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Simplified channel authentication algorithm for secure quantum key distribution (Conference Paper)

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Abstract

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Quantum key distribution (QKD) is characterized by the implementation of the principles of quantum mechanics in distributing the symmetric cryptographic key between two communicating stations. The quantum channel through which a light beam travels and then examined quantum-mechanically is governed by several quantum cryptographic protocols. This paper presents a simplified algorithm of the quantum authentication process (QAP) of the six-state deterministic quantum protocol (6DP). The proposed setup replaces the nonlinear crystal BBO which is responsible for the second harmonic generation process with a simple polarization splitting using Glan Thompson Polarizer (GTP). © 2014 IEEE.

Author keywords

authentication cryptography deterministic distribution key polarization protocol quantum

Indexed keywords

Engineering controlled terms: Algorithms Authentication Communication channels (information theory) Cryptography Harmonic generation Mobile security Network protocols Nonlinear optics Polarization Quantum theory

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