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Only *n*-qubit Greenberger-Horne-Zeilinger states contain *n*partite information¹ SCOTT WALCK, DAVID LYONS, Lebanon Valley College — The generalized *n*-qubit Greenberger-Horne-Zeilinger (GHZ) states and their local unitary equivalents are the only pure states of *n* qubits that are not uniquely determined (among arbitrary states, pure or mixed) by their reduced density matrices of n - 1 qubits. Thus, the generalized GHZ states are the only ones containing information at the *n*-party level.

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