

## Local Invariants for a Class of Tripartite Quantum Mixed States

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Abstract: We study the equivalence of tripartite mixed states under local unitary transformations. The nonlocal properties for a class of tripartite quantum states in  $\{\mathbb{C}\}^K \otimes \{\mathbb{C}\}^M \otimes \{\mathbb{C}\}^N$  composite systems are investigated and a complete set of invariants under local unitary transformations for these states is presented. It is shown that two of these states are locally equivalent if and only if all these invariants have the same values.

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Key words: tripartite quantum states, local unitary transformations, entanglement, invariants

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