

Séminaire de physique des particules et de cosmologie

Mardi 11/02/2020, 16:00

Orme des Merisiers Salle Claude Itzykson, Bât. 774

Kinetic theory and transport coefficients of hot QCD

Jacopo Ghiglieri

SUBATECH Nantes

One of the main findings of the experimental program on ultrarelativistic heavy ion collisions is that the produced medium appears to have a very small shear viscosity to entropy ratio. After an introduction to the subject I will review the challenges in the theory description, focussing in particular on the effective kinetic theory approach, which allows to compute both the transport coefficients, such as the shear viscosity, and the medium modifications to jets, another striking finding of the experimental program.

After introducing the main features of the kinetic framework, which requires the assumption of weak coupling, I will review the recent results in extending such approach to next-to-leading order, so that one can estimate the uncertainties that arise when extrapolating to realistic couplings.
