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Towards Quantum Simulations of Nuclear Reactions

Thursday, December 12, 2024 9:50 AM (25 minutes)

Digital and analog Quantum Computing provide in perspective an exceptional natural tool to solve time-dependent quantum many-body problems. A straightforward application might be that of predicting the outcome of nuclear reactions in a completely non-perturbative way once the nucleon-nucleon interaction Hamiltonian is given. In this talk some first attempt to implement, at least this scheme in a partial way and on test cases will be illustrated. In particular the potential achievements will be presented together with the current limitations and some strategies that can be used to go towards the solution of problems of interest.

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