عنوان مقاله:

Teleportation via an Entangled Coherent Channel and Decoherence Effect on This Channel

محل انتشار:

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خلاصه مقاله:

We study an entangled two-mode coherent state within the framework of۲×۲-dimensional Hilbert space. We investigate the problem of quantum teleportation ofa superposition coherent state via an entangled coherent channel. By three differentmeasures with the titles ``minimum assured fidelity (MASF)", ``average teleportationfidelity" and ``optimal fidelity (f)" we study the quality of this kind of teleportation.Decoherence properties of the entangled coherent state due to channel losses areanalysed. For a symmetric noise channel, the degradation of optimal fidelity and degreeof entanglement are calculated. Also by two different measures with the titles``concurrence" and ``entanglement of formation" we study the amount of entanglementof a decohered quantum channel and discuss its details. We demonstrate thatentanglement of the decohered entangled coherent state is reduced but not throughlylost. Finally we find that the optimal fidelity of the decohered entangled coherent state ismore than the classical limit and .the decohered entangled coherent state may be usefulfor quantum teleportation

کلمات کلیدی:

Coherent states, Teleportation, Fidelity, Concurrence