

# THE BAIRE THEOREM, AN ANALOGUE OF THE BANACH FIXED POINT THEOREM

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We prove that if  $X$  is a  $T_1$  second countable compact space, then  $X$  is a Baire space if and only if every open subset of  $X$  contains a closed subset with nonempty interior. We also prove an analogue of Banach's fixed point theorem for all  $T_1$  compact spaces. Applying the analogue of Banach's fixed point theorem we prove the existence of unique attractors for so called contractive iterated function systems whose Hutchinson operators are closed in compact  $T_1$  spaces. This is common work with M. Morayne.

## REFERENCES

- [1] M. Morayne, R. Rałowski: *The Baire Theorem, an Analogue of the Banach Fixed Point Theorem and Attractors in Compact Spaces*, Bulletin des Sciences Mathematiques, vol. 183, (2023)