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Measures on path spaces of Bratteli diagrams.

We are interested in finding all ergodic invariant measures and their supports for a homeomorphism T of a Cantor set Y. It is known that any aperiodic homeomorphism T admits its realization as a Vershik map acting on the path space X_B of a corresponding Bratteli diagram B. The structure of B helps to clarify the dynamical properties of T.

We are going to discuss the following problems in the talk:

(A) Given a subdiagram B' of B and an ergodic measure μ on X_B, under what condition on B' is the subset $X_{B'}$ of positive measure μ in X_B?

(B) Let ν be a measure supported by the path space $X_{B'}$ of a subdiagram $B' \subset B$. Then ν is extended to the subset $\mathcal{R}(X_{B'})$ by invariance with respect to the tail equivalence relation $\mathcal{R}$. Under what conditions is $\nu(\mathcal{R}(X_{B'}))$ finite (or infinite)?

(C) Let B be a Bratteli diagram of finite rank k. It is known that 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 exactly k ergodic measures?

Our main results give affirmative answers (in some cases, partial answers) to the questions above. (Received January 25, 2015)