Decisive Bratteli-Vershik models

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Abstract

The talk is devoted to Bratteli-Vershik models of compact invertible zero-dimensional dynamical systems. Bratteli-Vershik systems have proved to be an extremely useful tool for studying homeomorphisms of a Cantor set. For instance, they allow to describe the simplex of invariant measures and orbit equivalence classes. In 1992, Herman, Putnam and Skau showed that every minimal homeomorphism of a Cantor set can be represented as a Vershik map acting on a path space of a Bratteli diagram. In 2006, Medynets built Bratteli-Vershik representations for aperiodic Cantor dynamical systems. We introduce the notion of a decisive Bratteli diagram. An ordered Bratteli diagram is called decisive if the corresponding Vershik map prolongs in a unique way to a homeomorphism of the whole path space of the Bratteli diagram. We prove that a compact invertible zero-dimensional system has a decisive Bratteli-Vershik model if and only if the set of aperiodic points is either dense, or its closure misses one periodic orbit. This is a joint work with T. Downarowicz.