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COEFFICIENT FUNCTIONAL FOR THE KTH ROOT TRANSFORM OF ANALYTIC FUNCTION AND APPLICATIONS TO FRACTIONAL DERIVATIVES

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Abstract. In the present investigation, the authors introduce certain subclass of analytic function and obtain the sharp upper bounds for the coefficient functional $|b_{2k+1} - \nu b_{k+1}^2|$ corresponding to the kth root transformation of certain normalized analytic function defined on the unit disk Δ in the complex plane. As an application of the main results, we obtain the Fekete-Szegö inequalities for the function defined by fractional derivatives. Similar problems are investigated for the inverse function of f and for the function $\frac{z}{f(z)}$. Our results generalize and unify the work of earlier researchers in this direction.

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