

Square inside

Marcin Michalski

Let us recall the following two-dimensional version of the classical theorem of Mycielski.

Theorem (Mycielski [2]). *For every comeager or conull set $X \subseteq [0, 1]^2$ there exists a perfect set $P \subseteq [0, 1]$ such that $P \times P \subseteq X \cup \Delta$.*

We will consider strengthening of this theorem by replacing a perfect square with a square or a rectangle $A \times B$ of bodies of some types of trees satisfying $A \subseteq B$. In particular we will examine possible generalizations for Miller, Laver, Silver, splitting and uniformly perfect trees.

The results were obtained together with Robert Rałowski and Szymon Żeberski and part of them can be found in [1].

References

- [1] Michalski M., Rałowski R. Żeberski Sz., Mycielski among trees, *Mathematical Logic Quarterly* 67 (3) (2021), 271-281.
- [2] Mycielski J., Algebraic independence and measure, *Fundamenta Mathematicae* 61 (1967), 165-169.