LHCPhenoNet Workshop on Particle Physics

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Toward the Next-to-Eikonal Drell-Yan

Tuesday 23 April 2013 15:00 (30 minutes)

Summary

A new approach for the soft gluon resummation of gauge theory amplitudes developed few years ago manages to systematically include sub-eikonal corrections generally neglected for most of the processes. This so called Next-to-Eikonal theory, even being thoroughly explained both via a path integral and a diagrammatic approach, still needs to be implemented in some specific process.

The talk will focus on this first practical check of the theory: before trying to implement it in a fully resummed amplitude, a non trivial check is the matching of the new theory with a fixed order process such as the well known NNLO Drell-Yan.

After reviewing the derivation of the Next-to-Eikonal Resummation and the practical issues related to the implementation of its effective Feynman rules, the DY process will be taken into account, with particular emphasis on the matching procedure between the Full QCD and the effective approach and on the attempts to recover the known results from the standard calculation.

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