Efficient quadrature rules for solving nonlinear fractional integro-differential equations of the Hammerstein type

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Abstract: The aim of this paper is to solve nonlinear fractional integro-differential equations of the Hammerstein type. The basic idea is to convert fractional integro-differential equations to a type of second kind Volterra integral equations. Then the obtained Volterra integral equation will be solved with some suitable quadrature rules. We are interested in using a simple method to obtain riveting results. Numerical tests for demonstrating the convergence and accuracy of the method will be included.

Keywords: quadrature rules, fractional integro-differential equations.

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