

Speaker:

Julian Hölz (University of Passau)

Date:

Monday, 25 October 2021, at 2:00 pm

Title:

Ergodicity of Topological Dynamical Systems

Abstract:

New data-driven methods used to predict and characterize dynamical systems rely on the mean ergodicity of dynamical systems. It is not hard to construct topological dynamical systems that do not satisfy the mean ergodic assumption. In this talk we explore the mean ergodic assumption on topological dynamical systems, show some implications of this assumption and talk about the convergence rates of the Cesàro averages, which are important for the numerical analysis of said data-driven methods. The latter leads us to explore uniformly mean ergodic topological dynamical systems. We show that this is equivalent to eventual periodicity of the dynamical system. For the analysis our main tool will be the Koopman or composition operator on $C(X)$.