

Abstract

Motivated by the study on the sum of digits in continued fractions, we study the increasing rate of the Birkhoff sums in Gauss like iterated function systems, i.e., infinite iterated function systems with polynomial decay of the derivative. For different unbounded potential functions, we calculate the Hausdorff dimensions of the sets of points whose Birkhoff sums share the same increasing rate. This is a joint work with Michal Rams.