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ON THE SETS OF FIXED POINTS, PERIODIC POINTS OF CONTINUOUS AND BOUNDED BAIRE ONE FUNCTIONS

In this talk we give a brief history of the size of some sets related to the dynamics of continuous functions and present the following results on the set of fixed points of bounded Baire one functions.

Theorem 1. *Let $\mathcal{A} \subset \mathfrak{B}^1$ be uniformly closed and $\mathcal{A} + g \subseteq \mathcal{A}$ for a piecewise linear continuous function. Then*

$$\mathcal{L} = \{f \in \mathcal{A} : \overline{F(f)} \text{ is nowhere dense}\}$$

is an everywhere dense G_δ subset of $\mathcal{A}$.

Theorem 2. *Let μ be an arbitrary continuous Borel measure on $[0,1]$. Then for a typical $f \in \mathfrak{bB}_1$, $\mu[f^{-1}(F(f))] = 0$.*