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Subdiagrams and invariant measures on Bratteli diagrams.

The concept of a Bratteli diagram, that was originally defined in the theory of operator algebras, is now a powerful tool for the study of dynamical systems. The problem of finding all ergodic invariant measures and their supports for a homeomorphism of a compact metric space is one that belongs to the core of topological dynamics. This problem becomes more transparent in Cantor dynamics because any aperiodic homeomorphism T admits a realization as a Vershik homeomorphism acting on the path space X_B of a Bratteli diagram B . We are going to discuss and answer the following questions in the talk:

- Given a subdiagram B' of B and an ergodic measure μ on X_B , determine conditions on B' such that the subset $X_{B'}$ has positive measure μ .

- Let a measure ν be extended from $X_{B'}$ to $\mathcal{R}(X_{B'})$ by invariance with respect to the tail equivalence relation \mathcal{R} . Under what conditions is $\nu(\mathcal{E}(X_{B'}))$ finite (infinite)?

- A finite rank k diagram B can support at most k ergodic (finite and infinite) measures. Is it possible to determine which properties of incidence matrices of B would guarantee the existence of exactly k ergodic measures? (Received September 13, 2014)