Professor Philippe Vidal

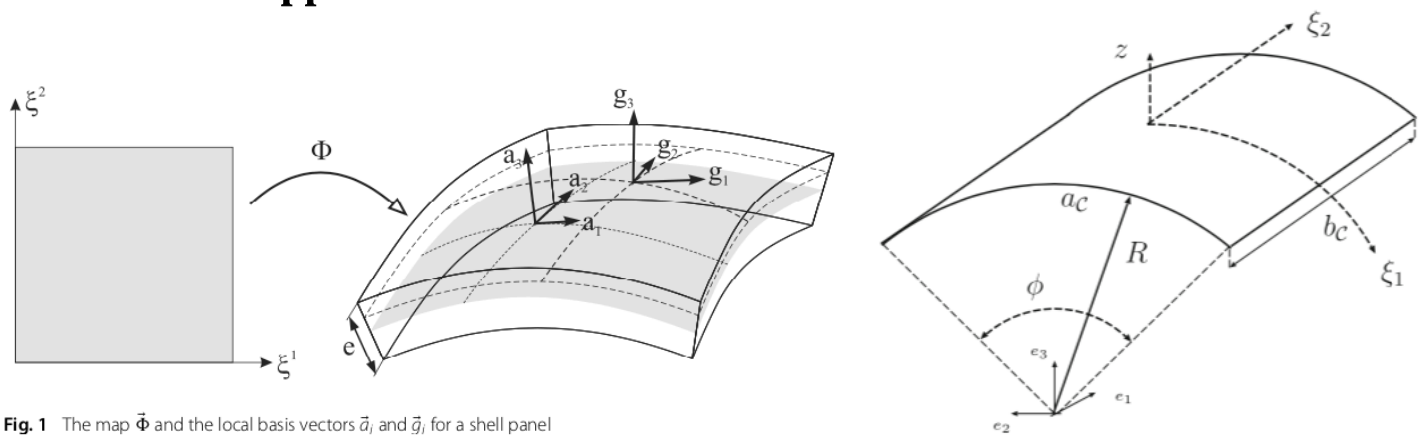

Fig. 1 The map $\vec{\Phi}$ and the local basis vectors $\vec{a}_i$ and $\vec{g}_i$ for a shell panel

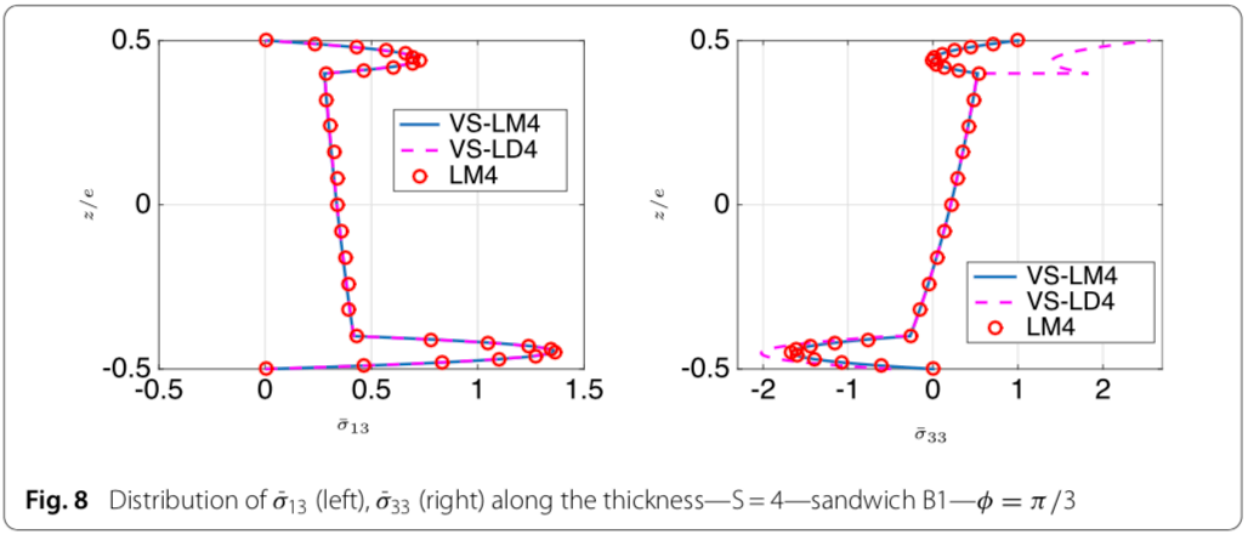

Fig. 8 Distribution of $\bar{\sigma}_{13}$ (left), $\bar{\sigma}_{33}$ (right) along the thickness—S = 4—sandwich B1—$\phi = \pi/3$

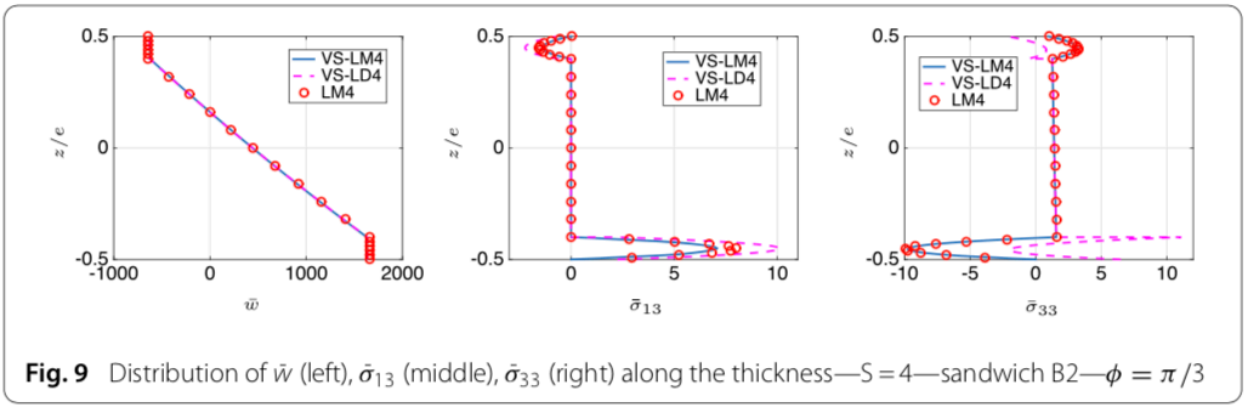

Fig. 9 Distribution of $\bar{w}$ (left), $\bar{\sigma}_{13}$ (middle), $\bar{\sigma}_{33}$ (right) along the thickness—S = 4—sandwich B2—$\phi = \pi/3$

S = Shell Radius, R/thickness, e; phi=angle subtended by the cylindrical shell; Loading=uniform pressure
The images above are from: Philippe Vidal, Olivier Polit, Laurent Gallimard and Michele D'Ottavio, "Modeling of cylindrical composite shell structures based on the Reissner's mixed variational theorem with a variable separation method", Advanced Modeling and Simulation in Engineering Sciences, Vol. 6, No. 7, 2019

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Selected Publications:

Vidal P, Polit O. A thermo-mechanical finite element for the analysis of rectangular laminated beams. Fin Elem Anal Des 2006;42:868–83
Vidal P, Couto A, Aygua F, Guaita M. Influence of hopper eccentricity on discharge of cylindrical mass flow silos with rigid walls. J Eng Mech ASCE 2006;132(9):1026–1033
Vidal, P. and Polit, O. [2008] " A family of sinus finite elements for the analysis of rectangular laminated beams," Composite Structures 84(1), 56–72.
Vidal P, Polit O. Assessment of the refined sinus model for the non-linear analysis of composite beams. Compos Struct 2009;87:370–381.
Vidal P, Polit O. A refined sine-based finite element with transverse normal deformation for the analysis of laminated beams under thermomechanical loads. J Mech Mater Struct 2009;4(6):1127–1155.
Vidal P, Polit O. Vibration of multilayered beams using sinus finite elements with transverse normal stress. Compos Struct 2010;92:1524–1534
Beheshti-Aval S.B., Lezgy-Nazargah M., Vidal P., Polit O.: A refined sinus finite element model for the analysis of piezoelectric laminated beams. J. Intell. Mater. Syst. Struct. 22, 203–219 (2011)
P. Vidal, M. D'Ottavio, M. B. Thaier, and O. Polit, "An efficient shell finite element for the static response of piezoelectric laminates," J. Intell. Mater. Syst. Struct., vol. 22, no. 7, pp. 671–690, 2011.
Gallimard, L., Vidal, P. and Polit, O. [2011] "Coupling finite element and reliability analysis through proper generalized decomposition model reduction," International Journal for Numerical Methods in Engineering 95(13), 1079–1093
Vidal, P. and Polit, O., "A Sine Finite Element Using a Zig Zag Function for the Analysis of Laminated Composite Beams," Composites: Part B, Vol. 42, 2011, pp. 1671–1682.
O. Polit, P. Vidal, and M. D'Ottavio, "Robust C0 high-order plate finite element for thin to very thick structures: mechanical and thermo-mechanical analysis," Int. J. Numer. Methods Eng., vol. 90, no. 4, pp. 429–451, 2012.
Vidal, P., Gallimard, L. and Polit, O. [2012] "Assessment of a composite beam finite element based on the proper generalized decomposition," Computers and Structures 94(5), 1900–1910.
Vidal, P., Gallimard, L. and Polit, O. [2012] "Composite beam finite element based on the proper generalized decomposition," Computers and Structures 102–103, 76–86.
M. Lezgy-Nazargah, P. Vidal, O. Polit, An efficient finite element model for static and dynamic analyses of functionally graded piezoelectric beams, Compos Struct, 104 (2013), pp. 71–84
M. D'Ottavio, P. Vidal, E. Valot, O. Polit, Assessment of plate theories for free-edge effects, Compos Part B: Eng, 48 (2013), pp. 111–121
P. Vidal and O. Polit, "A refined sinus plate finite element for laminated and sandwich structures under mechanical and thermomechanical loads", Computer Methods in Applied Mechanics and Engineering, Vol. 253, pp 396-412, January 2013
Vidal, P., Gallimard, L. and Polit, O. [2013] "Proper generalized decomposition and layer-wise approach for the modeling of composite plate structures," International Journal of Solids and Structures 50(14–15), 2239–2250.
Vidal, P., Gallimard, L. and Polit, O. [2014] "Shell finite element based on the proper generalized decomposition for the modeling of cylindrical composite structures," Computers and Structures 132, 1–11.
Vidal, P., Gallimard, L. and Polit, O. [2014] "Explicit solutions for the modeling of laminated composite plates with arbitrary stacking sequences," Composites Part B: Engineering 60, 697–706.
Lezgy-Nazargah M, Vidal P, Polit O. NURBS-based isogeometric analysis of laminated composite beams using refined sinus model. European Journal of Mechanics - A/Solids 2015; 53: 34-47.

Gaetano Giunta, Salim Belouettar, Olivier Polit, Laurent Gallimard, Philippe Vidal and Michele D'ottavio, "Hierarchical beam finite elements based upon a variables separation method", International Journal of Applied Mechanics, Vol. 8, No. 2, 1650026, March 2016
O. Polit, M. D'Ottavio, and P. Vidal, "High-order plate finite elements for smart structure analysis," Compos. Struct., vol. 151, pp. 81–90, 2016, Smart composites and composite structures In honour of the 70th anniversary of Professor Carlos Alberto Mota Soares.
P. Vidal, L. Gallimard and O. Polit, "Modeling of piezoelectric plates with variable separation for static analysis", Smart Materials and Structures, Vol. 25, No. 5, 055043, May 2016
T.H.C. Le, M. D'Ottavio, P. Vidal and O. Polit, "A new robust quadrilateral four-node variable kinematic element for composite structures", Finite Elements in Analysis and Design, Vol. 133, pp 10-24, October 2017
P. Vidal, L. Gallimard and O. Polit, "Robust layerwise C0 finite element approach based on a variable separation method for the modeling of composite and sandwich plates", Finite Elements in Analysis and Design, Vol. 139, pp 1-13, February 2018
M. Lezgy-Nazargah, P. Vidal and O. Polit, "A 1D nonlinear finite element model for analysis of composite foam-insulated concrete sandwich panels", Composite Structures, Vol. 210, pp 663-675, 15 February 2019
P. Vidal, L. Gallimard and O. Polit, "Multiresolution strategies for the modeling of composite shell structures based on the variable separation method", International Journal for Numerical Methods in Engineering, Vol. 117, No. 7, pp 778-799, 17 February 2019
P. Vidal, G. Giunta, L. Gallimard and O. Polit, "Modeling of composite and sandwich beams with a generic cross-section using a variable separation method", Composites Part B: Engineering, Vol. 165, pp 648-661, 15 May 2019
A. Loredo, M. D'Ottavio, P. Vidal, O. Polit, "A family of higher-order single layer plate models meeting C0z -requirements for arbitrary laminates", Composite Structures, Vol. 225, Article 111146, 1 October 2019
P. Vidal, L. Gallimard and O. Polit, "Free vibration analysis of composite plates based on a variable separation method", Composite Structures, Vol. 230, Article 111493, 15 December 2019