ON THE SZEGÖ–TAIKOV INEQUALITY FOR CONJUGATE TRIGONOMETRIC POLYNOMIALS

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In 1943, Szegö found the best constant and all extremal polynomials in the inequality between the uniform norm of a conjugate trigonometric polynomial and the norm of the polynomial with real coefficients. In 1990, Taikov also found the best constant by means of another method. In the present paper, we describe all extremal polynomials with complex coefficients and discuss some properties of the extremal polynomials.

Keywords: trigonometric polynomial, conjugate polynomial, uniform norm, interpolation formula.

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