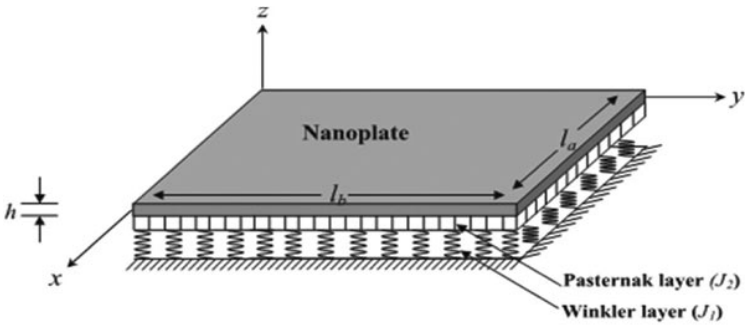

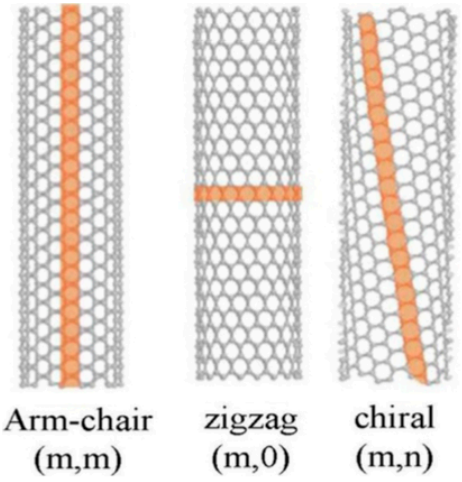

Fig. 2. Carbon nanotube: armchair, zigzag and chiral.

Left-hand image from: Fouzia Krenich, Houari Heireche, Mohammed S.A. Houari and ABdelouahed Tounsi, "A novel nonlocal four variable plate theory for thermal stability of single-layered graphene sheets embedded in an elastic substrate medium", Current Nanomaterials, Vol. 1, No. 3, 2016
Right-hand image from: Semmah, A., Tounsi, A., Zidour, M., Heireche, H., and Naceri, M., 2015, "Effect of the Chirality on Critical Buckling Temperature of Zigzag Single-Walled Carbon Nanotubes Using the Nonlocal Continuum Theory," Fullerenes Nanotubes Carbon Nanostruct., 23(6), pp. 518–522.

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Selected Publications (Only papers with Tounsi as first or second author are listed here.)**:**
A. Tounsi and E. A. Bedia, Simplified Method for Prediction of Transient Hygroscopic Stresses in Polymer Matrix Composites with Symmetric Environmental Conditions, Appl. Compos. Mater., vol. 10, no. 1, pp. 1–18, 2003.

A. Tounsi and E. A. Bedia, Some Observations on the Evolution of Transversal Hygroscopic Stresses in Laminated Composites Plates: Effect of Anisotropy, Compos. Struct., vol. 59, no. 4, pp. 445–454, 2003
A. Tounsi, E. A. Bedia, and A. Benachour, A New Computational Method for Prediction of Transient Hygroscopic Stresses during Moisture Desorption in Laminated Composite Plates with Different Degrees of Anisotropy, J. Thermoplast. Compos. Mater., vol. 18, no. 1, pp. 37–58, 2005.
Heireche H., Tounsi A., Benzair A., "Scale effect on wave propagation of double-walled carbon nanotubes with initial axial loading", Nanotechnology 19, 185703 (2008)
Tounsi A, Heireche H, Berrabah HM, Benzair A, Boumia L. Effect of small size on wave propagation in double-walled carbon nanotubes under temperature field. J Appl Phys 2008;104:104301
Heireche H, Tounsi A, Benzair A, Maachou M, Adda Bedia EA (2008) Sound wave propagation in single-walled carbon nanotubes using nonlocal elasticity. Physica E 40(8):2791–2799
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;212:337–48.
Sallai, B.O., Tounsi, A., Mechab, I., Bachir, B.M., Meradjah, M. and Adda Bedia, E.A. (2009), "A theoretical analysis of flexional bending of Al/Al2O3O S-FGM thick beams", Comput. Mater. Sci., 44(4), 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
Atmane, H.A., Tounsi, A., Meftah, S.A., Belhadj, H.A.: Free vibration behavior of exponential functionally graded beams with varying cross-section. J. Vib. Control 17, 311–318 (2010).
Bouazza M., Tounsi A., Adda-Bedia E.A., Megueni A.: Thermoelastic stability analysis of functionally graded plates: an analytical approach. Comput. Mater. Sci. 49, 865–870 (2010)
H. Heireche, A. Tounsi, H. Benhassaini et al., "Nonlocal elasticity effect on vibration characteristics of protein microtubules," Physica E: Low-Dimensional Systems and Nanostructures, vol. 42, no. 9, pp. 2375–2379, 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
Bourada, M.; Tounsi, A.; Houari, M.S.A.; Bedia, E.A.A. A new four-variable refined plate theory for thermal buckling analysis of functionally graded sandwich plates. J. Sandw. Struct. Mater. 2011, 14, 5–33.
Noureddine El Meiche, Abdelouahed Tounsi, Noureddine Ziane, Ismail Mechab and El Abbes 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
Merdaci S, Tounsi A, Houari M, Mechab I, Hebali H, Benyoucef S. Two new refined shear displacement models for functionally graded sandwich plates. Arch Appl Mech 2011; 81: 1507–1522.
Mohamed Bourada, Abdelouahed Tounsi, Mohammed Sid Ahmed Houari and El Abbes Adda Bedia, "A new four-variable refined plate theory for thermal buckling analysis of functionally graded sandwich plates", Journal of Sandwich Structures & Materials, Vol. 14, No. 1, pp 5-33, January 2012
Bouazza Mokhtar, Tounsi Abedlouahed, Adda Bedia El Abbas and Megueni Abdelkader, "Buckling analysis of functionally graded plates with simply supported edges", http://ljs.academicdirect.org/A15/021_032.htm , publisher and date not given.
Tounsi, A., Menaa, R., Mouaici, F., Mechab, I., Zidi, M. and Adda Bedia, E.A. (2012), "Analytical solutions for static shear correction factor of functionally graded rectangular beams", Mech. Adv. Mater. Struct., 19, 641-52
Tounsi, A., Benguediab, S., Adda Bedia, E.A., Semmah, A. and Zidour, M. (2013a), "Nonlocal effects on thermal buckling properties of double-walled carbon nanotubes", Adv. Nano Res., 1(1), 1-11.
Abdelouahed Tounsi, Mohammed Sid Ahmad Houari, Samir Benyoucef and El Abbas Adda Bedia, "A refined trigonometric shear deformation theory for thermoelastic bending of functionally graded sandwich plates", Aerospace Science and Technology, Vol. 24, No. 1, pp 209-220, January-February 2013

Berrabah, H.M., Tounsi, A., Semmah, A. and Adda Bedia, E.A. (2013), "Comparison of various refined nonlocal beam theories for bending, vibration and buckling analysis of nanobeams", Struct. Eng. Mech., 48(3), 351-365.
Houari, M.S.A., Tounsi, A. and Anwar Beg, O. (2013), "Thermoelastic bending analysis of functionally graded sandwich plates using a new higher order shear and normal deformation theory", Int. J. Mech. Sci., 76, 467-479
Hassaine Daouadji, T., Tounsi, A. and Adda Bedia, E.A. (2013), "Analytical solution for bending analysis of functionally graded plates", Scientia Iranica, Tran. B: Mech. Eng., 20, 516-523.
Soumia Benguediab, Abdelouahed Tounsi, Mohamed Zidour and Abdelwahed Semmah, “Chirality and scale effects on mechanical buckling properties of zigzag double-walled carbon nanotubes”, Composites Part B: Engineering, Vol. 57, pp 21-24, February 2014
Houari MSA, Tounsi A, Bég OA. Thermoelastic bending analysis of functionally graded sandwich plates using a new higher order shear and normal deformation theory. Int J Mech Sci 2013;76:102–11.
Daouadji T, Tounsi A, Hadji L. A theoretical analysis for static and dynamic behavior of functionally graded plates. Mater Phys Mech 2012;14:110–28
Habib Hebali, Abdelouahed Tounsi, Mohammed Sid Ahmed Houari, Ai (cha Bessaim and El Abbes Adda Bedia, “New quasi-3D hyperbolic shear deformation theory for the static and free vibration analysis of functionally graded plates”, ASCE Journal of Engineering Mechanics, Vol. 140, No. 2, pp 374-383, February 2014
Mohamed Zidi, Abdelouahed Tounsi, Mohammed Sid Ahmed Houari, El Abbas Adda Bedia and O. Anwar Beg, “Bending analysis of FGM plates under hygro-thermo-mechanical loading using a four variable refined plate theory”, Aerospace Science and Technology, Vol. 34, pp 24-34, April 2014
Bouazza, M., Tounsi, A., Adda, B.E.A.: Buckling response of thick functionally graded plates. J. Mater. Eng. Struct. 1, 137–145 (2014)
Bakora, A. and Tounsi, A. (2015), "Thermo-mechanical postbuckling behavior of thick functionally graded plates resting on elastic foundations", Struct. Eng. Mech., 56(1), 85-106.
A. Attia, A. Tounsi, E.A. Bedia, S. Mahmoud Free vibration analysis of functionally graded plates with temperature-dependent properties using various four variable refined plate theories, Steel Compos. Struct., 18 (2015), pp. 187-212
Baghdadi, H., Tounsi, A., Zidour, M., Benzair, A.: Thermal effect on vibration characteristics of armchair and zigzag single-walled carbon nanotubes using nonlocal parabolic beam theory. Fuller. Nanotubes Carbon Nanostruct. 23, 266–272 (2015)
H.A. Atmane, A. Tounsi, F. Bernard, S. Mahmoud A computational shear displacement model for vibrational analysis of functionally graded beams with porosities, Steel Compos. Struct., 19 (2015), pp. 369-384
Semmah, A., Tounsi, A., Zidour, M., Heireche, H., and Naceri, M., 2015, “Effect of the Chirality on Critical Buckling Temperature of Zigzag Single-Walled Carbon Nanotubes Using the Nonlocal Continuum Theory,” Fullerenes Nanotubes Carbon Nanostruct., 23(6), pp. 518–522.
Al-Basyouni, K.S., Tounsi, A. and Mahmoud, S.R. (2015), "Size dependent bending and vibration analysis of functionally graded micro beams based on modified couple stress theory and neutral surface position", Compos. Struct., 125, 621-630
Mahi, A. and Tounsi, A. (2015), "A new hyperbolic shear deformation theory for bending and free vibration analysis of isotropic, functionally graded, sandwich and laminated composite plates", Appl. Math. Model., 39(9), 2489-2508
M.S.A. Houari, A. Tounsi, A. Bessaim, S. Mahmoud A new simple three-unknown sinusoidal shear deformation theory for functionally graded plates, Steel Compos. Struct., 22 (2016), pp. 257-276
Saidi, H., Tounsi, A. and Bousahla, A.A. (2016), "A simple hyperbolic shear deformation theory for vibration analysis of thick functionally graded rectangular plates resting on elastic foundations", Geomech. Eng., Int. J.,

11(2), 289-307
Tounsi, A., Houari, M.S.A. and Bessaim, A. (2016), "A new 3-unknowns non-polynomial plate theory for buckling and vibration of functionally graded sandwich plate", Struct. Eng. Mech., 60(4), 547-565.
K. Draiche, A. Tounsi, S. Mahmoud A refined theory with stretching effect for the flexure analysis of laminated composite plates, Geomech. Eng., 11 (2016), pp. 671-690
Merdaci, S., Tounsi, A. and Bakora, A. (2016), "A novel four variable refined plate theory for laminated composite plates", Steel Compos. Struct., 22(4), 713-732.
Y. Beldjelili, A. Tounsi, S. Mahmoud Hygro-thermo-mechanical bending of S-FGM plates resting on variable elastic foundations using a four-variable trigonometric plate theory, Smart Struct. Syst., 18 (2016), pp. 755-786
Atmane, H.A., Tounsi, A., Bernard, F.: Effect of thickness stretching and porosity on mechanical response of a functionally graded beams resting on elastic foundations. Int. J. Mech. Mater. Des. 13(1), 71–84 (2017)
A. Chikh, A. Tounsi, H. Hebali, S. Mahmoud Thermal buckling analysis of cross-ply laminated plates using a simplified HSDT, Smart Struct. Syst., 19 (2017), pp. 289-297
S.R. Mahmoud and Abdelouahed Tounsi, “A new shear deformation plate theory with stretching effect for buckling analysis of functionally graded sandwich plates”, Steel and Composite Structures, Vol. 24, No. 5, pp 569-578, 2017
Abdallah Zine, Abdelouahed Tounsi, Kada Draiche, Mohamed Sekkal and S.R. Mahmoud, “A novel higher-order shear deformation theory for bending and free vibration analysis of isotropic and multilayered plates and shells”, Steel and Composite Structures, Vol. 26, No. 2, pp 125-137, 2018