

On the coefficients of concave univalent functions

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Abstract

Let D denote the open unit disc and $f : D \rightarrow \mathbb{C}$ be meromorphic and injective in D . We assume that f is holomorphic at zero and has the expansion $f(z) = z + \sum_{n=2}^{\infty} a_n z^n$. Especially, we consider f that map D onto a domain whose complement with respect to \mathbb{C} is convex. We call these functions concave univalent functions and denote the set of these functions by \mathcal{C}_o . We prove that the sharp inequalities $|a_n| \geq 1$, $n \in \mathbb{N}$, are valid for all concave univalent functions. Furthermore, we consider those concave univalent functions which have their pole at a point $p \in (0, 1)$ and determine the precise domain of variability for the coefficients a_2 and a_3 for these classes of functions. © 2004 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim.

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Keywords

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