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MECHANISM OF CONTROLLING THE PROCESS OF THE CONVERGENCE OF THE NEWTON ITERATION METHOD

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A mechanism for controlling the convergence of the continuous analog of the Newton method (NAMN) with the use, as a control parameter, of the step variation coefficient of the difference scheme for the numerical solution of the differential equation of the NAMN. Using the example of a developed algorithm for a modified NAMN, it was shown that it is possible to control the characteristics of the convergence of NAMN using the step change coefficient of the difference scheme for the numerical solution of the differential equation of the NAMN as a control parameter. The development and implementation of mechanisms for controlling the iterative processes of solving the equations will make it possible to significantly reduce the time required to calculate the required value, which will significantly improve the efficiency of the algorithms for solving nonlinear equations.

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Short biography note

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