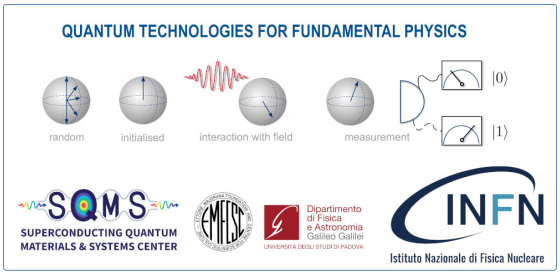

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The Quantum Price of Particle Physics

Wednesday, 6 September 2023 09:50 (25 minutes)

Fundamental obstacles are believed to prevent classical computers from ever producing /ab initio /theoretical predictions for certain cross-sections and transport coefficients at particle colliders and in the early universe. While quantum computers could overcome these obstacles, the current resources estimates for /quantum practicality/ in particle physics are large. In this talk, we will review these estimates and state-of-the-art calculations. A small discussion of possible hardware and algorithmic methods for reducing these costs – and thus accelerating the timeline for quantum practicality – will be had.

Presenter: LAMM, Hank (Fermilab)

Session Classification: Quantum Computation and Simulation