Patent Search

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Abstract:

The present invention discloses a space-based quantum communication system and working method thereof. The system and method for secure communication wi based quantum communication system is described. The present invention comprises of a photon pair on quantum communication satellites. Subsequently, Quantu Distribution (QKD) is initiated, establishing secure communication links between these satellites and ground-based quantum communication stations. Encrypted data transmitted between the satellites and ground stations, forming a secure communication channel. To ensure the integrity of this quantum communication system, re monitoring and authentication measures are implemented. Moreover, an additional layer of security is introduced by detecting anomalies or potential security threat data transmission. Accompanied Drawings [FIG. 1-2]

Complete Specification

Description:[001] The invention, in general, relates to systems and methods for maintaining secure communications between two parties. More specifically, the pre invention relates to a space-based quantum communication system and working method thereof.

BACKGROUND OF THE INVENTION

[002] The following description provides the information that may be useful in understanding the present invention. It is not an admission that any of the informati provided herein is prior art or relevant to the presently claimed invention, or that any publication specifically or implicitly referenced is prior art.

[003] In the modern warfare and national security, secure and tamper-proof communication is of paramount importance. Conventional communication systems, in those relying on classical encryption techniques, have faced increasing challenges from advanced cyber threats employed by adversaries. Also, data breaches and cyberattacks can have catastrophic consequences, defence agencies require communication solutions that are fundamentally secure and resilient to attacks.

[004] The ability to protect classified and sensitive defence data is central to maintaining national security and sovereignty. Hence, the need for protecting sensitive and defence-related information has driven the development of advanced technologies, with quantum communication emerging as an innovative solution.

[005] Also, existing cases of secure communication systems, a necessity existed for either a free-space or fibre link to be present between two nodes or between bo nodes and a shared relay. Discovering solutions to overcome this constraint would be immensely beneficial. The present invention aims to address the challenge of developing an encryption technology that cannot be compromised.

[006] Accordingly, on the basis of aforesaid facts, there remains a need in the prior art to provide a space-based quantum communication system and working meth thereof. Therefore, it would be useful and desirable to have a system, method, apparatus and interfaces to meet the above-mentioned needs.

View Application Status