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The gradient flow coupling from numerical stochastic perturbation theory

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The perturbative calculation of gradient flow observables is technically challenging. Current results are in fact limited to a few quantities and, in general, to low perturbative orders. Numerical stochastic perturbation theory is a potentially powerful tool that may be applied in this context. Precise results using these techniques, however, require control over both statistical and systematic uncertainties. In this talk we discuss how the recent algorithmic developments of these methods substantially ameliorate the cost for such precise computations. As an illustration we then present results for the two-loop matching of the gradient flow coupling in finite volume with Schroedinger functional boundary conditions and the \overline{MS} coupling.

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