

Professor Ismail Mechab

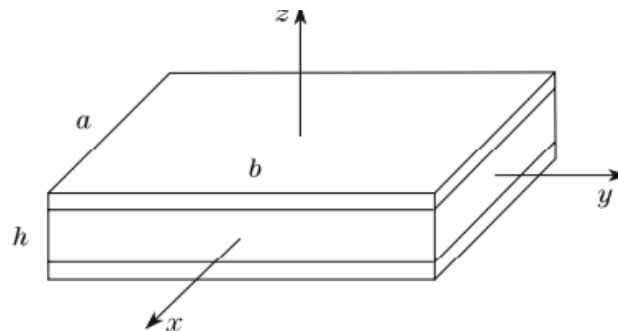


Fig. 1 Geometry of the rectangular FGM sandwich plate with uniform thickness in rectangular Cartesian coordinates

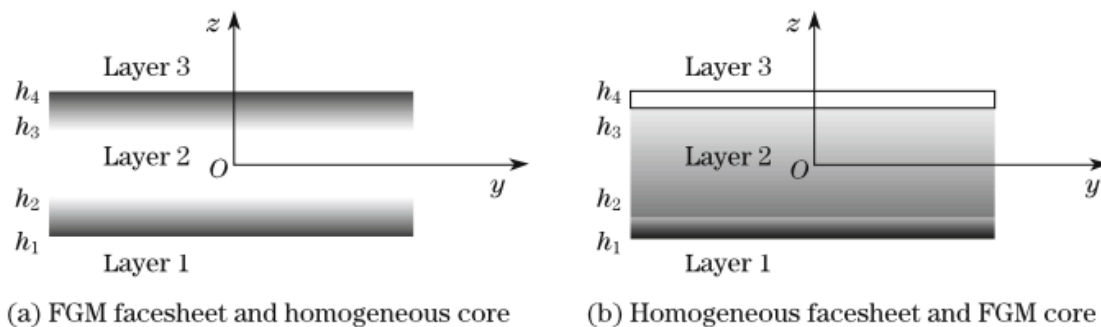


Fig. 2 Material variation along thickness of FGM sandwich plate

The images above are from: Hadji L, Atmane HA, Tounsi A, Mechab I, Bedia EAA. Free vibration of functionally graded sandwich plates using four-variable refined plate theory. Appl Math Mech – English Ed 2011;32(7):925–942

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Civil Engineering, Materials and Hydrology, University of Djilali Liabes, Sidi Bel Abbes, Algeria
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Selected Publications:

Heireche, H., Tounsi, A., Benzair, A., Mechab, I.: Sound wave propagation in single-walled carbon nanotubes with initial axial stress. J. Appl. Phys. 104, 014301 (2008)

Mechab I, Tounsi A, Benatta MA, Bedia EA. Deformation of short composite beam using refined theories. J Math Anal Appl 2008;346:468–479.

Benatta MA, Mechab I, Tounsi A, Adda Bedia EA. Static analysis of functionally graded short beams including warping and shear deformation effects. Comput Mater Sci 2008;44:765–773.

I. Mechab, Etude des structures composites en utilisant les theories d'ordre élevé sous chargement thermomécanique (in French) thesis, University of Sidi Bel Abbès, 2009

Benatta MA, Tounsi A, Mechab I, Bouiadjra MB. Mathematical solution for bending of short hybrid composite beams with variable fibers spacing. *Appl Math Comput* 2009;212:337–348.

Y. Bedjilili, A. Tounsi, H. M. Berrabah and I. Mechab, Natural frequencies of composite beams with a variable fiber volume fraction including rotary inertia and shear deformation, *Appl. Math. Mech.* 30 (6) (2009) 717–726.

Sallai BO, Tounsi A, Mechab I, Bachir MB, Meradjah MB, Adda EA. A theoretical analysis of flexional bending of Al/Al₂O₃ S-FGM thick beams. *Comput Mater Sci* 2009;44:1344–1350.

Atmane, H. A., Tounsi A., Mechab, I., Bedia, E. A. A. (2010). Free vibration analysis of functionally graded plates resting on Winkler–Pasternak elastic foundations using a new shear deformation theory. *International Journal of Mechanics and Materials in Design* 6:113–121.

Benyoucef, S., Mechab, I., Tounsi, A., Fekrar, A., Ait Atmane, H., Abbas Adda Bedia, E.I.: Bending of thick functionally graded plates resting on Winkler-Pasternak elastic foundations. *Mech. Compos. Mater.* 46, 425–434 (2010)

Mechab I, Atmane H, Tounsi A. A two variable refined plate theory for the bending analysis of functionally graded plates. *Acta Mech Sin* 2010;26(6):941–949.

Mahi A., Bedia E.A., Tounsi A., Mechab I.: An analytical method for temperature-dependent free vibration analysis of functionally graded beams with general boundary condition. *Compos. Struct.* 92, 1877–1887 (2010)

Amara K, Tounsi A, Mechab I, Adda-Bedia EA (2010) Nonlocal elasticity effect on column buckling of multiwalled carbon nanotubes under temperature field. *Appl Math Model* 34(12):3933–3942

Noureddine El Meiche, Abdelouahed Tounsi, Noureddine Ziane, Ismail Mechab and El Abbès Adda.Bedia, “A new hyperbolic shear deformation theory for buckling and vibration of functionally graded sandwich plate”, *International Journal of Mechanical Sciences*, Vol. 53, No. 4, April 2011, pp. 237-247

Houari MSA, Benyoucef S, Mechab I, Tounsi A, Adda Bedia EA. Two-variable refined plate theory for thermoelastic bending analysis of functionally graded sandwich plates. *J Therm Stress* 2011;34(4):315–334.

H.H. Abdelaziz, H.A. Atmane, I. Mechab, L. Boumia, A. Tounsi, E.A. AddaBedia, Static analysis of functionally graded sandwich plates using an efficient and simple refined theory. *Chin. J. Aeronaut.* 24, 434–448 (2011)

Ait Atmane, H., Tounsi, A., Ziane, N. and Mechab, I. (2011), “Mathematical solution for free vibration of sigmoidfunctionally graded beams with varying cross-section”, *Steel Compos. Struct., Int. J.*, 11(6), 489-504.

Hadji L, Atmane HA, Tounsi A, Mechab I, Bedia EAA. Free vibration of functionally graded sandwich plates using four-variable refined plate theory. *Appl Math Mech – English Ed* 2011;32(7):925–942

Merdaci S, Tounsi A, Houari MSA, Mechab I, Hebali H, Benyoucef S (2011) Two new refined shear displacement models for functionally graded sandwich plates. *Arch Appl Mech* 81:1507–1522

Mena R, Tounsi A, Mouaici F, Mechab I, Zidi M, Adda Bedia EA (2012) Analytical solutions for static shear correction factor of functionally graded rectangular beams. *Mech Adv Mat Struct* 19(8):641–652

B. Mechab, I. Mechab and S. Benaissa, Analysis of thick orthotropic laminated composite plates based on higher order shear deformation theory by the new function under thermo-mechanical loading, *Compos. B* 43(3) (2012) 1453–1458.

Noël Challamel, Ismail Mechab, Noureddine El Meiche, Baghdad Krour, “Buckling of composite nonlocal or gradient connected beams”, *International Journal of Structural Stability and Dynamics*, Vol. 11, No. 6, pp 1015-1033

Mechab I, Mechab B, Benaissa S. Static and dynamic analysis of functionally graded plates using four-variable refined plate theory by the new function. *Compos Part B Eng* 2013;45(1):748–757

Noel Challamel, Ismail Mechab, Noureddine Elmeiche, Mohammed Sid Ahmed Houari, Mohammed Ameer and Hassen Ait Atmane, “Buckling of generic higher-order shear beam/columns with elastic connections: Local and nonlocal formulation”, *ASCE Journal of Engineering Mechanics*, Vol. 139, No. 8, August 2013

B. Mechab, I. Mechab, S. Benaissa, M. Ameri, B. Serier Probabilistic analysis of effect of the porosities in functionally graded material nanoplate resting on Winkler–Pasternak elastic foundations, *Appl. Math. Model.*, 40 (2016), pp. 738-749

I. Mechab, B. Mechab, S. Benaissa, B. Serier and B. Bachir Bouiadjra, “Free vibration analysis of FGM nanoplate with porosities resting on Winkler Pasternak elastic foundations based on two-variable refined plate theories”, *Journal of the Brazilian Society of Mechanical Sciences and Engineering*, 38(8), 2193-2211, 2016

I. Mechab, N. El Meiche and F. Bernard, Free vibration analysis of higher-order shear elasticity nanocomposite beams with consideration of nonlocal elasticity and Poisson effect, *J. Nanomech. Micromech.* 6(3) (2016) 04016006.

Mechab I, El Meiche N., Bernard F., “Analytical study for the development of a new warping function for high order beam theory”, *Composites Part B*, 2017

Mounia Khetib, Hichem Abbad, Nourredine Elmeiche and Ismail Mechab, “Effect of the Viscoelastic Foundations on the Free Vibration of Functionally Graded Plates”, *International Journal of Structural Stability and Dynamics*, Vol. 19, No. 11, 1950136, November 2019