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On the coefficients of concave univalent functions

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Abstract

Let D denote the open unit disc and f : D → ℂ be meromorphic and injective in D. We assume that f is holomorphic at zero and has the expansion f(z) = z + ∞σ anzn Especially, we consider f that map D onto a domain whose complement with respect to ℂ is convex. We call these functions concave univalent functions and denote the set of these functions by Co. We prove that the sharp inequalities |an| ≥ 1, n ∈ ℕ, are valid for all concave univalent functions. Furthermore, we consider those concave univalent functions which have their pole at a point p ∈ (0, 1) and determine the precise domain of variability for the coefficients a2 and a3 for these classes of functions. © 2004 WILEY-VCH Verlag GmbH & Co. KGaA, Weinheim.

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Keywords

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