

New fixed point results in extended b -metric-like spaces via simulation functions with applications

Shimaa Moustafa¹

¹Assiut University Faculty of Science

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Abstract

The main ambition proposed in this article is to provide new fixed point results for triangular α -orbital admissible contractions via some auxiliary and simulation functions in the frame of extended b -metric-like spaces. As an application, we prove the existence of a unique solution for a nonlinear fractional differential equation with exponential weighted integral boundary conditions via the generalized proportional fractional derivative of Caputo type with order $\beta \in (n-1, n]$. Further, we demonstrate the usability of our results through several examples.

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New fixed point ...submission.pdf available at <https://authorea.com/users/348409/articles/473736-new-fixed-point-results-in-extended-b-metric-like-spaces-via-simulation-functions-with-applications>