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## Scalar quantum electrodynamics with Rydberg atoms

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We review recent suggestions to quantum simulate scalar electrodynamics (the lattice Abelian Higgs model) in 1+1 dimensions with rectangular arrays of Rydberg atoms. We show that platforms made publicly available recently allow empirical explorations of the critical behavior of quantum simulators. We discuss recent progress regarding the phase diagram of two-leg ladders, effective Hamiltonian approaches and the construction of hybrid quantum algorithms targeting hadronization in collider physics event generators.

### Topical area

Quantum Computing and Quantum Information

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