

**SOME FIXED POINT THEOREMS FOR MULTIVALUED
INTERPOLATIVE MAPPING IN HYPERBOLIC METRIC SPACE
WITH SOME APPLICATIONS**

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Abstract: This paper aims to investigate the multivalued fixed point results for various interpolative contraction mappings in hyperbolic metric spaces. We also provide an illustrative example to support our main results. The results presented here will be illustrated with some applications to functional integral inclusion and linear partial differential equations.

Keywords and Phrases: Fixed point theorems, multivalued mapping and interpolative mapping, hyperbolic metric space, Functional integral inclusion, Linear partial differential equations.

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1. Introduction

Takahashi's research established results on convexity in metric spaces and non-expansive mappings [45]. Building on this foundation, Kohlenbach [33] explored