ADVANCED DISCRETIZATION SCHEMES AND SOLUTION STRATEGIES FOR COMPUTATIONAL STRUCTURAL DYNAMICS

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ABSTRACT

This minisymposium focuses on both theoretical and practical aspects concerning the transient solution of structural dynamics problems in science and engineering. Particularly, novel numerical methods and solution strategies as well as discretization schemes in space and time for wave propagation, structural vibration, structural health monitoring, coupled problems (e.g., fluid-structure-interaction) and impact problems are of interest. This includes, but is not limited to the development or the application of

- isogeometric and high-order finite element methods (e.g., IGA, SEM, p-FEM, etc.),
- fictitious domain methods,
- meshfree methods,
- mass lumping and mass scaling techniques, or
- advanced time integration schemes (e.g., novel implicit and explicit time integration schemes, implicit-explicit or asynchronous time integration schemes, sub-cycling, parallel implementation, etc.).

Furthermore, contributions dealing with large-scale, industry-relevant applications are expressly welcome.