

**SOME RESULTS FOR α - (ψ, φ) -CONTRACTIVE MAPPINGS IN
 S -METRIC SPACES**

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ABSTRACT. In this paper, we introduce the concept of an α - (ψ, φ) -contractive type mapping in S -metric space. We also prove some coincidence and common fixed point theorems of self-mappings in complete S -metric spaces along with some examples.

REFERENCES

- [1] I.Y. Alber and S. Guerre-Delabriere: Principle of weakly contractive maps in Hilbert space, in *New Results in Operator Theory and Its Applications* (I. Gohberg and Y. Lyubich (Eds.)), Birkhäuser, Basel, Switzerland, 1997 (OT 98), pp. 7-22.
- [2] Th. Bimol Singh and M.R. Singh: *Some common fixed point theorems for two pairs of weakly compatible mappings satisfying ϕ -weakly contractive conditions*, J. Math. Comput. Sci., **10**(2020), No. 5, 1340-1359.
- [3] B.S. Choudhury, P. Konar, B.E. Rhoades and N. Metiya: *Fixed point theorems for generalized weakly contractive mappings*, Nonlinear Anal., **74**(2011), 2116-2126.
- [4] P.N. Dutta and B.S. Choudhury: *A generalisation of contraction principle in metric spaces*, Fixed Point Theory Appl., **2008**(2008), Article ID 406368, 8 pages.
- [5] J. Esmaily, S.M. Vaezpour and R. Saadati: *Coincidence and common fixed point results for α - (ψ, φ) -contractive mappings in metric spaces*, Int. J. Industrial Math., **11**(2019), No. 4, Article ID IJIM-0681, 13 pages.
- [6] G. Jungck: *Compatible mappings and common fixed points*, Internat. J. Math. Math. Sci., **9**(1986), No. 4, 771-779.
- [7] M.S. Khan, M. Swaleh and S. Sessa: *Fixed point theorems by altering distances between the points*, Bull. Aust. Math. Soc., **30**(1984), 1-9.
- [8] B.E. Rhoades: *Some theorems on weakly contractive maps*, Nonlinear Anal., **47**(2001), No. 4, 2683-2693.
- [9] B. Samet, C. Vetro and P. Vetro: *Fixed point theorems for $\alpha - \psi$ -contractive type mappings*, Nonlinear Anal., **75**(2012), 2154-2165.
- [10] S. Sedghi, N. Shobe and A. Aliouche: *A generalization of fixed point theorems in S -metric spaces*, Mat. Vesnik, **64**(2012), No. 3, 258-266.
- [11] S. Sedghi, N. Shobkolaei, M. Shahraki and T. Došenović: *Common fixed point of four maps in S -metric spaces*, Math. Sci. (Springer), **12**(2018), 137-143.

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