



Professor Frederico M.A. Silva

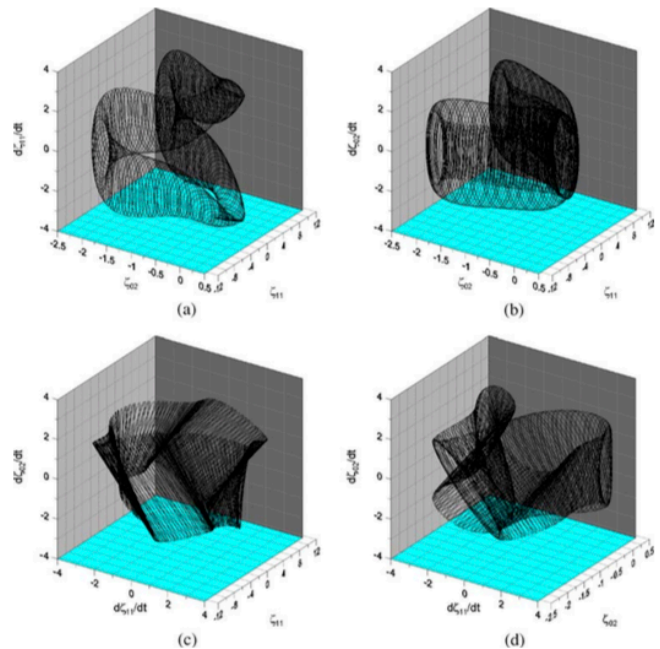


Fig. 7 Projections of a quasi-periodic orbit of the conservative system for initial conditions on the safe boundary for $\Gamma_0 = 0.40$. Initial conditions: $\zeta_{11} = -1.50$, $\zeta_{02} = 0.11$, $\zeta_{11} = 2.61$, $\zeta_{02} = 1.86$

From: Frederico M.A. Silva, Zenon J.G.N. del Prado and Paulo B. Goncalves, "Influence of axial load uncertainties on the nonlinear oscillations of cylindrical shells", 11th Pan-American Congress of Applied Mechanics, January 4-8, 2010, Foz do Iguacu, PR, Brazil (Proceedings of the PACAM XI)

See:

<https://scholar.google.com/citations?user=wAa-gsQAAAAJ&hl=fr>
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Selected Publications:

Silva, F. M. A. "Instability dynamics analysis of cylindrical fluid-filled shells (in Portuguese)". 2004. Master's Thesis, Federal University of Goiás, Goiânia, GO, Brazil, 2004.

Silva, F. M., Gonçalves, P. B., Del Prado, Z. J. G. N., 2004a, "Analysis of the parametric instability of imperfect cylindrical shells with internal fluid ". Proceedings of Third DINCON, Vol. 3, Ilha Solteira, Brazil, pp. 1665-1672

Silva, F. M., Gonçalves, P. B., Del Prado, Z. J. G. N., 2004b, "Global instability of imperfect cylindrical shells with internal fluid". Proceedings of XXV Iberian-Latin American Congress on Computational Methods in Engineering, Recife, Brazil

Gonçalves, P. B., Del Prado, Z. J. G. N., Silva, F. M., 2005, "Global instability of empty and fluid-filled imperfect cylindrical shells", Proceedings of Third MIT Conference on Computational Fluid and Solid Mechanics, Massachusetts, USA, pp.235-238.

Paulo B. Goncalves, Frederico M.A. da Silva and Zenon J.G.N. del Prado, "Transient Stability of Empty and Fluid-Filled Cylindrical Shells", Journal of the Brazilian Society of Mechanical Science & Engineering, Vol. 28, No. 3, pp 331-338, July-September 2006

Paulo B. Gonçalves, Frederico M.A. Silva and Zenón J.G.N. del Prado, "Transient and steady state stability of

cylindrical shells under harmonic axial loads”, *International Journal of Non-Linear Mechanics*, Vol. 42, No. 1, January 2007, pp. 58-70, Special Issue: Nonlinear Dynamic Stability of Nonconservative Dissipative Systems, doi:10.1016/j.ijnonlinmec.2006.12.011

Gonçalves, P. B., Silva, F. M. and Del Prado, Z. J. G. N., 2007a, "Global stability analysis of parametrically excited cylindrical shells through the evolution of basin boundaries", *Nonlinear Dynamics*, Vol. 50, pp 121-145, 2007

Silva, F. M. A., Goncalves, P. B. and Prado, Z. J. G. N. Del, “Dynamic instability of cylindrical shells subjected to sudden step loads”, *Proceedings of the 19th International Congress of Mechanical Engineering*, November 5-9, 2007, Brasilia DF, Brazil

Silva, F.M.A.: Low dimensional models for nonlinear vibration and stability analysis of cylindrical shells. D.Sc. thesis, Catholic University of Rio de Janeiro, PUC-Rio, Rio de Janeiro, Brazil (2008)

P.B. Gonçalves, F.M.A. Silva and Z.J.G.N. Del Prado, “Low-dimensional models for the nonlinear vibration analysis of cylindrical shells based on a perturbation procedure and proper orthogonal decomposition”, *Journal of Sound and Vibration*, Vol. 315, No. 3, 19 August 2008, pp. 641-663, Special Issue: EUROMECH colloquium 483, Geometrically non-linear vibrations of structures, doi:10.1016/j.jsv.2008.01.063

Frederico M.A. Silva, Zenon J.G.N. del Prado and Paulo B. Goncalves, Influence of axial load uncertainties on the nonlinear oscillations of cylindrical shells”, 11th Pan-American Congress of Applied Mechanics, January 4-8, 2010, Foz do Iguacu, PR, Brazil (Proceedings of the PACAM XI)

Gonçalves, P.B., Silva, F.M.A., Rega, G. and Lenci, S., 2011, "Global dynamics and integrity of a two-dof model of a parametrically excited cylindrical shell", *Nonlinear Dynamics*, Vol. 63, pp. 61-82.

Frederico M. A. Silva, Paulo B. Gonçalves and Zenón J. G. N. del Prado, “An alternative procedure for the non-linear vibration analysis of fluid-filled cylindrical shells”, *Nonlinear Dynamics*, Vol. 66, pp 303-333, 2011

F.M.A. Silva, P.B. Goncalves and Z.J.G.N. del Prado, “Parametric instability and snap-through of partially fluid-filled cylindrical shells”, *Procedia Engineering*, Vol. 14, pp 598-605, 2011

Frederico M.A. Silva, Flavio Augusto X.C. Pinho, Zenon J.G.N. del Prado and Paulo B. Goncalves, “On the Galerkin-iterative method applied to the non-linear vibrations of rectangular plates”, *DINCON 2011, Brazilian Conference on Dynamics and Control and Applications*, 28 August – 1 September, 2011

Frederico M. A. Silva; Paulo B. Gonçalves; Zenón J. G. N. Del Prado, “Influence of physical and geometrical system parameters uncertainties on the nonlinear oscillations of cylindrical shells”, *J. Braz. Soc. Mech. Sci. & Eng. vol.34 no.spe2 Rio de Janeiro 2012*

Lara Rodrigues, Frederico M.A. Silva, Zenon J.G.N. del Prado and Paulo B. Goncalves, “Effects of internal resonances on the global stability of cylindrical shells axially excited”, *DINAME 2013 – Proceedings of the XV International Symposium on Dynamic Problems of Mechanics*, M.A. Savi (Editor) ABCM, Buzios, RJ, Brazil, February 17-22, 2013

Frederico M.A. Silva, Lara Rodrigues, Paulo B. Goncalves and Zenon J.G.N. Prado, “Nonlinear vibrations of a axially excited circular cylindrical shell considering the effects of modal coupling”, 11th International Conference on Vibration Problems, Z. Dimitrovova et al. (editors), Lisbon, Portugal, 9-12 September 2013

Silva, F. M. A., Goncalves, P. B. and Prado, Z. J. G. N. Del, “The influence of internal resonances on the dynamics of fluid-filled cylindrical shells”, 10th World Congress on Computational Mechanics, Vol. 1, No. 1, May 2014, Blucher Mechanical Engineering Proceedings.

F.M.A. Silva, L. Rodrigues, P.B. Goncalves and Z.J.G.N. del Prado, “Multimode interaction in axially excited cylindrical shells”, *MATEC Web of Conferences* 16, 05006, 2014, DOI: 10.1051/matecconf/20141605006

Lara Rodrigues, Frederico M.A. Silva, Paulo B. Goncalves and Zenon J.G.N. Del Prado, “Effects of modal coupling on the dynamics of parametrically and directly excited cylindrical shells”, *Thin-Walled Structures*, Vol. 81, pp 210-224, August 2014

Del Prado Z, Argenta AL, Da Silva F, Gonçalves PB. The effect of material and geometry on the non-linear

vibrations of orthotropic circular cylindrical shells. *International Journal of Non-Linear Mechanics*, 66, 75–86, 2014.

Frederico Martins Alves da Silva, Roger Otavio Pires Montes, Paulo Batista Goncalves and Zenon Jose Guzman Nunez Del Prado, “Nonlinear vibrations of fluid-filled functionally graded cylindrical shell considering a time-dependent lateral load and static preload”, *Proceedings of the Institution of Mechanical Engineers Part C Journal of Mechanical Engineering Science*, Vols. 203-210, May 2015

Frederico Martins Alves da Silva, Augusta Finotti Brazao and Paulo Batista Goncalves, “Influence of physical and geometrical uncertainties in the parametric instability load of an axially excited cylindrical shell”, *Mathematical Problems in Engineering*, Vol. 2015, Article ID 758959, 2015

Frederico M.A. Silva and Paulo B. Goncalves, “The influence of uncertainties and random noise on the dynamic integrity analysis of a system liable to unstable buckling”, *Nonlinear Dynamics*, July 2015, DOI: 10.1007/s11071-015-2021-5

Zenon J.G.N. del Prado, Marco Amabili, Paulo B. Goncalves and Frederico Da Silva, “Geometry effects on the nonlinear oscillations of viscoelastic cylindrical shells”, *ECCOMAS Congress 2016, VII European Congress on Computational Methods in Applied Sciences and Engineering*, M. Papadrakakis, V. Papadopoulos, G. Stefanou and V. Plevris (editors), Crete Island, Greece, June 5-10 2016

Silva, F.M.A., Montes, R.O.P., Goncalves, P.B., Del Prado, Z.J.G.N.: Nonlinear vibrations of fluid-filled functionally graded cylindrical shell considering a time-dependent lateral load and static preload. *J. Mech. Eng. Sci.* 230, 102–119 (2016)

F. M. A. da Silva, H. A. R. Sattler, P. B. Gonçalves, Z. J. G. N. del Prado, "Influence of Modal Coupling on the Nonlinear Vibration of Simply Supported Cylindrical Panels", *Applied Mechanics and Materials*, Vol. 849, pp. 106-118, 2016

Paulo B. Gonçalves, Frederico M. A. Silva, Zenón J. G. N. Del Prado, “Reduced order models for the nonlinear dynamic analysis of shells”, *IUTAM Symposium Analytical Methods in Nonlinear Dynamics*, *Procedia IUTAM 19*, pp 118-125, 2016

Lara Rodrigues, Paulo B. Goncalves and Frederico M.A. Silva, “Internal resonances in a transversally excited imperfect circular cylindrical shell”, *Procedia Engineering*, Vol. 199, pp 838-843, 2017