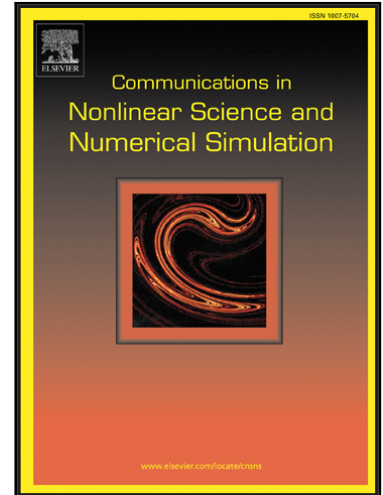


## Accepted Manuscript

Parametric resonance in nonlinear vibrations of string under harmonic heating

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**Highlights**

- Geometric nonlinearity and Joule's heating act opposite each other on string oscillation.
- Single mode approximation results in Mathieu-Duffing equation.
- Oscillator presents Mathieu's type instabilities when proper nonlinearity is omitted.
- Jump phenomenon is observed in sweeping the frequency of driving force.
- String oscillates at the modulation frequency in a small only interval of resonant frequency.

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