TWO–DIMENSIONAL ANALOGY OF THE KOROUS INEQUALITY

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Abstract. J. Korous reached an important and interesting result for general orthogonal polynomials in one variable. In the paper we generalize this result for orthogonal polynomials in two variables. The boundedness of two families of orthonormal polynomials associated with an arbitrary weight function \( w(x,y) \) and its extension \( W(x,y) = w(x,y)h(x,y) \), where \( h(x,y) \) is a function satisfying certain conditions, is investigated.

Keywords and phrases: Weight function, Korous theorem, orthogonal polynomials in two variables, boundedness.

REFERENCES

[9] E. LEVIN AND D. S. LUBINSKY, Orthogonal polynomials with exponential weights \( x^2 e^{-2Q(x)} \) on \([0, d]\), J. Approx. Theory 134 (2005), 199-256.