

FACTORIZATION OF THE HYPERGEOMETRIC-TYPE DIFFERENCE EQUATION ON THE UNIFORM LATTICE*

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Abstract. We discuss factorization of the hypergeometric-type difference equations on the uniform lattices and show how one can construct a dynamical algebra, which corresponds to each of these equations. Some examples are exhibited, in particular, we show that several models of discrete harmonic oscillators, previously considered in a number of publications, can be treated in a unified form.

Key words. discrete polynomials, factorization method, discrete oscillators

AMS subject classifications. 33C45, 33C90, 39A13

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