عنوان مقاله:

Collection-based numerical method for multi-order fractional integro-differential equations

محل انتشار:

مجله ایرانی آنالیز عددی و بهینه سازی, دوره 13, شماره 27 (سال: 1402)

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خلاصه مقاله:

In this paper, the standard collocation approach is used to solve multi-order fractional integro-differential equations using Caputo sense. We obtain the integral form of the problem and transform it into a system of linear alge-braic equations using standard collocation points. The algebraic equations are then solved using the matrix inversion method. By substituting the algebraic equation solutions into the approximate solution, the numerical result is obtained. We establish the method's uniqueness as well as the convergence of the method. Numerical examples show that the developed method is efficient in problem-solving and competes favorably with the existing method.

کلمات کلیدی:

Integro-differential equations, Collocation method, Fredholm-Volterra equations, Multi- order

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