# On a generalized coupled fixed point theorem in $\mathcal{C}[0, 1]$ and its application to a class of coupled systems of functional-integral equations

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**ABSTRACT.**

In this paper, we present a result about the existence of a generalized coupled fixed point in the space $\mathcal{C}[0, 1]$. Moreover, as an application of the result, we study the problem of existence and uniqueness of solution in $\mathcal{C}[0, 1]$ for a general system of nonlinear functional-integral equations with maximum.

## REFERENCES

[1] Aghajani, A., Banas, J. and Sebzali, N., *Some generalizations of Darbo fixed point theorem and applications*, Bull. Belg. Math. Soc. Simon Stevin, **20** (2013), 345–358

[2] Berinde, V., *Iterative Approximation to Fixed Points*, Springer Verlag, Lectures Notes in Mathematics, 1912, 2007

[3] Caballero, J., Lpez, B. and Sadarangani, K., *On monotonic solutions of an integral equation of Volterra type with supremum*, J. Math. Anal. Appl., **305** (2005), 304–315

[4] Caballero, J., Harjani, J. and Sadarangani, K., *A best proximity point theorem fo Geraghty-contractions*, Fixed Point Theory and Applications, (2012), doi: 10.1186/1687-1812-2012-231

[5] Matkowski, J., *Integrable solutions of functional equations*, Dissertationes Math. **127**, (1975), 1–68

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