

Fekete-Szegő problem for certain subclass of quasi-convex functions

ABSTRACT

For $0 \leq \alpha < 1$, let \mathcal{Q}_α be the class of functions f which are normalised analytic and univalent in $\mathcal{D} = \{z: |z| < 1\}$ satisfying the condition

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

where g is a normalised convex function. For $f \in \mathcal{Q}_\alpha$, sharp bounds are obtained for the Fekete-Szegő functional $|a_3 - \mu a_2^2|$ when μ is real.