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Existence of positive solutions to semipositone singular Dirichlet boundary value problems

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摘要

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Abstract The paper presents the conditions which guarantee that for some positive value of μ there are positive solutions of the differential equation $(\phi(x'))'+\mu Q(t,x,x')=0$ satisfying the Dirichlet boundary conditions $x(0)=x(T)=0$. Here Q is a continuous function on the set $[0,T] \times (0,\infty) \times (\R \setminus \{0\})$ of the semipositone type and Q is singular at the value zero of its phase variables.

Key words existence positive solution semipositone singular problem Dirichlet boundary conditions ϕ-Laplacian

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