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Finite-size key security of Phoenix-Barnett-Chefles 2000 quantum-key-distribution protocol

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Abstract :

Based on the post-selection technique which was introduced by Christandl, König and Renner [Phys Rev. Lett. 102, 020504 (2009)] in order to simplify the security of quantum key distribution schemes, we study the security of the Phoenix-Barnett-Chefles 2000 quantum key distribution protocol. The postselection technique has been proposed and some examples have been shortly described in the literature. Therefore, we present the details of the security proof for a specific realistic protocol. We also give bounds on the secret key rates for the Phoenix-Barnett-Chefles 2000 protocol by using the post selection technique when given a finite amount of resources.

Award :

No

Level :

PhD

Supervisor :

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Paper :

No

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