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Nota di contenuto	Relaxing Stiff System Integration by Smoothing Techniques for Non-Iterative Co-Simulation -- TLM-based Asynchronous Co-simulation with the Functional Mockup Interface -- Local Extrapolation and Linear-Implicit Stabilization in a Parallel Coupling Scheme -- Performance Improvement of Explicit Co-Simulation Methods Through Continuous Extrapolation -- Stable Adaptive Co-simulation: A Switched Systems Approach -- The SNiMoWrapper: An FMI-Compatible Testbed for Numerical Algorithms in Co-Simulation -- A Coupled Finite Element Analysis Approach Combining In-house and General-purpose Codes -- Reduction of the Computation Time of Large Multibody Systems with Co-Simulation Methods -- Explicit Co-Simulation Approach with Improved Numerical Stability -- The Influence of Secondary Flow on the Dynamics of Vibrating Tubes -- Error Estimation Approach for

Controlling the Communication Step-Size for Explicit Co-Simulation Methods -- Stability and Error Analysis of Applied-Force Co-Simulation Methods Using Mixed One-step Integration Schemes -- A Strategy to Conduct Numerical Simulation of Wind Turbine Considering the Soil-Structure-Interaction by Using a Coupled FEM-SBFEM Approach in Time Domain -- Constraint coupling for flexible multibody systems: stabilization by modified spatial discretization.

Sommario/riassunto

This is the Proceedings of the IUTAM Symposium on Solver Coupling and Co-Simulation that was held in Darmstadt, Germany, September 18-20, 2017. The symposium focused on recent advances in the development of numerical methods for solver coupling, like new explicit, implicit and semi-implicit co-simulation methods, new approaches for realizing variable communication-time grids, and advances in the stability and convergence analysis of solver coupling methods. Recent developments in the practical application of co-simulation methods, for instance new fields of application for solver coupling approaches, new developments in the parallelization of dynamic models with co-simulation techniques, and standardization of co-simulation interfaces, i.e. standardization of data and model exchange were also discussed. The book brings together the research results of leading scientists in applied mathematics, mechanics, and engineering science, thus contributing to further develop numerical methods for coupled simulations. .