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(54) **ARTIFICIAL INTELLIGENCE POST-QUANTUM ENCRYPTION METHOD AND ARTIFICIAL INTELLIGENCE POST-QUANTUM ENCRYPTION APPARATUS**

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(57) **ABSTRACT**

Disclosed is a data encryption method performed by an apparatus, which includes encrypting plaintext data based on an encryption key to generate first ciphertext data, applying a noise vector being periodically extracted to an artificial intelligence-based generative model to generate a first signature code and a second signature code, and applying the first signature code and the second signature code to the first ciphertext data to generate second ciphertext data. The generating of the first signature code includes determining a type and a replacement location of a character necessary to generate the first signature code by means of a predetermined conversion formula and generating a first character, which is obtained by calculating an existing encryption character being present at the replacement location in the first ciphertext data and the character in a predetermined scheme, as the first signature code.