1. Record Nr. UNINA9910960858003321

Titolo	Capitalizing on investments in science and technology
Pubbl/distr/stampa	Washington, D.C., : National Academy Press, 1999
ISBN	9786612081989 9780309173209 0309173205 9781282081987 1282081985 9780309524773 0309524776 9780585090696 0585090696
Edizione	[1st ed.]
Descrizione fisica	1 online resource (128 p.)
Disciplina	338.973/06
Soggetti	Research - United States - Finance
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"Committee on Science, Engineering, and Public Policy."
Nota di bibliografia	Includes bibliographical references (p. 109-118).
Nota di contenuto	""Front Matter""; ""PREFACE""; ""CONTENTS""; ""EXECUTIVE SUMMARY""; ""Chapter 1 INTRODUCTION""; ""Chapter 2 THE CAPITALIZING PROCESS""; ""Chapter 3 ADAPTING TO NEW CHALLENGES""; ""Chapter 4 SUSTAINING AND ENHANCING THE ABILITY TO CAPITALIZE: STUDY FINDINGS""; ""Chapter 5 RECOMMENDATIONS""; ""Appendix A EXAMPLES OF CAPITALIZATION IN FIELDS OF RESEARCH AND APPLICATION""; ""Appendix B COMMITTEE MEMBER BIOGRAPHICAL SKETCHES""; ""BIBLIOGRAPHY""
Sommario/riassunto	Although the United States is currently capitalizing on its investment in science and technology effectively, there remains much room for improvement. This volume identifies the ingredients for success in capitalizing on such investments to produce national benefits, assesses current U.S. performance, and identifies future challenges. The book cites specific examples and examines several cross-cutting issues. It explores the possibility that the national research portfolio is losing

	diversity as a result of less long-term research in critical fields such as networking and materials. It also examines the implications of imbalances in the supply of and demand for science and engineering talent in emerging interdisciplinary fields such as bioinformatics.

2. Record Nr. UNINA9911007095203321

Titolo	Forced folds and fractures
Pubbl/distr/stampa	London, : Geological Society, 1999
ISBN	1-86239-752-X 1-5231-2228-5 1-4237-8443-X
Collana	Geological Society special publication ; ; 169
Disciplina	551.8/75
Soggetti	Folds (Geology) Geology Earth & Environmental Sciences Dynamic & Structural Geology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Bibliographic Level Mode of Issuance: Monograph

3. Record Nr. UNINA9911004704703321

Autore	Hirsch Ch.
Titolo	Numerical computation of internal and external flows . Volume 1 Fundamentals of computational fluid dynamics / / Charles Hirsch
Pubbl/distr/stampa	Oxford ; ; Burlington, MA : , : Elsevier/Butterworth-Heinemann, , 2007 ©2007
ISBN	1-281-01928-3 9786611019280 0-08-055002-9 0-7506-6594-7
Edizione	[Second edition.]
Descrizione fisica	1 online resource (656 pages)
Disciplina	532.051015118
Soggetti	Fluid dynamics - Data processing Computational fluid dynamics Fluid dynamics - Mathematical models
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Revision of the first vol. of the original two-volume ed. Title from title screen.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Front Cover -- Numerical Computation of Internal and External Flows, Second Edition -- Copyright Page -- Contents -- Preface to the Second Edition -- Nomenclature -- Introduction: An Initial Guide to CFD and to this Volume -- I.1 The position of CFD in the world of virtual prototyping -- I.1.1 The Definition Phase -- I.1.2 The Simulation and Analysis Phase -- I.1.3 The Manufacturing Cycle Phase -- I.2 The components of a CFD simulation system -- I.2.1 Step 1: Defining the Mathematical Model -- I.2.2 Step 2: Defining the Discretization Process -- I.2.3 Step 3: Performing the Analysis Phase -- I.2.4 Step 4: Defining the Resolution Phase -- I.3 The structure of this volume -- References -- Part I: The Mathematical Models for Fluid Flow Simulations at Various Levels of Approximation -- Chapter 1 The Basic Equations of Fluid Dynamics -- Objectives and guidelines -- 1.1 General form of a conservation law -- 1.2 The mass conservation equation -- 1.3 The momentum conservation law or equation of motion -- 1.4 The energy conservation equation -- A1.5 Rotating frame of reference -- A1.6

Advanced applications of control volume formulations -- Summary of the basic flow equations -- Conclusions and main topics to remember -- References -- Problems -- Chapter 2 The Dynamical Levels of Approximation -- Objectives and guidelines -- 2.1 The Navier-Stokes equations -- 2.2 Approximations of turbulent flows -- 2.3 Thin shear layer approximation (TSL) -- 2.4 Parabolized Navier-Stokes equations -- 2.5 Boundary layer approximation -- 2.6 The distributed loss model -- 2.7 Inviscid flow model: Euler equations -- 2.8 Potential flow model -- 2.9 Summary -- References -- Problems -- Chapter 3 The Mathematical Nature of the Flow Equations and Their Boundary Conditions -- Objectives and guidelines -- 3.1 Simplified models of a convection-diffusion equation.
3.2 Definition of the mathematical properties of a system of PDEs -- 3.3 Hyperbolic and parabolic equations: characteristic surfaces and domain of dependence -- 3.4 Time-dependent and conservation form of the PDEs -- 3.5 Initial and boundary conditions -- A.3.6 Alternative definition: compatibility relations -- Conclusions and main topics to remember -- References -- Problems -- Part II: Basic Discretization Techniques -- Chapter 4 The Finite Difference Method for Structured Grids -- Objectives and guidelines -- 4.1 The basics of finite difference methods -- 4.2 Multidimensional finite difference formulas -- 4.3 Finite difference formulas on non-uniform grids -- A4.4 General method for finite difference formulas -- A4.5 Implicit finite difference formulas -- Conclusions and main topics to remember -- References -- Problems -- Chapter 5 Finite Volume Method and Conservative Discretization with an Introduction to Finite Element Method -- Objectives and guidelines -- 5.1 The conservative discretization -- 5.2 The basis of the finite volume method -- 5.3 Practical implementation of finite volume method -- A5.4 The finite element method -- Conclusions and main topics to remember -- References -- Problems -- Chapter 6 Structured and Unstructured Grid Properties -- Objectives and guidelines -- 6.1 Structured Grids -- 6.2 Unstructured grids -- 6.3 Surface and volume estimations -- 6.4 Grid quality and best practice guidelines -- Conclusions and main topics to remember -- References -- Part III: The Analysis of Numerical Schemes -- Chapter 7 Consistency, Stability and Error Analysis of Numerical Schemes -- Objectives and guidelines -- 7.1 Basic concepts and definitions -- 7.2 The Von Neumann method for stability analysis -- 7.3 New schemes for the linear convection equation -- 7.4 The spectral analysis of numerical errors.
Conclusions and main topics to remember -- References -- Problems -- Chapter 8 General Properties and High-Resolution Numerical Schemes -- Objectives and guidelines -- 8.1 General formulation of numerical schemes -- 8.2 The generation of new schemes with prescribed order of accuracy -- 8.3 Monotonicity of numerical schemes -- 8.4 Finite volume formulation of schemes and limiters -- Conclusions and main topics to remember -- References -- Problems -- Part IV: The Resolution of Numerical Schemes -- Chapter 9 Time Integration Methods for Space-discretized Equations -- Objectives and guidelines -- 9.1 Analysis of the space-discretized systems -- 9.2 Analysis of time integration schemes -- 9.3 A selection of time integration methods -- A9.4 Implicit schemes for multidimensional problems: approximate factorization methods -- Conclusions and main topics to remember -- References -- Problems -- Chapter 10 Iterative Methods for the Resolution of Algebraic Systems -- Objectives and guidelines -- 10.1 Basic iterative methods -- 10.2 Overrelaxation methods -- 10.3 Preconditioning techniques -- 10.4 Nonlinear problems -- 10.5 The multigrid method -- Conclusions and main

topics to remember -- References -- Problems -- Appendix A: Thomas Algorithm for Tridiagonal Systems -- Part V: Applications to Inviscid and Viscous Flows -- Chapter 11 Numerical Simulation of Inviscid Flows -- Objectives and guidelines -- 11.1 The inviscid Euler equations -- 11.2 The potential flow model -- 11.3 Numerical solutions for the potential equation -- 11.4 Finite volume discretization of the Euler equations -- 11.5 Numerical solutions for the Euler equations -- Conclusions and main topics to remember -- References -- Chapter 12 Numerical Solutions of Viscous Laminar Flows -- Objectives and guidelines -- 12.1 Navier-Stokes equations for laminar flows. 12.2 Density-based methods for viscous flows -- 12.3 Numerical solutions with the density-based method -- 12.4 Pressure correction method -- 12.5 Numerical solutions with the pressure correction method -- 12.6 Best practice advice -- Conclusions and main topics to remember -- References -- Index -- Colour Plates.

Sommario/riassunto

This text is considered a classic in the field of computational fluid dynamics.