1. Record Nr. UNINA9910464670303321

Titolo	Computational fluid dynamics / / edited by Frederic Magoules
Pubbl/distr/stampa	Boca Raton : , : Chapman and Hall/CRC, , 2011
ISBN	0-429-10757-9 1-283-31172-0 9786613311726 1-4398-5662-1
Descrizione fisica	1 online resource (xxxi, 375 p.) : ill
Collana	Chapman and Hall/CRC numerical analysis and scientific computation series
Altri autori (Persone)	MagoulesF (Frederic)
Disciplina	532.00285
Soggetti	Fluid dynamics - Mathematics Numerical analysis Electronic books.
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	A Chapman & Hall book.
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	Finite Volumes Methods , Jerome Boudet Introduction Conservativity Control volume integration Grid General flux interpolation Resolution and time discretization Consistency, stability, and convergence Upwind interpolation Particular case of structured grids Boundary conditions Weighted Residuals Methods , Fabien Godeferd Introduction Principles of the weighted residuals method Collocation or pseudo-spectral method Least squares method Method of moments Galerkin approximation Subdomains An example Spectral Methods , Fabien Godeferd Introduction Linear problem: Galerkin, tau, and collocation methods Applications: Fourier Applications: Chebyshev Implicit equations Evaluation of nonlinear terms Smoothed-Particle Hydrodynamics (SPH) Methods , Francis Leboeuf and Jean-Christophe Marongiu Introduction SPH approximation of a function Properties of the kernel function W Barycenter of D(x i) Choices of the kernel function W SPH approximation of differential operators applied on a function Using a Taylor series expansion Concluding remarks Application of SPH Methods to Conservation Equations , Francis Leboeuf and Jean-Christophe Marongiu General form of conservation

equation Weak SPH-ALE formulation of the conservation equations Application to flow conservation equations Boundary conditions Applications of SPH and SPH-ALE methods Finite Volume Particle Methods (FVPM) , Francis Leboeuf and Jean-Christophe Marongiu Introduction Partition of unity Average of a function Derivatives of ? Conservation equation and FVPM Concluding remarks Numerical Algorithms for Unstructured Meshes , Bruno Koobus, Frederic Alauzet, and Alain Dervieux Introduction Spatial representation Toward higher spatial order Positivity of mixed element-volume formulations 3D multi-scales anisotropic mesh adaptation 3D goal-oriented anisotropic mesh adaptation Concluding remarks LES, Variational Multiscale LES, and Hybrid Models , Hilde Ouvrard, Maria-Vittoria Salvetti, Simone Camarri, Stephen Wornom, Alain Dervieux, and Bruno Koobus Introduction Numerical model Large eddy simulation (LES) Variational multiscale large eddy simulation (VMS-LES) Hybrid RANS/LES Concluding remarks Numerical Algorithms for Free Surface Flow , Alexandre Caboussat, Guillaume Jouvet, Marco Picasso, and Jacques Rappaz Introduction A short review on two-phases flow with free surfaces Some preliminary remarks on ice and glacier modeling Modeling Time splitting scheme A two-grids method for space discretization Modeling of interfacial effects Numerical results for liquid flow Numerical results for ice flow Concluding remarks Bibliography

Sommario/riassunto

This book concentrates on the numerical of computational fluid mechanics (including mathematical models in computational fluid mechanics, numerical methods in computational fluid mechanics, finite volume, finite difference, finite element, spectral methods, smoothed particle hydrodynamics methods, mixed-element-volume methods, free surface flow) followed by some focus of new development of classical methods, and to the recent methods appearing in this field. The topics covered in this book are wide ranging and demonstrate the extensive use in computational fluid mechanics. The book opens with a presentation of the basis of finite volume methods, weighted residual methods and spectral methods. These specific approaches are particularly important in the context of fluid mechanics, where they cover complementary domains of application. A unified point of view is introduced, based on the weighted residuals description. Chapter 1 presents the finite volume method. Chapter 2 describes the principles of weighted residuals methods. Chapter 3 introduces the spectral method. Chapter 4 presents computational fluid dynamics based on the smoothed particle hydrodynamics (SPH) method. Chapter 5 focuses on an improved SPH method based on an arbitrary Lagrange Euler (ALE) formalism. Chapter 6, using the similarity with the finite volumes method, introduces high order flux schemes between interacting points. Chapter 7 presents some numerical methods for compressible computational fluid dynamics. Chapter 8 deals with the prediction of turbulent complex flows as occur. Chapter 9 discusses the modeling and numerical simulation of free surface flows--

2. Record Nr. UNINA9910709530503321

Titolo	Standard reference materials : preparation and evaluation of SRM's 481 and 482 gold-silver and gold-copper alloys for microanalysis/ / Kurt F. J. Heinrich, Robert L. Myklebust, Robert E. Michaelis
Pubbl/distr/stampa	Gaithersburg, MD : , : U.S. Dept. of Commerce, National Institute of Standards and Technology, , 1971
Descrizione fisica	1 online resource
Collana	NBS special publication ; ; 260-28
Altri autori (Persone)	HeinrichKurt F. J MichaelisRobert E MyklebustRobert L
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	1971. Contributed record: Metadata reviewed, not verified. Some fields updated by batch processes. Title from PDF title page.
Nota di bibliografia	Includes bibliographical references.