SOME REDUCTION FORMULAS FOR APPELL'S FUNCTION OF FOURTH KIND HAVING DIFFERENT ARGUMENT

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Abstract: The objective of this paper is to find some closed form of certain reduction formulas for Appell's hypergeometric function F_4 with suitable convergence conditions.

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1. Introduction and Preliminaries

In the usual notation, let $\mathbb{R}$ and $\mathbb{C}$ denote the sets of real and complex numbers, respectively. Also let

$$\mathbb{N}_0 := \mathbb{N} \cup \{0\} \ , \qquad \mathbb{N} := \{1, 2, 3, \dots\} = \mathbb{N}_0 \backslash \{0\} \ ,$$

$$\mathbb{Z}_0^- := \{0, -1, -2, \dots\} = \mathbb{Z}^- \cup \{0\} \ , \qquad \mathbb{Z}^- := \{-1, -2, -3, \dots\}$$