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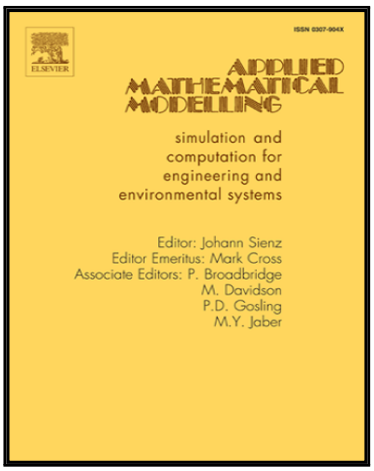

Stability analysis of combustion waves for competitive exothermic reactions using Evans function

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Highlights

- Analysed a two-step adiabatic competitive exothermic reaction scheme.
- Analysed the stability of the combustion waves using the Evan function method.
- Determined the threshold values of parameters for the onset of pulsating behaviour.
- Showed that the system exhibits pulsating and period-doubling behaviour.

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