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Second order linear differential equations of Fuchsian type with four singularities. (English)

Zbl 1049.34107

Nonlinear Oscil. 4, No. 3, 308-315 (2001).

The paper deals with the second-order linear differential equation

$$y'' + p(x)y' + q(x)y = 0,$$

where $p(x)$ and $q(x)$ are arbitrary analytic functions. The author proposes a change of variables to decompose the system into two subsystems: an ordinary differential equation on the central manifold and integral equations on the stable manifold.

Reviewer: R. K. Azimov (Andizhan)

MSC:

34M35 Singularities, monodromy and local behavior of solutions to ordinary differential equations in the complex domain, normal forms

Keywords:

equations of Fuchsian type; singularities