ALBERT BAERNSTEIN II'S CONTRIBUTIONS TO FUNCTION THEORY

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Abstract

In this talk we shall present some of the most relevant contributions of Al. Baernstein to function theory. We shall start introducing the $\star$-function in the plane and show how it can be used to solve extremal problems. In particular, we shall point out the use of $\star$-functions to prove that the Koebe function is extremal for a very large class of problems about integral means in the class S of univalent functions, to prove the spread relation, and to obtain sharp L^p-inequalities for conjugate functions.

We shall also discuss other contributions of Al. to the theory of conformal mappings and recall his work on BMOA-functions and, if time is left, we shall finish speaking a little bit about his work related to Bloch and Landau constants.