Starkov, Victor V.

Univalent functions that are local extrema of two real functionals. (English) Zbl 0829.30011

PLISKA, Stud. Math. Bulg. 10, 16-26 (1989).

Summary: The class S consists of all functions $f(z) = z + c_2 z^2 + \cdots$ that are regular and univalent in the unit disc. Let the functionals $F(c_2, \ldots, c_n)$ and $\Phi(c_2, \ldots, c_m)$ have nonvanishing gradient in domains containing sets of the type $\{|c_2| \leq 2, \ldots, |c_r| \leq r\}$. A function $f_0 \in S$ is found for which the functionals F and Φ attain a local extremum.

MSC:

30C70 Extremal problems for conformal and quasiconformal mappings, variational methods

30C45 Special classes of univalent and multivalent functions of one complex variable (starlike, convex, bounded rotation, etc.)