



Figure 8: The nonlinear invariant modal surface obtained for fundamental NNM by fifth order

From: S. Mahmoudkhani, "Nonlinear vibration and mode shapes of FG cylindrical shells", Latin American Journal of Solids and Structures, Vol. 14, No. 3, pp 422-440, 2017



Professor Saeed Mahmoudkhani

See:

<https://scholar.google.com/citations?user=3jdP7osAAAAJ&hl=en>

https://www.researchgate.net/profile/Saeed_Mahmoudkhani

Dept. of Aerospace Engineering
Shahid Beheshti University, Tehran, Iran

Research Interests:

My research interest is to use analytical and computational methods on the basis of structural and nonlinear dynamics theories to study the vibration and stability of flexible structures. I am particularly interested in identifying various nonlinear phenomena to avoid or exploit them to improve performances.

Selected Publications:

- Mahmoudkhani, Saeed. (2018). A Semi-Analytical Method for Calculation of Strongly Nonlinear Normal Modes of Mechanical Systems. *Journal of Computational and Nonlinear Dynamics*. 13. 10.1115/1.4039192.
- S. Mahmoudkhani, "Nonlinear vibration and mode shapes of FG cylindrical shells", *Latin American Journal of Solids and Structures*, Vol. 14, No. 3, pp 422-440, 2017
- S. Mahmoudkhani, M. Sadeghmanesh and H. Haddadpour, "Aero-thermo-elastic stability analysis of sandwich viscoelastic cylindrical shells in supersonic airflow", *Composite Structures*, Vol. 147, pp 185-196, July 2016
- Mohammad Ebrahim Torki, Mohammad Taghi Kazemi, Junuthula N. Reddy, Hassan Haddadpour and Saeed Mahmoudkhani, "Dynamic stability of functionally graded cantilever cylindrical shells under distributed axial follower forces", *Journal of Sound and Vibration*, Vol. 333, No. 3, pp 801-817, February 2014

Mohammad Ebrahim Torki, Mohammad Taghi Kazemi, Hassan Haddadpour and Saeed Mahmoudkhani, "Dynamic stability of cantilevered functionally graded cylindrical shells under axial follower forces", *Thin-Walled Structures*, Vol. 79, pp 138-146, 2014

Mohammad Ebrahim Torki (1), Mohammad Taghi Kazemi (1) and Saeed Mahmoudkhani (2)

"Diversity between shell-like and beam-like regions for a cantilever cylindrical shell under follower forces", *International Journal of Advanced Structural Engineering* 2012, 4:9

S. Mahmoudkhani, H.M. Navazi, H. Haddadpour, An analytical study of the non-linear vibrations of cylindrical shells, *International Journal of Non-Linear Mechanics* 46 (2011) 1361–1372

Mahmoudkhani S, Haddadpour H, Navazi HM (2010) Supersonic flutter prediction of functionally graded conical shells. *Compos Struct* 92:377–386

Haddadpour H, Mahmoudkhani S, Navazi HM. Supersonic flutter prediction of functionally graded cylindrical shells. *J Composite Struct*, Elsevier 2008;83 (4):391–8.

Haddadpour, H., Mahmoudkhani, S., Navazi, H. M. (2007). Free vibration analysis of functionally graded cylindrical shells including thermal effects. *Thin-Walled Structures* 45: 591–599