INVESTIGATION OF THE THIN STRUCTURES INDUCED MAGNETOSTATIC FIELDS IN A THREE-DIMENSIONAL SPACE BY MEANS OF THE OF THE MODIFIED BOUNDARY ELEMENTS METHOD DEVELOPMENT

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Abstract

The methodology of the modified boundary elements method implementation and developing of the MBEM software package based on the mentioned method (which can be used for calculating and simulating induced magnetic fields of thin-walled structures in three-dimensional space) were proposed. Calculations of the magnetic field of a thin-walled cylindrical shell is performed using the developed method. The results of the calculations obtained with the help of

the modified boundary elements method - values of the resultant magnetic tension vector of a thin-walled cylinder, calculated by the MBEM software package are presented. The results were confirmed by the results obtained with the finite element method using ANSYS software; and the values of the magnetic potential calculated using the developed method were confirmed by analytical calculations. References 19, figures 4, table 1.

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