



# A new Kontorovich-Lebedev-like transformation

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A different application of the familiar integral representation for the modified Bessel function drives to a new Kontorovich-Lebedev-like integral transformation of a general complex index. Mapping and operational properties, a convolution operator and inversion formula are established. Solvability conditions and explicit solutions of the corresponding class of convolution integral equations are exhibited.

Subjects: **Classical Analysis and ODEs (math.CA)**

MSC classes: 44A15, 33C05, 33C10, 33C15

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