Granas, A.; **Guenther, R. B.**; **Lee, J. W.**; **O'Regan, D.**

Boundary value problems on infinite intervals and semiconductor devices. (English)

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Summary: The nonlinear differential equation $y'' = f(x, y, y')$, $0 \leq x < \infty$ with appropriate boundary conditions is studied. Our treatment involves extending results of Granas, Guenther, and Lee concerning boundary value problems on finite intervals with f satisfying Bernstein type growth conditions. We also examine an important application which occurs in the theory of semiconductor devices.

MSC:

34B15	Nonlinear boundary value problems for ordinary differential equations	Cited in **1** Review
34A34	Nonlinear ordinary differential equations and systems, general theory	Cited in **30** Documents

Keywords:

second order nonlinear differential equation; application; semiconductor

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