
Zbl 377.30023**Bonar, D.D.; Carroll, F.W.; Erdős, Paul***Strongly annular functions with small coefficients, and related results.* (In English)**Proc. Am. Math. Soc. 67, 129-132 (1977). [0002-9939]**

An analytic function $f(z)$ in the unit disc $D = \{z : |z| < 1\}$ is called an annular function if there exists a sequence of Jordan curves $\{J_n\}$ in D such that the origin is in the interior of J_n for each n and

$$\lim_{n \rightarrow \infty} \min\{|f(z)| : z \in J_n\} = \infty.$$

If, in addition, the curves J_n are all circles with center at the origin, then the function $f(z)$ is said to be strongly annular. The authors construct an example of a strongly annular function $f(z) = \sum_{n=0}^{\infty} a_n z^n$ such that $\lim_{n \rightarrow \infty} a_n = 0$. The construction is very short and elementary. Additional examples of annular functions are presented in which various length and distance apart conditions are placed on the curves J_n . These additional examples involve approximation techniques.

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Classification:

30D40 Cluster sets, etc.

30B10 Power series (one complex variable)