

1. Record Nr.	UNINA9910970396703321
Titolo	Computational fluid dynamics : proceedings of the Fourth UNAM Supercomputing Conference, Mexico City, Mexico, 27-30 June 2000 / / editors, Eduardo Ramos ... [et al.]
Pubbl/distr/stampa	River Edge, NJ, : World Scientific, c2001
ISBN	9786611960643 9781281960641 1281960640 9789812811592 9812811591
Edizione	[1st ed.]
Descrizione fisica	1 online resource (278 p.)
Altri autori (Persone)	RamosEduardo
Disciplina	532/.00285
Soggetti	Fluid dynamics - Data processing Fluid dynamics - Mathematical models
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.
Nota di contenuto	Contents ; Preface ; Committees ; PART I. ASTROPHYSICS ; Very High Resolution Simulations of Compressible Turbulent Flows ; Instabilities and Filamentation of Dispersive Alfven Waves ; Astrophysical Jets A Nonhydrostatic Meteorological Model (Meso-NH) Applied to High Angular Resolution in Astronomy: 3D Characterization and Forecasting of the Optical Turbulence Numerical Simulations of Interplanetary Shock Waves Using ZEUS-3D ; Photoionizing Shocks in the Interstellar Medium Numerical Simulation of the Interaction between Jets and Supernova Remnants Thermal Instability in a Turbulent Medium ; Turbulent Dissipation in the Interstellar Medium in the Presence of Discrete Energy Sources The Density Probability Distribution Function in Turbulent Isothermal Magnetized Flows in a Slab Geometry

Multifractal Structure in Simulations and Observations of the Interstellar Medium ; PART

II. GEOPHYSICS ; Stratiform Low Clouds:

Phenomenology and Large Eddy Simulations

On the Modeling of Deep Convective Clouds over Mexico City

Spectral Structure of Growing Normal Modes for Exact Solutions to the Barotropic Vorticity Equation on a Sphere

; PART III. NUMERICAL AND COMPUTATIONAL ASPECTS

Distributed Parallel Simulation of Surface Tension Driven Viscous Flow and Transport Processes

Sommario/riassunto

This volume presents recent advances in computational fluid dynamics. The topics range from fundamentals and computational techniques to a wide variety of applications in astronomy, applied mathematics, meteorology, etc. They describe recent calculations in direct numerical simulation of turbulence, applications of turbulence modeling of pollution problems in mesoscale meteorology, industrial applications, etc. The emerging topic of parallelization of CFD codes is also presented. This volume will appeal to graduate students, researchers and anyone interested in using digital computation as a
