It can be seen from the figure that the error of the results is not large, which shows good convergence of the suggested approximating procedures. Furthermore, the approximation error may be reduced to as small value as desired through an increase in the number of nested functions.

The considered examples are taken from various areas and are not single ones for the application of the suggested methods of approximation. Therefore, sufficient universality of these methods may be stated.

The described methods of approximation do not have any of the disadvantages of expansions of functions into Fourier series and may find wide use in the solution of applied problems. It should also be noted that the proposed approximating functions are continuous and analytical ones. They reflect actual processes to a larger extent than step functions, as even jump processes occur in reality within short, but not zero, time intervals.

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