

# Is there a largest small set?

Márton Elekes

January 2026

Zalpetal asked if there exists a largest nowhere dense set  $A$  in the plane in the sense that for any other nowhere dense set  $B$  there is a homeomorphism of the plane taking  $B$  into a subset of  $A$ . Besides presenting an answer to this question, we also examine this problem for various ideals instead of the nowhere dense sets (and for the corresponding natural groups instead of the homeomorphisms). Joint work with A. Kocsis.