

## On some fixed and common fixed point results obtained for Menger PM-spaces

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**Abstract.** In this talk, we will present some fixed point results obtained for Menger PM-spaces by employing some weaker forms of continuity and a new type of  $(\varepsilon - \delta)$  condition. Additionally, we will present the result that establishes that the completeness of the space is equivalent to the fixed point property for a larger class of mappings. On the other hand, we will show that if a pair of self-mappings that satisfy some weaker forms of commutativity defined on Menger PM spaces with a nonlinear contractive condition possess a unique common fixed point, then these mappings are orbitally continuous. Also, we will investigate whether the converse of these results holds.

**Keywords:** Menger PM-spaces; fixed point; common fixed point.

### References

- [1] **R.M. Nikolić, R.P. Pant, V.T. Ristić, A. Šebeković.** Common Fixed Points Theorems for Self-mappings in Menger PM-spaces. *Mathematics*, 2022, 10(14), 2449.
- [2] **R.M. Nikolić, V.T. Ristić, J. Fijuljanin, A. Šebeković.** Orbital continuity and common fixed points in Menger pm-spaces. *Kragujevac Journal of Mathematics*, 2023, 47(7), 1011 - 1019.
- [3] **S. N. Ješić, R.M. Nikolić, R. P. Pant.** Common fixed point theorems for self-mappings in Menger PM-spaces with nonlinear contractive condition. *J. Fixed Point Theory Appl.*, 2018, 20(90), 2 - 11.
- [4] **R.P. Pant, A. Pant, R.M. Nikolić, S.N. Ješić.** A characterization of completeness of Menger PM-spaces. *J. Fix. Point Theory A.*, 2019, 21(4).