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Proceedings - 5th International Conference on Computer and Communication Engineering: Emerging Technologies via Comp-Unication Convergence, ICCCE 2014

4 February 2015, Article number 7031664, Pages 308-311

5th International Conference on Computer and Communication Engineering, ICCCE 2014; Sunway Putra HotelKuala Lumpur; Malaysia; 23 September 2014 through 24 September 2014; Category numberE5413; Code 110844

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

Elwadeya, M.Y.K., Al-Khateeb, K.A.S. [✉](#), Hasbullah, N.F. [✉](#)

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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

Authentication
algorithm

deterministic

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Volume Editors: Gunawan T.S.
Sponsors: Felda Wellness Corporation, Malaysia
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