

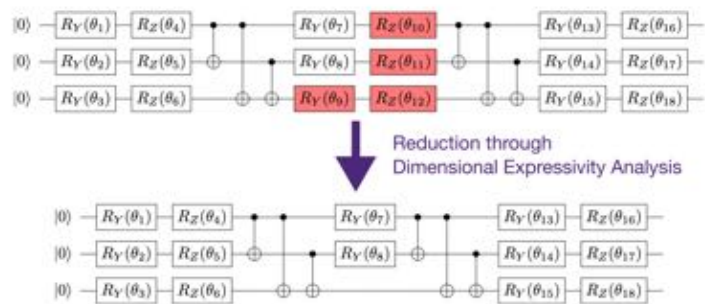
Friday, 15.12.2023, 1:15 p.m.
in Lecture Hall I of the Physics Institute



Lena Funcke
Bonn University

„Quantum Algorithms for Particle Physics“

In this talk, I will review recent advances in applying quantum computing to particle physics. Quantum technology offers the prospect to efficiently simulate sign-problem afflicted regimes in lattice field theory, such as the presence of topological terms, chemical potentials, and out-of-equilibrium dynamics. The path towards quantum simulations of (3+1)-dimensional particle physics requires many incremental steps, including algorithmic development, methods for circuit design, and hardware improvement.



After reviewing these requirements and recent developments, I will discuss the main challenges and future directions.

Everybody is welcome, especially students of all semester

Coffee and tea will be available after the colloquium.