

Abstract

This work proves the existence and multiplicity of positive solutions for a second-order nonlinear three-point ϕ -laplacian boundary-value problem posed on the positive half-line. The nonlinearity depends on the solution and its derivative and may exhibit a time singularity at the origin. Existence of single and multiple nontrivial positive solutions is proved using fixed point index theory. © 2009 Texas State University - San Marcos