Design+Analysis
VISITING LECTURE

Micro/nano-sized piezoelectric structures analyzed by strain gradient theories

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Abstract. The fast development of technology brings a need to understand behaviors of nano/micro-structures. Due to their superior features, the application of nano/micro-structures has been expanded into many areas such as nano-electromechanical devices, space and bio-engineering, actuators, and nanocomposites. The size effect phenomenon is observed if the component dimension is comparable to the material length scale. The size-dependent structures cannot be described by classical continuum mechanics due to the lack of the material length scale. The size-dependent continuum model like strain gradient piezoelectricity is applied for crack and plate bending problems.

Professor Dr. Jan Sladek, Head of Department of Mechanics at Institute for Construction and Architecture (SAS), is a highly-cited and awarded researcher having research activities in many different areas of mechanics: computational mechanics, fracture mechanics, modelling of smart materials and functionally graded materials, boundary element methods, meshless methods, numerical methods for fracture mechanics. For more information, see http://www.ae-info.org/ae/Member/Sladek_Jan

Thursday the 26th of October 2017 at 14.15 pm
Lecture hall R2, Rakentajanaukio 4 A, Otaniemi, Espoo

We wish you welcome – coffee at 2 pm sharp, presentation a quarter after the first dose!

Juha Paavola, Professor
Jarkko Niiranen, Assistant Professor, Academy Research Fellow
Department of Civil Engineering, School of Engineering, Aalto University

Design+Analysis VISITING LECTURES target for presenting and discussing a diverse collection of topics related to C*omputational Structural Engineering* and *Structural Mechanics* from the perspective of *Structural Analysis* and in the context of *Architectural, Industrial and Structural Design,* with a special emphasis on *Theoretical and Applied Mechanics of Solids and Structures.* Accordingly, term *design* – besides architectural, industrial and structural design – refers to designing models and methods, whereas term *analysis* refers to analyzing models and methods – besides structural analysis.