

**ON EXISTENCE OF PERIODIC SOLUTIONS FOR CERTAIN  
NONLINEAR HIGHER ORDER AUTONOMOUS ORDINARY  
DIFFERENTIAL EQUATIONS**

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**Abstract** In this paper, we study the existence of periodic solutions for autonomous nonlinear ordinary differential equations of order  $n$ , using the method developed for the systems of equations. The method used is based on the Brower's degree theorem using homotopy invariant a property of topological degree and also inequalities.

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