

To numerical realization of some operator equation by alternating to perturbation technique method

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The problems of approximate solution of some linear operator equation with small parameter by approach of the alternative to perturbation technique method [T.Vashakmadze, The Theory of Anisotropic Elastic Plates, Kluwer Acad. Publ., D./B./L., 1999] is studied.

The alternative method is based on representation of unknown vector with respect of small parameter by Furier-Legendre I series instead of asymptotic one. In such a case system of three-point operator equations of special structure in received. For system solving a certain regular method is used.

On the basis of the suggested method the corresponding scheme and programming product is created and realized . Algorithms and program products represent a new technology of approximate solution of two-point boundary value problem for some second order ordinary integro – differential equations.