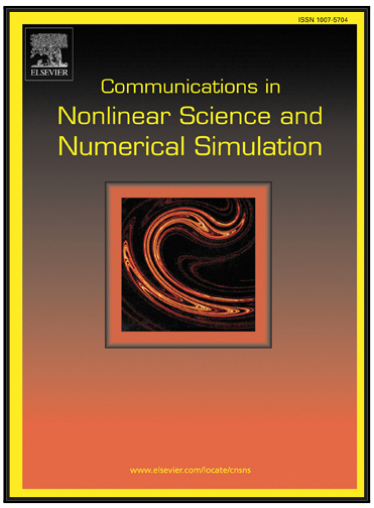

Sensitivity analysis of primary resonances and bifurcations of a controlled piecewise-smooth system with negative stiffness

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Hightlights:

- The primary resonance, dynamical stability and bifurcations of a PWS system with negative stiffness are mainly studied.
- The frequency response of the system is determined by two series expansion methods: The Linstedt-Poincaré method and the method of multiple scales.
- The sensitivity of the controller parameters on the responses is analyzed.
- In order to suppress the maximum amplitude, the feedback parameters are determined by the frequency response and stability conditions.
- The symmetry-breaking bifurcation and the chaotic motion are investigated.