A simplified mathematical model of the impact assessment of thermal modes of ignition on the layer of soil after the stage of ignition of forest combustible material

© **Nikolay V. Baranovskiy**,[1]*[+] and **Rakhmanbek M. Toichuev**[2]
[1] *Department of Theoretical and Industrial Heating Engineers.*
National Research Tomsk Polytechnic University. Lenin St., 30.
Tomsk, 634050. Russia. Phone: +7 (3822) 56-36-13. E-mail: firedanger@narod.ru
[2] *Institute of Medical Problems of Southern Branch of National Academy of Sciences of the Kirghiz Republic.*
Uzgensky St., 130-A. Osh, Kirghiz Republic.

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*Supervising author; [+]Corresponding author

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Abstract

The simplified model of forest combustible material ignition is considered and the base mathematical model of an estimation of influence of thermal modes of forest fire on soils is presented in article. The model is presented by a set of the equations of heat conductivity with corresponding initial and boundary conditions. The numerical analysis of influence of various centres of forest fire on temperature distribution in the top soil layers is carried out. Results can be applied for the analysis of border regimes of vital activity of microorganisms in the soil.