

عنوان مقاله:

Jacobi Wavelets Method for Numerical Solution of Weakly Singular Volterra Integral Equation

محل انتشار:

دوفصلنامه آنالیز سراسری و ریاضیات گسسته، دوره 6، شماره 2 (سال: 1400)

تعداد صفحات اصل مقاله: 20

نویسندگان:

Yaghoub Mahmoudi - *Math Department, Tabriz Branch, Islamic Azad University*

Yahya Rahrovi - *Math Department, Tabriz Branch, Islamic Azad University, Tabriz, Iran*

Ali Salimi Shamloo - *Department of Mathematics, Shabestar Branch, Islamic Azad University, Shabestar, Iran*

Mohammad Jahangiri Rad - *Department of Mathematics, Tabriz Branch, Islamic Azad University, Tabriz, Iran*

Einollah Fathizade - *Department of Mathematics, Karaj Branch, Islamic Azad University, Karaj, Iran*

خلاصه مقاله:

In this paper, the first and second kind weakly singular Volterra integral equations are approximated by using the Jacobi wavelets method. First, the operational matrices for fractional integration and product for Jacobi wavelets are computed with a new matrix approach, and then, it applied to solve numerically the first and second kind Volterra integral equations involving singularity. Illustrative numerical experiments with comparison are included to indicate the validity and practicability of the method.

کلمات کلیدی:

hybrid functions, Jacobi polynomials, operational matrix, singular Volterra integral equation, wavelets

لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/1541366>

