Hankel determinant for starlike and convex functions

ABSTRACT

Denote $\mathcal{S}$ to be the class of functions which are analytic, normalised and univalent in the open unit disc $\mathcal{D} = \{z: |z| < 1\}$. The important subclasses of $\mathcal{S}$ are the class of starlike and convex functions, which we denote by $\mathcal{S}^{\star}$ and $\mathcal{C}$. This paper focuses on attaining sharp upper bounds for the functional $\left|a_2 a_4 - a_3^2\right|$ for functions $f(z) = z + \sum_{n=2}^{\infty} a_n z^n$ belonging to $\mathcal{S}^{\star}$ and $\mathcal{C}$.