Normal numbers and Diophantine approximation

Yann BUGEAUD
Université de Strasbourg

Abstract

We begin by recalling some classical results on normal and non-normal numbers. Then, we discuss the following general question. Take a property of Diophantine approximation (e.g., to be badly approximable by rational numbers, to be a Liouville number, etc.) and a property concerning the digits (e.g., to be normal, to lie in the middle third Cantor set, etc.), do there exist real numbers having both properties? What is the dimension of the set of such numbers?