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(57) Abstract :
The present invention relates to a quantum-resistant cryptographic system and method for secure data transmission, designed to safeguard digital communications against quantum computing threats. The system integrates lattice-based key exchange, hybrid encryption, hash-based digital signatures, secure key management, and error correction techniques to ensure confidentiality, integrity, and authentication of transmitted data. By leveraging post-quantum cryptographic algorithms, the invention provides robust security for critical applications, including financial transactions, government communications, cloud computing, and IoT networks. The system is designed for scalability and adaptability, ensuring compatibility with existing infrastructures while enabling a seamless transition to quantum-safe security frameworks. Accompanied Drawing [FIGS. 1-2]

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