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Article

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POSITIVE SOLUTION OF A FRACTIONAL DIFFERENTIAL EQUATION WITH INTEGRAL BOUNDARY CONDITIONS

Mohammed S. Abdo[1,2], Hanan A. Wahash[1], Satish K. Panchal[3]

[1] *Research Scholar at Department of Mathematics, Dr. Babasaheb Ambedkar Marathwada University Aurangabad 431004 (M.S.), India*
[2] *Department of Mathematics, Hodeidah University Al-Hodeidah, Yemen*
[3] *Department of Mathematics, Dr. Babasaheb Ambedkar Marathwada University Aurangabad 431004 (M.S.), India*
msabdo1977@gmail.com, drpanchalskk@gmail.com

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Abstract. In this paper, we prove the existence and uniqueness of a positive solution for a boundary value problem of nonlinear fractional differential equations involving a Caputo fractional operator with integral boundary conditions. The technique used to prove our results depends on the upper and lower solution, the Schauder fixed point theorem and the Banach contraction principle. The result of existence obtained through constructing the upper and lower control functions of the nonlinear term without any monotone requirement. Illustrative examples are provided.

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