

Abstract Submitted
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Discrete Symmetries of Symmetric Hypergraph States¹ CHASE YETTER, Lebanon Valley College, LVC MATHEMATICAL PHYSICS GROUP TEAM — Hypergraph states are a generalization of graph states, which have proven to be useful in quantum error correction and are resource states for quantum computation. Quantum entanglement is at the heart of quantum information; an important related study is that of local unitary symmetries. In this project, I have studied discrete symmetries of symmetric hypergraph states (that is, hypergraph states that are invariant under permutation of qubits). Using computer aided searches and visualization on the Bloch sphere, we have found a number of families of states with particular symmetries.

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