

Qualitative study of a well-stirred isothermal reaction model

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Abstract

We consider a two-dimensional system which is a mathematical model for a temporal evolution of a well-stirred isothermal reaction system. We give sufficient conditions for the existence of purely imaginary eigenvalues of the Jacobian matrix of the system at its fixed points. Moreover, we show that the system admits a supercritical Hopf bifurcation.

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