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À la carte recurrence relations for continuous and discrete hypergeometric functions. (English)

Zbl 1242.33010

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Summary: We show how, using the constructive approach for special functions introduced by Nikiforov and Uvarov, one can obtain recurrence relations for the hypergeometric-type functions not only for the continuous case but also for the discrete and q -linear cases, respectively. Some applications in Quantum Physics are discussed.

MSC:

33C45 Orthogonal polynomials and functions of hypergeometric type (Jacobi, Laguerre, Hermite, Askey scheme, etc.)

33D45 Basic orthogonal polynomials and functions (Askey-Wilson polynomials, etc.)

33C90 Applications of hypergeometric functions

81Q80 Special quantum systems, such as solvable systems

Full Text: [DOI](#)

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