



# SAIGO FRACTIONAL $q$ -INTEGRAL OPERATOR INVOLVING GENERALIZED $q$ -MITTAG-LEFFLER FUNCTION

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**Abstract.** This paper aims to derive the images of the generalized  $q$ -analogue of Mittag-Leffler functions, in which its argument contains a factor  $x^\rho (xq^{-\lambda} + \xi)^{-\sigma}$ , under the Saigo fractional  $q$ -integral operator. The derived findings are of a general nature and include special cases like Weyl  $q$ -integral operator, Kober  $q$ -integral operator, and Riemann–Liouville  $q$ -integral operator. Additionally, we have consider specific cases to explain how to apply our primary results.

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