Probabilistic Teleportation of a Four-Particle Entangled State

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Abstract: A Scheme for teleporting an unknown four-particle entangled state is proposed via entangled swapping. In this scheme, four pairs of entangled particles are used as quantum channel. It is shown that, if the four pairs of particles are nonmaximally entangled, the teleportation can be successfully realized with certain probability if a receiver adopts some appropriate unitary transformations.

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