



Professor Rodrigo Gonçalves

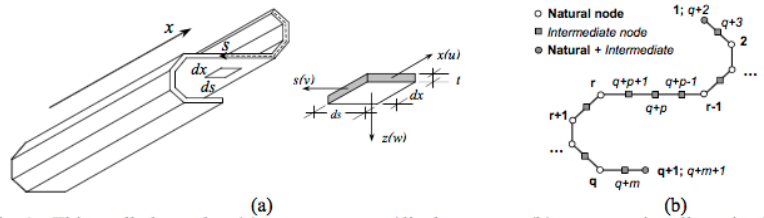


Fig. 1 - Thin-walled member (a) geometry, axes/displacements; (b) cross-section discretisation

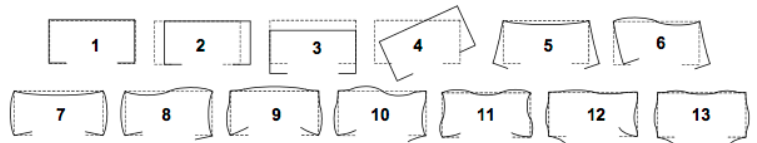


Fig. 2 - Lipped channel thirteen deformation mode in-plane shapes

From: Dinar Camotim, Nuno Silvestre, Rodrigo Gonçalves and Pedro Borges Dinis, “GBT-Based Analysis and Design of Thin-Walled Metal and FRP Members: Recent Developments”, Proc. Int. Workshop Recent Advances and Future Trends in Thin-Walled Structures Technology (Loughborough, 25/6), 2004

See:

<http://www.ssrcweb.org/2017/09/29/rodrigo-goncalves-wins-2017-ssrc-majr-medal/>

<https://docentes.fct.unl.pt/rodrigo-goncalves/publications>

Civil Engineering Department
NOVA University of Lisbon, Portugal (DEC/FCT/UNL)

Education:

- PhD in Civil Engineering, IST/UTL (2007)
- MSc in Structural Engineering, IST/UTL (2000)
- Licenciatura in Civil Engineering, IST/UTL (1996)

Research Interests:

Steel and steel-concrete composite structures; Structural stability; Thin-walled beams; Generalized beam theory; Geometrically exact beam theories

Awards:

- First place of the 2017 McGuire Award for Junior Researchers Medal Competition, awarded by the Structural Stability Research Council (SSRC), for contributions to structural stability research after obtaining the PhD degree.
- First place in the 2013 Ferry Borges competition category A (best paper published in 2010-12, in the field of Structural Engineering), for the paper “A large displacement and finite rotation thin-walled beam formulation including cross-section deformation”, published in Computer Methods in Applied Mechanics and Engineering in 2010. Awarded by the Portuguese Association of Structural Engineering (APEE), LNEC and the Portuguese Order of Engineers.
- Honorable Mention of the 2012 Vinnakota award (Structural Stability Research Council), for the paper "GBT-Based assessment of the buckling behavior of cold-formed steel purlins restrained by sheeting”, authored by the student A. Graça (recipient of the award) and his supervisors, Dinar Camotim (IST/UL) and Rodrigo Gonçalves.

Selected Publications:

- Gonçalves R.; Camotim D. (2001), On the allowance of member imperfections in the design/safety checking of steel frames, In: Proceedings of the 9th Nordic Steel Construction Conference, NSCC'2001 (Eds. Mäkeläinen, P.; Kesti, J.; Jutila, A.; Kaitila, O.), Helsinki, Finland
- Gonçalves R., Camotim D. and Dinis P., Generalised beam theory to analyse the buckling behaviour of aluminium or stainless steel open and closed thin-walled members, Proc. 4th Int. Conf. Thin-Walled Structures (Loughborough, 22-24/6), 2004.
- Dinar Camotim, Nuno Silvestre, Rodrigo Gonçalves and Pedro Borges Dinis, "GBT-Based Analysis and Design of Thin-Walled Metal and FRP Members: Recent Developments", Proc. Int. Workshop Recent Advances and Future Trends in Thin-Walled Structures Technology (Loughborough, 25/6), 2004.
- Gonçalves, R. and Camotim, D. (2004). Buckling analysis of single and multi-cell closed thinwalled metal members using generalised beam theory, in Proceedings of Fourth International Conference on Coupled Instabilities in Metal Structures (CIMS'04, Rome, 27–29 September), pp. 119–130.
- Camotim, D., Silvestre, N., Gonçalves, R. and Borges Dinis, P. (2004), GBT analysis of thin-walled members: new formulations and applications, in: Loughlan, J. (Ed.), Thin-walled structures - International workshop in recent advances and future trends in thin-walled structures and technology, Loughborough University, 25 June, Bath: Canopus Publishing Ltd, pp 137-168
- Gonçalves, R., Camotim, D. (2004), On the application of beam-column interaction formulae to steel members with arbitrary loading and support conditions, Journal of Constructional Steel Research, 60, Elsevier, pp.433-450
- Gonçalves, R. and Camotim, D. (2004). GBT local and global buckling analysis of aluminium and stainless steel columns, Computers & Structures, 82(17–19), 1473–1484
- Gonçalves, R. and Camotim, D. (2004). GBT local and global buckling analysis of aluminium and stainless steel columns, Computers & Structures, 82(17–19), 1473–1484
- Dinar Camotim, Nuno Silvestre, Rodrigo Gonçalves and Pedro Borges Dinis, "GBT-based structural analysis of thin-walled members: Overview, recent progress and future developments", Chapter in Advances in Engineering Structures, Mechanics & Construction, Vol. 140 of the series Solid Mechanics and Its Applications, edited by M. Pandey, Wei-Chau Xie and Lei Xu, Springer, 2006, pp 187-204
- Gonçalves, R., Dinis, P.B. and Camotim, D. (2006). GBT linear and buckling analysis of thin-walled multi-cell box girders, in Proceedings of SSRC Annual Stability Conference (San Antonio, 8–11 February), pp. 329–352.
- Gonçalves, R., Camotim, D., and Dinis, P. (2006). Box girder bridge analysis using Generalized Beam Theory. In Proceedings of the International Colloquium on Stability and Ductility of Steel Structures (SDSS'06 – Lisbon, 06-08/09), Camotim, D. and Silvestre, N. and Dinis, P.B. (Editors), pages 1027–1036
- Rodrigo Gonçalves and Dinar Camotim, "Thin-walled member plastic bifurcation analysis using generalised beam theory", Advances in Engineering Software, Vol. 38, Nos. 8-9, August-September 2007, pp. 637-646, Special Issue: Computational Structures Technology
- Dinis P.B., Gonçalves R. and Camotim D., "On the local and global buckling behaviour of cold-formed steel hollow-flange channel beams", Proceedings of 5th International Conference on Thin-Walled Structures (ICTWS 2008 – Brisbane, 18-20/6), M. Mahendran (ed.), 425-432, 2008
- Goncalves R, Dinis PB, Camotim D (2009) GBT formulation to analyse the first-order and buckling behaviour of thin-walled members with arbitrary cross-sections. Thin-Walled Struct 47(5):583–600
- D. Camotim, C. Basaglia, R. Bebiano, R. Goncalves and N. Silvestre. Latest developments in the GBT analysis of thin-walled steel structures. Proc. Int. Coll. Stability and Ductility of Steel Struct., Rio de Janeiro, Brazil, E. Batista, P. Vellasco and L. Lima (eds.), 33–58, 2010
- Rodrigo Gonçalves, Philippe Le Grogneq and Dinar Camotim, "GBT-based semi-analytical solutions for the plastic bifurcation of thin-walled members", International Journal of Solids and Structures, Vol. 47, No. 1,

January 2010, pp. 34-50

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R. Gonçalves, M. Ritto-Corrêa, D. Camotim, “A large displacement and finite rotation thin-walled beam formulation including cross-section deformation”, *Computer Methods in Applied Mechanics and Engineering*, 199 (23–24) (2010), pp. 1627-1643

R. Goncalves and D. Camotim. GBT-based Finite Elements for Elastoplastic Thin-Walled Metal Members. *Thin-Walled Structures*, Vol. 49(10), 1237–1245, 2011.

R. Goncalves and D. Camotim. Geometrically Non-Linear Generalised Beam Theory for Elastoplastic Thin-Walled Metal Members. *Thin-Walled Structures*, Vol. 51, 121– 129, 2012.

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Gonçalves, R., Camotim, D., Buckling behaviour of thin-walled regular polygonal tubes subjected to bending or torsion, *Thin-Walled Structures*, 73, pp. 185–97, 2013.

Cilmar Basaglia, Dinar Camotim, Rodrigo Goncalves and Andre Graca, “GBT-based assessment of the buckling behavior of cold-formed steel purlins restrained by sheeting”, *Thin-Walled Structures*, Vol. 72, pp 217-229, November 2013

David Henriques, Rodrigo Goncalves and Dinar Camotim, “Non-linear analysis of steel-concrete beams using generalized beam theory”, 11th World Congress on Computational Mechanics (WCCM XI), 5th European Conference on Computational Mechanics (ECCM V), 6th European Conference on Computational Fluid Dynamics (ECFD VI) E. Oñate, J. Oliver and A. Huerta (Eds), Barcelona, Spain, 2014

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Giovanni Garcea, Leonardo Leonetti, Domenico Magisano, Rodrigo Goncalves and Dinar Camotim, “Deformation modes for the post-critical analysis of thin-walled compressed members by a Koiter semi-analytic approach”, *International Journal of Solids and Structures*, Vols. 110-111, pp 367-384, April 2017

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Rui Bebiano, Moshe Eisenberger, Dinar Camotim and Rodrigo Goncalves, “GBT-based vibration analysis using the exact element method”, *International Journal of Structural Stability and Dynamics*, Vol. 18, No. 5, May 2018

Nuno Peres, Rodrigo Goncalves and Dinar Camotim, “GBT-based cross-section deformation modes for curved thin-walled members with circular axis”, *Thin-Walled Structures*, Vol. 127, pp 769-780, June 2018

Andre Dias Martins, Dinar Camotim, Rodrigo Goncalves and Pedro Borges Dinis, “Enhanced geometrically nonlinear generalized beam theory formulation: Derivation, Numerical implementation. and Illustration”, *ASCE Journal of Engineering Mechanics*, Vol. 144, No. 6, June 2018

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