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Oscillatory solutions of Emden-Fowler type differential equation. (English) Zbl 07444211
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Summary: The paper deals with the coexistence between the oscillatory dynamics and the nonoscillatory one for a generalized super-linear Emden-Fowler differential equation. In particular, the coexistence of infinitely many oscillatory solutions with unbounded positive solutions are proved. The asymptotics of the unbounded positive solutions are described as well.

MSC:

- 34C10** Oscillation theory, zeros, disconjugacy and comparison theory for ordinary differential equations
- 34C11** Growth and boundedness of solutions to ordinary differential equations
- 34D05** Asymptotic properties of solutions to ordinary differential equations

Keywords:

second order nonlinear differential equation; oscillatory solution; globally positive solution; intermediate solutions

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