On the Feketo-Szegö theorem for certain classes of analytic functions

AINI JANTENG, SUZEINI ABDUL HALIM, MASLINA DARUS

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Abstract

For $0 \le \alpha < 1$, let K_α b the class of functions f which are normalized analytic and univalent in $D = \{z : | z | < 1\}$ satisfying the condition

$$\mathrm{Re}\left\{\frac{\alpha z^2 f''(z)}{g(z)} + \frac{z f'(z)}{g(z)}\right\} > 0,$$

where g is a normalized starlike function. For $f \in K_\alpha$, sharp bounds are obtained for the Feketo-Szegö functional $| \alpha_3 - \mu \alpha_2^2 |$ when μ is real.