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مسألة فكيت - زيجو للدوال شديدة القرب من التحدب ذات الرتبة بيتا

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Abstract : Let A be the class of functions r(z) = z+ a2z2 + a3z3+ which are analytic in the unit disc D = {z:\z\ < I}. Let S be the subclass of A of, univalent nmctions. A classical result of Fekete aI.l-d SZego detennines the; maximum valu.~ of la3 -~a~1 as a function of the real parameters, for rES. This problem has attracted considerable attention when f ranges over certain subclasses"""Of A. The problem has equal importance, if not more, when J.l E ([. The Fekete -Szego problem has served as a main source for research problems in geometric function theory .It is the foundation stone over .. . which a subject and a whole bulk of results reset. I This dissertation is subdivided into three chapters, In the first chapter we. give some basic defmitions, notations and preliminary concepts. The second chapter introduces the classes S p (b)andC p (b) of strongly starlike and convex functions of order ~ aI1d complex type b respectively. I Sharp bounds ~e obtained for maxla3 -~a~1 when ~ ECC. In Chapter three, we study the Fekete -Szego problem for the subclass K~ of normalized functions which are analytic and strongly close - to - convex of order ~. This seems to be the most interesting result of the present work. This problem is still far from its complete solution. (cf. MR # 92e: 3004 and MR # 93e: 30029).

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