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Mathematical Modeling of Crown Forest Fire Spread

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ABSTRACT

Mathematical model of forest fire was based on an analysis of known experimental data and using concept and methods from reactive media mechanics. In this paper the assignment and theoretical investigations of the problems of crown forest fire spread in windy condition were carried out. In this context, a study—mathematical modeling—of the conditions of forest fire spreading that would make it possible to obtain a detailed picture of the change in the temperature and component concentration fields with time, and determine as well as the limiting condition of fire propagation in forest with fire break.

KEYWORDS

Forest Fire; Mathematical Model; Turbulence; Ignition; Fire Spread; Control Volume; Discrete Analogue

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