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About one of the possible mechanisms of forest fuel ignition by lightning discharge

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Abstract

In this work we consider a possible mechanism of the formation of heated-up wood particles dropping out on the layer of forest fuel under a tree crone and leading to its ignition. Formation of particles occurs as a result of growth of thermal pressure in the subcrustal zone of the tree trunk at the flow of current of ground lightning discharge. Conditions of the formation of such particles and their initial temperature are established. Results of mathematical and physical modeling of forest fuel ignition coursed by such particles are presented.