The Department of Mechanical Engineering/College of Engineering and Applied Sciences

Stony Brook University

Mechanical Engineering Seminar

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Lecture Title: Modeling functionally graded and laminated plates by radial basis functions

Friday, April 5, 2013 at 2PM, Room 173 Light Engineering Building

Abstract

The modeling of functionally graded (FG) and laminated plates is addressed. The numerical technique is based on collocation with radial basis functions (RBF). The equations of motion are obtained by Carrera's Unified Formulation (CUF). Various shear deformation theories are employed to analyze metal-ceramic FG plates, FG sandwich plates, as well as laminated composite plates. Static analysis, free vibrations and buckling problems are considered. The paper discusses the implementation of the RBF collocation and the issues of thickness-stretching in thicker plates.

Biography

A. J. M. Ferreira is a Full Professor at the Faculty of Engineering, University of Porto. He received his diploma, Mechanical Engineering, MSc, Structural Engineering, PhD, Mechanical Engineering, Habilitation, Mechanical Engineering (all at University of Porto). He is the Editor-in-Chief, Composite Structures, Elsevier. He has published 140 journal papers and 2 books. Research topics: Meshless methods based on collocation with radial basis functions and wavelets, for the analysis of laminated composite beams, plates and shells

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location or time.