

# HIGHER ORDER ANALYSIS IN CONTINUOUS DIFFERENTIAL EQUATIONS FOR PERIODIC SOLUTIONS VIA TOPOLOGICAL DEGREE

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The higher order averaging method for studying periodic solutions of both Lipschitz differential equations and discontinuous piecewise smooth differential equations has been developed in terms of the Brouwer degree theory. In this work, based on the degree theory for operator equations, we perform a higher order analysis of continuous perturbed differential equations and derive sufficient conditions for the existence and uniform convergence of periodic solutions for such systems.

Joint work with: D. Novaes.