

XVth Quark Confinement and the Hadron Spectrum



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Quantum Computing: a future perspective for scientific computing

Monday 19 August 2024 10:00 (30 minutes)

Quantum computing is a novel and promising way to solve problems that are extremely hard or even impossible to address with classical computers.

We will discuss applications of quantum computing particularly for high energy and nuclear physics.

This concerns theoretical models from lattice gauge theories in 1+1- and 2+1-dimensions with the prospect to eventually reach 3+1-dimensional models, relevant for the standard model and beyond. We will discuss, how such models can be formulated for a quantum computation and provide examples for real hardware simulations including real time phenomena and sign problem afflicted situations as carried out already today.

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