JACOBI NONLINEAR ITERATION METHOD FOR A DISCRETE KIRCHHOFF SYSTEM

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Abstract

An initial boundary value problem for an integro-differential equation describing string vibration is considered. Using the Galerkin method and a Crank-Nicholson type scheme, the solution is discretized with respect to a spatial and a time variable. Thus the problem is reduced to a system of nonlinear algebraic equations which is solved by the iteration method. The convergence of the method is proved.