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Collana	Computational Methods in Applied Sciences, , 2543-0203 ; ; 57
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Soggetti	Aerospace engineering Astronautics Mathematics - Data processing Industrial engineering Production engineering Aerospace Technology and Astronautics Computational Mathematics and Numerical Analysis Industrial and Production Engineering
Lingua di pubblicazione	Inglese
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Nota di contenuto	Drag Reduction in Turbulent Channel with Spanwise Traveling Wave of Blowing and Suction -- Two Validation Cases for Essentially Unsteady High-Speed Turbulent Flows -- Disciplinary Implications of a System Architecting Approach to Collaborative Aircraft Design -- Finite Element Solution of a Solder Filling Problem with Contact Angle -- Inverse Aerofoil Design Using Deep Neural Networks -- Variational Problem of Vibration Suppression for Thermoelastic Axially Moving Web -- Solving Multi-objective Optimal Design and Maintenance for Systems Based on Calendar Times Using GDE3 -- Numerical Simulation of Ducted Fan Aerodynamics and Aeroacoustics -- A Symmetric Algorithm for Solving Mechanical Contact Problems Using FreeFEM -- Active Vibration Control of Lattice Core Sandwich Structures Using Macro-Fiber Composite Actuators -- Integration of Statistical Mathematics and

Machine Learning with CAE Expands the New Digital World for Manufacturing Industries -- Design and Testing a Full-Scale Laminar Wing Leading Edge High-Lift System -- A 2D Validation Experiment for Dynamic High-Lift System Aerodynamics -- Numerical Analysis of a Mechanical De-Icing Process by Low Frequency Oscillation of a CFRP Layer -- Working Title: Smart Morphing and Sensing for the Wings of the Future -- Game Theory and Multi-Objective Optimization: A Review of Concepts and Methods and their Extension to Solving Huge-Scale Optimization Problems -- Multidisciplinary Modelling, Analysis and Optimisation for Aircraft and System Level Design and Validation -- An Overview of ONERA Research at Aircraft Level towards Greener Aviation -- Direct Comparison of Dynamic Adaptive Metamodels in Multidisciplinary Optimization Frameworks.

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Sommario/riassunto

This book provides research results using computational methods for fluid dynamics and engineering problems in aeronautics and other scientific and industrial applications. It gives an overview on the state of the art and the technology trends requiring advanced computational methods towards digitization in industrial and scientific processes. The chapters are based on Special Technology Sessions of the WCCM-ECCOMAS Virtual Congress 2021.

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