

## Statistical method for quantum estimation algorithms

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## Abstract

In this talk I will present some quantum algorithms that incorporate statistical methods for lowering the required number of entangling gates as well as the number of qubits, while maintaining quantum advantage to estimate target quantities. As a particular example, I will present the quantum-enhanced mean-value estimation algorithm; namely, the quantum algorithm for estimating the mean value of physical observables with less number of queries compared to the conventional approach.