Abstract

In this paper, an application to the approximation by wavelets has been obtained by using matrix-Cesaro \((\Lambda \cdot C_1)\) method of Jacobi polynomials. The rapid rate of convergence of matrix-Cesaro method of Jacobi polynomials are estimated. The result of Theorem (6.1) of this research paper is applicable for avoiding the Gibbs phenomenon in intermediate levels of wavelet approximations. There are major roles of wavelet approximations (obtained in this paper) in computer applications. The matrix-Cesaro \((\Lambda \cdot C_1)\) method includes \((N, p^{n})\) method as a particular case. The comparison between the numerical results obtained by the \((N, p^n)\)
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and matrix-Cesaro (Λ·C₁) summability method reveals a slight improvement concerning the reduction of the excessive oscillations by using the approach of present paper.

References


Index Terms

Computer Science
Information Sciences

Keywords

Jacobi orthogonal polynomials, matrix-Cesaro \((\Lambda \cdot C_1)\) method of Jacobi polynomials, \((N, p_n)\cdot C_1\) method, multiresolution analysis, orthogonal projection, the Gibbs phenomenon in wavelet analysis.