

Dynamics and invariant measures for horizontally stationary generalized Bratteli diagrams

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Bratteli-Vershik models have been very successfully applied to the study of various dynamical systems, in particular, in Cantor and Borel dynamics. The set of invariant measures, minimal components, structure of the orbits of the transformation become more transparent when one deals with the corresponding Bratteli-Vershik dynamical systems. Classical (standard) Bratteli diagrams form models for Cantor dynamical systems, while *generalized* Bratteli diagrams provide models for non-compact Borel dynamical systems. A generalized Bratteli diagram is a natural extension of the notion of a standard Bratteli diagram where each level has a countably infinite set of vertices.

In the talk, we define and study the class of *horizontally stationary generalized Bratteli diagrams*. These diagrams can only be defined when all levels of the diagram contain infinitely many vertices. The incidence matrices of these diagrams are infinite banded Toeplitz matrices. We study the fundamental properties of horizontally stationary Bratteli diagrams. In these diagrams, we provide an explicit description of ergodic tail invariant probability measures. For a certain class of horizontally stationary Bratteli diagrams, we prove that all ergodic tail invariant probability measures are extensions of measures from odometers. Additionally, we establish conditions for the existence of a continuous Vershik map on the path space of a horizontally stationary Bratteli diagram. The talk is based on results obtained together with S. Bezuglyi, P. Jorgensen, J. Kwiatkowski, S. Sanadhya and M. Wata.