



Professor Leopoldo Greco

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Selected Publications:

Greco L., Cuomo M., B-spline interpolation of Kirchhoff-Love space rods, *Comput. Methods Appl. Mech. Engrg.*, 256 (2013), pp. 251-269

Cuomo, M., Contraffatto, L., Greco, L.: A variational model based on isogeometric interpolation for the analysis of cracked bodies. *Int. J. Eng. Sci.* 80, 173–188 (2014)

L. Greco, M. Cuomo, An implicit G1 multi patch B-spline interpolation for Kirchhoff-Love space rod, *Comput. Methods Appl. Mech. Engrg.*, 269 (2014), 173-197

D'Agostino MV, Giorgio I, Greco L, Madeo A, Boisse P. 2015 Continuum and discrete models for structures including (quasi-) inextensible elasticae with a view to the design and modeling of composite reinforcements. *Int. J. Solids Struct.* 59, 1–17.

Placidi L, Greco L, Bucci S, Turco E, Rizzi NL. 2016 A second gradient formulation for a 2D fabric sheet with inextensible fibres. *Z. Angew. Math. Phys.* 67, 24.

Greco L, Cuomo M (2016) An isogeometric implicit mixed finite element for Kirchhoff space rods. *Comput Methods Appl Mech Eng* 298:325–349

Leopoldo Greco, Ivan Giorgio and Antonio Battista, “In plane shear and bending for first gradient inextensible pantographic sheets: Numerical study of deformed shapes and global constraint reactions”, *Mathematics and Mechanics of Solids*, June 2016

M. Cuomo, F. dell’Isola, L. Greco and N.L. Rizzi, “First versus second gradient energies for planar sheets with two families of inextensible fibres: Investigation on deformation boundary layers, discontinuities and geometrical instabilities”, *Composites Part B Engineering*, September 2016

L. Greco, M. Cuomo, L. Contraffatto, S. Gazzo, An efficient blended mixed B-spline formulation for removing membrane locking in plane curved Kirchhoff rods, *Comput. Methods Appl. Mech. Engrg.*, 324 (2017), 478-511.

L. Greco, M. Cuomo and L. Contraffatto, “A reconstructed local B-spline formulation for isogeometric Kirchhoff-Love shells”, *Computer Methods in Applied Mechanics and Engineering*, Vol. 332, pp 462-487, April 2018

M. Cuomo and L. Greco, “An implicit strong G1-conforming formulation for the analysis of the Kirchhoff plate model”, *Continuum Mechanics and Thermodynamics*, August 2018

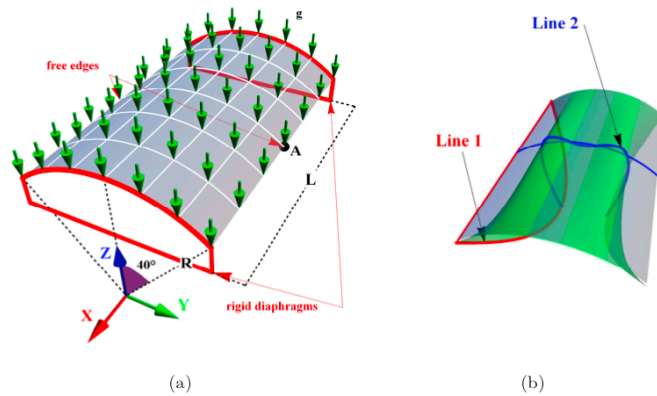


Figure 4: Scordelis-Lo roof: (a) Geometry and set-up for the problem, (b) typical deformation and definition of the lines 1 (free edge) and 2 (central arch).

From: L. Greco, M. Cuomo and L. Contraffatto, “A reconstructed local B-spline formulation for isogeometric Kirchhoff-Love shells”, *Computer Methods in Applied Mechanics and Engineering*, Vol. 332, pp 462-487, April 2018

L. Greco, M. Cuomo and L. Contrafatto, "A quadrilateral G1-conforming finite element for the Kirchhoff plate model", *Computer Methods in Applied Mechanics and Engineering*, Vol. 346, pp 913-951, 1 April 2019

L. Greco, M. Cuomo and L. Contrafatto, "Two new triangular G1-conforming finite elements with cubic edge rotation for the analysis of Kirchhoff plates", *Computer Methods in Applied Mechanics and Engineering*, Vol. 356, pp 354-386, 1 November 2019