

The problem of spatial statement and numerical investigation of forest fuel layer ignition by the particle heated up to high temperatures

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Abstract

Numerical realization results of spatial statement of the problem of forest fuel (FF) layer ignition material heated by the particle up to high temperatures are discussed. Problem is considered in the cartesian coordinates in symmetric statement. Process of ignition by particle is described by system of the nonlinear non-stationary differential equations of heat conductivity and diffusion. Gas-phase FF layer ignition mechanism is considered. Ignition conditions of FF layer are revealed by the particle heated up to high temperatures and times of ignition delay are determined.