

# Nikita Sidorov

## SELF-AFFINE SETS: TOPOLOGY AND ARITHMETIC

Let  $M$  be a non-degenerate real contracting  $d \times d$  matrix and let the IFS given by the maps  $M\mathbf{x} + \mathbf{v}_j$ ,  $j = 1, \dots, m$ , where the  $\mathbf{v}_j$  are some translation vectors.

In my talk I will discuss following topological and arithmetic properties of its attractor  $A_M$ :

- Is it connected or totally disconnected?
- Does it have non-empty interior?
- Which points of  $A_M$  have a unique address?

This talk is based on my three recent papers with **Kevin Hare** (Waterloo).