

INTERPOLATIVE KANNAN-MEIR-KEELER TYPE CONTRACTIONS IN FUZZY METRIC SPACES

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Abstract: In this paper, we present a fuzzy extension of the interpolative Kannan-Meir-Keeler-type contraction framework of fuzzy metric space and we generalize the fixed point results to this more flexible setting. Examples are provided to illustrate the applicability of our results.

Keywords and Phrases: Fuzzy metric space, Kannan contraction, Meir-Keeler contraction, interpolation, fixed point, Kannan-Meir-Keeler contraction.

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1. Introduction

Fixed point theory has a wide range of applications in mathematics and applied sciences. Classical fixed point results such as the Banach contraction principle Banach S. [3] and Kannan contraction Kannan R. [5, 6] have been extensively studied and generalized in various directions.

In recent years, a significant development in this area is the concept of interpolative contractions, initiated and developed by Karapinar E. and collaborators Aydi H. et al. [1, 2, 4, 7]. These contractions unify and extend several well-known contractive conditions. Further contributions in this direction include interpolative Hardy–Rogers type contractions Karapinar E. et al. [14], Boyd–Wong and