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Block element method and its application in seismology

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A new mathematical method based on high-level mathematics called the block element method was developed. The method is applicable to boundary value problems for partial differential equations and their systems. The method includes a number of other mathematical approaches and has numerous applications in various fields. Thanks to this method, it was possible to investigate and solve a number of problems that could not be solved by other methods. The method, despite numerous applications, is in the development stage and penetrates into an increasing number of scientific problems. The advantage of the method is the representation of solutions of boundary problems in analytical form, in the form of integrals, which makes it possible to identify those properties of solutions that are not visible when applying traditional numerical methods. The applications of this method in seismology are given for the different examples of the lithospheric plates. Comparisons of the theoretical results with the consequence of real earthquakes are given.

Biography

Vladimir Babeshko has completed his PhD (Doctor of Mechanics) from Russian Academy of Sciences, Russia. He is a Chief of Scientific-Research Center for Forecasting and Preventing Geoecological and Technologenic Disasters, Kuban State University and Southern Research Center, Russian Academy of Sciences. He has 20 patents, published 7 monographs and more than 450 papers in reputed journals to his credit.

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