



**EXISTENCE AND UNIQUENESS OF SOLUTIONS OF
TWO-POINT BOUNDARY VALUE PROBLEMS
FOR THIRD ORDER NONLINEAR
DIFFERENTIAL EQUATIONS**

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Abstract

In this paper, we use Schauder's fixed point theorem and the connection of a lower solution and an upper solution to study the existence and uniqueness of solutions of two-point boundary value problems for third order nonlinear differential equation. Some new existence and uniqueness results are obtained. Furthermore, some applications are also presented.

Keywords and phrases: third order nonlinear differential equation, two-point boundary value problems, Schauder's fixed point theorem, upper-lower solution, existence and uniqueness of solutions.

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