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NEW DISTORTION THEOREMS FOR SAKAGUCHI FUNCTIONS

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Abstract. Let A be the class of functions $f(z)$ of the form $f(z) = z + \sum_{k=2}^{\infty} a_k z^k$ that are analytic in the open unit disk $\mathbb{D} = \{z \in \mathbb{C} \mid |z| < 1\}$. In 1959, K. Sakaguchi [9] has considered the subclass of A consisting of those $f(z)$ which satisfy $\operatorname{Re}\left(\frac{zf'(z)}{f(z)-f(-z)}\right) > 0$, where $z \in \mathbb{D}$. We call such a function a "Sakaguchi function", and denote the class of those functions by S_S. Various authors have studied this class ([6, 7, 9, 10]). We obtain new distortion theorems, Koebe domain, k-quasiconformality, and the radius of convexity for the class S_S.

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