

عنوان مقاله:

A numerical approach for solving a class of nonlinear fractional integro- differential equation with weakly Singular kernel by alternative legendary polynomials

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خلاصه مقاله:

In this paper, we propose a new spectral approach based on alternative Legendre polynomials for solving nonlinear fractional integro-differential equations with weakly singular kernel. To do this, by the help of operational matrices of fractional integration and product based on these polynomials, we reduce the considered problem to a system of algebraic equations. Also, we investigate the error analysis of the proposed scheme. Finally, we present some numerical examples to show the high accuracy and validity of the new work

کلمات کلیدی:

Alternative Legendre polynomials, nonlinear fractional integro-differential equations, Operational matrix, error analysis

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