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QCD Debye mass at 3 loops: structure of the integrand

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Content

The long-standing infrared problem that seems to obstruct weak-coupling determinations of the hot QCD pressure has been overcome by a systematic use of dimensionally re- duced effective theories (drEFT), essentially mapping the problem to determining one non- perturbative contribution plus a number of purely perturbative matching coefficients.

We focus on the latter problem and propose to apply a systematic integrand mapping algorithm that has recently been successfully applied to one of those matching coefficients [1] to the determination of the so-called Debye screening mass that describes the screening of color-electric gluonic modes in the hot QCD plasma.

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