



Fig. 4. Isometric, front and top view of all samples after deformation processes a) $n=1$, b) $n=2$, c) $n=3$ and d) $n=4$

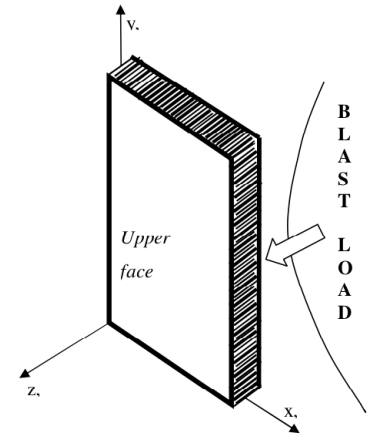


Fig. 1.1. Sandwich composite plate and its coordinate system

Professor Zahit Mecitoglu

The middle image above is from: Fatih Usta, Zana Eren, Halit S. Tuerkmen, Zafer Kazanci and Zahit Mecitoglu, “Numerical investigation of stepped concentric crash tubes subjected to axial impact: The effect of number of tubes”, Conference paper 2015

The right-most image above is from: Demet Balkan and Zahit Mecitoglu, “Dynamic response of sandwich plate with viscoelastic core under blast load”, 7th EUROMECH Solid Mechanics Conference, Lisbon, Portugal, September 7-11, 2009

See:

<https://uubf.itu.edu.tr/en/academics/aeronautical-engineering/staff/prof-dr-zahit-mecitoglu>

<https://scholar.google.com/citations?user=A2kV4GcAAAAJ&hl=en>

https://www.researchgate.net/profile/Zahit_Mecitoglu

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Summary:

Dr. Mecitoglu's primary research interest is in the area of advanced fiber-reinforced composite materials with applications to aircraft and spacecraft structures. His specialties include dynamic response and nonlinear behavior of laminated composite plates and shells, and finite element methods for structural analysis. Most of his work involves both analysis and experiments. His recent research topics include nonlinear dynamic behavior of composite and sandwich structures under blast load, vibrations of stiffened shells, effect of temperature dependent material properties on the dynamic behavior of structures. He is also involved in smart-structure design on actively controlling the response of the structures.

Dr. Mecitoglu worked at Engineering Faculty of Uludağ University as a Research Assistant before joining the Faculty of Aeronautics and Astronautics at Istanbul Technical University. He served as a research Engineer at Marmara Research Center of The Scientific & Technical Research Council of Turkey (TÜBİTAK) during 1989-1990. He worked in the project of MH-53J Structural Integrity (U.S. Army contract) at Aerospace Department of Georgia Institute of Technology at USA during 1990-1991. He has also served as rotor system team leader in Aviation Research and Development Project supported by Turkish Government Planning Organization (DPT). He is currently running a TÜBİTAK project on behavior of composite sandwich plates under blast loading. He also manages projects for the automotive industry. He is a reviewer for several renowned journals. He has graduated 4 Ph.D. students and has published more than 60 technical articles and reports. He is also the chairman of structures and materials course monitoring committee and a member of curriculum committee of FAA.

Education:

BSc Aeronautical Engineering, ITU, Turkey, 1982

MSc: Aeronautical Engineering, ITU, Turkey, 1984

PhD: Aeronautical Engineering, ITU, Turkey, 1988

Selected Publications:

- Halit S. Tuerkmen, Zahit Mecitoglu and Oguz Borat, "Nonlinear structural response of laminated composite panels subjected to blast loadings", *Mathematical & Computational Applications*, Vol. 1, No. 1, pp 126-133, 1996
- Z. Mecitoğlu, "Free Vibrations of a Conical Shell with Temperature Dependent Material Properties", *Journal of Thermal Stresses*, Vol. 19, No. 8, pp. 711-729, 1996.
- Z. Mecitoğlu, "Vibration Characteristics of a Stiffened Conical Shell", *Journal of Sound and Vibration*, Vol. 197, No. 2, pp. 191-206, 1996.
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- Türkmen H.S. and Mecitoğlu Z., "Dynamic Response of a Stiffened Laminated Composite Panels Subjected to Blast Load", *Journal of Sound and Vibration*, Vol.221, No.3, pp.371-389, 1999.
- H.S. Türkmen and Z. Mecitoğlu, "Nonlinear Structural Response of Laminated Composite Plates Subjected to Blast Loading", *AIAA Journal*, Vol. 37, No. 12, pp.1639-1647, 1999.
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- C.A. Mota Soares et.al. (Eds.) Lisbon, Portugal, 5–8 June 2006.
- A. Baş, Z. Kazancı and Z. Mecitoğlu, "Nonlinear response of a sandwich plate subjected to blast load" *Proc. of IMECE2007, 2007 ASME International Mechanical Engineering Congress and Exposition*, Seattle, Washington, USA, November 11-15, 2007.
- Zafer Kazanci and Zahit Mecitoglu, "Nonlinear dynamic response of a simply-supported laminated composite plate subjected to explosive pressure pulses", *8th World Congress on Computational Mechanics (WCC8)*, Venice, Italy, June 30-July 5, 2008
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- H. Uyanik and Mecitoğlu, Z., "Active vibration control of a laminated composite plate subjected to blast load", *Aircraft Engineering and Aerospace Technology*, Vol. 81, No. 5, pp. 308-315, 2009.
- Demet Balkan and Zahit Mecitoglu, "Dynamic response of sandwich plate with viscoelastic core under blast load", *7th EUROMECH Solid Mechanics Conference*, Lisbon, Portugal, September 7-11, 2009
- H. Uyanik and Z. Mecitoğlu, "Vibration control of a laminated composite plate subjected to blast loading", *III European Conference on Computational Mechanics Solids, Structures and Coupled Problems in Engineering*, D. Balkan, O. Acar, H.S. Tuerkmen and Z. Mecitoglu, "Transient response of a laminated sandwich plate with viscoelastic core subjected to air blast: Theory and experiment", *Structures Under Shock and Impact XI*, WIT Transactions on the Built Environment, Vol. 113, 2010
- F. Ince, H.S. Tuerkmen, Z. Mecitoglu, N. Uludag, I. Durgun, E. Altinok and H. Oerenel, "A numerical and experimental study on the impact behavior of box structures", *Procedia Engineering*, Vol. 10, pp 1736-1741, 2011
- H. Burak Ustaoglu, Sena Ayhun, Gokay Simitcioglu, Sedat Susler, Erdem Akay, Vedat Z. Dogan, Zahit Mecitoglu, Halit S. Tuerkmen and Serter Atamer, "Static and dynamic analysis of plastic fuel tanks used in buses", *Procedia Engineering*, Vol. 101, pp 509-517, 2015
- Fatih Usta, Zana Eren, Halit S. Tuerkmen, Zafer Kazanci and Zahit Mecitoglu, "Numerical investigation of stepped concentric crash tubes subjected to axial impact: The effect of number of tubes", *Conference paper 2015*
- Fatih Usta, Fehmi Mullaoglu, Halit S. Tuerkmen, Demet Balkan, Zahit Mecitoglu, Hasan Kurtaran and Erdem Akay, "Effects of thickness and curvature on impact behaviour of composite panels", *Procedia Engineering*, Vol. 167, pp 216-222, 2016
- Fatih Usta, Zana Eren, Hasan Kurtaran, Halit S. Tuerkmen, Zafer Kazanci and Zahit Mecitoglu, "Crashworthiness optimization of nested and concentric circular tubes using response surface methodology and genetic algorithm", *Latin American Journal of Solids and Structures*, Vol. 15, No. 5, e42, 2018