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Periodic solutions for third order ordinary differential equations

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Abstract: In this paper, we introduce the concept of upper and lower solutions for third order periodic boundary value problems. We show that the monotone iterative technique is valid and obtain the extremal solutions as limits of monotone sequences. We first present a new maximum principle for ordinary differential inequalities of third order that is interesting by itself.

Keywords: periodic solution, maximum principle, upper and lower solutions, monotone method

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