SEMPARIS – Séminaires en région parisienne

`http ://string.lpthe.jussieu.fr/semparis/`

Particle Physics at LPTHE

Mardi 10 Octobre 2023, 14 :00
LPTHE, library
Domaines : hep-ph

Titre : *Next-to-leading power resummed rapidity distributions near threshold for Drell-Yan and diphoton production*

Orateur : **Guoxing Wang (LPTHE Paris)**

Résumé : *Recently, we consider Drell-Yan production and QCD-induced diphoton production and compute their rapidity distributions up to next-to-leading power (NLP) in the threshold variable. We give results for rapidity distributions of the Drell-Yan process up to NNLO accuracy and show that a factorised structure occurs for the leading logarithms (LL) at NLP, generalising the result at leading power. For diphoton production, we generalise methods based on kinematical shifts to find the NLO cross section up to NLP for rapidity distributions. From the results for these two processes, we derive resummed cross sections at NLP LL accuracy that are double differential in the threshold variable and the rapidity variable, which generalise results for single differential resummed cross sections. In this talk, I will first give a short review about the calculation of the cross section and the threshold resummation, and then focus on our new results at NLP for Drell-Yan and diphoton production process.*