Proximate Approximative Retracts in Compact Metric Spaces

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Retracts are fundamental concepts in topology that help in understanding the structure and properties of spaces. A retract of a topological space X is a subspace A with a continuous map (retraction) from X onto A that leaves A fixed. This notion is crucial as it provides insights into simplifying spaces while retaining essential topological features.

This paper introduces the concept of proximate approximative retracts (proxAR) in compact metric spaces. It discusses definitions and properties of various retraction types, including proximate retracts (PR), approximative proximate retracts (APR), weak retracts (WR), and approximative weak retracts (AWR) (for definitions, see [1]). The relationships between these retraction types and proxAR are explored.

References:

[1] Jacek Klisowski. A survey of various modifications of the notions of absolute retracts and absolute neighborhood retracts. Colloquium Mathematicum 46.1 (1982): 23-35.