



Professor Dineshkumar Harursampath

See:

- <http://iiscprofiles.irins.org/profile/3869>
- <http://aero.iisc.ac.in/people/dineshkumar-harursampath/>
- <http://aero.iisc.ac.in/people/dinesh/web/>
- <https://in.linkedin.com/in/dineshkumar-harursampath-2b877223>
- <https://scholar.google.co.in/citations?user=VjavNRIAAAAJ&hl=en>
- https://www.researchgate.net/profile/Dineshkumar_Harursampath

Head of the Non-Linear Multifunctional Composites Analysis and Design Laboratory (NMCAD), Department of Aerospace Engineering, Indian Institute of Science Bangalore, India

Education:

- 1988-1992 B.Tech Indian Institute of Technology Madras
- 1992-1994 ME Indian Institute of Science Bangalore
- 1994-1999 Ph.D Georgia Tech

Research Interests:

At the NMCAD Lab, we model geometric and physical nonlinearities as well as their evolutionary interaction in conventional and multifunctional composites for aerospace and non-aerospace applications. Our work is predominantly theoretical and analytical with supportive computational implementation and experimental validation.

Selected Publications:

- D. H. Hodges, D. Harursampath, V. V. Volovoi and C. E. S. Cesnik, "Non-Classical Effects in Non-Linear Analysis of Pretwisted Anisotropic Strips", International Journal of Non-Linear Mechanics 34 (2): 259-277, Mar 1999

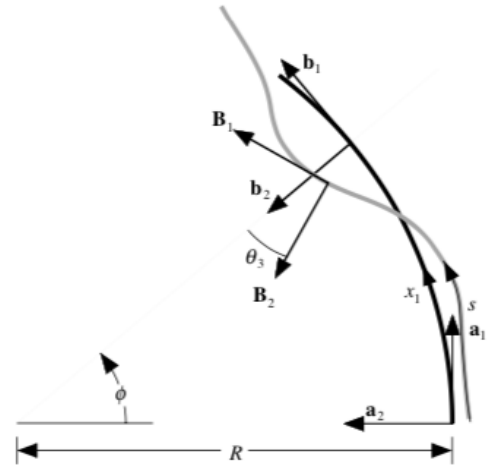


FIG. 1. Schematic of Undeformed and Deformed Beam.

From: D. H. Hodges and D. Harursampath, "Inplane buckling of anisotropic rings", in Proceedings of the 15th ASCE Engineering Mechanics Division Conference (New York), Columbia University, New York, June 2-5 2002

D. Harursampath and D. H. Hodges, "Asymptotic Analysis of the Non-Linear Behavior of Long Anisotropic Tubes", *International Journal of Non-Linear Mechanics* 34 (6): 1003-1018, Nov 1999

D. H. Hodges and D. Harursampath, "Inplane buckling of anisotropic rings", in *Proceedings of the 15th ASCE Engineering Mechanics Division Conference (New York)*, Columbia University, New York, June 2–5 2002

Dineshkumar Harursampath, Dewey H. Hodges and Ajay Bangalore Harish, "Non-classical non-linear effects in thin walled open section composite beams", 48th AIAA Structures, Structural Dynamics and Materials Conference, 7-10 April 2008, Schaumburg, Illinois, Paper No. AIAA2008-2306

S. Murugan, D. Harursampath and R. Ganguli, "Material Uncertainty Propagation in Helicopter Nonlinear Aeroelastic Response and Vibratory Analysis", *AIAA Journal*, 46 (9): 2332-2334, 2008

S. Murugan, R. Ganguli and D. Harursampath, "Aeroelastic Response of Composite Helicopter Rotor with Random Material Properties", *AIAA Journal of Aircraft*, 45 (1): 306-322, Jan-Feb 2008

Burela Ramesh Gupta, Dineshkumar Harursampath and Sujoy Mukherjee, "Asymptotically Accurate Non-Linear Analysis of Electro-Elastomer Membrane Structures", *Proceedings of SPIE – The International Society for Optical Engineering*, March 2010

S. Murugan, R. Ganguli and D. Harursampath, "Stochastic Aeroelastic Analysis of Composite Helicopter Rotor", *Journal of the American Helicopter Society*, 56 (1), AHS Article 012001, Jan 2011

H. Pollayi and D. Harursampath, "Geometrically Nonlinear Dynamics of Composite Four-Bar Mechanisms", *International Journal of Non-Linear Mechanics*, 47 (8): 837–850, Oct 2012

S. S. Padhee and D. Harursampath, "Radial Deformation of Cylinders due to Torsion", *Journal of Applied Mechanics*, 79(6): 061013-9, Nov 2012

M. V. P. Rao, D. Harursampath and K. Renji, "Prediction of Interlaminar Stresses in Composite Honeycomb Sandwich Panels under Mechanical Loading using Variational Asymptotic Method" *Composite Structures*, 94 (8): 2523-2537, Jul 2012

R. G. Burela and D. Harursampath, "VAM applied to Dimensional Reduction of Nonlinear Hyperelastic Plates", *International Journal of Engineering Science*, The Special Issue in Honor of Victor L. Berdichevsky, edited by K. C. Le and L. Truskinovsky, Volume 59: 90–102, Oct 2012

S. Murugan, R. Ganguli and D. Harursampath, "Surrogate based Design Optimisation of Composite Aerofoil Cross-section for Helicopter Vibration Reduction", *The Aeronautical Journal*, 116(1181), Royal Aeronautical Society Paper No. 3731, July 2012

S. K. Kumar, R. Ganguli and D. Harursampath, "Partial Delamination Modeling in Composite Beams using Finite Element Method", *Finite Elements in Analysis and Design*, 76 (2013), pp. 1-12

H. Pollayi, D. Harursampath and W. Yu, "Evaluation of Strength of Component-Laminates in Strip-based Mechanisms", *Composite Structures*, 100 (2013) 1–16, 2013

P. J. Guruprasad, M. Thejasvi and D. Harursampath, "Nonlinear analysis of a thin pre-twisted and delaminated anisotropic strip", *Acta Mechanica*, 225(10), 2815-2832, 2014

S. K. Kumar, M. Cinefra, E. Carrera, R. Ganguli and D. Harursampath, "Finite Element Analysis of Free Vibration of the Delaminated Composite Plate with Variable Kinematic Multilayered Plate Elements", *Composites Part B*, 66 (2014), pp. 453-465

Harursampath, D., Harish, A. B., and Hodges, D. H., 2017, "Model Reduction in Thin-Walled Open-Section Composite Beams Using Variational Asymptotic Method—Part I: Theory," *Thin-Walled Struct.*, 117, pp. 356–366.

Harursampath, D., Harish, A. B., and Hodges, D. H., 2017, "Model Reduction in Thin-Walled Open-Section Composite Beams Using Variational Asymptotic Method—Part II: Applications," *Thin-Walled Struct.*, 117, pp. 367–377.

M.V. Peereswara Rao, K. Renji and Dineshkumar Harursampath, "Asymptotic theory of 3D thermoelastic stress analysis of honeycomb sandwich panels with composite facesheets", *Journal of Sandwich Structures and Materials*, August 2018

S. Keshava Kumar, Dineshkumar Harursampath, Erasmo Carrera, Maria Cinefra and Stefano Valvano, "Modal analysis of delaminated plates and shells using Carrera Unified Formulation – MITC9 shell element", *Mechanics of Advanced Materials and Structures*, Vol. 25, No. 8, pp 681-697, 2018

M. Vinyas, K.K. Sunny, D. Harursampath, T. Nguyen-Thoi and M.A.R. Loja, "Influence of interphase on the multi-physics coupled frequency of three-phase smart magneto-electro-elastic composite plates", *Composite Structures*, Vol. 226, Article 111254, 15 October 2019

Sathiskumar A. Ponnusami, Mohit Gupta and Dineshkumar Harursampath, “Asymptotic Modeling of Nonlinear Bending and Buckling Behavior of Carbon Nanotubes”, AIAA Journal, Vol. 57, No. 10, pp 4132-4140, October 2019

Yashwantha Kumar, B. Rammohan, P. R. Budarapu, D. K. Harursampath and K. N. Seetharamu, “Dynamic Instability Analysis of Multifunctional Composite Structures”, AIAA Journal, Vol. 57, No. 10, pp 4241-4254, October 2019