

Quantum error mitigation for Physics and vice versa

First, I will describe a specific quantum error mitigation scheme designed for parametric circuits accessible by classical computations in some range of their parameters. I will demonstrate the work of the scheme on the example of the 4-spin anti-ferromagnetic Ising model in the transverse field, and discuss possible applications to the sign problem in Monte Carlo simulations.

Then, I will indicate relations between quantum error mitigation and perturbative computations and will introduce a concept of error mitigation based on the variational perturbation theory.

Presenter: SAZONOV, Vasily (CEA-LIST)