ABSTRACT

Q-Analysis of the q-Difference Equation of Hypergeometric Type

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In this talk we present the q-classical orthogonal polynomials of the Hahn class. Such polynomials appear to be the solutions of the so called q-difference equation of hypergeometric type having polynomial coefficients of degree at most two. The central idea behind this study is to discuss in a unified sense the orthogonality of all possible polynomial solutions of the q-hypergeometric difference equation by means of a qualitative analysis of the relevant q-Pearson equation.

Keywords: Special functions, q-Classical orthogonal polynomials, q-Difference equation of hypergeometric type.