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Titolo	Advances in Fluid-Structure Interaction : Updated contributions reflecting new findings presented at the ERCOFTAC Symposium on Unsteady Separation in Fluid-Structure Interaction, 17-21 June 2013, St John Resort, Mykonos, Greece / / edited by Marianna Braza, Alessandro Bottaro, Mark Thompson
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Edizione	[1st ed. 2016.]
Descrizione fisica	1 online resource (358 p.)
Collana	Notes on Numerical Fluid Mechanics and Multidisciplinary Design, , 1612-2909 ; ; 133
Disciplina	620
Soggetti	Fluid mechanics Physics Structural materials Mechanics Mechanics, Applied Engineering Fluid Dynamics Numerical and Computational Physics, Simulation Structural Materials Solid Mechanics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references at the end of each chapters.
Nota di contenuto	Theoretical and experimental approaches for the Unsteady Flow Separation in Fluid-Structure Interaction (FSI) -- Instability and transition in FSI with unsteady separation -- Numerical Approaches for Unsteady Separation in Fluid-Structure Interaction -- LES, Hybrid and Statistical Turbulence Modelling of Unsteady Separated Flows -- Control of Unsteady Separated Flows. .
Sommario/riassunto	This book addresses flow separation within the context of fluid-structure interaction phenomena. Here, new findings from two research communities focusing on fluids and structures are brought together, emphasizing the importance of a unified multidisciplinary approach.

The book covers the theory, experimental findings, numerical simulations, and modeling in fluid dynamics and structural mechanics for both incompressible and compressible separated unsteady flows. There is a focus on the morphing of lifting structures in order to increase their aerodynamic and/or hydrodynamic performances, to control separation and to reduce noise, as well as to inspire the design of novel structures. The different chapters are based on contributions presented at the ERCOFTAC Symposium on Unsteady Separation in Fluid-Structure Interaction held in Mykonos, Greece, 17-21 June, 2013 and include extended discussions and new highlights. The book is intended for students, researchers and practitioners in the broad field of computational fluid dynamics and computational structural mechanics. It aims at supporting them while dealing with practical issues, such as developing control strategies for unsteady separation and applying smart materials and biomimetic approaches for design and control.