

Curriculum Vitae

Yichang Shen

Email:

Born:

Google Scholar:

Education

- 30/09/2018-30/09/2021, Institute of Mechanical Science and Industrial Applications (IMSIA), CNRS, EDF, CEA, ENSTA Paris. **Institut Polytechnique de Paris**,
 - PhD in Solid Mechanics.
 - Thesis: *Reduced-order models for geometrically nonlinear vibrations of thin structures*, supervised by Prof. Cyril Touzé.
- 01/09/2015-01/04/2018, School of Aeronautics and Astronautics, **Shanghai Jiao Tong University**,
 - Major in Aircraft Design, Master of Engineering;
 - Thesis: *Passive suppression of vibration on a plate subjected to excitation*, supervised by Prof. Xiang Zhou.
- 01/09/2011-01/07/2015, College of Mechanical Engineering, **Chong Qing University**,
 - Major in Mechanical Design. Bachelor's degree of Mechanical Engineering;
 - Minor in Accounting. Second bachelor's degree of Management.

Peer reviewed journal publications

[J8] **Y. Shen**, N. Béreux, A. Frangi, and C. Touzé. Reduced order models for geometrically nonlinear structures: assessment of implicit condensation with comparison to invariant manifold approach. *European Journal of Mechanics-A/Solids*, 2021, 86: 104165.

[J7] **Y. Shen**, A. Vizzaccaro, N. Kesmia, T. Yu, L. Salles, O. Thomas and C. Touzé. Comparison of reduction methods for finite element geometrically nonlinear beam structure. *Vibration*, invited on special issue: "Model Order Reduction of Nonlinear System", 2021, 4(1), 175-204.

[J6] A. Vizzaccaro, **Y. Shen**, L. Salles, J. Blahos, and C. Touzé. Direct computation of normal form for reduced-order models of finite element nonlinear structures. *Computer Methods in Applied Mechanics and Engineering*, 2021, 384(1):113957.

[J5] J. Chen, P. D. Cha, **Y. Shen** and X. Zhou, "Quenching vibration on a harmonically excited symmetric laminated composite plate." *Journal of Vibration and Acoustic*, 2021, 144(3): 031004.

[J4] A. Vizzaccaro, A. Givois, P. Longobardi, **Y. Shen**, J. Deü, L. Salles, C. Touzé, and O. Thomas, "Non-intrusive reduced order modelling for the dynamics of geometrically nonlinear flat structures using three-dimensional finite elements." *Computational Mechanics*, 2020, 66: 1293-1319.

[J3] **Y. Shen**, P. D. Cha and X. Zhou, "Quenching Vibration by Imposing Nodes on a Plate Subjected to Multiple Harmonics with Distinct Excitation Frequencies", *Journal of Vibration and Acoustic*. 2019, 141 (6): 061005.

[J2] **Y. Shen**, X. Zhou and P. D. Cha, "An efficient method to quench Excess vibration of a harmonically excited damped plate", *International Journal of Mechanic Sciences*, 2018, 141:

372-385.

[J1] **Y. Shen**, X. Zhou and P. D. Cha, “Imposing points of zero displacement and zero slopes on a plate subjected to steady-state harmonic excitation”, *Journal of Vibration and Control*, 2017, 24(20): 4904-4920.

Conference Proceedings: Full-length paper

[C2] **Y. Shen**, N. Béreux, A. Frangi, and C. Touzé. Comparison of stress manifold and invariant manifold for reduced order modeling of thin structures. In proc. of European mechanic conferences: European Non-linear. Dynamics Conference, ENOC 2020+2, Lyon, France, July 2021. **Oral presentation (Postponed to 2022 because of COVID-19).**

[C1] **Y. Shen**, N. Kesmia, C. Touzé, A. Vizzaccaro, L. Salles and O. Thomas, Reduced-order models for free-edge shallow spherical shells: comparison of direct normal form and modal derivatives for predicting the type of nonlinearity, In proc. of International Nonlinear Dynamics Conference, NODYCON 2021, Sapienza University of Rome, February 16-19, 2021. **Oral presentation. Invited to be reviewer.**

Conference Proceedings: Abstract

[A3] C. Touzé, A. Vizzaccaro, O. Thomas, L. Salles, A. Opreni, **Y. Shen** and A. Frangi, Comparison of nonlinear methods for reduced-order modeling of geometrically nonlinear structures. In proc. of European mechanic conferences: European Non-linear. Dynamics Conference, ENOC 2020+2, Lyon, July 2022.

[A2] A. Vizzaccaro, **Y. Shen**, L. Salles, and C. Touzé. Model order reduction methods based on normal form for geometrically nonlinear structures: a direct approach. In proc. of European mechanic conferences: European Non-linear. Dynamics Conference, ENOC 2020+2, Lyon, July 2022.

[A1] O. Thomas, A. Givois, A. Vizzaccaro, P. Longobardi, A. Grolet, L. Salles, J.-F. Deü, **Y. Shen** and C. Touzé. Finite elements based reduced order models for geometrically nonlinear and piezoelectric thin structures: validation and three-dimensional effects. In proc. of European mechanic conferences: European Non-linear. Dynamics Conference, ENOC 2020+2, Lyon, July 2022.

Codes

For finite element package Code_Aster: Codes and testcases for developing reduced order model on structures with geometric nonlinearity on finite element model with DNF method [J5-6]:

[Co1] <https://sourceforge.net/p/codeaster/perf/ci/default/tree/astest/perf901a.comm>

[Co2] <https://sourceforge.net/p/codeaster/perf/ci/default/tree/astest/perf901b.comm>