Abstracts

Boundary Condition Expansion of Basis Functions Method Implemented by Fast Fourier Transform Algorithms

This paper presents a new approach to boundary value problems. It is based on boundary condition expansion on basis functions. The expansion coefficients are determined using the fast Fourier transform of basis functions on the boundary. This approach is compared with the least-squares boundary residual method (LSBRM). It is shown that this approach results in a considerable reduction in computation time in comparison with the original LSBRM. The procedure is successfully demonstrated on diffraction and eigenvalue problems.

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