CONCERNING THE ERROR IN ONE APPROXIMATE METHOD OF SOLVING BOUNDARY-VALUE PROBLEMS

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An approximate method has been proposed in [1] for solving boundary-value problems with homogeneous boundary conditions, which ensures a rather high accuracy because of the rational choice of coordinate functions.

However, in Table 2 [1] there appears a misprint: for δ_0 (%) in column 6 we read −21.3, which should have been −1.3. Indeed, in Table 1 [1] for $l_z/l_x = l_z/l_y = 1$ with m = 2, $\delta_0 = -1.3\%$. The misprint leads also to a disparity between Table 2 and the text (p. 314, line 9 from the bottom, [1]), where it is stated that calculating the temperatures inside a parallelepiped by this method will yield an error not greater than 1.5%.

This misprint distorts the intent of [1] in that it conveys a wrong impression about the accuracy of the method. A disparate assessment of the applicability of the method proposed in [1] has, owing to the said misprint, also been made in [2].

The expected reduction of error, as a result of using this method for calculating the temperature in a finite cylinder (p. 314, line 10 from the bottom, [1]), has been confirmed by the results in [3], where δ_0 for this case is shown not to exceed 0.7%.

NOTATION

δ_0	is the relative error in the temperature determination at the center of a rectangular parallelepiped or a finite cylinder by the approximate method, %;
l_x, l_y, l_z	are the dimensions of a rectangular parallelepiped along axes x, y, z, respectively;
m	is the step number in the process of refining the coordinate function.

LITERATURE CITED

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