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Implementing noise reduction techniques into the OpenQxD package

Friday, 30 July 2021 06:45 (15 minutes)

To facilitate future efficient calculation of the connected and disconnected parts of the vector-vector correlator and other observables in QCD+QED with C* boundary conditions, dilution and distillation noise reduction techniques were implemented into the OpenQxD program. To find the low-lying eigenmodes of the gauge-covariant Laplacian that form the distillation sub-space, the PRIMME eigensolver was embedded into the package. I will present the dependence of the efficiency of the calculation on the dilution and distillation parameters.

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Session Classification: Algorithms (including Machine Learning, Quantum Computing, Tensor Networks)

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