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Abstract
1984, the famous quantum key exchange scheme (BB84) is proposed by Bennett and Brassard. However, they can not prove the security characteristic of BB84 scheme. Since then, more and more scholars invested the research of the quantum cryptography. Until 2000, Shor and Preskill proposed a simple proof method to prove that BB84 scheme has the unconditional security. To provide the unconditional security, BB84 protocol will waste about half of quantum bits to authenticate the identify each other. In order to improve the above drawback, two quantum key agreement protocols based on quantum teleportation are proposed in this paper. These proposed schemes are not only to reach the same security level as BB84 but also to improve the accuracy of transmitting.
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