

On solvability of inhomogeneous boundary-value problems in Sobolev spaces

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Abstract

We investigate the most general class of Fredholm one-dimensional boundary-value problems in the Sobolev spaces. Boundary conditions of these problems may contain derivatives of the order higher than the order of the system of differential equations. It is established that each of these boundary-value problems corresponds to a certain rectangular numerical characteristic matrix with kernel and cokernel having the same dimension as the kernel and cokernel of the boundary-value problem. The assumption under which the sequence of characteristic matrices converges is found.

The contributed talk will be made under the guidance of Professor Mikhailets.