

# Publications sur la modélisation

2015

## Articles dans des revues à comité de lecture

P. Vidal, L. Gallimard, and O. Polit. Assessment of variable separation for finite element modeling of free edge effect for composite plates. *Composite Structures*, 123 :19–29, 2015.

M. D'Ottavio and O. Polit. Linearized global and local buckling analysis of sandwich struts with a refined quasi-3D model. *Acta Mechanica*, 226 : 81-101, 2015.

2014

## Articles dans des revues à comité de lecture

J. Bale, E. Valot, M. Monin, P. Laloue, O. Polit, C. Bathias, and T. Soemardi. Damage observation of glass fiber/epoxy composites using thermography and supported by acoustic emission. *Applied Mechanics and Materials*, 627 :187–190, 2014.

P.D. Gosling, Faimun, and O. Polit. A high-fidelity first-order reliability analysis for shear deformable laminated composite plates. *Composite Structures*, 115(1) :12–28, 2014.

P. Vidal, L. Gallimard, and O. Polit. Cylindrical shell finite element based on the proper generalized decomposition. volume 3, pages 449–452, 2014.

P. Vidal, L. Gallimard, and O. Polit. Explicit solutions for the modeling of laminated composite plates with arbitrary stacking sequences. *Composites Part B : Engineering*, 60 :697–706, 2014.

P. Vidal, L. Gallimard, and O. Polit. Shell finite element based on the proper generalized decomposition for the modeling of cylindrical composite structures. *Computers and Structures*, 132 :1–11, 2014.

P. Vidal, O. Polit, M. D'Ottavio, and E. Valot. Assessment of the refined sinus plate finite element : Free edge effect and meyer-piening sandwich test. *Finite Elements in Analysis and Design*, 92 :60– 71, 2014.

C. Wenzel, P. Vidal, M. D'Ottavio, and O. Polit. Coupling of heterogeneous kinematics and finite element approximations applied to composite beam structures. *Composite Structures*, 116(1) :177– 192, 2014.

N. Adnet, I. Bruant, F. Pablo, L. Proslie. The FEM-BIM approach using a mixed hexaedral finite element to model the electromagnetic and mechanical behavior of radiative microstrip antennas. *Engineering analysis with boundary elements*, vol. 38, pp17-30

2013

## Articles dans des revues à comité de lecture

M. Azaouzi, A. Makradi, J. Petit, S. Belouettar, and O. Polit. On the numerical investigation of cardiovascular balloon-expandable stent using finite element method. *Computational Materials Science*, 79 :326–335, 2013.

A.J.M. Ferreira, C.M.C. Roque, E. Carrera, M. Cinefra, and O. Polit. Bending and vibration of laminated plates by a layerwise formulation and collocation with radial basis functions. *Mechanics of Advanced Materials and Structures*, 20(8) :624–637, 2013.

M. Lezgy-Nazargah, P. Vidal, and O. Polit. An efficient finite element model for static and dynamic analyses of functionally graded piezoelectric beams. *Composite Structures*, 104 :71–84, 2013.

I. Bruant, L. Proslie, Improved active control of a functionally graded material beam with piezoelectric

patches. Journal of vibration and control, doi 10.1177/1077546313506926

P. Vidal, 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.

M. D'Ottavio, P. Vidal, E. Valot, and O. Polit. Assessment of plate theories for free-edge effects. Composites Part B : Engineering, 48 :111–121, 2013.

P. Vidal, O. Polit. Refined sine theory including transverse normal stress in cylindrical bending. Mechanics of Advanced Materials and Structures. Vol 20, Issue 6. pp 405-414.

Gallimard L., Vidal P., Polit O.. Coupling finite element and reliability analysis through proper generalized decomposition model reduction. , International Journal for Numerical Methods in Engineering. 95(13). 1079-1093.

Nguyen HQ, Gallimard L., Bathias C. ., Numerical simulation of the coupling between thermal dissipation and fish-eye crack growth in very high cycle fatigue regime. Fatigue and Fracture of Engineering Materials and Structures. 36. 450–461.

Vidal P., Gallimard L., Polit O.. Proper Generalized Decomposition and Layer-Wise approach for the modeling of composite plate structures. International Journal of Solids and Structures. 50. 2239-2250.

2012

#### Articles dans des revues à comité de lecture

Brischetto, S., Polit, O., and Carrera, E., . Refined shell model for the analysis of isotropic and composite structures. . European J. of Mechanics-A/Solids . vol 34. pp 102-119.

Casanova A., Jason L., Davenne L, . Bond slip model for the simulation of reinforced concrete structures. Engineering Structures. vol 39. pp 66-78.

E. Kuhn, E. Valot, P. Hervé,. A comparison between thermosonics and thermography for delamination detection in polymer matrix laminates. Composite Structures. vol 94/3. pp 1155-1164.

A.J.M. Ferreira, C.M.C. Roque, E. Carrera, M. Cinefra, and O. Polit. Analysis of sandwich plates by radial basis functions collocation, according to murakami's zig-zag theory. Journal of Sandwich Structures and Materials, 14(5) :505–524, 2012.

Gallimard L., Error control in FORM reliability analysis. European Journal in Computational Mechanics. pp 1-11, doi: 10.1080/17797179.2012.714850.

Halfaya F. Z., Bensaibi M., Davenne L,. Vulnerability assessment of water supply network. Energy Procedia. vol 18. pp 772-783.

Halfaya F. Z., Bensaibi M., Davenne L.,. Seismic vulnerability of buried water pipes. Advanced Material Research. vol. 518-523 . pp 3740-3743, doi:10.4028/www.scientific.net/.

J. Petit, L. Waltz, G. Montay, D. Retraint, A. Roos, M. François,. Multilayer modelling of stainless steel with a nanocrystallised superficial layer. Materials Science and Engineering A. vol 536. pp 124-128.

O. Polit, P. Vidal, M. D'Ottavio,. Robust C0 high-order plate finite element for thin to very thick structures: mechanical and thermo-mechanical analysis. International Journal of Numerical Methods in Engineering. vol 90(4). pp 429-451.

N. D. Thai, M. D'Ottavio, J.-F. Caron,. Bending analysis of laminated and sandwich plates using a layer-wise stress model. Computers and Structures. in press.

P. Vidal, L. Gallimard, O. Polit,. Assessment of a composite beam finite element based on the Proper Generalized Decomposition. Composite Structures. vol. 94(5),. pp 1900-1910, doi:10.1016/j.compstruct.2011.1.

P. Vidal, L. Gallimard, O. Polit,. Composite beam finite element based on the Proper Generalized Decomposition. Computers and Structures. vol.102-103, . pp 76-86, doi: 10.1016/j.compstruc.2012.03.00.

### **Communications dans des congrès**

- D. Choi, L. Gallimard, T. Sassi,. A posteriori error estimates and domain decomposition algorithm for contact problems . 21th International Conference on Domain Decomposition method. Rennes.
- L. Davenne. Seismic behavior of light frame trusses roofs: experiments and simulations. 10ème World Congress on Computational Mechanics. Sao Paulo, Brésil.
- L. Gallimard. Error control in reliability analysis of cracked structures. 6th European congress on computational methods in applied science and engineering. Wien, Autriche.
- Z. Halfaya, M. Bensaibi, L. Davenne. Vulnerability assessment of water supply network Energy. Terragreen International Conference. Beyrouth, Liban.
- F. Hasnaoui, L. Davenne. Comparative numerical analyses of a reinforced concrete structure Under seismic action. 10ème World Congress on Computational Mechanics. Sao Paulo, Brésil.
- M. D'Ottavio, O. Polit. Assessment of plate models for sandwich bending, global buckling and wrinkling. 10th International Conference on Sandwich Structures. Nantes.
- M. D'Ottavio, O. Polit. Quasi-3D solutions for sandwich buckling and wrinkling. International Conference on Mechanics of Nano, Micro and Macro Composite Structures. Torino, Italie.
- O. Polit, P. Vidal, M. D'Ottavio. Robust shell finite element for thin to very thick composite structures. International Conference on Mechanics of Nano, Micro and Macro Composite Structures. Torino, Italie.
- P. Vidal, L. Gallimard, O. Polit. Modeling of laminated composite and sandwich structures based on the Proper Generalized Decomposition for mechanical and thermomechanical analysis. International Conference on Mechanics of Nano, Micro and Macro Composite Structures. Torino, Italie.
- H.Q. Nguyen, Gallimard L., C. Bathias, . Computation of the thermal dissipation during a fish-eye crack growth in gigacycle fatigue regime. Design, Modelling and Experiments for Advanced Structures and Systems DeMEASS IV. Ulrichsberg, Autriche.
- Wenzel, C., D'Ottavio, M., Vidal, P., and Polit, O. . Some benchmarks for assessing models for composite smart structures. In Design, Modelling and Experiments of Advanced Structures and Systems (DeMEASS V). Ulrichsberg, Autriche.
- Z. Halfaya, M. Bensaibi, L. Davenne. Blida water supply network vulnerability . International Symposium on Reliability Engineering & Management. Shanghai, China.

### **Ouvrage**

Polit, O., D'Ottavio, M., and Vidal, P., Thermal stress analysis of homogeneous and laminated shells by finite element method. In Encyclopedia of Thermal Stresses, R. Hetnarski, Ed. Springer. chapter Shell., to appear..

**2011**

### **Articles dans des revues à comité de lecture**

- P. Vidal, M. D'Ottavio, M. Ben Thaïer, O. Polit. An efficient finite shell element for the static response of piezoelectric laminates. Journal of Intelligent Material Systems and Structures. Vol 22(7). pp 671-690, doi:10.1177/1045389X11402863.
- S.B. Beheshti-Avala, M. Lezgy-Nazargaha, P. Vidal, O. Polit, . A refined sinus finite element model for the analysis of piezoelectric laminated beams. Journal of Intelligent Material Systems and Structures. Vol 22(3), . pp 203-219, doi:10.1177/1045389X10396955.
- P. Vidal, O. Polit. A sine finite element using a zig-zag function for the analysis of laminated composite beams. Composites Part B: Engineering. Vol 42(6). pp 1671-1682, doi:10.1016/j.compositesb.2011..
- P. Vidal, O. Polit. A refined sine finite element with transverse normal stress for thermoelastic analysis of laminated composite in cylindrical bending. Journal of Thermal Stresses. Vol 34(11). pp 1185-1204, doi:10.1080/01495739.2011.60831.
- I. Bruant, L. Gallimard, S. Nikoukar. Optimization of piezoelectric sensors location and number using a

Genetic Algorithm. *Mechanics of Advanced Materials and Structures*. Vol. 18. pp 469-475.

L. Gallimard. Error bounds for the reliability index in finite element reliability analysis. *International Journal for Numerical Methods in Engineering*. vol 87. pp 781-794.

Ferreira, A. J. M., Roque, C. M. C., Carrera, E., Cinefra, M., and Polit, O. Two higher order zig-zag theories for the accurate analysis of bending, vibration and buckling response of laminated plates by radial basis functions collocation and a unified formulation. *Journal of Composite Materials*. vol 45, 24 . pp 2523–2536.

Ferreira, A. J. M., Roque, C. M. C., Carrera, E., Cinefra, M., and Polit, O. . Analysis of laminated plates by trigonometric theory, radial basis, and unified formulation. *AIAA Journal* . vol 49, 7 . pp 1559–1562.

Ferreira, A. J. M., Carrera, E., Cinefra, M., Roque, C. M. C., and Polit, O. . Analysis of lam- inated shells by a sinusoidal shear deformation theory and radial basis functions collocation, accounting for through-the-thickness deformations. *Composites Part B: Engineering* . vol 42, 5 . pp 1276–1284.

Ferreira, A. J. M., Roque, C. M. C., Carrera, E., Cinefra, M., and Polit, O.. Radial basis functions collocation and a unified formulation for bending, vibration and buckling analysis of laminated plates, according to a variation of murakami's zig-zag theory. *European Journal of Mechanics, A/Solids* . vol 30, 4 . pp 559–570.

Kamada T., Yasumura M., Yasui S., Davenne L., Uesugi M.. Pseudodynamic tests and earthquake response analysis of timber structures III : three dimensional conventional wooden structures with plywood-sheathed shear walls. *Journal of Wood Science*. Vol. 57, No. 6. pp. 484-492. doi :10.1007/s10086-011-1198-6.

### **Communications dans des congrès**

N. Adnet, I. Bruant, F. Pablo, L. Proslie. Influence of mechanical strains on electromagnetic signals of microstrip antenna. FEM/BIM model. 4th International Conference on Computational Methods for Coupled Problems in Science and Engineering, COUPLED PROBLEMS 2011. Ile de Kos, Grèce.

O. Polit, P. Vidal, M. D'Ottavio. Seven parameters C0 F.E for heterogeneous plate structures. International Conference on Composite Structures (ICCS 16). Porto, Portugal.

M. D'Ottavio, O. Polit, E. Carrera. Assessment of models for the buckling analysis of composite plates and shells. 16th International Conference on Composite Structures (ICCS 16). Porto, Portugal.

E. Kuhn, E. Valot, P. Hervé. Comparaison entre la thermosonique et la thermographie pour la détection d'un délaminage dans un composite aéronautique. Dixième Colloque Interuniversitaire Franco-Québécois sur la thermique des systèmes (CIFQ2011). Saguenay (Canada).

Halfaya F. Z., Bensaïbi M., Davenne L. Stratégie de prédiction de courbes de fragilité pour les conduites enterrées. Actes des 29ème rencontres de l'AUGC. Tlemcen, Algérie.

Halfaya F. Z., Bensaïbi M., Davenne L.. Evaluation de la vulnérabilité sismique des conduites enterrées. 8ème Colloque National de l'AFPS. Marne-la-Vallée.

Davenne L. et al. . Comportement dynamique des toitures en charpentes industrialisées en bois - Couplage modelisation / experimentation.. 8ème Colloque National de l'AFPS. Marne-la-Vallée.

N. Adnet, F. Pablo, I. Bruant, L. Proslie, . Influence des déformations mécaniques sur les signaux électromagnétiques d'antennes conformées : approche FEM/BIM à l'aide d'un nouvel élément fini électromagnétique. CSMA 2011 10ème colloque national en calcul des structures. Giens.

Brancherie D., Pham B. H., Davenne L., Ibrahimbegovic , A. Calcul de la charge limite ultime de portiques en béton armé. CSMA 2011 10ème colloque national en calcul des structures. Presqu'île de Giens.

P. Vidal, M. D'Ottavio, O. Polit. Un E.F. C0 basé sur un modèle raffiné pour l'analyse multiphysique de plaques hétérogènes. Proceedings du 10ème colloque national en Calculs de Structures. Giens.

J. Petit, M. Bornert, O. Castelnau, F. Hofmann, A.M. Korsunsky, O. Robach, J.S. Micha, O. Ulrich, . of micron-scale stress fields by Digital Image Correlation and X-ray Laue microdiffraction. Size&StrainVI. Presqu'île de Giens.

P. Vidal, O. Polit, S.B. Beheshti-Avala, M. Lezgy-Nazargaha. Refined sinus finite elements : application to thermal and piezoelectric coupling. Design, Modelling and Experiments for Advanced Structures and Systems DeMEASS IV. Luxembourg.

M. D'Ottavio, O. Polit, P. Vidal. Some benchmarks for assessing models for composite smart structures,

## 2010

### Articles dans des revues à comité de lecture

M. D'Ottavio, E. Carrera. Variable-kinematics approach for linearized buckling analysis of laminated plates and shells. *AIAA Journal*. Vol. 48(9). pp. 1987–1996.

I. Bruant, L. Gallimard, S. Nikoukar. Optimal piezoelectric actuator and sensor location for active vibration control, using genetic algorithm. *Journal of Sound and Vibration*. Vol. 329. pp 1615-1635.

P. Vidal, O. Polit. Vibration of multilayered beams using sinus nite elements with transverse normal stress. *Composite Structures*. Vol 92. pp 1524-1534. doi:10.1016/j.compstruct.2009.1.

L. Gallimard, T. Sassi. A posteriori error analysis of a domain decomposition algorithm for unilateral contact problems. *Computer and Structure*. vol 88. pp 879-888.

M. Seyedi, P. Gehl, J. Douglas J., L. Davenne, N. Mehzer, S. Ghavamian. of seismic fragility surfaces for reinforced concrete buildings by means of nonlinear time-history analysis. *Earthquake Engineering & Structural Dynamics*. Vol 39(1). pp. 91-108.

A. Ibrahimbegovic, A. Boulkertous, L. Davenne, D. Brancherie. Modelling of reinforced-concrete structures providing crack-spacing based on X-FEM, ED-FEM and novel operator split solution procedure. *International Journal for Numerical Methods in Engineering*. Vol 83(4). pp 452–481, 2010. DOI: 10.1002/nme.2838.

B. H. Pham, L. Davenne, D. Brancherie, A. Ibrahimbegovic. Stress resultant model for ultimate load design of reinforced-concrete frames. Combined axial force and bending moment. *Computers and Concrete*. Vol 7(4). pp 303-315.

P. Jehel, L. Davenne, A. Ibrahimbegovic, P. Léger. Towards robust viscoelastic-plastic-damage material model with different hardenings / softenings capable of representing salient phenomena in seismic loading applications. *Computers & Concrete*. Vol 7(4). pp 365-386.

A. Ibrahimbegovic, A. Boulkertous, L. Davenne., M. Muhasilovic, A. Pokrklic. On modeling of fire résistance test on concrete and reinforced-concrete structures. *Computers and Concrete*. vol 7(4). pp 285-301.

### Communications dans des congrès

O. Polit, P. Vidal, M. D'Ottavio. A new C0 nite element based on a rened theory for multield analysis of heterogeneous plate/shell. *European Congress on Computational Mechanics ECCM*. Paris.

E. Valot, O. Polit, M. D'Ottavio, P. Vidal. Inuence of 2D nite element models on the 3D stresses evaluation for composite laminates: assessment of anisotropic effects. *European Congress on Computational Mechanics, ECCM* . Paris.

L. Davenne, A. Boulkertous, A. Ibrahimbegovic. Influence of the steel-concrete bond-slip on the behavior of RC structures under severe conditions. *CONSEC10*. Merida, Mexique.

### Ouvrage

M. König, M. D'Ottavio. Models for delamination. In R. Blockley and W. Shyy (Editors). *Encyclopedia of Aerospace Engineering*. Vol. 3.3, Chap. 13. John Wiley & Sons, Ltd.

## 2009

### Articles dans des revues à comité de lecture

F. Pablo, I. Bruant, O. Polit. Use of classical plate finite element for the analysis of electroactive composite plates, numerical validations. *Journal of Intelligent Materials Systems and Structures*. Vol. 20. pp 1861-1873.

M. D'Ottavio, O. Polit. Sensitivity analysis of thickness assumptions for piezoelectric plate models. *Journal of Intelligent Material Systems and Structures*. Vol. 20(15). pp 1815–1834.

P. Vidal, O. Polit. Assessment of the refined sinus model for the non-linear analysis of composite beams. *Composite Structures*. Vol 87. pp 370-381. doi:10.1016/j.compstruct.2008.02..

P. Vidal, O. Polit. A refined sine-based finite element with transverse normal deformation for the analysis of laminated beams under thermomechanical loads. *Journal of Mechanics of Materials and Structures*. Vol 4. pp 1127-1155.

L. Gallimard. An error in the constitutive relation based on traction-free recovery of the equilibrated stress. *International Journal for Numerical Methods in Engineering*. vol 78(3). pp 460-482.

### **Communications dans des congrès**

L. Gallimard , T. Sassi. Error analysis for unilateral contact problem solved by a domain décomposition algorithm. *ADMOS (International Conference on Adaptive Modeling and Simulation)*. Bruxelles.

P. Vidal, O. Polit. Une approche hiérarchique pour l'analyse de poutres composites. *Proceeding du 9ème colloque national en Calculs de Structures*. Giens.

M. D'Ottavio, O. Polit. Une hiérarchie de modeles raffinés pour plaques composites : application aux effets de bord. *9ème colloque national en Calcul de Structures*. Giens.

S. Nikoukar, I. Bruant, L. Gallimard. Design of the sensors network positioning using an optimum number of components for the active vibration control. *DeMEASS 3 (Design, Modelling and Experiments of Adaptive Structures and Smarts Systems)*. Vernon.

N. Adnet, I. Bruant, F. Pablo, L. Proslieir. Hybrid finite elements/boundary integral method for modelling of mechanical, electromagnetic and piezoelectric coupling for microstrip antennas. *DeMEASS 3 (Design, Modelling and Experiments of Adaptive Structures and Smarts Systems)*. Vernon.

Mis à jour le 12 mai 2015

<https://leme.parisnanterre.fr/publications/modelisation-mtn-/publications-sur-la-modelisation-520435.kjsp?RH=1395>