

## Remote Preparation of a Two-Particle Entangled State by a Bipartite Entangled State and a Tripartite Entangled W State

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(Received: 2006-2-8; Revised: 2006-11-1)

**Abstract:** We propose a scheme to remotely prepare a general two-particle entangled state by using a bipartite entangled state and a tripartite entangled W state as the quantum channel. Our scheme consists of one sender and two remote receivers. The sender can help either one of the receivers to remotely reconstruct the original state with the assistance of the other receiver's single-particle orthogonal measurement. We obtain the total success probability and discuss the classical communication cost in our remote state preparation scheme.

PACS: 03.67.-a, 03.67.Mn

**Key words:** remote state preparation, W state, projective measurement, unitary transformation

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