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Numerical Studies For Solving Fractional Integro-Differential Equations

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Highlights

- In this paper, we give a new numerical method for solving a linear system of fractional integro-differential equations.
- The fractional derivative is considered in the Caputo sense. The proposed method is least squares method aid of Hermite polynomials.
- The suggested method reduces this type of systems to the solution of systems of linear algebraic equations.
- Numerical results show that this approach is easy to implement and accurate when applied to integro-differential equations.
- We show that the solutions approach to classical solutions as the order of the fractional derivatives approach.

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