



Dr. Alexander Tessler

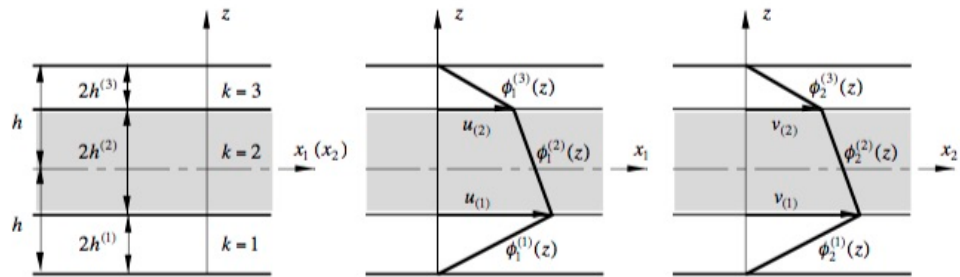


Figure 2. Notation for a three-layered laminate and $\phi_1^{(k)}$ and $\phi_2^{(k)}$ zigzag functions defined in terms of interfacial values (displacements), $u_{(i)}$ and $v_{(i)}$ ($i = 0, 1, \dots, N$).

From: Alexander Tessler, Marco Di Sciuva and Marco Gherlone, "A consistent refinement of first-order shear deformation theory for laminated composite and sandwich plates using improved zigzag kinematics", Journal of Mechanics of Materials and Structures, Vol. 5, No. 2, 2010

See:

- <https://www.linkedin.com/in/alex-tessler-57ab4b5>
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Senior Research Scientist, NASA Langley Research Center, Hampton, Virginia

Previous positions: US Army Materials Technology Laboratory, Northrop Grumman Corporation, University Teaching and Research

Education: PhD in Computational Mechanics, University of California, Los Angeles

Career:

A recognized international authority in Applied Mechanics and Finite Element Methods.

- Credited with the development of techniques and finite element methods used in commercial, university, and government software.
- Developed methods and formulations, which have been documented in the state-of-the-art textbooks on finite element methods.
- Authored over 200 technical papers, book chapters, and reports.
- Made numerous presentations at national and international conferences, industry workshops, and universities.

Other Experience:

Teaching graduate-level courses in Mechanics of Materials, Structural Dynamics, Finite Elements, Plate and Shell Theory.

- University of Virginia (2000 - 2001)
- Old Dominion University (1995 - 1999)
- George Washington University (1991 - 1995)
- Northeastern University (1983 - 1991)

Visiting Professor:

- Istanbul Technical University (2008)
- University of Hawaii (2005)

- Universitat Politècnica de Catalunya (2005)
- Politecnico di Torino (2004)

Selected Publications:

1. Tessler, A., and Riggs, R. R.: Accurate Interlaminar Stress Recovery from Finite Element Analysis. NASA TM- 109149, 1994
2. A. Barut, E. Madenci, and A. Tessler, “Nonlinear analysis of laminates through a mindlin-type shear deformable shallow shell element”, Computer Methods in Applied Mechanics and Engineering, Vol. 143, Nos. 1-2, April 1997, pp. 155-173,
3. A. Barut, E. Madenci, A. Tessler and J. H. Starnes, Jr., “A new stiffened shell element for geometrically nonlinear analysis of composite laminates”, Computers & Structures, Vol. 77, No. 1, June 2000, pp. 11-40
4. A. Barut, E. Madenci, A. Tessler , “Nonlinear thermoelastic analysis of composite panels under non-uniform temperature distribution”, International Journal of Solids and Structures, Vol. 37, No. 27, July 2000, pp. 3681-3713
5. Tessler, A., Annett, M. S., and Gendron, G., “A {1,2}-Order Plate Theory Accounting for Three-Dimensional Thermoelastic Deformations in Thick Composites and Sandwich Laminates,” Composite Structures, Vol. 52, 2001, pp. 67-84.
6. Tessler, A., Sleight, D. W., and Wang, J. T. (2003). Effective modeling strategies for nonlinear shell analysis of thin membranes exhibiting structural wrinkling. submitted to: Journal of Spacecraft and Rockets, AIAA.
7. Alexander Tessler, Marco Di Sciuva and Marco Gherlone, “A consistent refinement of first-order shear deformation theory for laminated composite and sandwich plates using improved zigzag kinematics”, Journal of Mechanics of Materials and Structures, Vol. 5, No. 2, 2010
8. Tessler, A, Gherlone, M., Versino D. and Di Sciuva, M., “Analytic and computational perspectives of multi-scale theory for homogeneous, laminated composite and sandwich beams and plates”, NASA Technical Report, NASA/TP-2012-217573; L-20141; NF1676L-14627, 2012
9. L. Iurlaro, M. Gherlone, M. Di Sciuva and A. Tessler, “Assessment of the refined zigzag theory for bending, vibration, and buckling of sandwich plates: a comparative study of different theories”, Composite Structures, Vol. 106, pp. 777-792, 2013
10. Atila Barut, Erdogan Madenci and Alexander Tessler, “Post-buckling Response of Scarf Repaired Laminates Using a Refined Zigzag Element”, AIAA Paper AIAA 2014-0847, AIAA 55th Structures Meeting, Maryland, January 13-17, 2014