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FIXED POINT THEOREMS FOR θ-EXPANSIONS IN BRANCIARI METRIC SPACES

Priya Shahi and Vishnu Narayan Mishra*

St. Andrew's College of Arts, Science and Commerce,
St. Dominic Road, Bandra (W), Mumbai, INDIA

E-mail : priyashahi.research@gmail.com

*Department of Mathematics,
Faculty of Science Indira Gandhi National Tribal University,
Amarkantak - 484887, Madhya Pradesh, INDIA

E-mail : vnm@igntu.ac.in

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Abstract: In this paper, we define θ-expansions on Branciari metric spaces by complementing the concept of θ-contractions introduced by Jleli and Samet (J. Inequal. Appl. 2014:38, 2014). Also, we present some new fixed point results for θ-expansion mappings on a Branciari metric space.

Keywords and Phrases: Expansive mapping, metric space, fixed point, θ-contraction.

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1. Introduction and Definitions

Researchers in mathematics and other areas of science and technology, both past and present, have drawn inspiration from the Banach Contraction Principle [2]. Even in the twenty-first century, researchers in the fields of computer science, physics, applied mathematics, etc. are working to apply the Banach Contraction Principle to improve the quality of life for people. The Banach contraction principle, which states that every contraction mapping defined on a complete metric space X to itself permits a unique fixed point, is one of the key findings of nonlinear analysis. This rule is a very useful and well-liked instrument for ensuring the