

NONSTATIONARY BURNING IN THE PLANE

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Abstract: This work is devoted to the numerical study of the emergence of non-stationary essentially two-dimensional combustion regimes in the plane. The research was conducted by the example of a model problem which depends on two parameters. By numerical method in the parameter plane, there were found two domains. One of them corresponds to a stable regime and the other corresponds to an unstable regime. The instability is understood as the emergence of solution dependence on the angle. It is shown how the difference approximation in cylindrical and rectangular coordinate systems affects the nature of occurrence of unstable regimes.

Keywords: nonstationary burning; spin burning; stability

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Received November 1, 2014

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