Foupouagnigni, M.; Ronveaux, A.; Koepf, W.
Fourth order $q$-difference equation for the first associated of the $q$-classical orthogonal polynomials. (English)
http://www.elsevier.nl/locate/cam

The authors rely on the methods of [“Fourth-order difference equation for the first associated of classical discrete orthogonal polynomials,” A. Ronveaux, E. Godoy, A. Zarzo and I. Area, J. Comput. Appl. Math. 90, No. 1, 45-50 (1998; Zbl 906.33003)] to derive a single fourth-order $q$-difference equation for the first associated of all $q$-classical orthogonal polynomials. The coefficients of the equation are specified in terms of the polynomials appearing in Pearson’s $q$-difference equation defining the weight of the $q$-classical orthogonal polynomials in the $q$-Hahn tableau.

P.A.McCoy (Annapolis)

Keywords : $q$-orthogonal polynomials; fourth-order $q$-difference equation

Citations : Zbl 906.33003

Classification:

- 33C45 Orthogonal polynomials and functions of hypergeometric type
- 33D45 Basic hypergeometric functions and integrals in several variables
- 39A10 Difference equations