

Streszczenie

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Modeling of Fire Spread Including Different Heat Transfer Mechanisms Using Cellular Automata

A new method of modeling the spread of fire using Cellular Automata based on 3D mesh will be presented. The models and implementation based on different heat transport mechanisms were used in the study, including conductivity, convection and thermal radiation. General mechanisms of fire spread are exemplified by a fire inside a building. The tests of the created simulator for fire in rooms were conducted, and the reference point was the known simulator based on CFD (Computational Fluid Dynamics), namely FDS Fire Dynamics Simulator.