Use of Integral Transformations in Analysis

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For more than two decades, the integral transformation method has been used for solving problems in mathematics, physics and engineering. The integral transformations that have found wide use in mathematics are Laplace and Fourier Transformations.

In this presentation, the generalized integral transformations will be introduced after the short history of the integral transformations is given. It is to be understood that the integral tables can be extended through Parseval-Goldstein type relations between the transformations such as the generalized Laplace, Hankel, Widder and Stieltjes. In addition, examples will be given of the use of generalized integral transformations in solving problems involving ordinary and partial differential equations.