Differential
Equations
& Applications
Volume 10, Number 3 (2018), 317–327 doi:10.7153/dea-2018-10-22

ON THE SOLVABILITY OF NONLINEAR DIFFERENTIAL EQUATIONS SUBJECT TO GENERALIZED BOUNDARY CONDITIONS

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Abstract. In this paper, we analyze nonlinear differential equations subject to generalized boundary conditions. More specifically, we provide a framework from which we can provide conditions, which are straightforward to check, for the solvability of a large number of nonlinear scalar boundary value problems. We begin by giving our general strategy which involves the reformulation of our boundary value problem as an operator equation. We then proceed to establish our results and compare them to closely related previous work.

Mathematics subject classification (2010): 34A34, 34B15, 47H09, 47H10, 47J07.
Keywords and phrases: Boundary value problems, ordinary differential equation, nonlinear equations, fixed-point theorems.

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Paper DEA-10-22
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