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THE IMPACT OF SLOPE ON FIRE SPREAD SIMULATION

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Abstract

Every year a lot of hectares of forest are burn in Europe, especially in the south part of Europe, where the climate is hot and dry during the summer. Last decades, with climate change, this part of the Europe becomes dryer and increase of the field fires is observed. The same problems arise in northern America, Australia and other dry regions. A model field fire spread can have several applications. The prevision of the fire front can help the fireman to optimize their work, and to reduce the damages. Another application is prevention. Possible scenarios can be played and the computer model can show the dangerous places. Risk management is a very important especially in the areas with a high risk of field fires. Risk assessment is very important at construction of factories and stores for combustible materials. In this paper we propose a field fire model based on game method for modeling. In this work we have included the surface influence on the fire front acceleration. We show the difference of the fire spread with different slopes. In this work the considered wind speed is 0 to can show the impact of the slope.

Key words: cellular automate, field fire, game method for modeling, surface impact

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