

# Kannan Type Contraction via Interpolation in Bipolar Metric Spaces

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**Abstract:** *By use of Kannan contraction via interpolation and within the context of Bipolar Metric Spaces, we demonstrate the fixed-point theorem for contravariant mappings. Illustrative example is also provided.*

**Keywords:** Kannan contraction via interpolation, fixed point, Bipolar Metric Spaces

## REFERENCES

- [1]. U. Gürdal, A. Mutlu, and K. Özkan, "Fixed point results for  $\alpha\psi$  contractive mappings in bipolar metric spaces," *Journal of Inequalities & Special Functions*, vol. 11, no. 1, 2020.
- [2]. G. N. V. Kishore, R. P. Agarwal, B. S. Rao, and R. V. N. S. Rao, "Caristi type cyclic contraction and common fixed point theorems in bipolar metric spaces with applications," *Fixed Point Theory and Applications*, vol. 21, no. 1, 2018.
- [3]. G. N. V. Kishore, D. R. Prasad, B. S. Rao, and V. S. Baghavan, "Some applications via common coupled fixed point theorems in bipolar metric spaces," *Journal of Critical Reviews*, vol. 7, no. 2, pp. 601-607, 2019.
- [4]. G. N. V. Kishore, K. P. R. Rao, A. Sombabu, and R. V. N. S. Rao, "Related results to hybrid pair of mappings and applications in bipolar metric spaces," *Journal of Mathematics*, vol. 2019, Article ID 8485412, , 2019.
- [5]. R. Kannan, Some results on fixed points. *Bull. Calcutta Math. Soc.* 10, 71-76, 1968.
- [6]. E. Karapınar, Revisiting the Kannan Type Contractions via Interpolation , *Advances in the Theory of nonlinear analysis and its applications*, Vol. 2, No. 2, 2018.
- [7]. A. Mutlu, K. Özkan, and U. Gürdal, "Locally and weakly contractive principle in bipolar metric spaces," *TWMS Journal of Applied and Engineering Mathematics*, vol. 10, no. 2, pp. 379-388, 2020.
- [8]. A. Mutlu and U. Gürdal, "Bipolar metric spaces and some fixed point theorems," *Journal of Nonlinear Sciences and Applications*, vol. 9, no. 9, pp. 5362-5373, 2016.
- [9]. B. S. Rao, G. N. V. Kishore, and G. K. Kumar, "Geraghty type contraction and common coupled fixed point theorems in bipolar metric spaces with applications to homotopy," *International Journal of Mathematics Trends and Technology (IJMTT)*, vol. 63, 2018.