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SOME FIXED POINT RESULTS IN SOFT FUZZY METRIC SPACES VIA ALTERING SOFT DISTANCE

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Abstract. The primary goal of this research paper is to provide fixed point results in soft fuzzy metric spaces, established by introducing the conception of the soft altering distance function and a contraction mapping involving the soft altering distance function. Some suitable numerical examples validating the established fixed point results are provided, followed by some consequences for the obtained results. By broadening the scope of these findings, this research contributes to a deeper understanding of soft fuzzy metric spaces. Furthermore, the generalization and extension of previously established results in the context of various generalisations of metric space present in the existing literature showcase the depth and broader applicability of the proposed theorems. Such advancements have potential applications in various fields, including computer science, optimization problems, engineering, and economics. For instance, in computer science, these fixed point theorems can be utilized in developing algorithms for solving optimization problems in fuzzy environments, thereby improving decision-making processes in uncertain and complex systems.

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