Entropy is f-bar continuous on the set of quasi-regular points

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Abstract

Let A be a finite alphabet. The f-bar (pseudo)distance measures the asymptotic frequency of editions (deletions) which we have to perform on two infinite sequences over A to obtain two identical ones. We say that a sequence of symbols over A is quasi-regular if every finite word over A appears in that sequence with a limiting frequency. Every quasi-regular sequence is a generic point for a unique shift-invariant measure on the space of all sequences over A. We prove that Kolmogorov-Sinai entropy of the measure associated to a quasi-regular point depends continuously on the f-bar (pseudo)distance on the set of quasi-regular points. Furthermore, the dependence is uniform. This is a result of discussions with Tomasz Downarowicz, Martha Łącka, and Michal Kupsa.