



Professor Cláudio S. Lopes

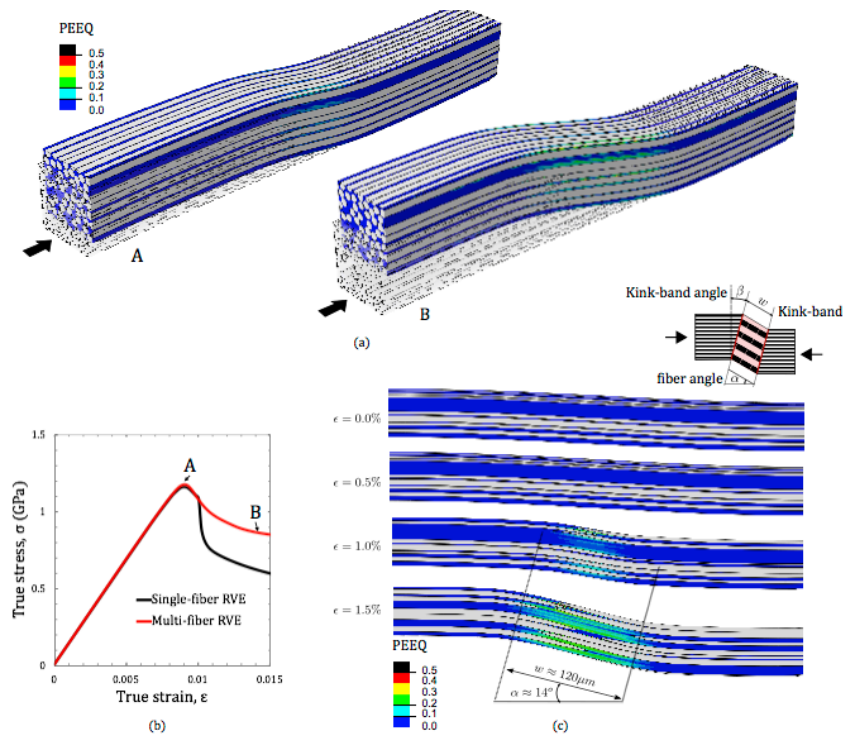


Figure 5: Predicted kink-band development in AS4/8552 under RT/DRY conditions and pure longitudinal compression: a) Plastic equivalent strain (PEEQ) at two load states: A - kink-band initiation corresponding to peak load; and B - fully developed kink-band; b) Stress-strain curve - Comparison between complex and simplified RVE for the same initial fiber misalignment, $\phi_0 = 3^\circ$; c) Plastic equivalent strain (PEEQ) evolution with prediction of kink-band width and fiber angle α .

From: F. Naya, M. Herraiez, C.S. Lopes, C. Gonzalez, S. Van der Veen and F. Pons, "Computational micromechanics of fiber kinking in unidirectional FRP under different environmental conditions", Composites Science and Technology, Vol. 144, pp 26-35, May 2017

See:

<https://scholar.google.es/citations?user=shaJI5oAAAAJ&hl=en>
https://www.researchgate.net/profile/Cs_Lopes

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Biography:

Dr. Cláudio S. Lopes (PhD Aerospace Engineering, Delft University of Technology, 2009) is senior researcher and head of the group on Design & Simulation of Composite Structures at IMDEA Materials Institute (Madrid, Spain). Of Portuguese nationality, he has careered Aerospace Engineering for more than 20 years in three different European countries (The Netherlands, Portugal and Spain), specializing in Structures, Materials and Computational Mechanics. He is the co-author of over 40 scientific papers and book chapters in international journals. He has participated in 30 research projects and industrial contracts of R&D and technology-transfer nature, many of them as PI and coordinator.

Selected Publications:

Lopes, C., Gürdal, Z., and Camanho, P., "Tow-Placed, Variable-Stiffness Composite Panels: Damage Tolerance Improvements over Traditional Straight-Fibre Laminates," III European Conference on Computational Mechanics: Solids, Structures Coupled Problems in Engineering, Lisbon, Portugal, June 2006.

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C.S. Lopes, P.P. Camanho, Z. Gürdal and B.F. Tatting, "Progressive failure analysis of tow-placed, variable-stiffness composite panels", International Journal of Solids and Structures, Vol. 44, Nos. 25-26, December 2007, pp. 8493-8516

C.S. Lopes, Z. Gürdal and P.P. Camanho, "Variable-stiffness composite panels: Buckling and first-ply failure improvements over straight-fibre laminates", Computers & Structures, Vol. 86, No. 9, May 2008, pp. 897-907

Lopes C.S., Seresta O., Coquet Y., Gurdal Z., Camanho P.P., Thuis B., 2009, Low-velocity impact damage on dispersed stacking sequence laminated composites: Part I experiments, Composites Science and Technology 69(7-8): 926-936

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C.S. Lopes, Z. Gurdal, P.P. Camanho, "**Tailoring for strength of composite steered-fibre panels with cutouts**", Compos.: Part A, 41 (2010), pp. 1760-1767

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E.V. Gonzalez, P. Maimi, P.P. Camanho, C.S. Lopes, and N. Blanco, Effects of ply clustering in laminated composite plates under low-velocity impact loading, Composites Sci. Technol. 71(6) (2011), pp. 805-817

C.S. Lopes, P.P. Camanho and C. Gonzalez, "Advanced simulation of low-velocity impact on fibre reinforced laminates", Paper from unidentified conference, January 2014, <https://www.researchgate.net/publication/320864480>

Claudio S. Lopes, Sergio Sadaba, Fernando Naya and Carlos Gonzalez, "Multiscale simulation strategy for low-velocity impact on FRP", Paper Number 124 in unidentified conference, September 2014, <https://www.researchgate.net/publication/320563707>

O. Falcó, J. A. Mayugo, C. S. Lopes, N. Gascons, A. Turon, and J. Costa, "Variable-stiffness composite panels: As-manufactured modeling and its influence on the failure behavior," Composites Part B: Engineering, vol. 56, pp. 660-669, 1// 2014.

Vanessa S Gomes, Cláudio S Lopes, Francisco FM Andrade Pires, Zafer Gürdal, Pedro P Camanho, "Fibre steering for shear-loaded composite panels with cutouts", Journal of Composite Materials, Vol. 48, No. 16, pp 1917-1926, July 2014

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F. Naya, C.S. Lopes, C. Gonzalez and J. Llorca, “Computational micromechanics strategies for the analysis of failure in unidirectional composites”, Chapter 15 in Numerical modeling of failure in advanced composite materials, December 2015

A. Garcia-Carpintero, M. Herraiez, J. Xu, C.S. Lopes and C. Gonzalez, “A multi material shell model for the mechanical analysis of triaxial braided composites”, Appl. Compos. Mater., March 2017

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Claudio S. Lopes and Caroline Gonzalez, “Multiscale virtual structural testing: Towards simulation-based design and certification of aircraft structures”, IMDEA Materials Institute, Madrid, Spain, Presentation, October 2017, <https://www.researchgate.net/publication/322635945>