ON COEFFICIENT PROBLEMS FOR STARLIKE FUNCTIONS AND THEIR INVERSE FUNCTIONS

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For given $\gamma \in [\pi/2, \pi)$, let us define the class $\mathcal{M}(\gamma)$ of analytic functions $f$ normalized by $f(0) = 0 = f'(0) - 1$ such that

$$1 + \frac{\gamma - \pi}{2 \sin \gamma} < \Re \left\{ \frac{zf'(z)}{f(z)} \right\} < 1 + \frac{\pi}{2 \sin \gamma}, \quad z \in \mathbb{D},$$

where $\mathbb{D} := \{ z \in \mathbb{C} : |z| < 1 \}$. In this talk, we discuss some coefficient problems for the functions in the class $\mathcal{M}(\gamma)$. Especially, we investigate the sharp bounds for the fourth and fifth coefficients of $f \in \mathcal{M}(\gamma)$. Similar problems also will be considered for the inverse of a function in $\mathcal{M}(\gamma)$. 