

**CERTAIN INTEGRAL TRANSFORM OF PATHWAY  
FRACTIONAL INTEGRAL OPERATOR ASSOCIATED WITH  
THE PRODUCT OF  $(p, q)$ -EXTENDED BESSEL FUNCTION AND  
GENERALIZED  $k$ -STRUVE FUNCTION**

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**Abstract:** Motivated by a recent work on Pathway fractional integral operator associated with the generalized  $k$ -Struve function, this paper establishes five theorems by using Pathway fractional integral operator involving the product of the  $(p, q)$ -Extended Bessel function and Generalized  $k$ -Struve function, supported by several auxiliary lemma. The results are expressed in terms of the  ${}_{r+k}F_{s+k}$  and generalized  $k$ -Wright function  ${}_r\psi_s^k$ . Some new and known results are also obtained in special cases of main results. Then, their certain Integral transforms including Jafari transform via Pathway Fractional Integral formulas Involving Product of  $(p, q)$ -Extended Bessel function and Generalized  $k$ -Struve Function.

**Keywords and Phrases:** Pathway Fractional Integral Operator,  $(p, q)$ -Extended Bessel function and Generalized  $k$ -Struve function,  $(p, q)$ -Extended generalized hypergeometric function and Generalized Wright function, Jafari transform.

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## 1. Introduction

The fractional calculus is a field of applied mathematics that deals with the fractional derivative and integrals of arbitrary orders. Fractional calculus operators