

ABOUT 2-ORTHOGONAL POLYNOMIAL EIGENFUNCTIONS OF A THIRD ORDER DIFFERENTIAL OPERATOR

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The d -orthogonal polynomial sequences are known to fulfil certain differential equations of order $d + 1$ (e.g. [1, 2, 3]). Considering a generic third order differential operator that does not increase the degree of polynomials, as expressed in [4], we present explicit descriptions of corresponding 2-orthogonal polynomial eigenfunctions. Furthermore, their Hahn-classical character is analysed and other differential identities are given as a consequence of the symbolic approach used in this research work.

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