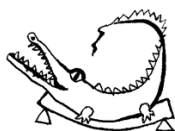


Ústav stavební mechaniky
Stavební fakulta
Vysoké učení technické v Brně



Institute of Structural Mechanics
Faculty of Civil Engineering
Brno University of Technology

ve spolupráci s
Českou společností pro mechaniku



in cooperation with
the Czech Society of Mechanics

Pozvánka na přednášku / Lecture Announcement

Název / Title

Method of Localized Lagrange Multipliers and its Recent Applications:
Multi-Physics, Reduced-Order Modeling, and Uncertainty Quantification

Přednášející / Lecturer

Kwang-Chun PARK

Center for Aerospace Structures University of Colorado

Jazyk / Language English

Thursday 25. 4. 2019, 10:00 h
FCE BUT, Brno, Veveří 331/95,
budova / Building C, místnost / Room 421
zasedací místnost ústavu STM

Abstrakt / Abstract

The present talk introduces a localized version of *la méthode des multiplicateurs* (known as method of Lagrange multipliers) and its recent applications in computational engineering. We will, first, offer a brief review of a variational formulation for the partitioned equations of motion for multi-physics and/or multi-domains utilizing the method of localized Lagrange multipliers, with its earlier application examples: pore fluid-soil, structure-control, acoustic-structure, structural-thermal and structure-electromagnetic problems. We then focus on recent advances in the four categories: regularization for stiff coupled systems, reduced-order modeling, nonmatching interfaces, a direct generation of inverse mass matrices for explicit transient analysis, and uncertainty quantification analysis. The presentation concludes with potential areas of further developments in partitioned analysis employing the method of localized Lagrange multipliers.

Přednášející / Lecturer

Professor Park is a well-known leader in the field of computation dynamics, finite element and multiphysics both in academic as well as in industrial setting. Professor Park's current research activities include Computational Multiphysics, Fluid-Structure Interaction, Linear and Nonlinear Waves, Contact-Impact problems for heterogeneous systems, Engineering system identification, Dynamics of Metamaterials, Design of membranous structures, and Aerospace Structural Systems.

Organizátoři / Organizers

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Projekty / Projects

- projekt Internacionalizace (Podpora mezinárodní spolupráce / Hostující profesoři)
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