

Some questions related to metric fixed point problems and contributions

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In this talk we will discuss some questions related to classical metric fixed point problems. Specifically, one of them asks whether the closed unit ball of any infinite dimensional Banach space fails the FPP for Hölder-Lipschitz maps with null minimal displacement. Several partial results and open questions will also be displayed. Another issue we will discuss concerns the problem of obtaining sufficient conditions that guarantee weak FPP for a given class of maps. The content of the talk is related to some recent works by the author and in collaboration with co-authors, including published works [1], preprints [2] and preliminary research projects [3, 4].

References

- [1] C. S. Barroso, Hölder-contractive mappings, nonlienan extension problem and fixed point free results, *J. Math. Anal. App.* **528** (2023), 127521.
- [2] C. S. Barroso and V. Ferreira, Retraction methods and fixed point free maps with null minimal displacements on unit balls. Submitted.
- [3] C. S. Barroso. Research Project: Fixed point (free) results for the class asymptotically Hölder-nonexpansive maps and related classes. In progress: started but not completed.
- [4] C. S. Barroso. Research Project: A simple proof of Sine and Soardi's fixed point theorem and its consequences. In progress: started but not completed.