

Controlled Teleportation of an Unknown N-qubit Entangled GHZ State

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(Received: 2006-7-12; Revised: 2006-9-30)

Abstract: A scheme for controlled teleportation of an unknown N-qubit entangled GHZ state from the sender Alice to the distant receiver Bob is proposed. And m-qubit GHZ state is sufficient for the task of control by m spatially-separated supervisors. Conditioned on the local operations executed by all participants, Bob can faithfully restore the original state by performing relevant unitary transformations with the aid of some classical message about measurement results. Anyone's absence will absolutely lead to the failure of teleportation.

PACS: 03.67.Hk, 03.65.Ud

Key words: quantum information, quantum teleportation, entangled GHZ state, Bell state measurement

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