BACK AND FORTH BETWEEN INFINITE INTERVAL EXCHANGE TRANSFORMATIONS AND BRATTELI-VERSHIK DIAGRAMS

VINCENT DELECROIX

Abstract. In this talk we consider the interplay between two families of dynamical systems

- Bratteli-Vershik (BV) diagrams that provide a combinatorial description of any minimal homeomorphisms of Cantor sets
- (infinite) interval exchange transformations (IET) that are maps of [0,1] that are piecewise translations and appear as first return maps of translation flows on surfaces

After describing these two families in context, I will present the standard construction of Arnoux-Ornstein-Weiss refined by Bufetov and Lindsey-Trevino which associates to a BV diagram an interval exchange (and even a translation flow) whose dynamics is conjugate to the BV map. The main goal is then to discuss the specific geometry of translation surfaces obtained by this construction when the BV diagram is periodic (or equivalently when the homeo of the Cantor set is self-similar).

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