

Accepted Manuscript

Resonance responses in a two-degree-of-freedom viscoelastic oscillator under randomly disordered periodic excitations

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PII: S1007-5704(18)30266-1
DOI: <https://doi.org/10.1016/j.cnsns.2018.08.005>
Reference: CNSNS 4619



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

Received date: 9 June 2017
Revised date: 29 September 2017
Accepted date: 14 August 2018

Please cite this article as: Deli Wang, Wei Xu, Jianwen Xu, Xudong Gu, Guidong Yang, Resonance responses in a two-degree-of-freedom viscoelastic oscillator under randomly disordered periodic excitations, *Communications in Nonlinear Science and Numerical Simulation* (2018), doi: <https://doi.org/10.1016/j.cnsns.2018.08.005>

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Highlights

- The primary resonance and internal resonance of two-degree-of-freedom (TDOF) viscoelastic system with some complex nonlinear coupled terms under randomly disordered periodic excitations is considered.
- The occurrence of (random) jump, (random) saturation, and double-jumping can be explored on the development of steady-state moments with the changing excitation amplitudes and frequency.
- Viscoelastic parameters have great influence on the steady-state responses under the different detuning conditions.
- The increase of the intensity of the random excitation leads to the steady-state solutions (through the internal and external resonance) changing from a limit cycle to a diffused limited cycle. 1

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