
Fractal dimensions and complexity of infinite sequences with positive entropy

Carlos Gustavo Moreira^{*†1}

¹IMPA – Brazil

Abstract

Let A be the finite alphabet $A = \{0, 1, \dots, q-1\}$. Given an infinite word $w \in A^{\mathbb{N}}$ and $n \in \mathbb{N}$, we denote by $p_w(n)$ the number of factors of size n of w . Given a function f defined on $A^{\mathbb{N}}$ by $f(w) = \liminf_{n \rightarrow \infty} \frac{1}{n} \log p_w(n)$, we say that w has positive entropy if $f(w) > 0$. In this talk, we will discuss some properties of such sequences, including their fractal dimensions and complexity.

^{*}Speaker

[†]Corresponding author: gugu@impa.br