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Adjoint chromoelectric correlators for heavy quarkonium diffusion

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The real time evolution of a heavy particle in a strongly coupled plasma is determined by transport coefficients, such as the diffusion coefficient κ and γ . While, in the fundamental representation, the heavy quark diffusion is well studied, the diffusion of adjoint quarks or quarkonium has not yet been fully explored on the lattice. In a suitable NREFT description of QCD, κ can be related to the chromoelectric correlator and the first mass-suppressed correction can be extracted from the chromoagnetic correlator. γ is related to an integral over the chromoelectric correlator after subtracting the zero temperature correlator contribution, which is also related to gluelump masses and P-wave decay of heavy quarkonium.

We present results of the adjoint chromoelectric correlators at finite T under gradient flow and compare them to results from multilevel calculations.

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