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ROLL OF DOUBLE SINGLY INFINITE LAPLACE TRANSFORM (SIL-FM RELATION) IN ENGINEERING

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ABSTRACT

The integral transform have played a central role in every aspect of applied mathematics for a very long time and have assumed a greater significance with the advent of the computers and advanced software. There are several transforms which are used to solve differential equations arising in engineering problems. These include Laplace, Mellin, Fourier, and fractional Fourier transform etc.

In this paper, double singly infinite Laplace transform is shown to be equivalent to the singly infinite Laplace-finite Mellin transform (SIL-FM). Then we will focus on the general properties of the singly infinite Laplace-finite Mellin transform and shows how the derivative property is useful for the illustration of Telegraph equation and radio equation using SIL-FM transforms.

KEYWORDS: Double Singly Infinite Laplace Transforms, Mellin Transform, Radio Equation, Singly Infinite Laplace Transforms, Singly Infinite Laplace-Finite Mellin Transform **(SIL-FM)**, Telegraph Equation