Transform Techniques for Cryptography

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Abstract

Laplace transform has many applications in various fields such as Mechanics, Electrical circuit, Beam problems, Heat conduction, Wave equation, Transmission lines, Signals and systems, Control systems, Communication systems, Hydrodynamics, Solar systems. In this paper we discuss its new application to cryptography. Cryptography is used for securing transmission of messages, protection of data which provide privacy and security for the secret information. Applications of cryptography includes in e-commerce; electronic communications such as mobile communications, sending private emails; business transactions; Pay-TV; transmitting financial information; security of ATM cards; computer passwords etc, which touches on many aspects of our daily lives.

In this paper we developed a new method of cryptography, in which we used Laplace transform of suitable function for encrypting the plain text and corresponding inverse Laplace transform for decryption.

Key words: Cryptography, Data encryption, Applications to coding theory and cryptography, Algebraic coding theory; cryptography, Laplace Transforms.

Mathematics Subject classification: [94A60, 68P25, 14G50, 11T71, 44A10]