

## Teleportation of an Arbitrary Two-Particle State by Two Partial Entangled Three-Particle GHZ States

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**Abstract:** We present a scheme for teleporting an unknown arbitrary two-particle state from a sender to either one of two receivers. The quantum channel is composed of two partial entangled three-particle GHZ states. An unknown arbitrary two-particle state can be perfectly teleported probabilistically if the sender performs two generalized Bell-state measurements and each receiver introduces an appropriate unitary transformation with the help of the other receiver's Hadamard operations and simple measurements.

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**Key words:** probabilistic teleportation, arbitrary two-particle state, unitary transformation, Hadamard operation

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