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Particle Physics at LPTHE

Mardi 7 Août 2018, 14 :00
LPTHE, Library
Domaines : hep-ph

Titre : *Energy-Energy Correlation : from Analytical Calculation to N3LL Resummation*

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Résumé : *Energy-Energy Correlation (EEC) is one of the early event shape observables proposed to test QCD at e+e- collider. It is defined as the pair energy correlation as a function of the angle between two hadrons. Being free of jet algorithm of jet axis dependence in its definition, EEC is an ideal observable for analytical calculation. In this talk, I will present the analytical results for EEC at the Next-to-Leading Order in QCD. This is also the first analytical results for any event shape observables in QCD to date. Then I will discuss EEC in the back-to-back limit, which probes the transverse structure of jets in e+e-. I will present a factorization formula which allows the resummation of large logarithms in this limit to Next-to-Next-to-Next-to Leading Logarithms.*