1. Record Nr. UNINA9910956573903321

Titolo	Fundamentals and applications of modern flow control / / edited by Ronald D. Joslin, Daniel N. Miller
Pubbl/distr/stampa	Reston, Va., : American Institute of Aeronautics and Astronautics, Inc., 2009
ISBN	1-56347-989-3 1-56347-988-5
Edizione	[1st ed.]
Descrizione fisica	1 online resource (550 p.)
Collana	Progress in astronautics and aeronautics ; ; v. 231
Altri autori (Persone)	JoslinRonald D MillerDaniel N
Disciplina	629.13236
Soggetti	Fluid dynamics Hydraulic control
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 and index.
Nota di contenuto	""Cover ""; ""Title ""; ""Copyright ""; ""Foreword ""; ""Table of Contents ""; ""Nomenclature ""; ""Acronyms and Abbreviations ""; ""Preface ""; ""Acknowledgements ""; ""Brief History of Flow Control""; ""Physical Concepts Underlying the Development and Application of Active Flow Control""; ""Flow Control Terminology""; ""Role of Instability Theory in Flow Control""; ""Dynamic and Closed-Loop Control""; ""Actuators and Sensors""; ""Modeling and Simulation ""; ""Fixed Wing Airfoil Applications ""; ""Turbomachinery Applications""; ""Combustion Control""; ""Aeroacoustics of Flow Control"" ""Air-Breathing Propulsion Flowpath Applications""""""Flow Control for Rotorcraft Applications""; ""References""; ""Index""; ""Supporting Materials""
Sommario/riassunto	Flow control technologies have been used in the past century to control fluid flows. This text presents the current state of the art in emerging modern flow control technologies and highlights the application of these technologies to aerospace platforms. Initial chapters introduce the fundamentals of modern flow control, including basic concepts, terminology, history, flow physics, actuators, sensors, modeling/simulation, and instability and control theories. Applications of flow control to current and next-generation air vehicle systems,

including fixed wing airfoils, turbomachinery, combustion, aeroacoustics, vehicle propulsion integration, and rotorcraft are discussed. This text is an excellent introduction to the wide-ranging uses of modern flow control.