

Review of: "Generalized N-metric Spaces"

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Potential competing interests: No potential competing interests to declare.

Comments and Suggestions for Authors:

Author introduced the notion of generalized N -metric spaces (gNms) derived from the idea of path integrals with examples and diverse situations.

Author may consider the following points:

1. Based on the third property (N3), the gNms generalized existing metric spaces. The concept of the paper is well organized. It is obvious that $d(x,y;N)$ implies $d(x,y;N+1)$ but not conversely.

A similar inequality (circular inequality) may be observed for ultra generalized metric spaces. For reference "GÖÇÜR, O. Ultra Generalized Metric Space. Journal of Current Researches on Engineering, Science and Technology, 2020, 6 (1), p. 31-36."

2. It is observed that there may be plenty of generalized metric spaces based on different ideas. For instance, b -metric spaces generalize metric spaces.

If we change the property (N3) by

$$N4: d(x,y;N) \leq s \sum_{i=0}^{N-1} d(x_i, x_{i+1}; N), \quad i=0, \dots, N-1 \text{ and } s \geq 1.$$

For $s=1$, it is gNms otherwise b -gNms.

3. The field of generalized metric spaces is extensive and fascinating, with a wide range of features, examples, and applications.

This is the finest observation on the existing metric spaces, such as $d(x,y;2)$, $d(x,y;3)$, and so on. However, diagrams may be used to represent a variety of inequalities and may be linked to graph theory for application.