

Certain bilateral generating relations for generalized hypergeometric functions

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Abstract

Recently, we introduced a class of generalized hypergeometric functions ${}_{n+1}I_n(b_q)/\alpha:(a_p)(x, w)$ by using a difference operator $\Delta_{x,w}$, where $\Delta_{x,w} f(x) = \frac{f(x+w) - f(x)}{w}$. In this paper an attempt has been made to obtain some bilateral generating relations associated with ${}_{n+1}I_n^{\text{ga}}(x, w)$. Each result is followed by its applications to the classical orthogonal polynomials.

Keywords

Generalized hypergeometric functions difference operator
bilateral generating relations classical orthogonal polynomials

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