Original Articles

On Eigenvalue Intervals and Eigenfunctions of Nonresonance Singular Dirichlet Boundary Value Problems

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摘要　　In this paper we shall consider the nonresonance Dirichlet boundary value problem {-x'' + ρp(t)x = λf(t,x), t∈(0, 1), x(0)=x(1)=0, where λ>0 is a parameter, ρ>0 is a constant. Intervals of 5 are determined to ensure the existence of a nonnegative solution of the boundary value problem. For λ=1, we shall also offer criteria for the existence of eigenfunctions. The main results include and improve on those of [2,4,6,8].

关键词　　eigenvalue intervals　eigenfunctions　fixed points
分类号

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Key words　eigenvalue intervals　eigenfunctions　fixed points

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