

1. Record Nr.	UNINA9910143747303321
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Titolo	Computational approaches for aerospace design [[electronic resource]] : the pursuit of excellence // Andy J. Keane, Prasanth B. Nair
Pubbl/distr/stampa	Chichester, England ; ; Hoboken, N.J., : Wiley, c2005
ISBN	1-280-27643-6 9786610276431 0-470-29998-3 0-470-85548-7 0-470-85547-9
Descrizione fisica	1 online resource (606 p.)
Altri autori (Persone)	NairP. B
Disciplina	629.10113
Soggetti	Aerospace engineering - Data processing Aerospace engineering - Mathematics Electronic books.
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 (p. [549]-573) and index.
Nota di contenuto	Computational Approaches for Aerospace Design; Contents; Foreword; Preface; Acknowledgments; I Preliminaries; 1 Introduction; 1.1 Objectives; 1.2 RoadMap -What is Covered andWhat is Not; 1.3 An Historical Perspective on Aerospace Design; 1.3.1 A Pair of Early Pioneers; 1.3.2 A Pair of Great Designers; 1.3.3 A Pair of Great Researchers; 1.3.4 Two Great Aerospace Companies; 1.3.5 Rationalization and Cooperation; 1.3.6 The Dawn of the Computational Era; 1.4 Traditional Manual Approaches to Design and Design Iteration, Design Teams; 1.4.1 Design as a Decision-making Process; 1.4.2 Concept Design. 1.4.3 Preliminary Design1.4.4 Detailed Design; 1.4.5 In-service Design and Decommissioning; 1.4.6 Human Aspects of Design Teams; 1.5 Advances in Modeling Techniques: Computational Engineering; 1.5.1 Partial Differential Equations (PDEs); 1.5.2 Hardware versus Software; 1.5.3 Computational Solid Mechanics (CSM); 1.5.4 Computational Fluid Dynamics (CFD); 1.5.5 Multilevel Approaches or 'Zoom' Analysis; 1.5.6 Complexity; 1.6 Trade-offs in Aerospace System Design; 1.6.1

Balanced Designs; 1.6.2 Structural Strength versus Weight; 1.6.3 Aerodynamics versus Structural Strength
1.6.4 Structures versus Control 1.6.5 Robustness versus Nominal Performance; 1.7 Design Automation, Evolution and Innovation; 1.7.1 Innovation; 1.7.2 Evolution; 1.7.3 Automation; 1.8 Design Search and Optimization (DSO); 1.8.1 Beginnings; 1.8.2 A Taxonomy of Optimization; 1.8.3 A Brief History of Optimization Methods; 1.8.4 The Place of Optimization in Design - Commercial Tools; 1.9 The Take-up of Computational Methods; 1.9.1 Technology Transfer; 1.9.2 Academic Design Research; 1.9.3 Socio-technical Issues; 2 Design-oriented Analysis; 2.1 Geometry Modeling and Design Parameterization
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3.2.2 Gradient-based Methods

Sommario/riassunto

Over the last fifty years, the ability to carry out analysis as a precursor to decision making in engineering design has increased dramatically. In particular, the advent of modern computing systems and the development of advanced numerical methods have made computational modelling a vital tool for producing optimized designs. This text explores how computer-aided analysis has revolutionized aerospace engineering, providing a comprehensive coverage of the latest technologies underpinning advanced computational design. Worked case studies and over 500 references to the primary research literature
