

RECENT ADVANCES IN HIGH ORDER METHODS FOR BOUNDARY INTEGRAL EQUATIONS

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ABSTRACT

Boundary integral equations have nowadays reached a high level of consideration to model several problems in engineering and applied sciences.

In parallel, various numerical methods have been introduced and analysed to offer accurate and efficient approaches for the approximate resolution of such type of equations.

This minisymposium aims at presenting recent advances in this framework, ranging from high order boundary elements for scalar and vector wave equations to efficient BEMs in industrial applications.

SPEAKERS

1. Luciano Coppelino (MIFT, University of Messina, Italy): *Space-Time Mortar VEM-BEM Coupling for 3D Elastodynamic problems.*
2. Heiko Gimperlein (Engineering Mathematics, University of Innsbruck, Austria): *Higher-order boundary element methods for wave equations.*
3. Chiara Guardasoni (DSMFI, University of Parma, Italy): *A GPU based approach to space-time BEM for 3D elastodynamics.*
4. Andrea Mola (MUSAM, Scuola IMT Alti Studi, Lucca, Italy): *Geometry aware BEM solvers: from automatic refinement on analytic and multi-patch CAD surfaces to hetero-geometric formulation.*
5. Fabian Neuhold (Engineering Mathematics, University of Innsbruck, Austria): *Efficient boundary elements for the Smoluchowski diffusion equation for dynamics of soft materials.*
6. Simon Schneider (Institute of Numerical Mathematics, University of Ulm and Structural Mechanics and Acoustics, Ulm University of Applied Sciences, Germany): *Efficient Boundary Elements and Model Order Reduction for Industrial Sound Emission in the Time Domain.*