1046-37-764 **Tom Meyerovitch*** (tomm@post.tau.ac.il), School of Mathematical Sciences, Tel-Aviv University, Ramat-Aviv, 69978 Tel Aviv, Israel. *Recursive and algorithmic aspects of growth complexity for multidimensional SFTs.*

For 1-dimensional SFTs, the topological entropy is in a certain sense the unique non-trivial scale at which asymptotic growth complexity can be measured. However, a multidimensional SFT can have a variety of asymptotic growth rates. In particular, it has been noted over 15 years ago by Tsirelson that growth complexities of the form $\exp(n^\alpha)$ are possible for non-integer α's. Using the terminology of Ferenczi-Park, such subshifts have entropy dimension α.

In this talk, I will give recursive-theoretic interpretations to some scales of growth rates for SFTs. For example, the possible entropy dimensions for $\mathbb{Z}^d$-SFTs are precisely numbers $x \in [0, d]$ of the form $x = \lim_{n\to\infty} \inf_{k\geq 1} f(n, k)$, where $f : \mathbb{N} \times \mathbb{N} \to \mathbb{R}$ is a recursive function. (Received September 11, 2008)