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WAVES: ADVANCED NUMERICAL METHODS AND APPLICATIONS TRACK NUMBER 700

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ABSTRACT

This minisymposium provides a forum in which researchers and practitioners will report and discuss recent advances in numerical methods for wave problems as well as state-of-the-art science and engineering applications involving wave phenomena. Numerical methods of interest include (but are not limited to) ADER-DG, space-time DG (Tent Pitching), space-time parallel multigrid, adaptive mulitresolution (MR), IMEX, pseudo-time, local time-stepping, and fast boundary element formulations as well as their frequency-domain counterparts. Presentations describing approximate representations of boundary conditions, homogenization of heterogeneous and dispersive media, stochastic modeling, and novel solution schemes and software architectures for exascale HPC systems are also welcome. Applications of interest include water waves and coastal modeling, dynamics of solids, dynamic fracture, forward and inverse scattering, waves in random or dispersive media, photonics and metamaterials, electromagnetics, acoustics, hyperbolic heat conduction, compressible gas dynamics, medical and seismic imaging, and multiphysics wave problems.