

Enhanced quantum multi-signature protocol based on controlled teleportation

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Abstract—The multi-user quantum signature protocol makes the message can be signed by more than one signatory and verified by the verifier. In this paper, we put forward an enhanced quantum multi-signature scheme based on Bell states and the controlled quantum teleportation. Compared to the previous multi-signature schemes, our protocol can offer higher security guaranteed by the fundamental laws of physics. While ensuring the nice security of the protocol we also pay attention to keeping its efficiency. Moreover, the scheme is more feasible with the present-day technique.

Keyword—quantum cryptography, quantum communications, quantum signature, multi-signature, controlled teleportation.



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