

Title: Calculus of variations on time scales: a few applications in economics.

Agnieszka B. Malinowska, Faculty of Computer Science, Bialystok University of Technology

Abstract:

The study of analysis on time scales was introduced by Stefan Hilger in his Ph.D. dissertation. The original motivation of the study was to unify continuous analysis and discrete analysis. However, this unification aspect was soon supplemented by the extension and generalization features, since they provide much wider range of possible applications. The time scale calculus theory is applicable to any field in which dynamic processes can be described with discrete or continuous models. On the other hand, many economic models are dynamic models.

The main motivation and goal of the present work is to relate the calculus of variations and optimal control problems on time scales with the study of economic models.