

## A Coupled System of Caputo-Type Katugampola Fractional Differential Equations with Integral Boundary Conditions

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**Abstract :** In this paper, we investigate the existence and uniqueness of solutions for a coupled system of nonlinear Caputo-type Katugampola fractional differential equations with integral boundary conditions. Based upon a contraction mapping principle, Schauders fixed point theorems, some new existence and uniqueness results of solutions for the given problems are obtained. For application, some examples are given to illustrate the usefulness of our main results.

**Keywords :** fractional differential equations, coupled system, Caputo-Katugampola derivative, fixed point theorems, existence, uniqueness

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