2007 Vol.47 No.6 pp.1029-1032 DOI:

Entanglement Capacity of Two-Qubit Unitary Operator with the Help of Auxiliary System

HU Bao-Lin and DI Yao-Min

Department of Physics, Xuzhou Normal University, Xuzhou 221116, China
(Received: 2006-7-12; Revised: 2006-8-30)

Abstract: The entanglement capacity of general two-qubit unitary operators is studied when auxiliary systems are allowed, and the analytical results based on linear entropy when input states are disentangled are given. From the results the condition for perfect entangler, $\alpha_1=\alpha_2=\pi/4$, is obtained. Contrary to the case without auxiliary system, the parameter α_3 may play active role to the entanglement capacity when auxiliary systems are allowed.

PACS: 03.65.Ud, 03.67.Mn
Key words: unitary operator, entanglement capacity, linear entropy, auxiliary system

[Full text: PDF]

Close