



Professor Suresh Chandra Pradhan

Aerospace Engineering
Indian Institute of Technology, Kharagpur

Education:

B. Tech (Aeronautical Engineering, Madras Institute of Technology Anna University
M. E. (Aerospace Engineering, Indian Institute of Science, Bangalore)
Ph.D. (Aerospace Engineering, Indian Institute of Technology, Kanpur)

Experience:

1. Associate Professor, Department of Aerospace Engineering, Indian Institute of Technology, Kharagpur, India. August 2010 -- till date
2. Assistant Professor, Department of Aerospace Engineering, Indian Institute of Technology, Kharagpur, India. July 2004 -- August 2010
3. Senior Research Engineer, Institute of High Performance Computing (IHPC), Agency for Science Technology and Research (A*STAR), Singapore. January 1998 - June 2004.
4. Research Engineer, Centre of Computational Mechanics, Department of Mechanical and Production Engineering, National University of Singapore, Singapore. August 1997 -- December 1997.
5. Postdoctoral Fellow, Department of Mechanical and Production Engineering, National University of Singapore, sponsored by National Science and Technology Board (NSTB) Singapore. January 1996 -- July 1997.
6. Scientist C, Structural Science Division, National Aerospace Laboratories, Bangalore - 560 017 (India). May 1995 -- January 1996.
7. Research Engineer, Transoft International Pvt Limited, 124, 24th Main, 6th Phase, J.P. Nagar, Bangalore - 560 078 (India). November 1994 -- May 1995.

Research Areas:

Aerospace structures, Nonlocal elasticity, FEM, FGM, Smart Structures, composite materials and nanocomposites, Optimization

Awards and Honors:

Excellent Service Award presented by Republic of Singapore (2003)
Australian Research Council Research Associate Adelaide University Australia, 2010 (2010)
Top Ten Indian author in CNT publication along with Prof C N R Rao (2011)
Best paper published in IE(I) journal Gold Medal ()
President of India Gold Medal for best IE(I) paper (2010)

Publications: 2010 - 2011

Vibration of Skew Graphene Sheets Using Nonlocal Elasticity Plate Theory, by Pradhan, S. C., JOURNAL OF AEROSPACE SCIENCES AND TECHNOLOGIES,, (2011)

Vibration analyses of nonlocal Graphene sheets with various boundary conditions using DQ method, by Pradhan, S. C. and Raj R., JOURNAL OF COMPUTATIONAL AND THEORETICAL NANOSCIENCE,, (2011)

Buckling analysis of single layered graphene sheet under biaxial compression using nonlocal elastic theory and DQ method, by Pradhan, S. C and Kumar A., JOURNAL OF COMPUTATIONAL AND THEORETICAL NANOSCIENCE, (2011)

Novel Repair Scheme for the Edge Delaminated Composites, by Saji D and Pradhan S C., JOURNAL OF AEROSPACE SCIENCES AND TECHNOLOGIES,, Vol 62 No 4 pp 248-2 (2010)

Analysis of single walled carbon nanotube on Winkler foundation using DTM and nonlocal elasticity theory, by Pradhan, S. C. and Reddy G K, COMPUTATIONAL MATERIAL SCIENCE,, 50 (3), 1052-1056 (2011)

Vibration analysis of orthotropic graphene sheets using nonlocal theory and differential quadrature method, by Pradhan, S. C and Kumar A., COMPOSITE STRUCTURES,, 93, pp 774-779 (2011)

Vibration Analysis of orthotropic graphene sheets embedded in Pasternak elastic medium using nonlocal elasticity theory and differential quadrature method, by Pradhan, S. C and Kumar A., COMPUTATIONAL MATERIAL SCIENCE, 50 (1), pp 239-245 (2010)

Publications: 2009 - 2010

Nonlocal theory for buckling of nanoplates by Pradhan S. C. and Phadikar J. K., , INTERNATIONAL JOURNAL OF STRUCTURAL STABILITY AND DYNAMICS, (2010)

Variational Formulation and Finite Element Analysis of Nonlocal Elastic Nanobeams and Nanoplates by Phadikar J. K and Pradhan S. C, COMPUTATIONAL MATERIAL SCIENCE, (2010)

Application of Nonlocal Elasticity and DQM in the Flapwise Bending Vibration of a Rotating Nano cantilever by Pradhan, S. C. and Murmu T PHYSICA E: Low-Dimensional Systems and Nanostructures, 42, 1944-1949 (2010)

The Effect of Body Acceleration on Two Dimensional Flow of Casson Fluid through an Artery with Asymmetric Stenosis by Shaw, S., Murthy, P. V. S. N. and Pradhan, S. C. THE OPEN TRANSPORT PHENOMENA JOURNAL,, (2010)

Small scale effect on buckling analysis of carbon nanotube with Timoshenko theory by using differential transform method by Senthilkumar V, Pradhan, S. C. and Pratap G, ADVANCED SCIENCE LETTERS, 3, 1-7 (2010)

Vibration control of composite thick shells using higher order shear deformation theory by Narendra, K. and Pradhan S. C. JOURNAL OF AEROSPACE SCIENCES AND TECHNOLOGIES, 62(1), 21-39 (2010)

Non-local analysis of tapered beams by Pradhan, S. C. and Sarkar A. JOURNAL OF AEROSPACE

SCIENCES AND TECHNOLOGIES,, 62 No 2 pp 93-108 (2010)

Effect of non-Newtonian characteristics of blood on magnetic targeting in the impermeable micro-vessel, by Shaw, S, Murthy P V S N and Pradhan, S. C., JOURNAL OF MAGNETISM AND MAGNETIC MATERIALS, (2010)

Scale effect and buckling analysis of multilayered graphene sheets based on nonlocal continuum mechanics by Pradhan S.C., and Phadikar J.K., JOURNAL OF COMPUTATIONAL AND THEORETICAL NANOSCIENCE, 7, 1-7 (2010)

Vibration of Single Layer Graphene Sheet Based on Nonlocal Elasticity and Higher Order Shear Deformation Theory by Pradhan S. C. and Sahu B JOURNAL OF COMPUTATIONAL AND THEORETICAL NANOSCIENCE, Vol 7(6), 1042-1050 (2010)

Small Scale Effect on the Buckling Analysis of Single-Layered Graphene Sheet Embedded in an Elastic Medium Based on Nonlocal Plate Theory by Pradhan, S. C. and Murmu T. PHYSICA E: Low-Dimensional Systems and Nanostructures,, 42, pp 1293_1301 (2010)

Thermal Effects on the Stability of Embedded Carbon Nanotubes by Murmu T. and Pradhan, S. C COMPUTATIONAL MATERIAL SCIENCE, 47 (3), pp 721-726 (2010)

Vibration Analysis of Nanoplates under Uniaxial Prestressed Conditions via Nonlocal Elasticity by Murmu T. and Pradhan, S. C. JOURNAL OF APPLIED PHYSICS, 106, 104301 (2009)

Buckling of Bi-axially Compressed Orthotropic Plates at Small Scales, by Murmu T. and Pradhan, S. C MECHANICS RESEARCH COMMUNICATION, 36, pp 933-938 (2009)

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Buckling of Single Layer Graphene Sheet Based on Nonlocal Elasticity and Higher Order Shear Deformation Theory by Pradhan S. C., PHYSICS LETTERS A, 373 pp 4182-4188 (2009)

Bending, buckling and vibration analyses of nonhomogeneous nanotubes using GDQ and nonlocal elasticity theory by Pradhan S.C., and Phadikar J.K STRUCTURAL ENGINEERING AND MECHANICS AN INTERNATIONAL JOURNAL, 33 No 2, pp 193-213 (2009)

Analyses of tapered fgm beams with nonlocal theory, by Pradhan, S. C. and Sarkar A STRUCTURAL ENGINEERING AND MECHANICS AN INTERNATIONAL JOURNAL,, 32 No 6 pp 811-833 (2009)

Vibration and Buckling Analysis of Nano-Scale Beams via Nonlocal Elasticity and Timoshenko Beam Theory: A Differential Quadrature Approach, by Murmu T and Pradhan, S. C. JOURNAL OF AEROSPACE SCIENCES AND TECHNOLOGIES,, 62 No.1. pp 40-54 (2010)

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Bending vibration and buckling analysis of nonhomogeneous nanotubes using nonlocal elasticity theory and GDQ Method by Phadikar J. K. and Pradhan S. C., JOURNAL OF AEROSPACE SCIENCES AND TECHNOLOGIES, 61 No 4 pp 482-495 (2009)

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Small-Scale Effect on the Vibration of Nonuniform Nanocantilever based on Nonlocal Elasticity Theory by Murmu T. and Pradhan, S. C., PHYSICA E: Low-Dimensional Systems and Nanostructures, 41 pp 1451 _ 1456 (2009)

Vibration Analysis of Multilayered Orthotropic Nanoplates Using Nonlocal Elasticity Theory by Pradhan S. C., Phadikar J. K. and Karthik G. JOURNAL OF THE INSTITUTION OF ENGINEERS (India), Metallurgy and Materials Engineering Division, 90, pp 16-23 (2009)

Nonlocal Elasticity Theory for Vibration of Nanoplates, by Pradhan S. C. and Phadikar J. K., JOURNAL OF SOUND AND VIBRATION, 325, pp 206-223. (2009)

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Small Scale Effect on Vibration of Embedded Multilayered Graphene Sheets Based on Nonlocal Continuum Models by Pradhan S. C. and Phadikar J. K. PHYSICS LETTERS A, 373, pp 1062-1069 (2009)

Vibration Analysis of Nano Single - Layered Graphene Sheets Embedded in Elastic Medium Based on Nonlocal Elasticity Theory by Murmu T. and Pradhan, S. C., JOURNAL OF APPLIED PHYSICS, 105, 064319 (2009)

Differential Quadrature Method for Vibration Analysis of Beam on Winkler Foundation based on Nonlocal Elastic Theory by Pradhan, S. C. and Murmu T JOURNAL OF THE INSTITUTION OF ENGINEERS (India), Mechanical Engineering Division, 89 , pp 3-12 (2009)

Vibration suppression analysis of FGM shells with higher order shear deformation theory, by Pradhan S. C JOURNAL OF MECHANICS OF MATERIALS AND STRUCTURES, 4 , No. 1, 35 _56 (2009)

Publications: 2008 - 2009

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Small Scale Effect on Vibration of Embedded Multilayered Graphene Sheets Based on Nonlocal Continuum Models, by Pradhan S. C. and Phadikar J. K., PHYSICS LETTERS A, (2008)

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Nonlocal Elasticity Theory for Vibration of Nanoplates, by S.C. Pradhan and J K Phadikar JOURNAL OF SOUND AND VIBRATION, (2009)

Vibration and Buckling Analysis of Nano-Scale Beams via Nonlocal Elasticity and Timoshenko Beam Theory: A Differential Quadrature Approach by 13. Murmu T and Pradhan, S. C. JOURNAL OF AEROSPACE SCIENCES AND TECHNOLOGIES, (2009)

Vibration control of FGM thick shells using higher order shear deformation theory by Narendra, K. and Pradhan S. C. JOURNAL OF AEROSPACE SCIENCES AND TECHNOLOGIES, (2009)

Small-Scale Effect on the Vibration of Nonuniform Nanocantilever based on Nonlocal Elasticity Theory by Murmu T. and Pradhan, S. C. PHYSICA E: Low-Dimensional Systems and Nanostructures, (2009)

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Small Scale Effect on Vibration Analysis of Single-Walled Carbon Nanotubes Embedded in an Elastic Medium using Nonlocal Elasticity Theory, by Pradhan, S. C. and Murmu T., JOURNAL OF APPLIED PHYSICS, (2009)

Publications: 2007 - 2008

Thermal buckling of functionally graded plates with cutouts, by S.C. Pradhan JOURNAL OF AEROSPACE SCIENCES AND TECHNOLOGIES, 60 (1), pp. 60-76 (2008)

Thermo-mechanical vibration of FGM sandwich beam under variable elastic foundation using differential quadrature method by S.C.Pradhan and T Murmu JOURNAL OF SOUND AND VIBRATION, (2008)

Casson fluid flow through an elastic artery by Shaw, S. Pradhan, S. C. and Murthy, P. V. S. N JOURNAL OF BIOMECHANICS, (2008)

Analysis of FGM Sandwich Structures with Modified Differential Quadrature Method, by S.C.Pradhan and T Murmu INTERNATIONAL JOURNAL OF ADHESION AND ADHESIVES, (2008)

Publications: 2006 - 2007

Thermal buckling of functionally graded plates with cutouts by S.C. Pradhan INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES, (2007)

Analysis of FGM Sandwich Structures with Modified Differential Quadrature Method by S.C.Pradhan and T Murmu INTERNATIONAL JOURNAL OF ADHESION AND ADHESIVES, (2007)

Vibration suppression of FGM composite shells using higher order theory by S.C. Pradhan JOURNAL OF MECHANICS OF MATERIALS AND STRUCTURES, (2007)

Nonlinear finite element analysis to predict mechanical response of CNTs by S.C. Pradhan Computational materials science, (2007)

Publications: 2005 - 2006

Thermal buckling of functionally graded plates with cutouts by S.C. Pradhan INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES, (0)

Galerkin finite element methods for wave problems by Sengupta,T.K., Talla, S.B. and Pradhan S.C SADHANA, 30, 611 (2005)

Vibration suppression of FGM composite shells using higher order theory by S.C. Pradhan JOURNAL OF MECHANICS OF MATERIALS AND STRUCTURES, (0)

Some Earlier Publications

Vibration suppression of FGM composite shells using embedded magnetostrictive layers by Pradhan S.C

INTERNATIONAL JOURNAL OF SOLIDS AND STRUCTURES, 42 PP 2465-2488 (2005)

Vibration control of composite shells using embedded actuating layers by Pradhan S.C. and Reddy J.N.
SMART MATERIALS AND STRUCTURES, 13 PP 1245-1257 (2004)