

Klaus Schmidt in Qinhuangdao

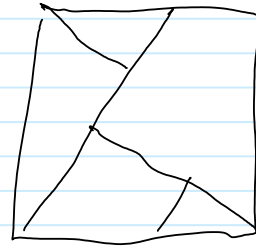
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Total Automorphisms of T^2 :

$$\begin{pmatrix} 2 & 1 \\ 1 & 1 \end{pmatrix}, \begin{pmatrix} 1 & 1 \\ 1 & 0 \end{pmatrix}$$

 $GL(n, \mathbb{Z})$ acts on $T^n := \mathbb{R}^n / \mathbb{Z}^n$ Hyperbolicity: one eig > 1 , one < 1 in abs.Explicit entropy formula: $\sum \log |\lambda_i|$
(Bo's, Sinai)

Have symbolic reps.

 $\begin{pmatrix} 1 & 1 \\ 1 & 0 \end{pmatrix} \rightarrow$ seqs in $\{0,1\}^n$
not containing
the subseq 11.


"Bernoulli shifts"

$$\begin{pmatrix} 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 1 \\ 1 & 1 & 1 & 1 \end{pmatrix}$$

Ergodic but not
hyperbolic

1967 Furstenberg "on disjointness":

$\times 2$ & $\times 3$ on \mathbb{R}/\mathbb{Z}

closed invariant subsets are finite or all.

It is not known if there are invariant measures other than atomic and Lebesgue.

Generalize Look at \mathbb{Z}^d -actions by commuting automorphisms of compact groups.

The interesting case is if the group is Abelian:

$\alpha: \mathbb{Z}^d$ action on X Abelian.

There's a \mathbb{Z}^d action $\hat{\alpha}$ on \hat{X} , the Pontryagin dual