

Calculation for Non-global Logarithms with Neural Networks

Tuesday 21 July 2020 17:00 (9 minutes)

High-precision all-order calculations can only be performed for a narrow class of observables, which are sensitive to radiation over the entire final state phase-space. When phase-space boundaries are introduced, the resummation is affected by so-called non-global logarithms, which have an intricate all-order structure. In this talk, we present a first-principle calculation for the non-global logarithms, and some improvements for higher-order calculation and resummation are proposed with artificial neural networks, which can dramatically speed up needed theory calculations.

Authors: Mr WU, Chang (Università di Genova & INFN Genova); MARZANI, Simone (Università di Genova and INFN Genova); SPANNOWSKY, Michael (University of Durham (GB))

Session Classification: Session 6

Track Classification: Measurements and Calculations