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Parton Distribution Functions in the Schwinger Model with Tensor Network States

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Parton Distribution Functions (PDFs) describe universal properties of bound states and allow to calculate scattering amplitudes in processes with large momentum transfer. Calculating PDFs involves the evaluation of correlators involving a Wilson line in lightcone-direction. In contrast to Monte Carlo methods in euclidean spacetime, these correlation functions can be directly calculated in the Hamiltonian formalism. The necessary spatial- and time-evolution can be efficiently applied using established tensor network methods. In this talk I will give an introduction to PDFs and tensor network states, and discuss how we study PDFs in the Schwinger model using matrix product states.

Please choose your flavour

Quarks

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