

in collaboration with
Centro di Simulazione Numerica Avanzata – CeSNA
Istituto Universitario di Studi Superiori

On the Assumed Natural Strain Method for Isogeometric Analysis: NURBS-Based Solid-Shell Element for the Analysis of Thin-Shell Structures

The analysis of shell-like structures in the geometric and material nonlinear regime still represents a challenge in the field of computational mechanics. The development of reliable and computationally effective element formulations for this kind of applications is, therefore, an important research topic. The present work deals with the extension of the Assumed Natural Strain (ANS) methodology to alleviate geometric locking phenomena in NURBS based-elements. The proposed methodology is validated by a set of well-known benchmark problems in both the linear and non-linear regime.

João Filipe M. Caseiro
GRIDS Research Group
Center for Mechanical Technology and Automation
Department of Mechanical Engineering
University of Aveiro, Portugal

Monday 10 March, 17.00
I1 Conference Room (DICAr)
Via Ferrata, 3 – Pavia

The support of the European Community through the **ERC Starting Grant project “ISOBIO: Isogeometric Methods for Biomechanics”** is gratefully acknowledged