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The Krzyz conjecture revisited

The conjecture of Krzyż, concerning the largest possible value of the Taylor coefficient a_n $(n \geq 1)$ of a non-vanishing analytic function from the unit disk into the unit disk, has been open since 1968 in spite of the information available on the structure of extremal functions.

The purpose of this talk is to report on partial progress regarding the conjecture. We collect various conditions that the coefficients of an extremal function (and also the zeros of some polynomials associated with it) must satisfy and show that each one of these properties is equivalent to the conjecture itself.

This improves or complements a number of earlier findings by other authors and may hopefully provide several possible starting points for attempts at proving the conjecture.