

Daniele Zulli - Publications

Books

1. Luongo A., Zulli D., *Mathematical Models of Beams and Cables*, ISTE-Wiley, 2013.

International Journals

1. Benedettini F., Zulli D., Vasta M., “Nonlinear response of SDOF systems under combined deterministic and random excitations”, *Nonlinear Dynamics*, vol. 46 n. 4, 375-385, 2006.
2. Luongo A., Zulli D., Piccardo G., “A linear curved-beam model for the analysis of galloping in suspended cables”, *Journal of Mechanics of Materials and Structures*, 2(4), 675-694, 2007.
3. Luongo A., Zulli D., Piccardo G., “On the effect of twist angle on nonlinear galloping of suspended cables”, *Computers and Structures*, 87 (2009), 1003-1014.
4. Luongo A., Zulli D., Piccardo G., “Analytical and numerical approaches to nonlinear galloping of internally-resonant suspended cables”, *Journal of Sound and Vibration*, 315 (2008) 375-393.
5. Zulli D., Alaggio R., Benedettini F., “Nonlinear dynamics of curved beams. Part 1: formulation”, *International Journal of Non-linear Mechanics*, vol. 44 n. 6, 623-629, 2009.
6. Zulli D., Alaggio R., Benedettini F., “Nonlinear dynamics of curved beams. Part 2: numerical and experimental analysis”, *International Journal of Non-linear Mechanics*, vol. 44 n. 6, 630-643, 2009.
7. Luongo A., Zulli D., “Parametric, external and self-excitation of a tower under turbulent wind flow”, *Journal of Sound and Vibration*, vol. 330 n. 13, 3057-3069, 2011.
8. Luongo A., Zulli D., “Dynamic instability of inclined cables under combined wind flow and support motion”, *Nonlinear Dynamics*, vol. 67 n. 1, 71-87, 2012.
9. Zulli D., Luongo A., “Bifurcation and stability of a two-tower system under wind-induced parametric, external and self-excitation”, *Journal of Sound and Vibration*, vol. 331 n. 2, 365-383, 2011.
10. Benedettini F., Alaggio R., Zulli D., “Nonlinear coupling and instability in the forced dynamics of a non-shallow arch: Theory and experiments”, *Nonlinear Dynamics*, vol. 68, n. 4, 505-517, 2012.
11. Zulli D., Contento A., Di Egidio A., “3D model of rigid block with a rectangular base subject to pulse-type excitation”, *International Journal of Non-linear Mechanics*, vol. 47, n. 6, 679-687, 2012.
12. Luongo A., Zulli D., “A paradigmatic system to study the transition from zero/Hopf to double-zero/Hopf bifurcation”, *Nonlinear Dynamics*, vol. 70, n. 1, 111-124, 2012.
13. Luongo A., Zulli D., “Dynamic analysis of externally excited NES-controlled systems via a mixed Multiple Scale/Harmonic Balance algorithm”, *Nonlinear Dynamics*, vol. 70, n. 3, 2049-2061, 2012.
14. Luongo A., Zulli D., “Aeroelastic instability analysis of NES-controlled systems via a mixed Multiple Scale/Harmonic Balance Method”, *Journal of Vibration and Control*, vol. 20, n. 13, 1985-1998, 2014.
15. Di Egidio A., Zulli D., Contento A., “Comparison between the seismic response of 2D and 3D models of rigid blocks”, *Earthquake Engineering & Engineering Vibrations*, vol. 13, n. 1, 1-12, 2014.
16. Luongo A., Zulli D., “A nonlinear one-dimensional model of cross-deformable tubular beam”, *International Journal of Non-linear Mechanics*, vol. 66, 33-42, 2014.
17. Zulli D., Di Egidio A., “Galloping of internally resonant towers subjected to turbulent wind”, *Continuum Mechanics and Thermodynamics*, vol. 27, n. 4, 835-849, 2015.

18. Zulli D., Luongo A., “Nonlinear Energy Sink to control vibrations of an internally nonresonant elastic string”, *Meccanica*, vol. 50, n. 3, 781-794, 2015.
19. Luongo A., Zulli D., “Nonlinear Energy Sink to control elastic strings: the internal resonance case”, *Nonlinear Dynamics*, vol. 81, n. 1-2, 425-435, 2015.
20. Zulli D., Luongo A., “Control of primary and subharmonic resonances of a Duffing oscillator via nonlinear energy sink”, *International Journal of Non-linear Mechanics*, vol. 80, 170-182, 2016.
21. Warminski J., Zulli D., Rega G., Latalski J., “Revisited modelling and multimodal nonlinear oscillations of a sagged cable under support motion”, *Meccanica*, vol. 51, 2541-2575, 2016.
22. Luongo A., Casciati S., Zulli D., “Perturbation method for the dynamic analysis of a bistable oscillator under slow harmonic excitation”, *Smart Structures and Systems*, vol. 18, n. 1, 183-196, 2016.
23. Piccardo G., Zulli D., Luongo A., “Dry galloping in inclined cables: linear stability analysis”, *Procedia Engineering*, vol. 199, 3164-3169, 2017.
24. Luongo A., Scognamiglio I., Zulli D., “The Brazier effect for elastic pipe beams with foam cores”, *Thin-Walled Structures*, vol. 124, 72-80, 2018.
25. Luongo A., Zulli D., “Statics of Shallow Inclined Elastic Cables under General Vertical Loads: A Perturbation Approach”, *Mathematics*, vol. 6, n. 24, 1-18, 2018.
26. Luongo A., Zulli D., “Static perturbation analysis of inclined shallow elastic cables under general 3D-loads”, *Curved and Layered Structures*, vol. 5, 250-259, 2018.

Books Chapters

1. Contento A., Zulli D., Di Egidio A., “Seismic Behaviour of Monolithic Objects: A 3D Approach”, *Engineering Seismology, Geotechnical and Structural Earthquake Engineering*, Dr Sebastiano D’Amico (Ed.), ISBN: 978-95351-1038-5, InTech, DOI: 10.5772/54863, 2013.
2. Luongo A., Zulli D., “On the Use of the Multiple Scale Harmonic Balance Method for Nonlinear Energy Sinks Controlled Systems”, Chapter in *Structural Nonlinear Dynamics and Diagnosis*, vol. 168 of the series Springer Proceedings in Physics, 235-260, 2015.

International Conferences

1. Zulli D., Alaggio R., Benedettini F., “Flexural-torsional post critical behavior of a cantilever beam dynamically excited: theoretical model and experimental tests”, *Proceedings of ASME-DETC 2003*, Chicago (Illinois Usa), September 2003.
2. Zulli D., Benedettini F., Vasta M., “Analysis of the nonlinear response of a cantilever beam under deterministic and random excitations”, *Proceedings of ASME-IMECE 2003*, Washington D.C. (Usa), November 2003.
3. Vasta M., Zulli D., “Stationary and non stationary probability density function of a beam under random poisson pulses”, *Proceedings of 9th International Conference on Structural Safety and Reliability - ICOSSAR 2005*, Roma, June 2005.
4. Luongo A., Zulli D., Piccardo G., “A nonlinear model of curved beam for the analysis of galloping of suspended cables”, *Atti del Eighth International Conference on Computational Structures Technology - CST*, Las Palmas de Gran Canaria (Spagna), September 2006.
5. Luongo A., Zulli D., Piccardo G., “Multi-modal nonlinear galloping in suspended cables: Analytical and numerical approaches”, *Proceedings of EUROMECH 483, Geometrically Nonlinear Vibrations of Structures*, Porto (Portogallo), July 2007.

6. Zulli D., Luongo A., Piccardo G., “Bimodal planar galloping of suspended cables in 1:1 internal resonance”, Atti del Ninth International Conference on Computational Structures Technology - CST, Atene (Grecia), September 2008.
7. Benedettini F., Alaggio R., Zulli D., “Frequency-veering and mode hybridization in arch bridges”, IMAC-XXVII, Conference & Exposition on Structural Dynamics, Orlando, (Florida Usa), February 2009.
8. Luongo A., Zulli D., “Dynamic instability of inclined cables under combined wind flow and support motion”, Proceedings of PACAM XI, Pan American Congress of Applied Mechanics, Foz do Iguacu (Brasile), January 2010.
9. Luongo A., Zulli D., “The Multiple Scale Method for the Analysis of a Double-Zero/Single-Hopf Bifurcation”, Atti del 4th International Conference (CHAOS 2011) on Chaotic Modeling, Simulation and Applications, Agios Nikolaos, Creta (Grecia), Mey 2011.
10. Luongo A., Zulli D., “Non-standard Multiple Scale algorithms for zero-to-one internal resonance analysis”, Atti del 7th European Nonlinear Dynamics Conference (ENOC 2011), Roma (Italy), July 2011.
11. Zulli D., Contento A., Di Egidio A., “Dynamics of 3D Non-Symmetric Rigid Bodies Subject to One-Sine Pulse Excitations”, Atti del 13th International Conference on Civil, Structural and Environmental Engineering Computing (CC2011), Chania, Creta (Grecia), September 2011.
12. Luongo A., Zulli D., “Aeroelastic instability analysis of NES-controlled systems via a mixed Multiple Scale/Harmonic Balance algorithm”, Atti dell’International Conference on Structural Nonlinear Dynamics and Diagnosis (CSNDD 2012), Marrakech (Marocco), April 2012.
13. Benedettini F., Alaggio R., Zulli D., “Nonlinear Forced Dynamics of Planar Arches”, IMAC-XXXI, A Conference on Structural Dynamics, Garden Grove (California, USA), February 2013.
14. Alaggio R., Benedettini F., Rega G., Zulli D., “Forced 3D Nonlinear Dynamics of a Hanging Cable Under Multiple Resonance Conditions”, IMAC-XXXI, A Conference on Structural Dynamics, Garden Grove (California, USA), February 2013.
15. Luongo A., Zulli D., “A nonlinear 1-dimensional model of layered cross-deformable tubular beams”, Proceedings of EUROMECH 541 Colloquium, New Advances in the Nonlinear Dynamics and Control of Composites for Smart Engineering Design, Senigallia (Italy), June 2013.
16. Luongo A., Zulli D., “A nonlinear 1-dimensional model of a layered tubular beam with deformable cross-sections”, Proceedings of CanCNSM 2013, Canadian Conference on Nonlinear Nonlinear Solid Mechanics, Montreal (Canada), July 2013.
17. Zulli D., Luongo A., “Bifurcation and stability of 1:1 internally resonant tower-system under wind-induced parametric, external and self-excitation”, Proceedings of CanCNSM 2013, Canadian Conference on Nonlinear Nonlinear Solid Mechanics, Montreal (Canada), July 2013.
18. Zulli D., Luongo A., Di Egidio A., “Galloping under turbulent wind of 1:1 internally resonant towers”, Proceedings of EUROMECH 563 Colloquium, Generalized Continua and their Application to the Design of Composites and Metamaterials, Cisterna di Latina (Italy), July 2014.
19. Zulli D., Luongo A., “Nonlinear Energy Sink to control vibrations of an internally resonant string”, Proceedings of ENOC 2014, European Nonlinear Oscillations Conference, Vienna (Austria), July 2014.
20. Luongo A., Zulli D., “A nonlinear 1D model of layered tubular beam”, Proceedings of WCCM XI, 11th World Congress on Computational Mechanics, Barcellona (Spagna), July 2014.
21. Luongo A., Zulli D., “Dynamic analysis of a bistable energy harvester using perturbation method”, Proceedings of EUROMECH 562 Colloquium, Stability and control of nonlinear vibrating systems, Sperlonga (Italy), May 2015.

22. Luongo A., Casciati S., Zulli D., “A perturbation scheme to solve a bi-stable energy harvester”, Proceedings of IUTAM Symposium on Analytical methods in nonlinear dynamics, Francoforte (Germania), July 2015.
23. Luongo A., Scognamiglio I., Zulli D., “A one dimensional beam-like model for composite tubes with foam core”, Proceedings of International Conference on Shells, Plates and Beams (SPB2015), Bologna (Italy), September 2015.
24. Luongo A., Scognamiglio I., Zulli D., “Dynamics of a one dimensional beam-like model for composite tubes with foam core”, Proceedings of the International Conference on Structural Nonlinear Dynamics and Diagnosis (CSNDD 2016), Marrakesh (Morocco), May 2016.
25. Zulli D., Piccardo G., Luongo A., “Analysis of dry galloping on inclined cables under stationary wind”, 9th European Nonlinear Dynamics Conference (ENOC 2017), Budapest (Hungary), June 2017.
26. Zulli D., Piccardo G., Luongo A., “Dry galloping on inclined cables under steady wind”, Proceedings of CNN 2017, 22nd International Conference on Computer Methods in Mechanics, Lublin (Polonia), September 2017.
27. Zulli D., Luongo A., “The Brazier effect for elastic and plastic pipe beams with foam cores”, Proceedings of ESMC 2018, 10th European Solid Mechanics Conference, Bologna (Italy), July 2018.
28. Luongo A., Zulli D., “Nonlinear dynamics of shear-shear-torsional beams modeling tall buildings”, Proceedings of Iutam Symposium Enolides - 'Exploiting Nonlinear Dynamics for Engineering Systems', Novi Sad (Serbia), July 2018.
29. Luongo A., Zulli D., “Nonlinear dynamics of continuous and discrete models of tall buildings”, Proceedings of The 9th International Conference on Computational Methods (ICCM2018), Rome (Italy), August 2018.

National Conferences

1. Zulli D., Alaggio R., Benedettini F., “Sensitivity to initial imperfections for flexural-torsional coupling of elastic beams”, Proceedings of the XV AIMETA Congress - Italian Association of Theoretical and Applied Mechanics, Taormina (ME) - Italy, September 2001.
2. Zulli D., Alaggio R., Benedettini F., Vasta M., “Sensitivity to initial imperfections in free dynamics of spatial beams”, Proceedings of the GIMC 2002 Conference - Italian Group of Computational Mechanics, Giulianova (TE) - Italy, June 2002.
3. Zulli D., Alaggio R., Benedettini F., “Post critical analysis of double reverse pendulum”, Proceedings of the GIMC 2002 Conference - Italian Group of Computational Mechanics, Giulianova (TE) - Italy, June 2002.
4. Zulli D., Alaggio R., Benedettini F., “Flexural-torsional dynamics of a thin walled-beam: theory and experiments”, Proceedings of the XVI AIMETA Conference - Italian Association of Theoretical and Applied Mechanics, Ferrara - Italy, September 2003.
5. Zulli D., Alaggio R., Benedettini F., “Flexural-torsional dynamics of a thin walled-beam: numerical aspects”, Proceedings of the GIMC 2004 Conference - Italian Group of Computational Mechanics, Genova - Italy, June 2004.
6. Zulli D., Alaggio R., Benedettini F., “Free and forced dynamics of a three-dimensional curved elastic beam”, Proceedings of the XVII AIMETA Conference - Italian Association of Theoretical and Applied Mechanics, Firenze - Italy, September 2005.
7. Luongo A., Zulli D., Piccardo G., “A linear model of curved beam for galloping oscillations of suspended cables”, Proceedings of the XVII AIMETA Conference - Italian Association of Theoretical and Applied Mechanics, Firenze - Italy, September 2005.

8. Luongo A., Zulli D., Piccardo G., “Numerical-analytical approach to nonlinear oscillations of suspended galloping cables”, Proceedings of the XVIII AIMETA Conference - Italian Association of Theoretical and Applied Mechanics, Brescia - Italy, September 2007.
9. Zulli D., Alaggio R., Benedettini F., “Veering and hybridization of adjacent modes for imperfect symmetric curved structures”, Proceedings of the III Workshop in Vibrations of Civil and Mechanical Structures, Perugia - Italy, September 2008.
10. Alaggio R., Zulli D., Benedettini F., “Frequency-avoiding in arch bridges: a possible structural health monitoring approach”, Proceedings of the XIX AIMETA Conference - Italian Association of Theoretical and Applied Mechanics, Ancona - Italy, September 2009.
11. Luongo A., Zulli D., “Bifurcation and stability of a two d.o.f. system under simultaneous parametric, external and self-excitation”, Proceedings of the XIX AIMETA Conference - Italian Association of Theoretical and Applied Mechanics, Ancona - Italy, September 2009.
12. Contento A., Zulli D., Di Egidio A., “Rocking motion of two- and three-dimensional rigid bodies: Formulation and parametrical analysis”, Proceedings of the GIMC 2010 Conference- Italian Group of Computational Mechanics, Siracusa - Italy, September 2010.
13. Luongo A., Zulli D., “The Multiple Scale Method for the Analysis of a Double-Zero/Single-Hopf Bifurcation”, Proceedings of the XX AIMETA Conference - Italian Association of Theoretical and Applied Mechanics, Bologna - Italy, September 2011.
14. Di Egidio A., Contento A., Zulli D., “Dynamics of 3D Non-Symmetric Rigid Bodies Subject to One-Sine Pulse Excitations”, Proceedings of the XX AIMETA Conference - Italian Association of Theoretical and Applied Mechanics, Bologna - Italy, September 2011.
15. Luongo A., Zulli D., “Nonlinear Energy Sink to control vibrations of a nonlinear elastic string”, Proceedings of the XXI AIMETA Conference - Italian Association of Theoretical and Applied Mechanics, Torino - Italy, September 2013.
16. Luongo A., Zulli D., “Nonlinear energy sink to control primary and subharmonic resonances of a Duffing oscillator”, Proceedings of the XXII AIMETA Conference - Italian Association of Theoretical and Applied Mechanics, Genova - Italy, September 2015.
17. Zulli D., Piccardo G., Luongo A., “Nonlinear dynamics of continuized tall buildings”, Proceedings of the XXIII AIMETA Conference - Italian Association of Theoretical and Applied Mechanics, Salerno, September 2017.
18. Luongo A., Zulli D., “A shear-shear-torsional beam for building analysis”, Proceedings of the XXIII AIMETA Conference - Italian Association of Theoretical and Applied Mechanics, Salerno, September 2017.

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September 4, 2018

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