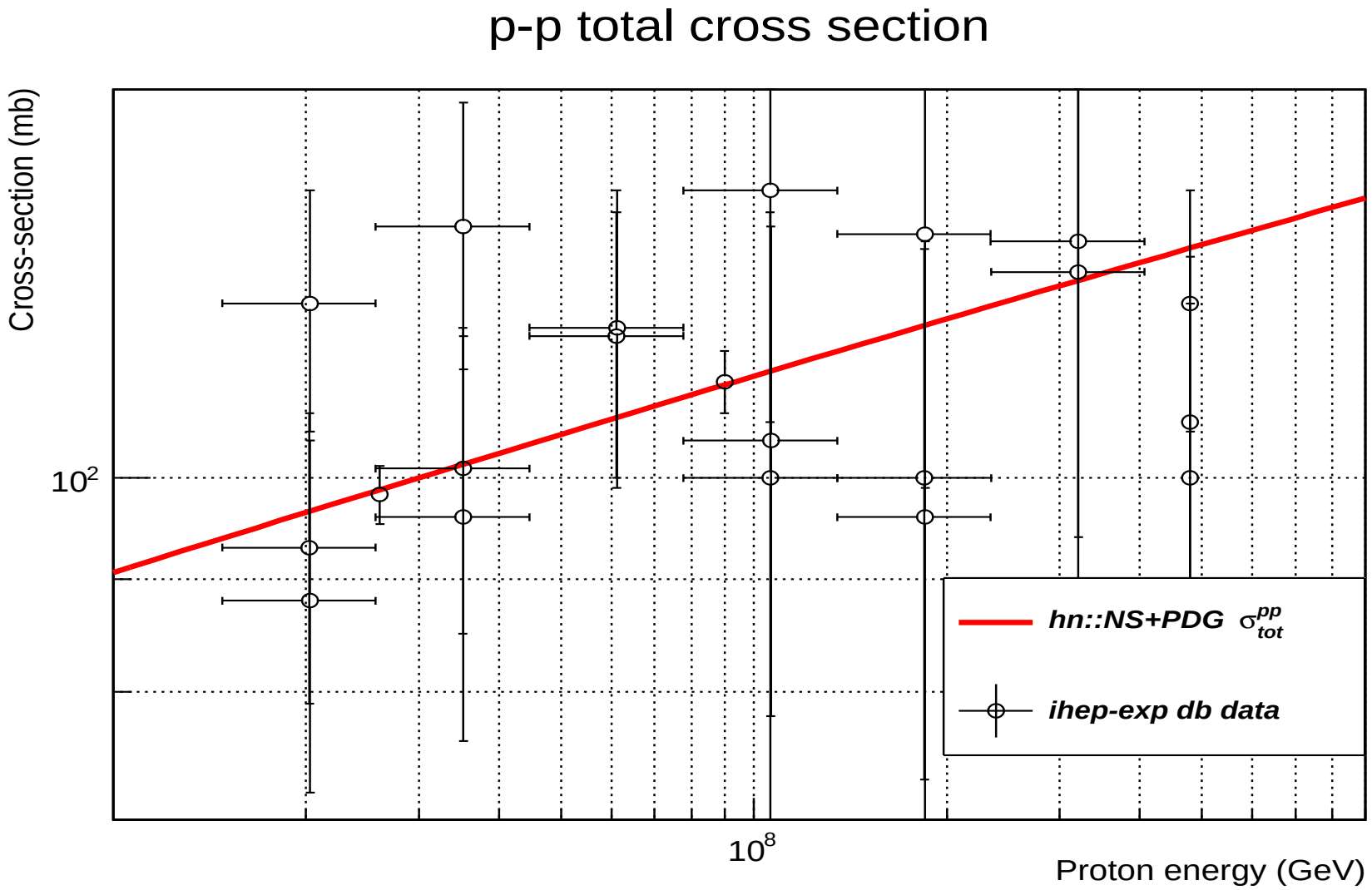
GEANT4 predictions for the total and differential elastic cross-sections at $\sqrt{s}$ =13 TeV are presented with comparison with recent TOTEM data.

1 Outline

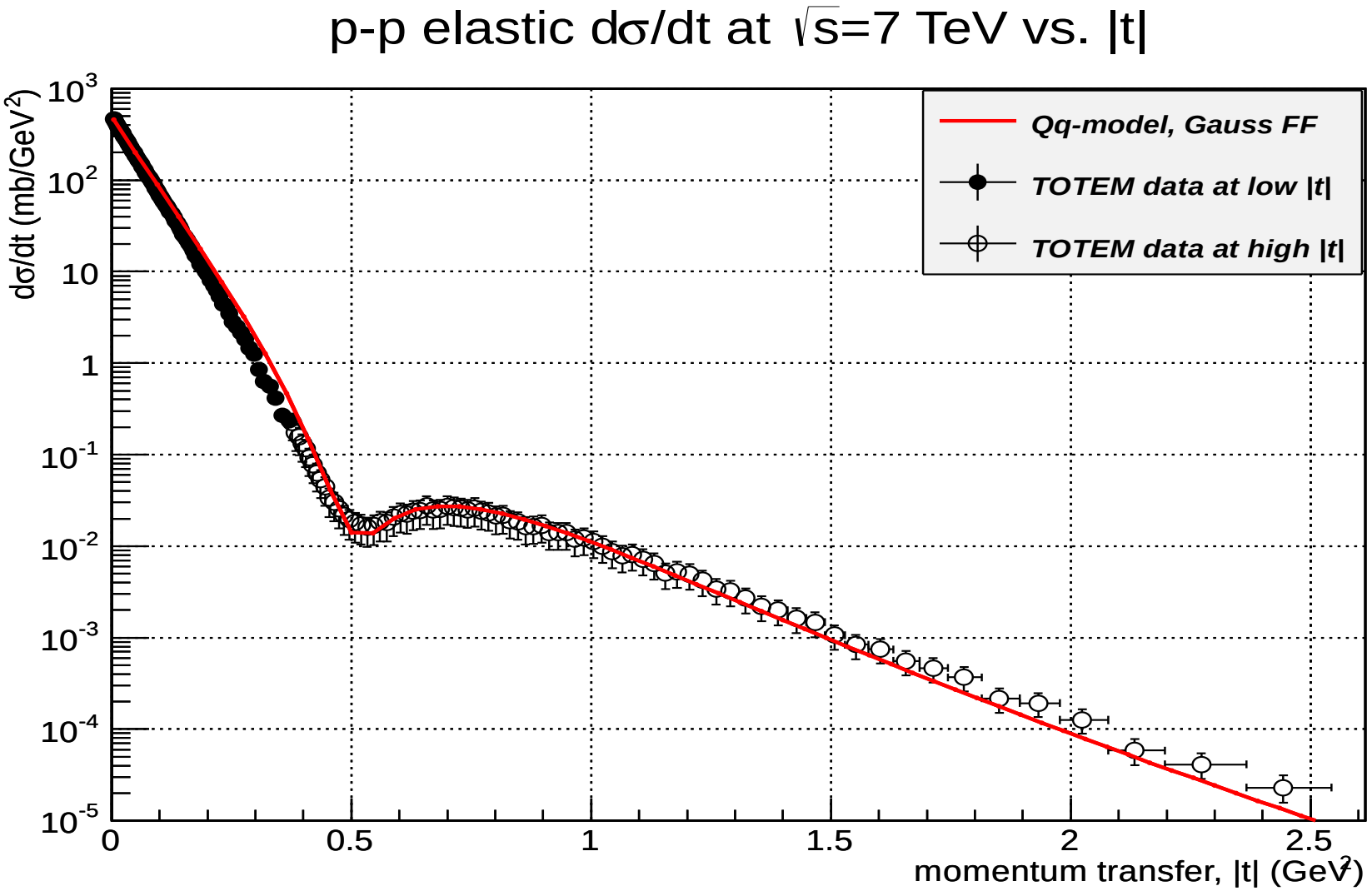
1. The total p-p cross-section at 13 TeV.
2. Differential elastic p-p cross-section at 13 TeV.
3. Summary.



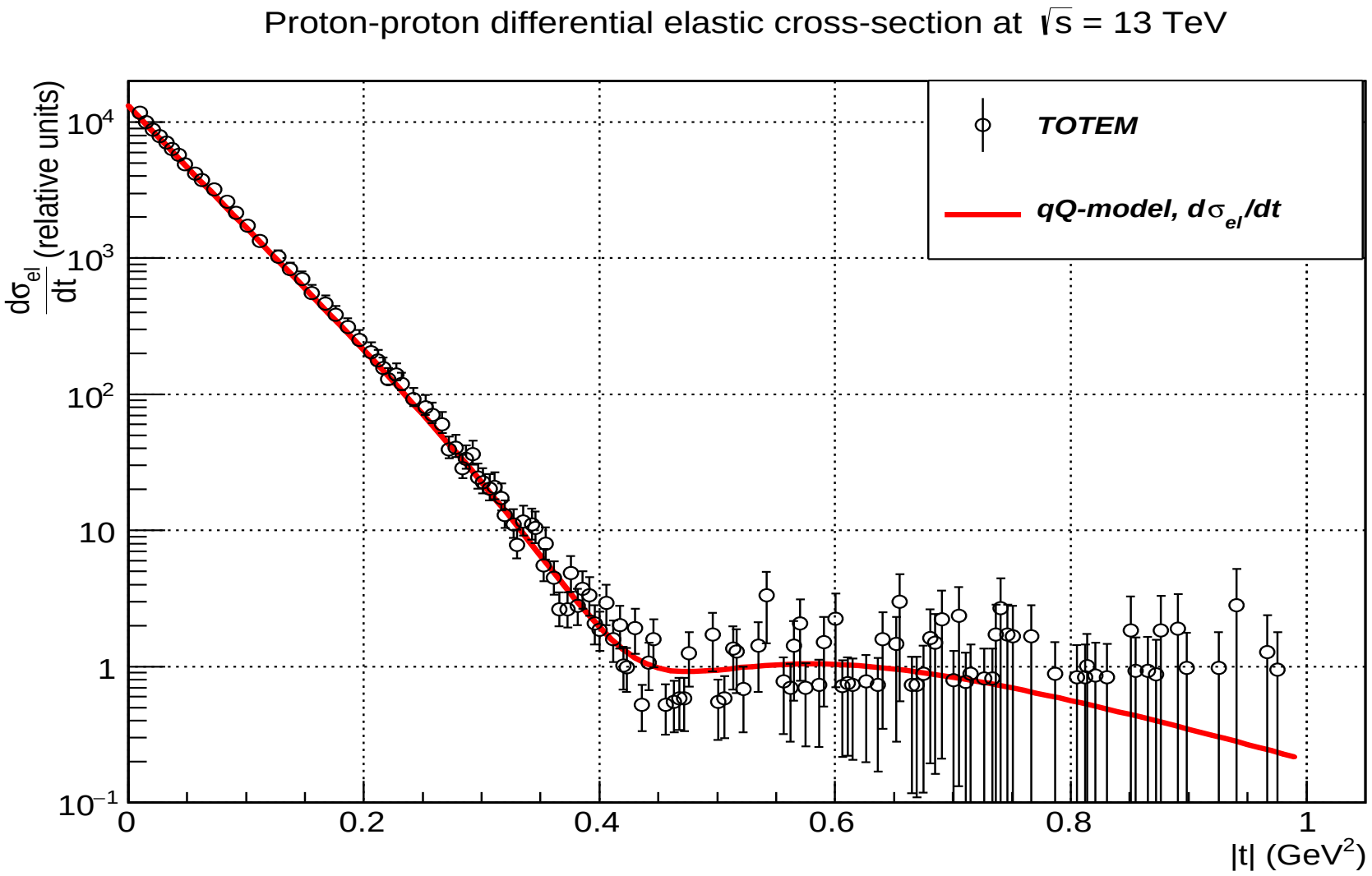
G4HadronNucleonXsc::GetHadronNucleonXscNS(const G4DynamicParticle*, const G4ParticleDefinition*)



13 TeV: GEANT4 - 110.222 mb, TOTEM - 110.6 ± 3.6 mb (LHCC, Nov. 2017)



GEANT4 G4hhElastic and TOTEM 7 TeV data (2014)



GEANT4 G4hhElastic and TOTEM 13 TeV data (LHCC, Nov. 2017)

2 Summary

1. GEANT4 predicts the total p-p cross section at 13 TeV with accuracy ∼1%.
2. The differential elastic cross section at 13 TeV is described with resonable accuracy.