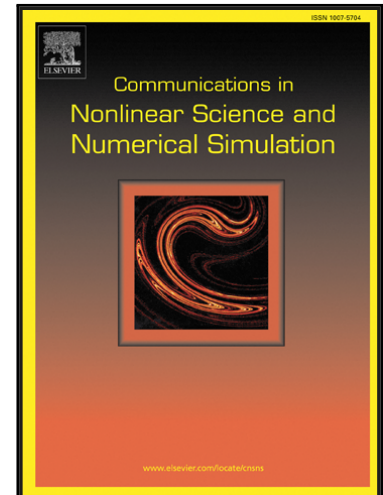


## Accepted Manuscript

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

Dongmei Huang , Wei Xu

PII: S1007-5704(17)30129-6  
DOI: [10.1016/j.cnsns.2017.04.019](https://doi.org/10.1016/j.cnsns.2017.04.019)  
Reference: CNSNS 4169



To appear in: *Communications in Nonlinear Science and Numerical Simulation*

Received date: 22 July 2016  
Revised date: 10 April 2017  
Accepted date: 23 April 2017

Please cite this article as: Dongmei Huang , Wei Xu , Sensitivity analysis of primary resonances and bifurcations of a controlled piecewise-smooth system with negative stiffness, *Communications in Nonlinear Science and Numerical Simulation* (2017), doi: [10.1016/j.cnsns.2017.04.019](https://doi.org/10.1016/j.cnsns.2017.04.019)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

## Highlights:

- 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.

Download English Version:

<https://daneshyari.com/en/article/5011404>

Download Persian Version:

<https://daneshyari.com/article/5011404>

[Daneshyari.com](https://daneshyari.com)