ALPEN-ADRIA UNIVERSITÄT KLAGENFURT

INVITATION TO A GUEST LECTURE

Asymptotic properties of solutions to nonlinear second-order difference equations

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HS 3

ABSTRACT

This presentation is devoted to the study of some nonlinear second-order difference equations from an asymptotic point of view. In the first problem, we consider some generalisation of the discrete version of the classical Sturm-Liouville boundary value problem on the half line. Assuming different types of growth conditions on a nonlinear part of the equation, we get the existence of a solution to our problem by Schauder's fixed point theorem. In the second problem, we are looking for a sequence of positive homoclinic solutions to a nonlinear boundary value problem on the integers. To acheive our goal the variational technique is used. In the last problem, the existence of a solution to a nonlinear second-order equation with prescribed asymptotic behaviour is considered. $o(ns)$, where $s \leq 0$, is used as measure of approximation of the solution.

We hope to see you there!

