



# 19th International Conference on QCD in Extreme Conditions (XQCD 2023)

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## Propagation of gauge fields in hot and dense plasmas at higher orders

*Thursday, July 27, 2023 4:00 PM (25 minutes)*

Thermal field theory is indispensable for describing hot and dense systems. Yet perturbative calculations are often stymied by a host of energy scales, and tend to converge slowly. This means that precise results require the apt use of effective field theories. In this talk I describe how the effective description of slowly varying gauge fields, known as hard thermal loops, can be extended to higher orders. I also discuss how to consistently define asymptotic masses at higher orders; and how to treat spectral functions close to the lightcone.

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