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Simulation of quantum models with physical and logical qubits (25+5)

Tuesday, January 14, 2025 2:20 PM (30 minutes)

Progress in quantum computing with neutral atom qubits has advanced rapidly with the development of large 2D arrays and high fidelity entangling gates. We have used an array of Cs atom qubits to demonstrate a variational simulation of the Lipkin-Meshkov-Glick model incorporating noise mitigation techniques. In further work we have used a small error detecting code to implement a prototype Anderson Impurity Model ground state solver to demonstrate lower errors using encoded logical qubits.

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