

ON THE UNIVALENT BLOCH-LANDAU CONSTANT

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Abstract

Landau in the 30's estimated the univalent Bloch-Landau constant \mathcal{U} , i.e., the biggest radius R such that $f(D(0, 1))$ always contains a disk of radius R for any univalent f normalized with $|f'(0)| = 1$. Although the exact value of \mathcal{U} is not known, many authors have provided upper and lower bounds. In a joint work with T. Carroll we have studied fine properties of the extremal functions and shown the connection with other well studied question, the Polya-Cebotarev problem. This relationship has been exploited to improve (very slightly) the upper bound for the constant and to clarify the nature of the extremal domains.