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On the complex oscillation theory of linear differential equations with analytic coefficients in the unit disc. (Chinese. English summary) [Zbl 1199.34471](#)

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Summary: The complex oscillation theory of linear differential equations of the form

$$L(f) = f^{(k)} + A_{k-1}(z)f^{(k-1)} + \cdots + A_0(z)f = F(z) \quad (k \in \mathbb{N})$$

is investigated, where the coefficients $A_j(z)$ ($j = 0, \dots, k-1$) and $F(z)$ are analytic functions in the unit disc $\Delta = \{z : |z| < 1\}$. The authors obtain several precise theorems about the hyper order, the hyper convergence exponent of zero points and fixed points of solutions of differential equations.

MSC:

- 34M10** Oscillation, growth of solutions to ordinary differential equations in the complex domain
- 30D35** Value distribution of meromorphic functions of one complex variable, Nevanlinna theory
- 34M03** Linear ordinary differential equations and systems in the complex domain

Cited in **3** Documents

Keywords:

linear differential equation; analytic function; complex oscillation theory; unit disc